

Modern Business

A SERIES OF TEXTS PREPARED AS
PART OF THE MODERN BUSINESS
COURSE AND SERVICE OF THE
ALEXANDER HAMILTON
INSTITUTE



ALEXANDER HAMILTON INSTITUTE
NEW YORK

Modern Business

EDITOR-IN-CHIEF

JOSEPH FRENCH JOHNSON

MANAGING EDITOR

ROLAND P. FALKNER

ASSOCIATE EDITORS

T. COULSTON BOLTON, RALPH D. FLEMING, LEO GREENDLINGER
CHARLES W. HURD, THEODORE H. RAND-McNALLY

<i>Volume</i>	<i>Titles</i>	<i>Authors</i>
1.	BUSINESS AND THE MAN	Joseph French Johnson
2.	ECONOMICS OF BUSINESS	The Editors
3.	ORGANIZATION AND CONTROL	Charles W. Gerstenberg
4.	PLANT MANAGEMENT	Dexter S. Kimball
5.	MARKETING AND MERCHANDISING	The Editors
6.	ADVERTISING PRINCIPLES	Herbert F. de Bower
7.	SALESMANSHIP AND SALES MANAGEMENT	John G. Jones
8.	CREDIT AND THE CREDIT MAN	The Editors
9.	ACCOUNTING PRINCIPLES	The Editors
10.	COST FINDING	Dexter S. Kimball
11.	CORPORATION FINANCE	William H. Walker
12.	BUSINESS CORRESPONDENCE	Harrison McJohnston
13.	ADVERTISING CAMPAIGNS	Mac Martin
14.	INLAND TRAFFIC	Simon J. McLean
15.	FOREIGN TRADE AND SHIPPING	J. Anton de Haas
16.	BANKING PRINCIPLES AND PRACTICE	E. L. Stewart Patterson
17.	DOMESTIC AND FOREIGN EXCHANGE	E. L. Stewart Patterson
18.	INSURANCE	The Editors
19.	OFFICE MANAGEMENT	The Editors
20.	THE EXCHANGES AND SPECULATION	Albert W. Atwood
21.	ACCOUNTING PRACTICE AND AUDITING	John T. Madden
22.	FINANCIAL AND BUSINESS STATEMENTS	Leo Greendlinger
23.	INVESTMENT	Edward D. Jones
24.	COMMERCIAL LAW	Walter S. Johnson

INSURANCE

BY
THE EDITORS

IN COLLABORATION WITH
EDWARD R. HARDY, SOLOMON S. HUEBNER
G. F. MICHELBACHER, AND BRUCE D. MUDGETT

MODERN BUSINESS

VOLUME 18

ALEXANDER HAMILTON INSTITUTE
NEW YORK

3372813271

COPYRIGHT, 1919, BY
ALEXANDER HAMILTON INSTITUTE

COPYRIGHT IN GREAT BRITAIN, 1919, BY
ALEXANDER HAMILTON INSTITUTE

The title and contents of this volume as well as the
business growing out of it, are further protected
by laws relating to trade marks and unfair trade.
All rights reserved, including translation into
Scandinavian.

*Registered trade mark, Reg. U. S. Pat. Of., Marca
Registrada, M. de F.*

MADE IN U. S. A.

PREFACE

In our day insurance has taken on many forms but always serves the same purpose and is based fundamentally upon the same principles. There is always a more or less undefined risk which is run, involving the possibility of loss uncertain either as to its occurrence, or the time of its occurrence, and against this there is protection thru a contract. In its essence, the contract is an agreement among a large number who are exposed to the risk to share the losses when they occur, thus lightening the burden on the individual and making for all a fixed charge instead of a catastrophe for some. The risks are infinitely varied and the new forms are constantly appearing.

These risks affect business in the persons of those engaged in business and in the property dedicated to business purposes. Protection against both risks is more than a personal matter, it is a vital condition of successful business.

It is the aim of the present Text to display the fundamental principles of insurance in general terms, and then to show these principles at work in the various fields in which insurance has been introduced.

In the preparation of this volume the editors have enjoyed the active assistance of a number of experts. Professor Mudgett prepared for our use the material

on life insurance, Mr. Michelbacher that on liability and workmen's compensation insurance, Mr. Hardy that on fire insurance and Professor Huebner that on marine insurance. Their aid and that of others whose knowledge, skill and counsel has been drawn upon in the preparation of the volume is gratefully acknowledged.

THE EDITORS.

TABLE OF CONTENTS

CHAPTER I

RISK AND INSURANCE

SECTION	PAGE
1. Business Risk	1
2. Wastes and Losses	2
3. Uncertain Losses	4
4. Regularity of Uncertainty	5
5. Protecting the Individual	6
6. Cost of Insurance	8
7. Reducing Costs	9
8. Classification and Selection of Risks	10
9. Reducing the Loss Payments	11
10. Provision for Future Losses	13
11. Cost of Operations	14
12. Varying Risks	15
13. Increased Knowledge	16
14. Principle of Indemnity	17
15. Forms and Divisions of Insurance	19

CHAPTER II

THE LIFE RISKS

1. Element of Uncertainty in Modern Life	21
2. Risks of the Individual	22
3. Life Risks	23
4. Requirements of Productive Age	24
5. Needs of Old Age	27
6. Magnitude of These Risks	28

INSURANCE

CHAPTER III

LIFE INSURANCE PROTECTION

SECTION	PAGE
1. Mutuality in Life Insurance	30
2. Indemnity in Life Insurance	32
3. Contract	33
4. Protection Thru Life Insurance	34
5. Family Protection	35
6. Personal Credit Insurance	36
7. Business Insurance	37
8. Saving and Investment Function of Life Insurance	38

CHAPTER IV

LIFE POLICIES AND PREMIUMS

1. Types of Contract	44
2. Ordinary Life Policy	44
3. Calculating the Premium	45
4. Single Premium	48
5. Annual Premium	51
6. Premiums Based Upon Average	51
7. Level Premiums and Annual Costs	51
8. Policy Reserves and Surrender Values	53
9. Dividends	55

CHAPTER V

MODIFICATIONS OF THE ORDINARY LIFE POLICY

1. Limited Usefulness of Life Policies	60
2. Methods of Paying Premiums—Limiting the Number	62
3. Increasing the Frequency of Premium Payments	66
4. Methods of Paying Losses—Lump Payments .	67
5. Income Insurance	69
6. Instalment and Annuity Payments	70
7. Duration of the Insurance	71
8. Purpose of Term Insurance	72

CONTENTS

ix

SECTION	PAGE
9. Premiums on Term Insurance	73
10. Advantages and Disadvantages of Term Insurance	76
11. Accentuated Accumulation—Endowment Insurance	79
12. Comparison of Policies	81
13. Providing for Old Age Needs	83
14. Disability Clause	87

CHAPTER VI

ANNUITIES AND PENSIONS

1. Purpose of Annuities	91
2. Kinds of Annuities—Immediate Annuities	92
3. Guaranteed Annuity	93
4. Deferred Annuities	96
5. Sale of Annuities in the United States	98
6. Pension Systems	98
7. State and Municipal Pensions	100
8. Carnegie Foundation Pensions	102

CHAPTER VII

GROUP INSURANCE

1. Nature and Purpose	104
2. Unit of Insurance	104
3. Mortality Experience	106
4. Coverage of the Group Policy	106
5. Premiums	106
6. Advantages of Group Insurance	107
7. Objections to Group Insurance	108

CHAPTER VIII

FUNCTIONS OF INSURANCE CARRIERS—THE OLD LINE COMPANY

1. Functions of the Insurance Carrier	111
2. The Underwriting Function	111

INSURANCE

SECTION	PAGE
3. Insurance-Writing Function	113
4. Administrative Function	115
5. Old Line Company's Guarantee	116
6. Kinds of Companies	117
7. Method of Underwriting	118
8. Method of Recruiting Policy-Holders	119
9. Industrial Insurance Company	121

CHAPTER IX

ASSESSMENT AND FRATERNAL INSURANCE

1. Nature and Origin of the Assessment System	124
2. Underwriting Methods	125
3. Grading Premiums by Age at Entrance	127
4. Variable Premiums	128
5. Comparison With Old Line Companies	129
6. Fraternal Insurance	130
7. Contracts	131
8. Insurance-Writing Methods	131

CHAPTER X

GOVERNMENT LIFE INSURANCE

1. Origin	133
2. War Risk Insurance	134
3. Soldiers' and Sailors' Insurance	134
4. Its Educational Effect	135

CHAPTER XI

ACCIDENT AND HEALTH INSURANCE

1. Risk in Accident Insurance	137
2. Certainty of Accidents	138
3. Frequency of Accidents	138
4. Health Risk	139

CONTENTS

xi

SECTION	PAGE
5. Liability for Term Only	140
6. Accident and Health Insurance Measured	141
7. What Is an Accident?	143
8. What Is Sickness?	146
9. Present Extent of Accident Insurance	147
10. Growth of Health Insurance	149
11. Practical Conduct of the Business	150
12. Health Insurance and Premiums	152
13. Reserves	153
14. Selecting the Risk	154
15. Application a Part of the Policy	155
16. Consideration and Term of Policy	156
17. Insuring Clause	157
18. Specific Losses	157
19. Weekly Indemnity	158
20. Optional Indemnity	159
21. Double Indemnity	159
22. Special Benefits	159
23. Accumulations	160
24. Identification Clause	160
25. Provisions of the Health Policy	160
26. Settlement of Claims	161
27. Future of Health Insurance	162

CHAPTER XII

LIABILITY INSURANCE

1. Scope of Liability Insurance	166
2. Liability to Others and to Workmen	167
3. Beginnings of Liability Insurance	168
4. Features of Policies	169
5. Varieties of Liability Insurance	171
6. Team Insurance	172
7. Automobile Insurance	173
8. Manufacturers' and Contractors' Insurance	177

SECTION	PAGE
9. Owners', Landlords' and Tenants' Insurance . . .	178
10. Elevator Insurance	179
11. Theatre Insurance	179
12. Druggists', Physicians' and Hospital Insurance .	179
13. Owners' and Contractors' Protective Insurance .	181
14. Landlords' Protective Insurance	181

CHAPTER XIII

WORKMEN'S COMPENSATION INSURANCE—GENERAL
FEATURES

1. The Insurance Risk	184
2. Accident Indemnity Under Employes' Liability .	184
3. Difficulties in Enforcing Liability	185
4. Growth of Compensation Legislation	186
5. Advantages of Workmen's Compensation . . .	188
6. Stimulus to Safety First Movement	189
7. General Features of Compensation Legislation .	190
8. Workmen's Compensation Insurance Contract .	192
9. Forms of Insurance Carriers	193
10. Stock Companies	196
11. Mutual Companies	197
12. State Funds	199
13. Reciprocal Exchanges	202

CHAPTER XIV

WORKMEN'S COMPENSATION INSURANCE—RATE
MAKING

1. Premium Rate	204
2. What the Rate Covers	204
3. State Supervision and Control of Rates . . .	205
4. Rate Making Organizations	206
5. Rating Scheme—Basic Rates	209
6. Merit Rating	211
7. Basic Manual	212

CONTENTS

xiii

SECTION	PAGE
8. Standard Accident Table	213
9. Pure Premium	215
10. Differential Rates	217
11. Resultant Rates	218
12. Schedule Rating	220
13. Experience Rating	224

CHAPTER XV

FIRE INSURANCE

1. Purpose of Fire Insurance	228
2. Insurable Interest	228
3. Insurance Methods	230
4. Agents	231
5. Brokers	232
6. How the Business Is Transacted	232
7. Inspection	233
8. Details of Inspection	234
9. Canadian Inspection System	235
10. Rates	236
11. Schedule Rating	237
12. Universal Mercantile Schedule	238
13. Rate of a Non-Fireproof Brick Building	240
14. Analytical Schedule	241
15. Fire Protection	244
16. Rating Organizations	245

CHAPTER XVI

FIRE INSURANCE POLICIES

1. The Policy	247
2. Restrictions	249
3. Non-Liability	250
4. Non-Insurable Items	250
5. Specific Items	251

SECTION	PAGE
6. Cancellation	252
7. Mortgages	253
8. Removal Cover	253
9. Procedure in Loss Settlements	253
10. Forms	255
11. Clauses	256
12. Average Clause	257
13. Premium	258
14. Loss Settlement	259

CHAPTER XVII

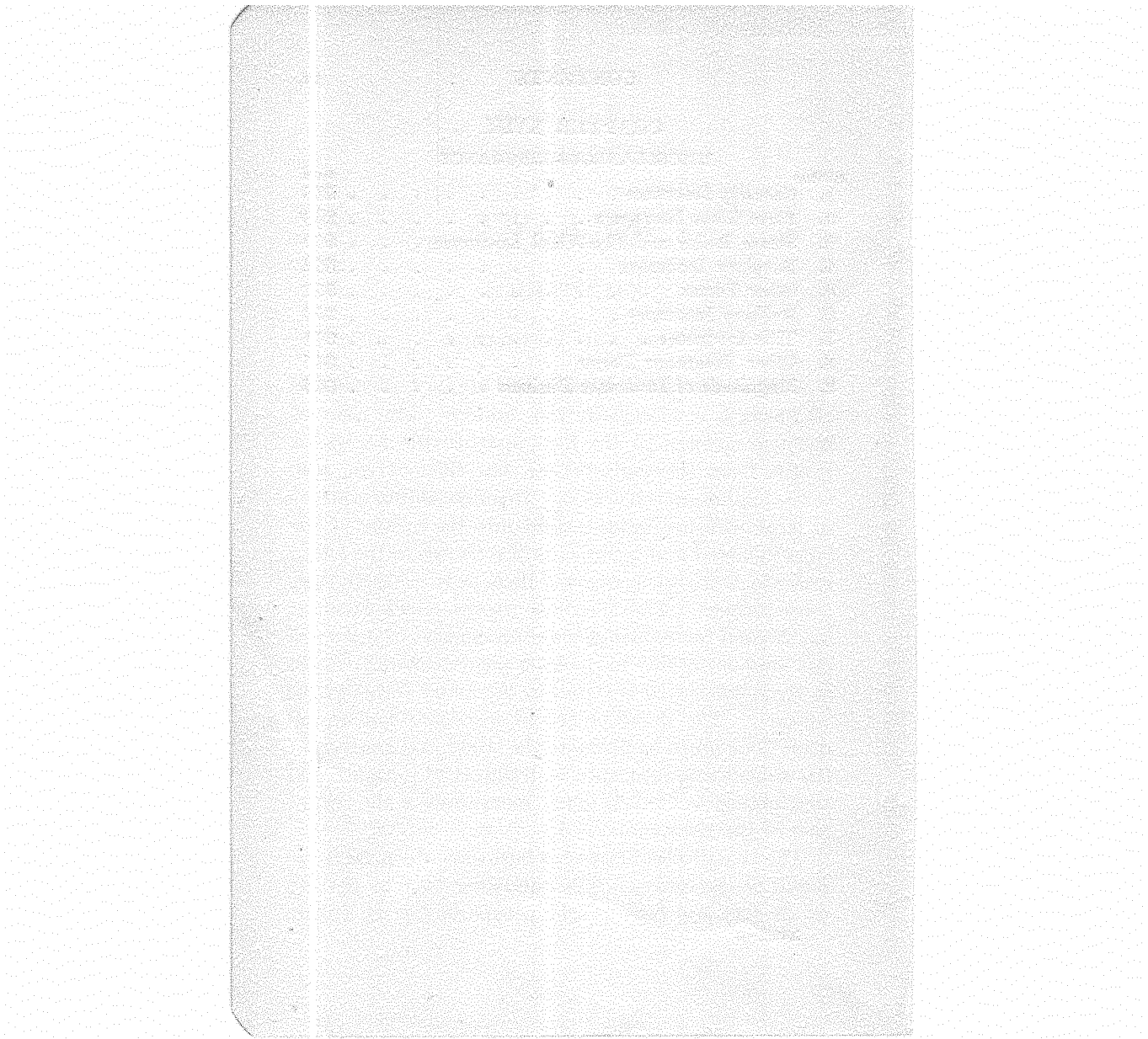
MARINE INSURANCE

1. Purpose and Service of Marine Insurance	261
2. Types of Underwriters	263
3. Lloyd's	263
4. Making a Contract at Lloyd's	264
5. Lloyd's Information Service	265
6. American Insurance	266
7. War Hazards and Government Insurance	267
8. Types of Policies	268
9. General Nature of the Risk Assumed	270
10. Perils Covered by the Policy	274
11. Marine Losses Classified—Total Loss	278
12. Partial Loss—General Average	279
13. Particular Average	282
14. Other Leading Policy Provisions and Clauses	283
15. Sue and Labor Clause	284
16. Memorandum Clause	285
17. Other Insurance Clause	287
18. War Risk Clause	288
19. Subrogation Clauses	290
20. Collision Clause	291
21. Settlement of Losses	292
22. Determination of Marine Rates	295

CHAPTER XVIII

MISCELLANEOUS INSURANCE

SECTION	PAGE
1. Casualty Insurance	298
2. Plate Glass Insurance	298
3. Steam Boiler and Fly-Wheel Insurance . . .	300
4. Burglary Insurance	302
5. Other Forms	302
6. Robbery Insurance	303
7. Title Insurance	304
8. Other Insurance Forms	305
9. Magnitude of Insurance Business	306



INSURANCE

CHAPTER I

RISK AND INSURANCE

1. *Business risk.*—Risk is the life of business and all business is essentially risk taking. The risks of business concern in the first instance the hoped-for profits from the undertaking, but they extend also to the capital invested in it. Business ability consists in large measure in an insight into the nature of the risks incurred and business skill is shown in the measures which are taken to avoid them or to mitigate their consequences. The foremost means which business has devised for reducing the consequences of injury of one kind or another to the least possible inconvenience to those concerned is found in the many forms of insurance. The development of insurance has, moreover, done much to promote the study and analysis of the risks which insurance is designed to mitigate and this in turn has led to many measures for the reduction of the risks concerned.

The vicissitudes to which a business enterprise is exposed are countless. The enterprise may be getting on its feet and have bright prospects for the future

when the man upon whose energy and business ability it depends for its success is suddenly removed by death. Or it may be that he is injured by a railroad or automobile accident and perhaps for months is incapacitated for his business duties. His factory may have a boiler explosion which puts the plant out of business for a considerable time. The explosion may result in death or injury of employes and the ensuing damage suits may entail a serious loss. The danger of fire is ever present, and the injury it does may wreck the business. If a man is in a mercantile business, burglary may be a danger against which he must take special precautions, in spite of which he may sustain losses. Expensive plate glass windows may be a necessary adjunct to his business operations and an explosion in the neighborhood may reduce them to splinters. He may have purchased a plot of ground and begun expensive building operations only to find a flaw in his title to the property. One might go on indefinitely and pile up instance after instance of the risks which might entail losses upon a business enterprise; but enough has been said.

The risks of business are foreseen and unforeseen, some are unforeseeable, while others can be foreseen by thoughtful men. Insurance of course has to do only with the foreseeable risks. But it will be noted that all such risks are incalculable. They exist as possibilities, but when or where they will result in injury or loss no one can tell in advance.

2. *Wastes and losses.*—In the operations of a busi-

ness, there is always a certain element of waste. In manufacturing, the materials and supplies do not all appear in the finished product, some of them are spoiled, and some are lost in the process. In merchandising, some goods will not sell, or will not sell at the expected profit. When credit is extended, as it is in most business enterprises, a certain loss from bad debts cannot be avoided. In short, every business enterprise must reckon with more or less fixed elements of waste.

Now if we consider business as a whole the risks against which insurance is carried appear as the more or less inevitable wastes of the world's economic activity. The destruction of vegetation by hail, wind and storm, the loss of life thru accident and disease are, taking the world at large, just as normal happenings as the sprouting of the harvests or the birth of children. In the world's business there is inevitably a certain amount of waste thru shipwreck, thru fire, thru explosion and accident, which is a part of the cost of doing business, of doing the world's work.

We must carefully distinguish between those wastes and losses which are inherent in every business enterprise, and those which may be inevitable in business as a whole, but which may or may not occur in any particular enterprise. The first group of losses must be met by the individual enterprise alone. Take for example the depreciation of plant and machinery. No careful manager will fail to take note of this depreciation in the conduct of his enterprise, but pro-

vision against this depreciation, an approximately determinable loss, is not insurance. It is a charge which each business must carry for itself in exactly the same way as the other costs of production. Again, every selling organization reckons with a certain percentage of bad debts and provides against it in its marketing plan, but does not regard this as insurance. The latter concerns unusual loss.

In an earlier volume of the Modern Business Course, "Credit and the Credit Man," an account is given of credit insurance which brings out this distinction very aptly. This is a form of insurance designed to protect the merchant from unusual loss from bad debts. It does not cover the usual loss which the merchant must assume himself, but only those losses which exceed the usual ones, the latter being ascertained by computing the average for a series of years.

3. *Uncertain losses.*—It can be seen therefore, that insurance is a contract of indemnity against uncertain losses. In most cases the losses whose effects it is designed to neutralize in whole or in part are such as may never occur in the experience of any particular person who has insured against them. The uncertainty therefore affects both their occurrence and their severity. This of course is not the case in the most widely known form of insurance, life insurance, where there is no uncertainty regarding the event which may entail the loss, but only concerning the time when it may occur.

Hence the uncertainty concerned may rest upon any one of three elements or any combination of them, the occurrence of loss, the amount of the loss, and the time when the loss occurs. Whatever the nature of the uncertainty a serious derangement of the individual's economic condition results, when the uncertainty becomes a reality. Measures cannot of course be taken to remove the uncertainty entirely, but thru the insurance contract a large measure of this derangement can be obviated.

4. *Regularity of uncertainty.*—All insurance has its basis upon the principle which might be paradoxically called the regularity of uncertainty. However casual and incalculable these events may be from the standpoint of the individual they are fairly constant from the standpoint of society at large. It may never happen that your house burns down, but some houses are burned each year and the annual fire losses vary little from year to year. Nothing is more proverbially uncertain than human life, yet in the mass few things are more definite than that a certain number in each age of life will die each year. Some of the events covered by insurance have been under observation for generations and centuries, others have only recently attracted attention. As experience accumulates and as the range of observation increases the more definite becomes our knowledge of the regularity with which the phenomenon will recur.

The regularity of the apparently casual occurrences can be seen only when there is a considerable

range of observation. A series of fires in a small town will occasion a relatively large loss. In a city a number of large fires in a short space of time will cause the fire loss to mount alarmingly. A conflagration like the Chicago fire is a catastrophe long remembered. But the losses of the small town or the city or even of the great conflagration are swallowed up in the fire losses of the entire United States. A local epidemic may have a serious effect upon the death rate of a given city without appreciably affecting the mortality of the nation as a whole.

Again, the fire losses of a single day may greatly exceed those of that which precedes or follows it, but there will usually be less variation in one week as compared with another. Variations from year to year may entirely disappear when five-year periods are concerned.

It is important to establish that the regularity of uncertain events on which insurance is predicated depends on the element of time as well as that of area. Neglect of this limitation has been the rock upon which many an ambitious project has gone to pieces.

5. *Protecting the individual.*—In the present order of society, the individual protects himself from these losses thru insurance. It is nothing more than spreading the risks of loss over large bodies of persons exposed to those risks. Each of the persons exposed to the risks makes a certain contribution to a fund from which those who suffer the loss are indemnified. If the loss fell upon one person alone it

would be a serious burden, which might wreck his business. Distributed among a large number of persons exposed to like risk it becomes only a small annual charge on his business. Thru the insurance contract each individual is enabled to transform the waste which is incident to business as a whole from an overwhelming loss for certain undetermined individuals into a fixed annual charge for many, which they reckon among their regular costs of carrying on their enterprises.

Insurance is a method of equalizing burdens as respects areas and as respects time. Thus if in a given state the loss thru personal accident in each year be assumed to be a certain amount, and it is possible to pay it out to the persons concerned from a fund collected from all exposed to accident, the burden upon each one would be a negligible quantity. This is an adjustment of the individual loss and the compensation for it, to all the losses, and all the persons exposed to it within a given area.

If then the chief purpose of insurance is to indemnify one person among a large group for a loss which may befall him, it would seem that the simplest method of carrying it out would be to wait till the loss occurred and then have all the members of the group share it. There are in effect many small insurance operations which are conducted in just this way. By grouping the losses it is possible to conduct even larger enterprises on this plan. But the assembling of funds after the loss has occurred prevents

the prompt settlement of losses, and hence the rule in insurance that funds to meet losses are payable in advance. If the payment by the insured is not calculable as to its amount and as to its maturity, it bears too close a resemblance to the possible loss which it is designed to avoid. Yet even when the payment is made in advance at a stipulated rate, subsequent payments may in some forms of insurance be required in order to meet unusual losses.

The distribution of losses among all the persons exposed to them in a given area or group of persons, in such a way that it falls comparatively lightly on each one of them is a fundamental principle of insurance, but it is not the only one. This distribution of the burden of loss must take into consideration the element of time as well as area. This is a recognition of the fact that the regularity of recurrence on which insurance is based is relative and not absolute, and that provision must be made for the possibility of considerable variation. In all forms of life insurance it is a recognition of the familiar fact that death risks vary with the age of the insured.

6. *Cost of insurance.*—The insurer by his contract agrees to pay an indemnity to cover certain losses which may occur to any person who has entered into the contract. In order to do this he collects from all the insured certain payments called premiums, which are usually annual payments. These premium receipts the insurer uses predominantly but not exclusively to pay indemnities. What purposes then do

the premiums serve? They create a fund by means of which the insurer must be able to do three things:

1. Pay current losses.
2. Pay future losses in excess of current income.
3. Pay the expense of running the business.

Unless the premiums are adequate for these three purposes the enterprise will fail. All are equally important. Many persons have failed to appreciate the significance of the second and third purposes here named, and there have been numberless attempts to secure cheap forms of insurance. There is however no such thing as cheap insurance if premium reductions are obtained by inadequate provision for any of these things. There is a constant effort to reduce the cost of insurance, that is, the amount of the premiums, and within certain limits these efforts may be highly successful.

7. *Reducing costs.*—Assume that a given company has a certain premium income and that the proportion required for the payment of current indemnities is reduced. One of several things may happen. The funds destined for future use may be increased at a more rapid rate, or the saving may be turned into the cost of doing business. The latter course is not so improbable as it appears, since extravagance in administration may occur. If the company is organized upon the stock basis the saving may become a source of dividends to the owners if the rate of dividend allowed by law to such companies has not already been obtained.

If with fixed premium income the proportion assigned to future use is diminished, this saving, if it is legitimate to regard it as such, may either go to pay increased indemnities, should they be necessary, or may find its way into the cost of doing business as suggested in the preceding paragraph. Economies effected in the cost of doing business might serve to increase the amount available for current losses or for future needs. It is clear that an excessive income could only be used in wasteful administration or in building up an unusual reserve. Since most of the insurance is done by mutual companies, there is a very strong motive toward still another course, that is, passing this good fortune on to the insured thru a reduction of premiums. The competition of companies among themselves has a like tendency and more perhaps than in other lines of business a reduction of the cost finds expression in a reduction of price.

Cheaper insurance then is a possibility when there is a proper provision for each of the several purposes which the premium payment is designed to serve.

8. *Classification and selection of risks.*—The first step which can be taken towards reducing the current loss payments is thru a classification and selection of risks. It was, for example, long ago recognized that the fire hazard was not the same for all buildings, irrespective of their construction and their use. By establishing classes and defining their limits the insurance companies can considerably reduce the probability of becoming liable for loss. Again the life

risk is obviously not the same for all persons, regardless of their condition of health. The purpose of medical examination in life insurance is to eliminate poor risks. A very rigid examination reduces materially the cost of the insurance to the insurer, and the insured reaps the benefit of this in reduced cost. Again in workmen's compensation insurance, not only the character of the occupation but the conditions under which it is exercised have an important influence upon the cost of insurance.

9. *Reducing the loss payments.*—While the main purpose of insurance is to indemnify those who suffer a loss whose occurrence cannot be foreseen, the institution of insurance has in some cases done considerable to reduce the probability of such loss. Both laws and self-interest are constantly at work in this direction. Take for example the fire risk. Building laws and regulations decrease the probability of fire and the fire-fighting apparatus and organization which towns and cities establish reduce the loss which ensues when fire occurs. Even where no laws establish standards of building construction, as in the rural districts, the requirements of the insurance companies act as a powerful stimulus to reduce the fire risk.

Similar influences are at work in the industrial field. Manufacturing establishments are giving increased attention to the safety of the workers. With all proper credit for the humanitarian motives which have been at the root of the "safety first" movement, it is not to be denied that they have been powerfully

reenforced by business considerations. With the spread of workmen's compensation legislation and insurance there has been a powerful incentive given to the improvement of working conditions, and that incentive has been the lower cost of compensation insurance. A man is easily persuaded to adopt reasonable safety appliances when it can be shown that he saves money by so doing. Up to a certain point this is the case. Beyond that point the cost of installing and maintaining safety appliances may be greater than the losses which their absence entails upon him, and here the economic motive is lacking. But here again the law not infrequently interposes the weight of its authority and imposes obligations upon the manufacturer which may involve heavy annual charges. In so doing it is not of course concerned with the welfare of the manufacturer, but with the protection of those in his employ.

Over a long period of time changed conditions of life and industry may tend to reduce the insurance risk. If for example, as a result of improved sanitary conditions the death rate declines, as it has done in the past hundred years, it is perfectly clear that other things being equal, life insurance can be written at a lower cost than before.

In a preceding paragraph it was shown how particular insurance might be reduced in cost thru a careful selection of risks. Here it is shown that the cost of insurance in general may diminish by a gradual improvement of the average risk.

10. *Provision for future losses.*—If as one of the necessities of a properly regulated insurance system, provision for future losses has been mentioned, it should be understood that reference is made to such losses as may be excess in current income at such future periods. By means of this feature of the premium payment a surplus is built up for future contingencies.

When such a surplus has been created it grows both from within and from without, that is, it increases by the receipt of interest on investment, and by further contributions from current premiums. Obviously if anything happened to increase the internal growth, such as a marked rise in the rate of interest obtainable for safe investments, a fixed annual addition to surplus could be obtained without drawing to the same extent as formerly on current premium payments. In such a case it would be perfectly possible to reduce the price of insurance. Conversely, if the rate of interest falls, the surplus will grow less rapidly. Hence, under these conditions, a fixed rate of growth can only be maintained by increasing premiums.

In all of this discussion it is assumed that adequate provision is made for these future emergencies. What is an adequate provision in the various types of insurance has been a subject of infinite debate. It is, however, clear that the longer the time for which the insurance contract is entered into the greater will be the importance of this element. Hence, the su-

preme importance of the reserves as they are called in life insurance.

11. *Cost of operations.*—The third outlay for which the premium income must provide is the cost of operating the business. If this can be reduced insurance can be offered to the public at cheaper rates.

A large part of the effort to secure cheaper insurance is based upon the belief that established insurance methods are costly. There is a large measure of truth in this contention, and this may be admitted without asserting that the costs of doing business are higher than they ought to be under the present organization of the insurance business.

Many of those who have sought to reduce the price of insurance have neglected this qualification. Too often the tendency of reformers in the insurance field has been to substitute inexperience for experience with results that have proved costly in the long run. While the general principles of insurance are easily grasped, the practical working out of them is a highly technical matter, requiring unusual skill and knowledge. It is not something that can safely be left to amateurs.

It is quite possible to conceive an organization of the insurance business in which the costs would be greatly reduced. One of the principal elements in cost is not that of carrying the insurance but of securing the business. If for voluntary insurance, which is in most fields what we know in the United States, compulsory insurance were to be substituted,

it is conceivable that the cost of securing insurance could be reduced to a minimum and thus the general cost of insurance operations could be reduced.

The soldiers' and sailors' insurance written by the United States Government during the late war rested in part upon this principle. The cost of securing insurance was a minimum, many of the initial costs, such as medical inspection of risks disappearing altogether. In the field of private insurance we find a like condition as affects the cost of doing business in the various forms of group insurance. When such insurance is written certain standard items of expense either disappear or are largely curtailed, and these savings find expression in a reduced premium rate.

A close analysis and study of the practical work of insurance companies would reveal many points at which economies of operation could be effected. Some companies have been more successful than others in effecting such economies, and their policyholders reap the benefit of this efficiency. It cannot, however, be too strongly insisted upon here as elsewhere that any economies which are made at the expense of the service which insurance is designed to perform are illusory.

12. *Varying risks.*—All insurance, as we have seen, rests upon the certainty of the uncertain. The events which bring loss in their train to the individual tend to recur with great regularity among large groups of individuals. But regularity of occurrence is not equivalent to constancy of occurrence. From place

to place and from time to time the frequency with which the event takes place may vary within wide limits. Murders for example may be more frequent in one nation than in another. Yet from year to year in the same nation they will tend to be equal in number. But note that the regularity stated is only from year to year. From decade to decade they may show a tendency to diminish.

What is true here is true also of the specific risks against whose consequences insurance has been devised. Differences from place to place occur. For example, the fire loss is far greater in the United States than it is in European countries; and over considerable periods of time the frequency of occurrence may undergo considerable change. Progress in insurance means therefore a continual adjustment of procedure and rates to changing conditions of risk.

13. *Increased knowledge.*—Thru experience and observation our knowledge of the nature of risk and the frequency of loss is constantly becoming more precise and definite. Changes in this knowledge are probably more potent in effecting adjustments in insurance practice than the changes in the absolute frequency of the events discussed in a preceding paragraph.

The growth of knowledge which permits a nicer adjustment of insurance rates to insurance hazards is a constant factor in the development of insurance practice. Its significance, however, is most manifest in the early history of each form of insurance. As a

matter of fact few if any branches of insurance have been founded upon an adequate experience record. All have at the outset gone thru an experimental stage. Men have recognized the risk and have seen the desirability of providing against its consequences long before the full nature of the risk has been understood, and the frequency of loss arising from it has been ascertained with any degree of precision. The early history of each branch of insurance is strewn with failure for this reason, and the development of insurance has been an increasing knowledge of the risks involved as the records of experience accumulated, as a better adjustment of insurance practice to insurance needs become possible.

A case in point is recent American experience in workmen's compensation insurance. State after state enacted laws for the protection of workmen against loss arising from the accidents of industry, but when it came to establishing insurance institutions for carrying the burdens, it was found that there was very little experience upon which to base them. Accident records of other countries had to be drawn upon and tentative rate schedules were adopted, which subsequently, as American experience began to accumulate, have been very greatly revised.

14. *The principle of indemnity.*—Insurance, no matter what it concerns, has only one purpose, namely, to provide an indemnity in case of loss. Hence the fundamental principle of all insurance that the indemnity paid should not exceed in value the

loss incurred. In the case of property insurance this limitation is well understood but it seems to have no place in the consideration of life insurance. No precise valuation can, of course, be placed on any human life, and in case of death, no definite amount of loss could be proved. Hence, in any given policy there is what might be regarded as a conventional valuation determined in advance and stated in the policy. In other forms of policy there are also definite sums stated in the policy, but these must in most cases not be regarded as measures of the loss which may occur, but as limits to the possible indemnity to be paid.

Because the purpose of insurance is to protect against losses it can only be written for the benefit of those who actually suffer a loss thru the event against which the insurance is taken. Hence the origin and explanation of the phrase that the beneficiary of the insurance, must have an insurable interest in the thing insured. The consequence of this principle is that when the insurable interest expires, the insurance expires also. Otherwise the contract of insurance would become a mere bet or wager. Strange and unusual forms of insurance sometimes occur, particularly in Great Britain, as when for example a man takes out insurance against the occurrence of rain upon some great public festival. On the face of it this appears as a mere wager, but it will usually be found that when all the circumstances are known there is an insurable interest behind it. In the case suggested the man securing the insurance might be

a renter of public vehicles or grand stand seats, and be liable to lose money in case of rain.

The insurable interest may be of very definite or of very indeterminate value. In the latter case a conventional value has to take the place of a demonstrated value. This must always be the case when the insurance is designed to protect not against a loss of property, but a loss of anticipated profits.

15. *Forms and divisions of insurance.*—The insurance contract whose general features have been explained takes a wide variety of forms, and concerns many and varied risks. In the present volume the chief forms of insurance will receive attention, and the examination of them will disclose new principles and reenforce by particular application those which have already been mentioned in general terms. Insurance writers do not agree in detail with regard to the classification of the various types of insurance enterprise, but the underlying division of the present text into personal and property insurance is widely accepted. In the following treatment personal insurance is given the first place not only because of its wider field of interest, but also because it exemplifies in a high degree the manysidedness of the insurance contract. Moreover, the interest in life insurance is by no means a purely personal one, since life insurance is coming to play an increasingly important part in the conduct of business enterprises. A close division of insurance into definite groups is extremely difficult and the consideration of liability

and workmen's compensation insurance which follows the discussion of life and accident insurance can be regarded as a bridge between the latter and the several forms of property insurance, the discussion of which comprises the later chapters of the volume.

REVIEW

Compare depreciation and loss by fire as expenses in conducting business.

Would a socialistic state require insurance?

What is meant by the statement that insurance rests upon the regularity of uncertainty and the distribution of risk?

What are the elements in the cost of insurance and how can they be reduced?

How do varying risks and increased knowledge of risks affect insurance practice?

What is insurable interest?

CHAPTER II

THE LIFE RISKS

1. *Element of uncertainty in modern life.*—Society is organized for the realization of certain common purposes, but most of the activities of individuals within a social group are not carried on in cooperation or for the realization of such purposes. They are individual activities, directed toward individual ends. They may, and usually do, contribute to group welfare, but their success or failure is not conditioned by social cooperation. Thus a particular business may be of the utmost importance to the life of a community and yet it succeeds or fails by its own efforts. Productive effort as carried on today is of an unusually speculative character. Most production is for a demand in the future and the market for the product may never materialize. Demand may change or may have been entirely misjudged. Meantime every step in a roundabout productive process represents money expended and if the final product does not find a market this expenditure represents a loss to some individual. The time element renders production extremely uncertain and this creates a constant source of possible loss. This might well be charged as one of the costs of social progress and car-

ried by the group, but as a matter of fact this risk of loss or failure is carried by the individual from the moment the process begins until the product is in the hands of the consumers.

This factor of time makes the success of any undertaking dependent on the individual. Society is deeply affected by the status of family life. But the success of family life, in the economic sense, is not guaranteed in any adequate way by social action. The family as an economic institution depends on the income of the bread-winner over a long term of years, but society makes no adequate provision that this income will be guaranteed.

Thus in an important respect business life and family life are measured in terms of income, or of the ability of some individual to produce income. The point emphasized here is that our present social organization allows these institutions to be established as individual units wholly self dependent; that the *responsibility* for their success or failure is individual, not social; and that anything which causes an interruption of the service or the income of such individuals brings failure to satisfy responsibility and consequent loss upon particular members of society. We have inherited this vast tradition of individualism from an earlier age and it has become an important factor in our national life. It is expressed repeatedly in our law and forms a chief characteristic of our written constitution.

2. *The risks of the individual.*—The assumption of

responsibility carries with it the hope of realization. Failure may be due to personal shortcomings—the lack of ability, the lack of enterprise, or the like—or it may come from circumstances which the individual cannot control and which are by nature unforeseen or unforeseeable. Thus a family may suffer thru the desertion of the father. He fails to provide the income to rear his children. Insofar as this is a matter of his personal neglect, society may deal with him directly and make him accountable, tho this may be a poor solution of the problem of care for his family. But the father may be killed in industry or he may contract an occupational disease which disables him permanently. In these instances his family suffers as before by deprivation of income, but responsibility is not assessable as before. Again his savings of years may be lost and he or his wife left dependent in old age; his home may burn or be destroyed by earthquake or windstorm, or property may be stolen. Losses such as these, due to the operation of natural forces or the shortcomings of community life, are properly charged as community costs and deserve to be carried by the group. But the individualistic organization of civilized societies does not furnish the basis whereby this may be done directly. Insurance institutions are a response to the demand of individuals for protection against these unavoidable catastrophes.

3. *The life risks.*—Life insurance deals with one phase of the general problem of risk. It is essentially

a means of guaranteeing that responsibility once assumed shall not fail of realization thru certain unforeseen occurrences comprehended within the term *life hazards*, or *life risks*. To make clear their nature it is possible to divide a life into three parts: the first extending from birth until the child has completed its education and is prepared to become self-dependent—about twenty-five years in the average case. The second period may be called the productive period, when one is working and earning the income that will enable him to bring up a family, to engage in business and to save money for old age. This period ends at different times for men in different occupations. Workers in some industries reach the end of their usefulness by age forty-five or fifty; many business men or men in agricultural pursuits retire at sixty or sixty-five, while professional men sometimes work until age seventy or later. For the purpose of illustration, the productive period of life may be said to end on the average at age sixty-five. The third and last division of life is the period of old age, when a man has ceased to be a producer. That is, he has ceased by his own efforts to add anything to the world's supply of consumable goods and lives off the production of others.

4. *Requirements of productive age.*—Each of these periods may be viewed as a distinct unit of a man's life, and his needs may be considered separately for each. In general it may be said that the income earned during the second or productive period fur-

nishes the means of providing financially for all three, and a man does not satisfy his full duty to society unless he produces the equivalent of this amount. Of course, no man from his own efforts can provide for his individual needs during childhood. That is done by others. But his responsibility is merely carried forward one generation and he satisfies the debt for his own upbringing by rearing and educating offspring. In addition to this, he has to care for himself and wife during this period, and every man with normal foresight looks forward to laying up a fund which will care for him and his wife when they have become old. Then again, there are special occasions arising thruout this productive time of life when a man is called upon to assume responsibilities which are carried out only thru his ability to earn an income. He may enter a business, which he personally can carry to success but which may fail in the hands of another; the support of aged parents may devolve upon him; or he may wish to accumulate an inheritance for a son or daughter.

The responsibilities here alluded to fall upon every man who rears a family, or engages in business, or who becomes the source of support for aged, infirm or other dependents. For those who have received an inheritance from an earlier generation of the family the problem is already solved; for the man who has inherited only ability and capacity, and this includes the majority, the problem is solved by means of the income earned during his productive life.

This theory of a man's obligations is stated very well in accounting terms. The ledger account will show an accumulation of debits during childhood; during the productive period this liability will gradually be reduced and eventually be replaced by a considerable credit balance. The latter will reach its maximum at the age of retirement and will be completely exhausted at the time of death. Thus the account will balance at the close. The liability side of this account will cover the financial value of all obligations assumed by the individual to wife, family or other dependents and to business, and all other obligations of whatsoever nature. Resources shall be measured in terms of his income.

There are two serious difficulties with meeting these various responsibilities by the use of income earned year after year. In the first place a man may die prematurely and in the second, he may fail to save for the time when his productive capacity ends, or his savings may be lost thru unwise investments or thru the various turns of economic prosperity known as crises and depressions. Once the responsibility for rearing and educating children is undertaken it will be twenty or twenty-five years before one's duty to these children is fully satisfied; upon marriage a man ordinarily assumes the obligation to support his wife for her entire life; a business may require his continued attention for a number of years before he develops the organization which can succeed without him. If the income-producer lives all is well; but if

he dies he may leave wife and children unprovided for, to become dependent upon charity, and his business may become insolvent. Thus the failure of income thru premature death brings misery and maladjustment.

5. *Needs of old age.*—Again, as the years pass he approaches the age where he can no longer keep up with his younger competitors in the productive struggle. His efforts lose their economic value. In the professions he retires, in industrial life he becomes superannuated. He ceases to be a producer but remains a consumer. If all his responsibilities to others have been satisfied during his productive life he must still consider his personal needs during old age. From his own efforts this period can be cared for only thru the savings of years past. That is, he must have produced more than he consumed between ages twenty-five and sixty-five and this excess or saving must have been preserved in such form as to give him title to, or purchasing power over, the production of others, during his old age. Furthermore, his responsibilities to others may not have been fully paid at the time of retirement. In such case capital must be accumulated to liquidate these obligations.

The life risks which thus render uncertain the satisfaction of one's obligations are premature death and failure to *accumulate* and *preserve* funds for old age. The apparent solution is some sort of protection against the financial consequences of premature death and some means of investment or capital accumula-

tion during productive life that will surely preserve these funds and guarantee their availability when needed during old age. The need for a solution is emphasized by a consideration of the magnitude of these risks.

6. *Magnitude of these risks.*—The literal accuracy of the following quotation cannot be vouched for, but its substantial truth is attested by any mortality table based on extensive experience, and by the records of numerous probate courts:

If you take one hundred average men age twenty-five, healthy, of good mental and physical caliber, but with no means of support except their head and two hands, and watch them as they swing down in front of the grand stand on their successive ten year laps, you will find that this is what happens to them:

Age 35. Five have died; ten have become wealthy; ten are in good circumstances; forty have moderate resources; thirty-five have not improved.

Age 45. Eleven have died, making a total of sixteen; all but three of those who had made and saved money have by this time lost all their accumulations. Sixty-six are still working and self-supporting, but without any other resources; fifteen are no longer self-supporting,—a few of these still earn something, but not sufficient so that they may be considered self-supporting cases—thru illness, accident or reverses.

Age 55. Four more have died; twenty are now dead. Of the others one has become very rich; three are in good circumstances; forty-six are still working for a living, not having been able to accumulate anything; thirty are now more or less dependent upon their children or relatives or charity for support; some of these may be able to do some kind of light work, but they are replaced by younger men.

Age 65. Sixteen have died during this period, making a total of thirty-six out of the one hundred. Of the remaining, one is still rich, four are wealthy, one of those who lost everything before forty-five has regained hold and become wealthy; only six are still self-supporting, but are compelled to work for a living; the others (fifty-three) are dependent on children, relatives, or charity.

Age 75. Survivors, ten years later: death has claimed sixty-three, sixty of whom left no estate; two of the five rich men have lost out. The rest are dependent upon their children, relatives, or charity. From now on the old fellows will die off rapidly but their financial condition will not improve, and ninety-five per cent of them will not have sufficient means to defray funeral expenses unless insured.¹

REVIEW

Contrast the different aspects of the uncertainties of life whether considered from the social or the individual point of view.

What are, from the standpoint of income, the three chief periods of human life?

What are the obligations which rest upon middle life with respect to childhood and old age?

Why is the accumulation of savings often ineffective to meet these obligations?

¹ Quoted in the "Virginia," the monthly field bulletin of the Life Insurance Company of Virginia, February, 1917.

CHAPTER III

LIFE INSURANCE PROTECTION

1. *Mutuality in life insurance.*—The frequency with which premature death occurs and with which men fail as individuals to save for old age reveals two characteristics of these life risks: the uncertainty to whom they will occur and the certainty that they do occur with a considerable degree of regularity in a group of sufficient size. The regularity of these phenomena in a group makes possible a solution thru cooperation of its members. The statement that thirty-six of every one hundred men who reach twenty-five years of age will die before they will have reached age sixty-five means that this result will occur on the average, not that the particular result will happen to any particular one hundred men. This being so, and it being unknown in advance upon whom misfortune will fall, all may agree that the consequences of these misfortunes will be shared by all. Insurance is said to be mutual and it is in this sense of group cooperation in the payment of unforeseen losses that the statement is true. Insurance organizations are in no sense creators of capital, they are merely distributors of funds. Their payments represent the transfer of funds from many persons to the few who

have suffered misfortune. This mutual character of the insurance fund cannot be overemphasized. No insurance carrier can be permanently successful unless its collections from the many insured cover the losses of the few who meet disaster.

There is a tendency among the uninformed to look upon the insurance company especially when it is a corporation, as an organization apart from its policyholders. The necessary relations between its assets and the risks it carries is not seen and many unjust demands are made upon it. In the simple applications of the insurance principle the mutual character of the insurance fund is readily recognized. The neighbors who make voluntary contributions to a family whose home has been destroyed by fire do so in part from a sense of common need, and in this act are expressing one of the essential characteristics of insurance. The Red Cross has been able to collect vast sums of money in its recent drives because the contributors have realized the connection between its work and their own needs.

In life insurance the mutual character of the fund to provide for losses thru premature death is easily recognized; the situation is not so clear with reference to saving for the future and for old age. But it must be remembered that individuals may save and may then lose their accumulations. This may be due to lack of skill in investment, to lack of opportunity to make safe investments or to influences entirely beyond their control. The insurance company

as an investment agency deals not in small sums but in millions, it is enabled to obtain the services of skilled managers, and the few cases of loss which they suffer will, when balanced against their entire earnings, scarcely be noticed. Thus their ability to apply the principle of mutuality to investments protects them against the uncertain losses to which an individual is exposed. This mutuality, this sense of community interest and willingness to help each other, is the basis of insurance.

2. *The indemnity in life insurance.*—Group co-operation in the replacement of unforeseen losses does not necessarily result in complete replacement. The persons who suffer misfortune may merely be aided during a time of readjustment. When efforts at co-operation are developed, however, to such an extent that a complex organization is established and a fund created from which to pay these losses, there is always the danger that some one will attempt to misrepresent the amount of a particular loss and make profit at the expense of the group. For this reason, a second essential element of insurance is indemnity—that is, the replacement fund shall never be greater than the loss sustained. This is a fundamental legal characteristic of the contract issued by insurance organizations. Life insurance offers the nearest approach to exemption from this requirement. The principle of indemnity is applied, however, only in a different manner. Whereas, loss to property may be measured in terms of the market value of property at the time of dis-

aster, there exists no equivalent way of measuring the value of a life. An approximation is obtained, to be sure, in terms of a man's income; but income is a variable factor, tending normally to increase, and the law recognizes the desirability of encouraging the ambition for higher standards of comfort. In the absence, therefore, of plain intention to defraud, the common law recognizes the legality of contracts of insurance on lives, granted there be a reasonable relationship between the amount of insurance and the standard of comfort a man might be expected to set for his dependents. Insurance companies themselves exercise a strict control over the possibility of excessive insurance by limiting the amount of policies on a particular life, by requiring that the existence of other insurance be revealed in the applications of prospects and by refusing to issue policies the premiums on which do not bear a normal relation to a prospect's apparent income.

3. *Contract.*—When a system of mutual protection against risk is established on any extensive basis it becomes important that the members of the group have a reasonable guarantee that their expectations will be realized. This cannot be accomplished by verbal agreements or by general understandings that the victims of misfortune will be recompensed. It is necessary that the nature of the relationship of members to the group be expressed by a definite contract. In its business operations the insuring organization therefore acts as a unit dealing with members according to

its contractual obligations. While this appears at first sight to be a departure from its mutual character it is not so in fact. A contract is the only basis for maintaining the equity of all members and this is but another way of saying it is the means of preventing one member seeking advantage at the expense of others, and of guaranteeing that the just expectations of all members will be realized. This character of the insurance carrier arises as a matter of practical administration. The control of these contract relationships still lies with the members, or, in organizations where this is not the case, for example stock insurance companies, is supervised by government agencies in the interests of policy-holders.

4. *Protection thru life insurance.*—Insurance in its bare essentials is thus seen to be cooperative activity directed toward the end of relieving the individual of the financial consequences of risk. The losses due to unforeseen disasters usually represent a net reduction in social well-being, but by insurance their effects are distributed among large groups and do not fall wholly upon a few individuals. The San Francisco fire and earthquake in 1906 destroyed \$300,000,000 worth of property. Had the loss been borne by the people of San Francisco the city would never have recovered. As a matter of fact insurance premiums collected over the entire civilized world contributed to its rebuilding and its recovery was phenomenal. Life insurance performs this function for two risks—premature death and incomeless old age. It replaces personal

or business income lost thru premature death and thereby enables the fulfilment of one's obligations, tho death may come. This is its "protection" function, as it is usually called. Furthermore, it furnishes a medium thru which men can safely invest their savings to meet obligations in later life that cannot be satisfied from current income, or obligations maturing after income has ceased thru retirement. This is known as the "investment" function of life insurance.

Life insurance contracts may be used for protection to one's family, to one's creditors or to business. These various uses may be considered as family protection, personal credit insurance and business or partnership insurance.

5. *Family protection.*—A man usually undertakes the responsibility upon marriage of supplying his wife with income for the remainder of her lifetime. Normally his income increases with his advance in years and this is accompanied by an increase in their standard of comfort. Life insurance for the protection of the wife, therefore, will take into consideration the standards to which the wife is accustomed and the fund available in case the husband dies prematurely will be such as to provide that amount of income which will maintain standards in the future. Note that the insurance fund is for the purpose of preserving an "income." We ordinarily think of insurance in terms of cash available at death, for instance \$1000, or multiples thereof; but the loss is of income and the adequacy of insurance provision should be meas-

ured likewise in terms of income. Analysis of this statement will show that insurance needs are much greater in the early years of marriage than later, for the income is needed thruout the lifetime of the wife or while family responsibilities exist. Concretely, a wife aged thirty may be expected to live forty years longer in the average case, while a wife aged fifty may live only twenty years on the average. Measure personal needs by an income of \$1000 per year and the total sum required in the one case is \$40,000, and in the other \$20,000. This comparison will be modified to some extent by the fact that while a wife's needs at thirty are measured by \$1000 a year, at age fifty the family status may have improved and \$1000 per year become insufficient. There is another factor to be considered here and that is that the wife's responsibilities after the death of the husband may include the care of children. If the children become self-dependent at about twenty-five there is a temporary period until the youngest child is age twenty-five, during which insurance needs cover both wife and children. It is apparent therefore that the needs of a family are measured in terms of a large initial amount of insurance, gradually decreasing as responsibilities become fulfilled. Insurance needs are always greatest at the inception of family obligations and disappear with the cessation of earning power at the time of retirement. This is a fact seldom stressed in current discussions of insurance for protection.

6. *Personal credit insurance.*—A vast amount of

the world's business is carried on today by credit. Personal integrity combined with business or professional ability enables men to borrow the capital of others and employ it profitably. While collateral security may be given in many cases, yet there are plenty of instances where loans are made on personal security—the mere promise of the borrower to pay. If the honesty and ability of a man are a guarantee that he will use borrowed capital in a way to preserve and increase it or to increase his personal capacity to earn income the lender is safe but for one contingency. The borrower may die. In this case he may use life insurance to support his personal credit against his death and thereby utilize his future earning power in the present. Thousands of well-known business men thus borrow money from banks on their personal notes and the only protection the banks demand is insurance sufficient to cover all such unsecured obligations. Young men of good reputation and no capital in this way capitalize their future by borrowing money on their personal credit and furnishing the lender with a life insurance policy from the proceeds of which the debt will be paid in case of death. Funds may thus be obtained to finance an education or to start a business.

7. *Business insurance.*—As a man's income is important to his family so his services may stand between the success or failure of a business venture. The success of many a corporation is dependent on the vision of a particular manager during its early

years. It is quite proper therefore that the corporation should capitalize the value of his life by insurance. Then if he should die the money received from insurance policies will carry the company thru a period of adjustment until another manager or a new organization can be developed to carry it to success. Anyone will recall frequent instances in recent years when the lives of promoters of large corporations have been insured by and for the benefit of their firms. When the success of a corporation depends largely on the life of a single man it cannot afford to take the chance of disaster thru his death.

It frequently happens that business firms make "investments" in certain men for the purpose of realizing a profit from their services. Prudence requires that the money value of those services be secured against the death of the man. Authors are often insured by publishing firms against their failure thru death to produce articles or books in the advertising of which the publishers have incurred expense.

Partnership insurance is a special phase of business protection to meet the needs of the partnership form of organization. The death of a partner often necessitates the liquidation of his interest and this produces interruption and annoyance to the business. Life insurance carried by each partner or by them jointly, paid for by the firm and made available at the death of a partner to liquidate his interest, will materially reduce the severity of readjustments.

8. *Saving and investment function of life insurance.*

—There are two main functions of investment—to provide means whereby capital may be accumulated thru periodic payments and to furnish an avenue for the investment of surplus funds. The one deals with investments made for the purpose of carrying out future obligations, the other generally with an accumulating estate which represents growth toward affluence, a change perhaps from well-to-do to wealthy. The one may be called the saving function, the other the investment function.

This distinction may not be in general usage but it represents with fair accuracy a real functional difference in two classes of investments. Most of the conspicuously successful investment institutions of today have concerned themselves wholly with the second function. Thus, trust companies have managed *estates*, that is, managed accumulated capital, and have not been an important agency in the process of accumulation. The life insurance companies first emphasized investment contracts in the years subsequent to the Civil War, but put their emphasis decidedly in the wrong place. Their contracts were sold as speculative investments on which marvelous returns were promised. The companies now admit their mistake, but they paid dearly for their experience. The analysis of the life risks revealed the fact that men need to accumulate capital in anticipation of obligations that cannot be satisfied from current income or which mature in old age when an income is no longer being earned. Saving for these purposes is the more im-

portant function of the life insurance company. Savings banks and buildings and loan associations have also been established to meet this need.

A successful method of saving and accumulating money for a definite future purpose takes into consideration the amount needed and makes provision for regular periodic payments sufficiently large to create the fund in the required time. Herein lies the defect of the savings bank. No relationship is evident between the deposits and future needs. It is a great gain psychologically if the depositor realizes as he makes each payment that he is some day going to have \$1,000 and that his failure to make a deposit may mean failure to receive the \$1,000. The savings-bank depositor views his savings piecemeal instead of focusing his attention on the total sum of money that will some day result from them. The purchaser of an endowment insurance policy clearly understands that the receipt of the amount insured twenty or thirty years hence depends on the continuation of his premium. He sees a close relationship between his premiums and his future needs. If capital is being saved with a specific purpose in mind he is able to measure his ability to supply future needs with current income and is thus more likely not to assume responsibilities that can never be met. This is one of the strongest arguments in favor of life insurance saving.

The plan of operation of building and loan associations offers a distinct advantage over the savings

bank method. On becoming a member of such an association one obligates oneself to make certain payments yearly and any failure to do so will result in a penalty. Upon withdrawal before maturity of a contract, the money paid in may be returned with interest at three per cent, for instance, whereas the contract may have guaranteed six per cent if carried to maturity. The possibility of forfeiting thru withdrawal a portion of one's interest earnings tends to force members to carry their contracts to completion.

It is open to question whether building and loan associations are generally as safe as life insurance companies. The safety of life insurance investments lies in part in their minute regulation by the State, but largely in the fact that the huge assets of the companies can be distributed over a sufficient field to secure the operation of the insurance principle of average and, in the hands of able investment managers, the losses from bad investments are reduced to a minimum. Investment expenses have been reduced to as low as one-eighth of one per cent of the assets per year in some companies and are not permitted in New York to be over one-quarter of one per cent.

The contrast here made between saving and investment has emphasized the latter function as a matter of preserving surplus funds and creating an estate from them. This was contrasted with saving for the purpose of satisfying obligations assumed. This phase of the investment function is largely a matter of a good interest return on investments or such dis-

position of them as will cause them to increase as rapidly as possible. It is distinguished from saving, as defined, by a certain speculative quality. The prudent man satisfied first his duty to his dependents; any surplus funds in excess of these requirements he more or less takes chances with in the hope of increasing his estate more rapidly. To a very slight extent does life insurance play any part in this phase of the investment function.

But there is another aspect of the investment function which is of great importance. This is skilled management of investments. Trust companies have been established in large part to administer estates, that is, to *preserve and protect* the capital fund and to *distribute income periodically*; but again, their weakness lies in the fact that they handle only large estates. The funds paid by life insurance companies to the dependents of their insured are in many cases too small to be turned over to a trust company, but if paid in cash to dependents unskilled in investments will probably be lost in a very short time. The life insurance company does not fulfil its function therefore in being solely an insurance and savings institution. It must be an administrator of estates, large and small. Where the loss thru premature death or old age is that of income it must, in any adequate solution, be replaced by income. This the company can do only by becoming the administrator of the principal sum of maturing insurance contracts and by paying an income to beneficiaries during the time of need.

The emphasis of insurance companies on "income insurance" in the last ten or fifteen years is a recognition of the importance of this function.

REVIEW

Life insurance rests upon the ideas of mutuality, indemnity and contract. Amplify this thought.

What are the two chief purposes of life insurance?

Describe each of the varied interests which may be protected by life insurance.

Contrast saving thru savings banks and building and loan associations with saving thru insurance.

What is the underlying idea of "income insurance"?

CHAPTER IV

LIFE POLICIES AND PREMIUMS

1. *Types of contract.*—Life insurance companies perform their functions by the sale of contracts of insurance. In detail these contracts are of many kinds but, when stripped of their frills and trimmings, reduce to two or three types. In general, the life policy and the annuity represent the two main divisions. The distinguishing characteristic of the former lies in the protection it affords against premature death; of the latter, that it furnishes a life income during old age.

2. *The ordinary life policy.*—The basis for the discussion of life policies may conveniently be made the ordinary life policy, as it is technically called. This contract is probably sold more often today than any other and represents, historically, the form out of which most of the others have developed. It is issued by commercial life insurance companies in amounts of \$1,000 or greater, usually multiples of \$500, and promises the payment of the principal sum to a designated beneficiary upon the death of the insured. This indemnity is contingent upon the payment to the company of an annual premium varying in amount with the age of the insured and continuing

until his or her death. The rate books of two companies selected at random quote the following premium rates at various ages:

Age	First company	Second company
25	\$20.14	\$19.00
30	22.85	21.80
35	26.35	25.45
40	30.94	30.25
45	37.08	36.50
50	45.45	45.10
55	56.93	56.50
60	72.83	72.70

3. *Calculating the premium.*—In order to understand the various equities in this policy and the relationship of cost to indemnity it will be necessary to describe briefly the method of calculating the premium. To maintain the mutual character of life insurance the premium which is paid must be determined fundamentally by the rate at which men die prematurely, since as we have seen the insurance company is a mere administrator of funds and all indemnity paid by it must in the final analysis come from premiums paid by the many insured. So the premium of \$19.00 per year payable by one insured at age 25 for an ordinary life policy of \$1,000, if correctly determined, measures his proper contribution to this indemnity fund. The first requirement then in the calculation of costs is a measurement of the rate of death at different ages. This is supplied by mortality tables. They may be constructed to measure rates of mortality in a general population or specifically

among an insured group. The difference lies in the fact that insurance of the type now being considered is voluntary, and statistics show that, when the choice of insurance is left to the individual, those who insure show a higher rate of mortality than those who do not insure, and this higher rate must be reflected in the cost of insurance by a higher premium. The American Experience table of mortality is based on experience among insured lives and shows a conservative rate of mortality. That is, it is higher than the mortality usually obtaining among insured lives. This is quite necessary, for inadequate premiums, will place the insurance fund in the position of being unable to pay promised indemnity and will be fatal to success. Redundant premiums will leave the fund with a surplus and this may be returned to policyholders.

AMERICAN EXPERIENCE TABLE OF MORTALITY

Age	Number living	Number dying	Yearly probability of dying
10	100,000	749	.007490
11	99,251	746	.007516
12	98,505	743	.007543
13	97,762	740	.007569
14	97,022	737	.007596
15	96,285	735	.007634
16	95,550	732	.007661
17	94,818	729	.007688
18	94,089	727	.007727
19	93,362	725	.007765
20	92,637	723	.007805
21	91,914	722	.007855
22	91,192	721	.007906
23	90,471	720	.007958
24	89,751	719	.008011
25	89,032	718	.008065

LIFE POLICIES AND PREMIUMS

47

Age	Number living	Number dying	Yearly probability of dying
26	88,314	718	.008130
27	87,596	718	.008197
28	86,878	718	.008264
29	86,160	719	.008345
30	85,441	720	.008427
31	84,721	721	.008510
32	84,000	723	.008607
33	83,277	726	.008718
34	82,551	729	.008831
35	81,822	732	.008946
36	81,090	737	.009089
37	80,353	742	.009234
38	79,611	749	.009408
39	78,862	756	.009586
40	78,106	765	.009794
41	77,341	774	.010008
42	76,567	785	.010252
43	75,782	797	.010517
44	74,985	812	.010829
45	74,173	828	.011163
46	73,345	848	.011562
47	72,497	870	.012000
48	71,627	896	.012509
49	70,731	927	.013106
50	69,804	962	.013781
51	68,842	1001	.014541
52	67,841	1044	.015389
53	66,797	1091	.016333
54	65,706	1143	.017396
55	64,563	1199	.018571
56	63,364	1260	.019885
57	62,104	1325	.021335
58	60,779	1394	.022936
59	59,385	1468	.024720
60	57,917	1546	.026693
61	56,371	1628	.028880
62	54,743	1713	.031292
63	53,030	1800	.033943
64	51,230	1889	.036873
65	49,341	1980	.040129
66	47,361	2070	.043707
67	45,291	2158	.047647
68	43,133	2243	.052002
69	40,890	2321	.056762
70	38,569	2391	.061993
71	36,178	2448	.067665

Age	Number living	Number dying	Yearly probability of dying
72	33,730	2487	.073733
73	31,243	2505	.080178
74	28,738	2501	.087028
75	26,237	2476	.094371
76	23,761	2431	.102311
77	21,330	2369	.111064
78	18,961	2291	.120827
79	16,670	2196	.131734
80	14,474	2091	.144466
81	12,383	1964	.158605
82	10,419	1816	.174297
83	8,603	1648	.191561
84	6,955	1470	.211359
85	5,485	1292	.235552
86	4,193	1114	.265681
87	3,079	933	.303020
88	2,146	744	.346692
89	1,402	555	.395863
90	847	385	.454545
91	462	246	.532466
92	216	137	.634259
93	79	58	.734177
94	21	18	.857143
95	3	3	1.000000

4. *Single premium.*—The table is so constructed as to represent a group of 100,000 persons starting at exactly age ten; this group decreases year after year by the number dying at each age until, at the close of the 95th year of age, all will have died. Consider now that the group at age ten should take policies promising to pay \$1000 in case of death within one year; manifestly, if deaths occur according to the rate of mortality represented by the table, 749 policies will have matured by the close of the year and this will create a group liability of \$749,000; but suppose again that the money to pay these death claims is collected in advance and placed at interest at three per cent. The amount to be collected in advance would

then be the present value of \$749,000 discounted at three per cent, or $\$749,000 \div 1.03 = \$727,184.466$. And since the fund is contributed to by all those exposed to the risk of death during the year, namely 100,000, all will contribute to the premium fund. The pro rata contribution of each will thus be $\$727,184.466 \div 100,000$ or $\$7.27 +$. This amount, known as the net or mortality premium, will be increased by a loading charge to provide for conducting the business of insurance, and the final result will be the gross or office premium which the policy-holder pays for this one year's indemnity. The assumptions made in this simple illustration are exactly those used in the calculation of premiums by the commercial companies and the principles here used are employed in the calculation of costs on the most complicated policies.

Suppose now that it is desired to determine the cost of a policy issued at age thirty-five and promising to pay \$1000 to those who die within two years from the date of issue. The mortality table shows that 81,822 persons are living at the beginning of this year; that 732 die during the first year and 737 during the second. It is the practice of insurance companies to consider that death claims are payable at the close of the year in which death occurs. These policies will thus represent \$732,000 in matured claims at the close of the thirty-fifth year of age and \$737,000 at the close of the thirty-sixth year. If these policies are purchased by a single premium at age thirty-five it will be necessary to calculate the present values of

\$732,000 in one year and \$737,000 in two years. At a three per cent interest rate these discounted values are respectively \$710,679.61 and \$694,693.19. The total premium payable at age thirty-five by 81,822 persons for two years' insurance against premature death will be the sum of these two discounted amounts. The premium per policy will be this sum divided by 81,822 or \$17.18. This again will be the net or mortality premium and will be increased as before by a loading charge to cover expenses.

By an extension of these principles it is possible to calculate the single premium payable at any stated age for insurance against premature death for any duration. The ordinary life policy promises to pay the sum insured upon death at any time. It should be clear therefore that if deaths are estimated according to the American Experience table, the calculations for the cost of this policy must cover the entire span of the table. Thus, were such a policy issued at age thirty-five the premiums collected under it should cover deaths up to and including age ninety-five, at the close of which year all persons are assumed by the table to have died. There is an important fact arising from the last statement, namely, that since the table assumes that all will have died before age ninety-six is reached, premiums calculated on this assumption will provide the funds by which the policy will certainly be paid. For this reason the whole life policy is paid by American companies if the insured lives until his ninety-sixth year.

5. *The annual premium.*—The principles outlined in these two calculations afford a method of calculating single premiums on policies, that is, the total sum which, paid at the beginning of the contract, will provide all costs under it. But the ordinary life policy was defined as a contract purchased by premiums payable annually until the contract matures. So, in order to obtain the annual premium this single premium must be converted into an equivalent annual amount. The detailed method by which this is done will not be described here. It will suffice to say that this calculation will take into consideration the fact that premiums cease upon death or, in other words, the probability of survival.

6. *Premiums based upon average.*—There is another fact to be emphasized with reference to premiums so calculated. The premium of \$7.27 for one year's insurance against premature death will not cover the company's liability against a single policy. It will be adequate only in case the company insures a sufficiently large group to obtain an operation of the law of average. In other words, \$7.27 is sufficient on the average, and will enable the company to pay promised indemnity if it insures a sufficiently large group.

7. *Level premiums and annual costs.*—The annual premium for ordinary life policies at different ages is a level amount paid thruout the life of the policy. But the premium for one year's insurance at different ages shows a constantly increasing cost as the age increases. This is revealed by a glance at the

table showing the level annual premium for ordinary life issued at age thirty-five and the yearly premiums for one year's insurance at this and later ages. These comparisons are based on net or mortality premiums.

NET PREMIUMS PER \$1000 INSURANCE

Am. Exp. 3 per cent Basis

Age	Ordinary life premium Policy issued at age 35	Premium for one year's insurance at age stated
35	\$21.08	\$ 8.69
40	21.08	9.51
45	21.08	10.84
50	21.08	13.38
55	21.08	18.03
60	21.08	19.31
65	21.08	20.71
70	21.08	25.92
75	21.08	38.96
80	21.08	60.19
85	21.08	91.62
90	21.08	140.26
95	21.08	228.69
		441.31
		970.87

The net annual premium payable from age thirty-five until death on an ordinary life policy is \$21.08, but the table shows that the cost of one year's insurance against premature death at age thirty-five is only \$8.69. Thus the insured pays more in this first premium than the actual cost of the year's indemnity. The table shows that these yearly costs are less than the level annual premium until age 57, but after this time always greater. In the long run these yearly costs and the level annual premiums are equivalent when they are compared on an identical amount of indemnity and when the company deals with a large

enough group to obtain average results. This last fact is not made clear by the table because the indemnity covered in any particular year by the two policies is not the same. The one year policy quotes rates in each instance for \$1000 insurance. To be of identical kind with this the ordinary life policy should in the year of its maturity pay \$1000 plus the accumulated amount of excess premiums. But this it does not do. It pays only \$1000. Thus the amount the company has at risk in any year under the ordinary life policy is the sum insured less the amount of the accumulation to the credit of the policy-holder.

With the level annual premium system the amount realized under the policy costs more in case of early death than if only the annual cost of insurance had been paid; for, as stated, the sum insured only is paid upon death, irrespective of the size of the premium. The reason for issuing policies on this level premium basis however should easily be apparent. It is generally easier for the insured to pay premiums of the same amount thruout the lifetime of his policy than to have his income subjected to the strain of a continually increasing cost for his insurance. The practical result is that level premium policies pay more for the indemnity received in case of early death than yearly cost policies, but that they are more fitted to the economic condition of most policy-holders.

8. *Policy Reserves and Surrender Values.*—Even with this advantage, the level premium policy might possibly operate with injustice to the insured but for

the fact that the company is required to hold excess of level premiums above annual costs to his credit. This is not a matter of importance to the insured if the policy is carried to maturity, but, where life insurance is voluntary, policies are often lapsed by non-payment of premiums or surrendered thru necessity and the holding of their accumulations to the credit of the insured is then of great importance. These accumulations are technically known as the reserve¹ on the policy.

The surrender value which is returned to the policyholder upon withdrawal from the company may be less than this reserve but may not be more, if the equity of other policy-holders is preserved. Many companies follow the plan of deducting a small amount of the reserve in case of surrender within five, ten or fifteen years after the issue of the policy. This is done on the eminently just grounds that the loading charges collected from the policy-holder for several years following the issue of his contract will not be sufficient to cancel the expenses incident to placing his policy on the books of the company. The following table shows reserve accumulations on an ordinary life policy issued

¹ This description of the reserve, while truly designating its origin, is not technically true of its legal character, for the reason that it is based on an assumption that is not necessarily fact. The assumption is that the premium charged is adequate to pay all promised benefits. The premiums charged by many fraternal do not meet this requirement. The various states set standards of mortality and interest for valuing reserves in commercial life insurance companies, usually American Experience, 3½ per cent. The legal reserve then is the difference between the present value of future premiums and the standards.

at age thirty-five together with surrender values given by two companies in case of withdrawal.

RESERVES AND SURRENDER VALUES PER \$1000
INSURANCE

Ordinary Life Policy, Age 35
Am. Exp. 3 per cent Basis

Duration of Policy	Age Attained	Terminal Reserve	Surrender value	
			1st company	2nd company
1	36	\$ 12.98		
2	37	26.13		\$ 13.00
3	38	39.76	\$ 39.76	32.00
4	39	53.77	53.77	44.00
5	40	68.16	68.16	58.00
6	41	82.94	82.94	72.00
7	42	98.11	98.11	90.00
8	43	113.68	113.68	108.00
9	44	129.65	129.65	127.00
10	45	146.01	146.01	146.01
11	46	162.76	162.76	(Full reserve
12	47	179.87	179.87	hereafter
13	48	197.35	197.35	omitting
14	49	215.16	215.16	fractions of
15	50	233.28	233.28	a dollar)
16	51	251.68	251.68	
17	52	270.34	270.34	
18	53	289.22	289.22	
19	54	308.32	308.32	
20	55	327.58	327.58	

The first case illustrates the very liberal practice followed by a few companies of deducting no surrender charge at all after the third premium has been paid; the second represents what is probably the average practice.

9. *Dividends*.—The mutual character of the insurance fund has been emphasized repeatedly, but the foregoing analysis of costs and premiums has been

made wholly on the basis of assumption: an assumed rate of mortality, an assumed rate of interest earnings on invested assets, and a loading charge based on estimated expenses. These estimates quite naturally must be made, since premiums are collected in advance. But if they are not adjusted to the actual experience of the company the mutual character of the fund may exist in name only. Policies are issued by commercial life insurance companies on two bases, participating and non-participating. The latter are sold entirely by stock companies, and it is supposed that their premiums are so adjusted in advance to their experience that they will closely approximate actual cost. This must necessarily be true, since the stock companies are in active competition with mutuals and will not obtain business unless the cost of their contracts bears a reasonable relationship to the cost of participating insurance. Non-participating insurance has one advantage in the minds of some persons, namely that the actual cost is correctly known in advance. Where dividends are to be received in the future the initial premiums must be higher. In this case the insured is assuming a certain amount of risk with reference to the ability of the company to pay dividends in the future. With the non-participating contract the initial cost is less and the liability for the failure of the company to pay promised indemnity falls in the first place upon the capital stock and surplus of the insurance carrier. It is only when these are exhausted that the non-participating policy-

holder fails to obtain full indemnity for the premium which he has paid.

Despite this apparent advantage of non-participating insurance it is probable that the larger part of insurance written today is on the participating plan. The premiums for this insurance will always be sufficiently high to guarantee the company a safe margin and usually have in mind also the prospect of paying dividends. It has already been noted that the rate of mortality by the American Experience Table is greater than that experienced by the ordinary commercial company. Most companies, furthermore, calculate premiums on a three and one-half per cent interest basis and it is very unusual indeed for a company not to earn more than four per cent net on its investments. The expense charge added to the policy is intended likewise to be adequate and in most cases is more than this. So there are three sources of dividends on participating policies: lower mortality than expected, higher interest earnings than assumed, and lower expenses of management than anticipated. The methods of calculating dividends on particular policies for different durations of the policy vary greatly with the several companies; but again the final results in amount of dividend must approximate closely insofar as the experience of the companies will warrant, otherwise the company which pays unusually low dividends will suffer in competition. Dividends in standard companies generally do not differ greatly in the early policy years, but differences of an unusual

amount do occur on policies which have been in force for a generation or more. This is seen clearly by the table of dividends paid on ordinary life policies by several companies:

Dividends paid in 1917 on ordinary life, issued at age 35

Duration of policy in years	First company	Second company	Third company	Fourth company
1	\$2.97	\$3.85	\$4.40	\$4.76
2	3.14	4.05	4.64	4.90
3	3.32	4.25	4.88	5.06
4	3.50	4.45	5.14	5.22
5	3.68	4.66	5.40	5.39
6	3.89	4.88	5.66	5.57
7	4.08	5.10	5.93	5.76
8	4.29	5.34	6.21	5.95
9	4.50	5.57	6.51	6.14

(The premium in each instance above was \$26.35.)

Dividends paid in 1916 on old policies—ordinary life, age 35

Duration of policy in years	First company (premium) (\$26.60)	Second company (premium) (\$27.10)	Third company (premium) (\$26.54)	Fourth company (premium) (\$26.00)
36	\$ 7.70	\$ 7.35	\$13.90	\$14.25
41	8.69	7.84	15.74	15.93
46	9.61	8.28	17.53 ¹	17.49
51	10.34	8.68		20.35 ²
56	11.03			21.82 ²
61	12.18			

¹ Premium \$26.60.

² Premium \$27.50.

(Quotations from "Annual and Deferred Dividends" by Spectator Company.)

REVIEW

- Explain the nature of a life table.
- How would the single premium for one year be calculated?
For two years? For life?
- How are level annual premiums computed?
- What is meant by reserves and by surrender values, what
relation do these latter bear to reserves?
- Explain the nature and origin of dividends.

CHAPTER V

MODIFICATIONS OF THE ORDINARY LIFE POLICY

1. *Limited usefulness of life policies.*—The ordinary life policy may be considered the type contract which furnished protection against premature death. It is an especially valuable policy to be carried for family protection, where the sum insured may be made available for several beneficiaries, such as wife and children. It is equally valuable in many cases for business protection or as a support to personal credit. The policy has been described as one purchased by level annual premiums paid continuously while the contract is in force, and one which furnishes a cash payment to the beneficiary upon the death of the insured. A contract of this character cannot be said to be ideal for all purposes for which it may be used, since many differences arise in the status of insured persons, or of their beneficiaries, which require that the policy be modified if it shall meet their special needs. For instance, it may be that the policy is satisfactory in every respect to the insured except that he does not wish to obligate himself for the payment of premiums thruout life. The productive period of many lives does not extend beyond sixty or sixty-five,

and the obligation of premium payments after this age might easily work a hardship. Again it is possible that the payment of an annual premium might cause a greater strain upon income than the payment of premiums at shorter intervals.

The payment of the sum insured in cash will in many cases defeat the purpose of the insurance. Especially in the case of family protection it rarely occurs that beneficiaries can be trusted with the safekeeping of a large sum of money. True "protection" in such cases means a replacement of lost income from the insurance company. Then again, the ordinary life policy has been defined as "permanent" insurance. The policy matures only by the death of the insured and death may occur in advanced old age. But it has been seen that insurance is carried against the loss of income during the productive period of life. If this period terminates at age sixty-five there would seem to be no economic reason for carrying protection against loss of productive income beyond this age. Closely connected with this fact is another one of importance, that the protection of old age requires capital accumulation at the time of retirement. The ordinary life policy has a surrender value of no inconsiderable amount at this time, but if ten thousand dollars, for instance, represents insurance needs until age sixty-five it is improbable that the surrender value of a ten thousand dollar policy at age sixty-five will satisfy the need for capital accumulation to care for one's later years. The ordinary life policy must be

modified in many ways to meet such situations as these.

2. *Methods of paying premiums—limiting the number.*—The continuous annual premium on an ordinary life policy at age thirty-five quoted on the table of rates on page 63 is \$25.45. This amount represents the equitable contribution of the policyholder to the indemnity fund under the terms of his contract. Keeping in mind the fact that all premiums for insurance are based on average, any modification of this premium or any other method of premium payment must, on the average, furnish the insurance carrier with an equivalent sum. It has been seen that continuous annual premiums may extend to an advanced age, for policy-holders sometimes live to be eighty or ninety years old or more, and under the terms of the ordinary life policy are required to pay premiums until death or age ninety-five. But it is also clear that the premiums for insurance normally come from the income earned during productive life and there is a strong economic reason why they should cease with the termination of productive activity. To meet this situation the commercial companies issue what are called limited payment policies. For instance, a life policy furnishing protection against premature death may be purchased on the twenty, fifteen or ten payment plan. In such case the insured pays premiums for twenty, fifteen or ten years respectively and the policy then becomes "paid up," no further premiums being required. Under these

policies the insured may pay less than the stated number of premiums, since death at any time terminates them and matures the policy, and death, of course, may occur before the stated number are paid. Limited premiums will naturally be higher than continuous, to compensate for their cessation in later years. Comparisons are shown for the life policy used in this illustration.

*Life policy, age thirty-five, \$1000 insurance*¹

Continuous premiums	\$25.45 per year
Twenty premiums	33.28 per year
Fifteen premiums	39.60 per year
Ten premiums	52.00 per year

Under the continuous premium policy the insured will pay over \$1270 in premiums if he lives until age eighty-five, or more than the amount receivable at death. Balanced against this is the fact that death may occur during the early policy years, when the indemnity received will be far greater than the premiums paid. The maximum amount payable in premiums under the twenty payment life policy is \$665.60; on the ten payment plan, \$520. The apparent differences in the cost to the insured are due to the fact that the company, under limited premium policies, receives larger sums in the early policy years and therefore derives a larger portion of the indemnity fund from interest earnings.

The larger premium paid under the limited plan has an important effect upon the reserve accumula-

¹ The figures are for gross, or office, premiums.

tions on policies, for the company is required by the laws of several States to hold in reserve the difference between the present value of premiums and the present value of the insurance. When the policy becomes "paid up" the company must hold in reserve the entire present value of the insurance. In case of lapse or surrender, therefore, the value returnable to the policy-holder is correspondingly greater in the higher premium policies. This is clearly shown in the table of American three per cent reserves on the policies under discussion.

TERMINAL RESERVES ON POLICIES ISSUED AT AGE 35
Am. Exp. 3 per cent Basis

Years elapsed since issue of policy	Ordinary Life	20 Payment Life	15 Payment Life	10 Payment Life	Single Premium Life
1	\$ 12.88	\$ 22.00	\$ 28.74	\$ 42.65	\$427.36
2	26.13	44.72	58.47	86.85	435.04
3	39.76	68.20	89.24	132.66	442.95
4	53.77	92.46	121.08	180.15	451.07
5	68.16	117.52	154.03	229.38	459.42
6	82.94	143.40	188.12	280.43	468.00
7	98.11	170.14	223.42	333.39	476.80
8	113.68	197.77	259.96	388.34	485.83
9	129.65	226.31	297.81	445.37	495.10
10	146.01	255.78	336.99	504.59	504.59
11	162.76	286.24	377.58	514.30	514.30
12	179.87	317.68	419.62	524.23	524.23
13	197.35	350.16	463.19	534.37	534.37
14	215.16	383.70	508.37	544.70	544.70
15	233.28	418.33	555.22	555.22	555.22
16	251.68	454.11	565.89	565.89	565.89
17	270.34	491.07	576.71	576.71	576.71
18	289.22	529.31	587.67	587.67	587.67
19	308.32	568.89	598.74	598.74	598.74
20	327.58	609.92	609.92	609.92	609.92

Years elapsed since issue of policy	Ordinary Life	20 Payment Life	15 Payment Life	10 Payment Life	Single Premium Life
25	425.49	666.72	666.72	666.72	666.72
30	522.92	723.24	723.24	723.24	723.24
35	615.14	776.73	776.73	776.73	776.73
40	698.21	824.93	824.93	824.93	824.93
45	774.29	869.06	869.06	869.06	869.06

The dividends paid on participating policies will likewise be larger in the case of higher premiums. This is due almost entirely to the larger reserves accumulated. It will be remembered that one important element that enters into the determination of dividends is interest earned on assets in excess of the rate assumed in calculation. Illustrative dividends are here shown.

DIVIDEND FOR 20 YEARS—LIFE POLICY, AGE 35

Duration of Policy in years	Continuous Premium Life	20 Payment Life
1	\$4.15	\$ 4.45
2	4.30	4.75
3	4.55	5.05
4	4.75	5.40
5	4.95	5.70
6	5.20	6.10
7	5.40	6.45
8	5.65	6.85
9	5.90	7.25
10	6.15	7.65
11	6.65	8.35
12	6.95	8.80
13	7.25	9.25
14	7.55	9.70
15	7.85	10.20
16	8.40	10.95
17	8.75	11.50
18	9.10	12.00
19	9.50	12.55
20	9.90	13.05

It is possible to purchase insurance by a single premium tho in most cases this is not suited to the economic condition of the policy-holder. The primary purpose of insurance being the preservation or continuation of income, the premium usually represents a deduction from current income. The whole life policy at age thirty-five can be purchased in one instance by a single premium of \$435.41 per \$1000 insurance; but the year's income that can stand this deduction for insurance without injury to the other demands upon it can not be protected by \$1000 of indemnity. The single premium method of paying for insurance is thus available only to persons of wealth and offers an opportunity of so dividing an estate that part can be devoted to the care of future obligations, the remainder being used to satisfy present needs. The last column of the table of reserves on pages 64-65 gives the reserve at the close of each specified year on single premium policies. This reserve is equal to the net single premium for the insurance at the age attained.

3. Increasing the frequency of premium payments.

—It sometimes happens that policy-holders find difficulty in meeting insurance premiums which fall due once a year. The margins between income and expenditures are so small that it requires more foresight than many men possess to save small amounts from their monthly income in order to meet the annual insurance premium when due. To meet this situation the insurance policies which have been discussed may

be purchased by premiums paid semi-annually, quarterly, and in some cases monthly. Indeed, in the "industrial" branch of the business of a commercial life insurance company premiums are payable weekly. Clearly, the cost of collecting and crediting monthly or quarterly premiums will be greater than for annual premiums, hence, the policy-holder will pay a small additional amount for the privilege of paying his premiums more frequently than once a year. A brief illustration will show the principle on which this amount is determined. The starting point is the annual premium. It is increased by three per cent and the result divided by two to determine the semi-annual premium. The annual premium increased by five per cent and the result divided by four will give the quarterly premium. Different companies vary the percentages used, but the principle is the same.

4. *Methods of paying losses—lump payments.*—It has been assumed in most of the preceding discussion that the company pays the face value of the insurance policy upon the happening of the contingency insured against. Thus upon the death of the insured the beneficiaries under an ordinary life policy will receive the face amount, \$1000. But the previous discussion of life risks brought out the fact that the receipt of a cash sum such as this does not always satisfy the purpose for which the insurance was taken. Insurance was defined in one instance as protection against the loss of income thru premature death. If this lost income is best replaced by cash then the policy

will be so paid; but if the obligations of the insured can best be satisfied by the continuation of income then the proper method of settling a matured claim will be thru the payment of income. To illustrate, partnership insurance is carried by the members of a firm to prevent the disruption of the business by the death of one of the partners and the consequent necessity of liquidation. Cash is urgently needed at once and it would be folly to consider any other method of payment of the policy than by cash.

But a policy carried for the protection of one's family covers a different need. The average wife knows nothing about investing or caring for money and if she received a large sum upon the death of her husband would stand a fair chance of losing it. She needs income. Recall that the insurance company's obligations are not fulfilled by furnishing indemnity against premature death; it has an investment function also, and one phase of this function is the administration of the proceeds of insurance policies for the benefit of those who need income but do not have the training to care for capital. In the ideal situation all insurance for family protection would better be paid in the form of income instead of cash, but it frequently happens, indeed it is probably the usual case, that insurance carried is insufficient to replace the income loss suffered by dependents of one deceased. In this case the sum insured must be used to bridge over a period of readjustment and may be so small that its receipt in the form of an income over a period of

several years would defeat its purpose. In such a case the insurance should be paid in a single cash sum.

5. *Income insurance*.—The principle of income insurance is simple. The value of a matured claim is held by the insurance company and increased by interest earnings. From this fund of principal and interest the company pays stated amounts at periodic intervals to the beneficiaries under the policy. The income may be one of two types, the annuity certain or the life annuity. The more popular name for them, in common insurance parlance, is the instalment and the annuity. The former is characterized by the gradual use of principal and interest of the fund held by the company until both are completely exhausted; the latter by the application of the insurance principle to the distribution of this capital fund in such way as to make it extend exactly over the life of a particular individual or more than one. By the one method a fund can be made to extend over a definite number of years, depending on the size of the periodic payments and the rate of interest realized; by the other, the rate of interest and the size of the income are important factors, but the controlling factor is the life of the recipient, for the cost is calculated on the assumption that income will be paid only during life and this requires the application of the rates of survival according to some mortality table used as standard. This method can be made to operate with large groups of persons, that is, the principle of average is applied, and some persons will receive more than their

actual funds with interest, while others will receive correspondingly less.

6. *Instalment and annuity payments.*—The instalment income is sometimes called group protection since it may be made payable for the benefit of several persons; it is therefore especially adapted to the needs of a widow with dependent children. The annuity income, being contingent upon the life of a particular person is not suited to the needs of a group, and is therefore called individual protection. In practice the commercial companies lay emphasis on three kinds of income policies, known as ordinary instalments, continuous instalments, and annuities. The first and last are identical with the types described; the continuous instalment is a combination of the two. It furnishes a guaranteed income for a stated number of years, the receipt of payment after this period being contingent upon the life of a particular person. This is one of the most valuable contracts issued by insurance companies. It was developed especially to meet the needs of a widow with children. By means of it a husband and father can be assured that after his death an income will be forthcoming for a definite number of years until the children will have grown to maturity and that the same income will be continued to his widow until her death.

Policies can be issued to enforce any of these methods of settlement if the insured so desires. Many men, realizing the necessity of an agency to administer insurance funds in order to realize the purpose

for which they have been provided, thus fix the mode of settlement when the insurance is effected. But there are many cases in which the insured does not know at the time his policy is issued what his particular needs will be at a later time. For this situation a fixed mode of settlement is not satisfactory. It is the universal practice of the commercial companies to include in their standard policies a clause giving the insured the right, in case he wishes to reserve it, to choose the mode of settlement at any time or to change it as conditions change; and if he does not exercise this option his beneficiaries may do so after the policy has matured. The companies and their solicitors are following the highly commendable practice of acting as advisers to beneficiaries of matured policies to see that these options are understood and that the best mode of settlement for the particular situation is selected.

7. *Duration of the insurance.*—The ordinary life policy being permanent insurance, its premium carries a charge for mortality to the maximum age at which the policy may be in force, and this may extend to age ninety-six. There is something illogical in carrying insurance against *premature* death after age seventy or seventy-five, for death at these ages can scarcely be said to be premature. The *protection* function of insurance has been emphasized repeatedly as the function of *covering* the income from productive services. For later years a different type of need exists. To deal consistently with the problems it is trying to solve, therefore, life insurance should not offer pro-

tection insurance beyond the age of protection needs. Only in case the mortality charge practically disappears and the premium becomes an accumulating investment can the ordinary life policy be said to fit the needs of the insured in these later years. This phase of the policy will be considered shortly. Meanwhile it is important to consider the extent to which the type contracts may be modified in the direction of furnishing pure protection during productive years.

If one's need for the services of an insurance company is limited to the protection of income from productive activity, the ordinary life policy, furnishing permanent insurance, is more than satisfying this need, for this policy furnishes protection against premature death until age ninety-six, in addition to accumulating the sum insured by that time. The premium therefore includes a mortality charge until this time. This element of the premium, from an economic point of view represents an unnecessary expense to the policy-holder. If he desires insurance protection only until age sixty-five the policy which fits his need will not exact a mortality charge after this time. To meet this situation insurance companies issue policies of shorter duration than whole life, called term policies. The term contract which will cover protection needs completely will extend if necessary to the age of retirement.

8. *Purpose of term insurance.*—It is almost impossible to purchase this contract from old line companies. The special situations which call for term in-

surance, and for which nearly all companies furnish contracts are those in which a temporary need for insurance arises. A man may want an additional amount of protection in the formative period of his business; or his firm may wish to protect itself against the consequences of his death. These are temporary needs and disappear in time. A mortgage being paid off in instalments may need the protection of insurance. The short term policy offers a convenient, and the cheapest means of furnishing protection of this sort. Term policies are issued in most cases for periods of five or ten years; a very few companies issue them for fifteen and twenty years.

9. *Premiums on term insurance.*—It will readily be seen that the cost of the term policy is less than for whole life insurance, since it will take into consideration only the chances of death within the period covered. Theoretically term insurance may be purchased by single premiums or level annual premiums, as was the case with the whole life policy. Practically, the level premium only is used. The difference in the annual costs of ordinary life, limited payment life, and term policies is shown in the accompanying table:

NET ANNUAL PREMIUM PER \$1000 INSURANCE

Am. Exp. 3 Per Cent Basis

Age	5-year term	10-year term	15-year term	20-year term	Ordinary life	Twenty payment life
25	\$ 7.96	\$ 8.14	\$ 8.37	\$ 8.66	\$16.11	\$24.98
35	8.97	9.42	10.03	10.91	21.08	29.85
45	11.68	13.14	15.12	17.63	29.67	37.35
55	20.71	24.86	29.85	35.24	45.54	50.66

The premiums for term insurance, being much smaller than for other policies, will be more nearly exhausted each year in the payment of current mortality costs. Thus an important difference arises in the case of the term policies, that there is little accumulation of excess premiums held by the company to the credit of policy-holder. Level premium term insurance is thus a near approach to what has been called yearly cost insurance. This is shown by the reserves on term policies.

Reserves of such small amounts can practically be neglected by the company with no serious injustice to the policy-holder. For this reason surrender values are seldom given when term policies of short duration are canceled.

Term policies differ from whole life in another important respect, namely, that at the close of their duration they expire with no return to the policy-holder. In other words, a term insurance contract is identical in principle with the fire insurance policy with which most people are familiar. Protection is purchased for a definite number of years. The insurance company stands ready to pay the claim at any time during this period upon the happening of the event insured against. If the event does not occur the company has nevertheless earned its premium. We do not expect our houses to burn just because they are insured, and we do not think of asking for a return of the fire insurance premium if no loss has occurred. So it is with the term insurance. It repre-

sents a purchase of temporary protection and if the period expires without death having occurred nothing is paid on the policy.

10. *Advantages and disadvantages of term insurance.*—The commercial companies emphasize term insurance as desirable only in those cases where the protection is of temporary character. It is doubtful, however, whether the majority of term insurance policies sold are intended to cover needs that will expire within a few years. An instance may be cited where a group of insurance solicitors was asked what kind of insurance each carried. While almost without exception they had favored whole life or endowment insurance, the answers to the question revealed that nearly two-thirds of those present, including most of the younger men, carried term policies. This indicates the probable truth that many men carry term insurance in early life when their protection needs are great and their income relatively small.

The objection that is brought against term policies for this use is that they may expire before the need for protection is past, and the policy-holder may be left in later years in a physical condition that renders him uninsurable at a time when his insurance needs are great. As short term policies that make no provision for this situation do not fully meet the needs of the insured, a modification has been introduced. It consists in making the policy renewable without medical examination at the close of its duration, or permitting its conversion within a certain time to a more perma-

nent type of insurance. The renewal and conversion clauses thus found in some term policies enable the insured to maintain his insurability. The conversion clause is quite generally found in term policies, the renewal clause in very few. Under a renewed policy the insured pays a higher premium for the second term. Thus the net annual premium for a ten year term from age thirty-five (Am. Exp. three per cent basis) is \$9.49; if renewed at age of forty-five for another ten years, the net premium for the second period is \$13.14 per year. The objection of most companies to the renewal clause lies in the fact that the privilege of continuing the insurance for a second term without medical examination will probably be used only by those who would otherwise be uninsurable. In other words, it creates an adverse mortality selection against the company; and since term policies do not accumulate reserves to extinguish the insurance liability, a company with a large proportion of term risks on its books may be saddling itself with an unknown future liability sufficient to endanger its solvency.

The conversion clause offers no such difficulty. It permits the exchange of the term policy for one on which a higher premium is paid for the same amount of insurance. The conversion may be effected as of the date of the original policy, in which case future premiums will be those payable at the age of original issue on a policy of the type selected, and the differences between this premium and the premium paid on

the term policy will have to be made up to the company. Sometimes this is done by paying the difference in back premiums with interest compounded at five or six per cent; sometimes by the payment of the difference in reserves on the two policies. On the other hand, the new policy may be issued as of the age attained at the time of conversion, in which case the premiums payable will be those due from this age, and no back payments will need to be made.

The objections of some companies to the term policy are so great that they refuse even to offer a conversion privilege, thereby insisting that term insurance must be used only for temporary protection. A way out of this difficulty which will protect the interests of the company and still enable the policy-holder to obtain protection without investment accumulation will be to issue level-premium term policies extending thruout the productive period of life. The "term to sixty-five" is the logical solution of the problem. In only one or two instances, however, has this policy been offered to the public. Were it popularized it would make possible a very desirable situation in insurance, the separation of the insurance and investment elements of the policy and the issue of each as separate contracts. The companies claim with much justice that it is difficult to make the insured understand that he has value received for his premium at the expiration of the term policy; but this situation is remedied by ending the discussion of the ideal policy and talking in terms of *needs*. The term

policy covers but one need; it is pure protection. It does not in any way concern itself with the savings and accumulation function of the life insurance company. This phase of the life insurance contract must now be considered.

11. *Accentuated accumulation—endowment insurance.*—Whole life and term policies stress the protection function of life insurance, since they furnish coverage mainly against premature death; the one being permanent, the other temporary insurance. In fact, this coverage was named as characteristic of the general class of life policies to which they belong. But protection against premature death is but one of two needs of the insured; he needs also to save money to care for obligations which at their maturity cannot be met from current income or which mature in old age. Life insurance has an investment function no less important than that of protection, and it is necessary to consider the extent to which policies must be modified for this purpose. It will be remembered that the investment function covers two activities. The administration of the proceeds of matured policies for beneficiaries has been considered in connection with the ordinary life policy. Of equal importance is the necessity of furnishing a means whereby one can make investments periodically from current savings and have these preserved and accumulated at interest to care for later needs.

The whole life or term policy can perform this function only insofar as it represents capital accumulation.

It has been seen that there is at no time a reserve value on the term policy of sufficient amount to be considered as accumulated capital. So small is this reserve that many term policies have no surrender value upon cancelation. Ordinary life and limited payment life policies differ from term insurance in the important respect that the amount of the policy will certainly be paid if the insured performs his part of the contract by the payment of premiums. It has been seen that these policies for a considerable number of years carry a surplus in each year's premium above the cost of that year's protection against premature death for the sum insured. These surplus premiums are held by the company and increased at interest and create the reserve value, which must always be a part of the insurance company's assets so long as it remains solvent. This reserve value gradually extinguishes the insurance liability on the policy and if the insured lives until age ninety-six, the company holds the entire amount insured and pays it to the beneficiary. It is not true therefore that the insurance fund carried equals at all times the sum insured; for, whenever death occurs this sum is paid, but at the same time the reserve liability is canceled. In other words, the amount at risk is always equal to the face value of the policy less the reserve accumulations. Instead of considering the whole life policy as an insurance for \$1000 the more correct way to view it is as an accumulating investment plus insurance for the difference between the reserve and the sum insured. By this means it is

possible to determine the proportion of the annual premium which is being used to pay mortality costs and the amount which is being invested at interest.

12. *Comparison of policies.*—Some salient features of the various forms of life insurance policies are brought out in the following table:

"COST OF INSURANCE" PER \$1000 UNDER DIFFERENT POLICIES

Issued at age 35, Am. Exp. 3 per cent Basis

Year	Single premium	Ten year endowment	Twenty year endowment	Endowment to age 65	Twenty payment life	Ordinary life	Twenty year term
1st	\$ 5.12	\$8.20	\$8.64	\$8.77	\$8.75	\$ 8.83	\$ 8.93
2nd	5.14	7.54	8.45	8.72	8.68	8.85	9.05
3rd	5.14	6.82	8.25	8.67	8.60	8.87	9.17
4th	5.16	6.07	8.04	8.62	8.54	8.90	9.32
5th	5.18	5.25	7.81	8.57	8.46	8.93	9.48
6th	5.21	4.38	7.57	8.53	8.39	8.98	9.67
7th	5.24	3.42	7.31	8.47	8.31	9.03	9.86
8th	5.27	2.38	7.03	8.42	8.23	9.09	10.09
9th	5.31	1.25	6.73	8.37	8.14	9.15	10.33
10th	5.37	Policy	6.42	8.33	8.06	9.25	10.63
11th	5.42	matures	6.06	8.29	7.97	9.35	10.95
12th	5.50	end of	5.69	8.26	7.89	9.48	11.33
13th	5.59	tenth	5.27	8.22	7.80	9.63	11.76
14th	5.70	year	4.80	8.20	7.71	9.82	12.26
15th	5.83		4.27	8.18	7.62	10.05	12.86
16th	5.98		3.67	8.17	7.52	10.31	13.55
17th	6.16		2.97	8.14	7.40	10.61	14.33
18th	6.35		2.14	8.09	7.24	10.94	15.22
19th	6.55		1.16	8.02	7.04	11.30	16.24
20th	6.79	Policy		7.92	6.79	11.70	17.40
21st	7.04	matures	7.76	Same as	12.13	Policy	
22nd	7.31	end of	7.54	single	12.60	expires	
23rd	7.60	twentieth	7.24	premium	13.10	end of	
24th	7.91	year	6.82	life	13.63	twentieth	
25th	8.24			hereafter	14.20	year	

Year	Single premium	Ten year endowment	Twenty year endowment	Endowment to age 65	Twenty payment life	Ordinary life	Twenty year term
26th	8.59			5.57		14.81	
27th	8.97			4.64		15.46	
28th	9.36			3.45		16.14	
29th	9.77			1.93		16.85	
30th	10.21			Policy matures		17.59	
35th	12.67			end of		21.85	
40th	15.24			thirtieth		26.26	
45th	17.25			year		29.73	
50th	19.13					32.97	
55th	21.68					37.36	
60th	24.97					43.04	
61st	Policy matures at age 96					Policy matures at age 96	

Column seven of the table showing "costs of insurance" per \$1000 shows these costs on the ordinary life policy issued at thirty-five for thirty years following its issue and thereafter for each fifth year until the ultimate maturity of the policy at age ninety-six.

The objection to this policy as an investment contract is that it carries a mortality charge, the cost of insurance figure just referred to in the table, to the maximum duration of the policy; and in the later years of the policy this is relatively large, being \$21.85 at age sixty-nine and thence increasing to \$43.04 during age ninety-four. If the previous analysis of life risks has been correct, the payment of mortality costs at these ages has no economic justification, for mortality charges are supposed to cover the loss of income from productive services and the productive period of

life has passed for most men at these ages. As one makes the transfer from productive life to old age the logical thing is for the insurance charge to disappear, for one's policies to become accumulating investments or to mature in such way that they can be used to replace the income which has ceased.

The basic reason for the issue of limited life policies is to make the period for the payment of insurance premiums coincide with the period of income earning. The payment of limited premiums for insurance, however, leads to another result no less important. The higher premiums produce larger reserves and these more nearly extinguish the insurance liability of the policy. Column six of the table of costs of insurance shows that the mortality cost under a twenty payment life policy during the year in which the last premium is paid is \$6.79, as compared with \$11.70 for the same year on the ordinary life policy. So the limited payment policy in making premiums coincide with the period of active earning power accomplishes the logical result of more rapidly extinguishing the insurance liability as old age approaches.

13. *Providing for old age needs.*—But even this policy fails to perform completely the investment function of life insurance, since it carries a mortality charge as long as it remains in force. This function is performed by the accumulation of capital for use in old age or for periods when capital needs are greater than can be supplied from current income. Strictly, it has no concern with premature death; at

least old age needs mature after productive capacity has ceased. The logical investment contract, therefore, is one which will completely extinguish the insurance liability at the time when investment obligations normally mature. Clearly, therefore, the policies thus far discussed must be further modified if they are to be used for this purpose. This modification will take the form of a premium sufficiently large to accumulate a reserve equal to the sum insured by the time capital needs mature. On the basis of the somewhat arbitrary division of life into three periods, as used in illustrations heretofore, the age at which this should take place is sixty-five. If the principle is correct the age for such maturity can be arranged to meet the needs of a particular case. The type of contract which is here suggested is issued by all commercial insurance companies and is called the endowment insurance policy. The statement that the characteristic of life policies is protection against premature death is less true in case of an endowment than any of the contracts thus far discussed, for the endowment subordinates protection to investment. The conclusion might well be drawn that the ideal type of investment contract to provide for the needs of later life will be a straight savings bank accumulation, supplemented during productive years by a separate policy carrying protection against premature death. The endowment insurance policy offers this ideal arrangement in one contract. The table of comparative pre-

miums and values on different policies shows reserves on five different policies.

COMPARISON OF PREMIUMS AND VALUES ON DIFFERENT POLICIES

	\$1000 insurance, age 35, Am. Exp. 3 per cent basis				
	Twenty year term	Ordinary life	Endowment to age sixty-five	Twenty year endowment	Ten year endowment
Net annual premiums	\$10.91	\$21.08	\$27.83	\$ 41.97	\$89.30
1	2.31	12.88	19.90	34.59	83.78
2	4.56	26.13	40.44	70.40	170.74
3	6.76	39.76	61.66	107.50	261.02
4	8.88	53.77	83.55	145.91	354.76
5	10.90	68.16	106.16	185.71	452.13
6	12.79	82.94	129.48	226.93	553.29
7	14.54	98.11	153.56	269.66	658.45
8	16.13	113.68	178.42	313.94	767.80
9	17.51	129.65	204.06	359.85	881.57
10	18.64	146.01	230.52	407.45	1000.00
11	19.49	162.76	257.82	456.84	
12	19.98	179.87	285.97	508.08	
13	20.05	197.35	314.99	561.28	
14	19.63	215.16	344.91	616.55	
15	18.59	233.28	375.75	674.00	
16	16.83	251.68	407.52	733.77	
17	14.23	270.34	440.28	796.05	
18	10.67	289.22	474.06	861.01	
19	5.99	308.32	508.93	928.91	
20	0.00	327.58	544.94	1000.00	
25		425.49	745.98		
30		522.92	1000.00		
35		615.14			
40		698.21			
45		774.29			
50		844.01			
55		905.59			
60		949.79			
61		1000.00			

These reserves in any year offer a measurement of the extent to which investment predominates over insurance in the different contracts. The table shows endowments of ten, twenty and thirty years' duration and the premiums in each case show the annual cost to accumulate \$1000 within the policy duration. Thus the insured has a measure of the sum which must be deducted from his yearly income in order to satisfy obligations in ten, twenty and thirty years respectively to the extent of a \$1000 capital fund. The insurance element in these several contracts is just sufficient to guarantee that in case the insured dies before the maximum policy duration is completed the amount of his capital fund will be available at the time of death. The table of costs of insurance per \$1000 under different policies furnishes a measure of the amount of protection against premature death, that is, of the difference between the sum insured and the reserve, on seven different policies that have been considered. Thus the policy-holder has \$5.31 worth of insurance during the ninth year on a single premium life, on a ten year endowment he has \$1.25 worth of insurance; and so each separate policy represents a different amount at risk during this year.

The fact that the twenty year endowment has received the lion's share of attention from life insurance companies in the past has acted very much to the detriment of the true function of endowment insurance. A twenty years endowment policy should be taken out by one aged thirty-five only in case he wants to

complete savings for any special purpose at age fifty-five. If he is saving for old age and expects to retire at sixty-five, the logical policy for him to take is the "endowment to sixty-five," and so for other ages.

14. *The disability clause.*—Policy contracts issued by commercial life insurance companies have to a large extent been standardized. Competition has been the most potent force in bringing this about, though in recent years a few states have passed laws requiring that certain standard provisions be included in every contract. The rights, privileges and options which have been discussed heretofore are usually made a part of each policy. It is not necessary to consider these in detail.

A recent addition to the contract which has an important bearing upon the fulfilment of the purposes of insurance is the disability clause. The early part of this discussion emphasized the fact that the life risks covered by insurance policies were only two among many to which the individual is exposed. The functions of insurance are not limited to protection against these two risks, of course, but it is not desirable that hazards of heterogeneous character be covered by the same fund. It happens however that the risk of disability bears a very close relationship to the risk of premature death and the consequent loss of productive income. The system of premium payments by which life insurance contracts are purchased presumes the continuation of income until death occurs or until the age of retirement. A cessation of income may

occur thru many causes, such as sickness or accident. Where the duration of these occurrences is more or less temporary they need have no serious effects upon the continuation of one's insurance. If, however, one should become permanently incapacitated it might be necessary to discontinue insurance which is vitally needed. Permanent and total disability has been called a *living death*, for it leaves the insured in a state of inability to earn income but with living expenses continuing as before and possibly increased by the costs incident to a disabled condition.

The frequency with which permanent and total disability occurs is not great. The best available American Experience shows that at age twenty-five the chances of becoming disabled within one's life expectancy are about one in sixteen; at age thirty-five, one in ten; and age forty-five one in five. The life expectancy at these ages will carry one approximately to the age of retirement, so these figures offer a fair measure of the need for protection against total and permanent disability. Although they show the risk to be small, they do not furnish a true measure of the need for protection. They are rather a gauge to the cost of such protection. The true measure of need is the consequences of disability to the insured. The same experience which produced the above data shows that the average length of time between the occurrence of disability and death is one year, four months and twenty-eight days. If this average were experienced by every disabled person the need for separate

protection would still not be great, since but two premiums would have to be paid after disability before the policy would mature by death and they could readily be borrowed from the company under the premium loan clause of the contract. The real need for disability protection arises from the fact that particular cases occur where years elapse between disability and death. The consequences then are very serious. The true solution lies in the application of the insurance principle, protection to the individual.

The benefits given under these clauses at the present time are of three types, the waiver of premiums during the period of disability, the maturity of the policy upon proof of disability and its payment at once in some form, and the payment of a straight disability income without decreasing the sum payable at death. The waiver of premiums is in some respects a very satisfactory benefit; it furnishes a guarantee of first importance that the policy will not lapse through non-payment of premiums during the period of incapacity. Thus it meets the need of protecting the insurance. It fails wholly to replace the income, which ceases upon disability and is inadequate in this respect. It was for this reason that many of the waiver of premium clauses were soon modified by the provision that the policy should mature upon proof of disability and the sum insured be paid in instalments. But even this desirable addition to the benefit has a defect. Granted that the sum insured is a true measure of obligations after death the adequacy of this

provision is reduced by every deduction made while living. It follows therefore that true disability protection requires the preservation of the insurance fund for post-mortem uses and the payment of a separate disability annuity to take the place of income between disability and death. This type of disability clause has appeared on the market recently and is now being issued by several insurance companies. It usually promises the waiver of premiums and the payment of an annual income equal to one-tenth the sum insured during the period of disability and the entire sum insured is paid upon death or the maturity of the policy.

REVIEW

To meet what needs were limited payment policies devised? How does limitation of number affect amount of premium payments?

If payments are more frequent than once a year what is the effect upon premiums?

In what different ways may the losses be paid?

Explain term insurance, its advantages and disadvantages.

What are the arguments for endowment insurance? For twenty year endowments as compared with other terms.

In what forms is the disability clause introduced into life policies?

CHAPTER VI

ANNUITIES AND PENSIONS

1. *Purpose of annuities.*—The contracts issued by life insurance companies are grouped into two classes, life policies and annuities. It was stated that the characteristic of the latter was the provision of a life income during old age. Annuity contracts are thus concerned with the investment function of life insurance and more specifically, as will be seen presently, with the administration of capital funds for use in old age. The need of an institution to care for such funds and to guarantee that they will be available as needed is clearly demonstrated by the fact that many men accumulate a competency during the prime of life and then lose it thru speculation or unwise investments. The truth of the representations in the following figures taken from the quotation on page 28 can be demonstrated within the range of almost anyone's acquaintance. Of one hundred average men starting at age twenty-five, sixty will have moderate resources or be wealthy by thirty-five; at forty-five all but three of those who had previously made and saved money will have lost all their accumulations; by fifty-five one will have become very rich and three will be in good circumstances; the remainder of those living are either

working or are more or less dependent upon others for support; by age sixty-five one is still rich, four are wealthy, fifty-three are dependent upon children, relatives or charity. The survivors at age seventy-five number but thirty-seven; sixty of those who died left no estate; two of the five rich men have lost their money; the remainder of the thirty-seven are dependent. If these figures are anywhere near approximately true they demonstrate the need for an institution which will receive savings intended for old age support, preserve them in safe investments, and return them to the owner in some form of income during the period for which they are intended. The life insurance company performs this function by the sale of annuities.

2. *Kinds of annuities: Immediate annuities.*—There are many different kinds of annuity contracts, especially in those countries where this type of insurance has been extensively developed. The most important are the immediate and the deferred annuity. The former is purchased by a single cash payment and pays a stated income periodically thereafter to the annuitant. As the name suggests, the income is usually annual, but the term is freely applied today to monthly incomes as well. Immediate annuities may be of the straight life type or guaranteed. The income in the case of the former is payable only during the lifetime of the recipient. It is thus made to fit exactly the old age period.

Many persons find objection to this contract in

considered is far more likely to remain in a particular employment. In many cases it has been found that the group policy furnishes the only insurance carried by a great number of employees. Tho insufficient in itself it may be the first step toward an adequate coverage of life insurance needs. From a broad social standpoint the group plan offers a distinct advantage over the individual policy in the very unusual reduction in the expense of handling the business. By replacing a large number of individual policies with the single group contract, by eliminating the expense of premium notices and consequent postage, and by the practical absence of the cost of medical examinations, the collection costs of the group policy are materially reduced. The agents' commission which furnishes the largest single item of expense on the individual policy is under this plan reduced to a small fraction of the usual rate. Finally the excessive waste due to lapses in individual insurance is largely done away with. The resulting low expense of group insurance is a distinct social gain, for it is well known that one of the most unfortunate features of commercial life insurance, tho quite necessary, is the high ratio of expense loading to mortality costs.

7. *Objections to group insurance.*—From time to time in the earlier stages of group underwriting certain minor objections have been brought against the plan. One of these is the absence of individual medical examinations. In some instances this objection has been raised because the laws of certain states

ployer contemplating the purchase of a group policy usually considers the premium in terms of his annual pay-roll and the relation of this additional amount to any benefits he may receive in the way of greater efficiency or contentment of his employes, the premium is determined each year on strictly scientific principles. The census slips signed by each employe are tabulated according to ages and the aggregate premium for the group is determined by calculating the true premiums for each age group. Experience has shown that premiums on non-participating policies average about one and one-half per cent of the pay-roll but no company guarantees such average, since the premium each year is calculated in strict accordance with the ages of the group insured. It has been found that the general tendency thus far is for the premium load of the employer to decrease after the first year. This is due to facts connected with the changes in the personnel of the force, a reduction in the average age of the group thru the replacement of older persons leaving the employment; promotions within the force lead to the entrance of younger and more inexperienced men, and, in consequence of this, a reduction in the average salary of the group occurs.

6. *Advantages of group insurance.*—This type of insurance is taken out by the employer with the primary purpose of stabilizing his labor force and increasing its efficiency thru positive measures which show the company's interest in their welfare. The employe who knows that his interests are being thus

3. *Mortality experience.*—It will be important to know if the mortality experience among group risks is higher than, or approximately the same as, among those individually examined. The experience of none of the companies is as yet broad enough to answer this question. One company which writes non-participating group insurance has inserted a safety clause in its policy providing for a revision of rates at the end of five years based on actual experience. Participating policies carry an element of safety in the higher premium charge and the possibility of adjusting dividends to suit mortality experience. The protective factors that now operate to maintain a normal mortality rate are the inspection of the original group and the medical examination of subsequent entrants. In the light of unfavorable experience these inspections can be made more rigid to suit the individual circumstances.

4. *Coverage of the group policy.*—Prior to the issue of a group policy each employe is required to fill out a census slip stating place and date of birth, sex, salary, date of employment and exact duties. The insurance, usually for an amount equal to one year's wages for each employe, is issued upon the one year renewable term plan. Thus with each increase in the employe's income the benefit given is increased accordingly.

5. *Premiums.*—Premiums are generally collected monthly and are usually paid by the employer, tho the employes sometimes contribute. While an em-

individual risks in order to secure operation of the fundamental principles of averages. But in the special group insurance as considered, not only is the group insured under a single policy, but the unit of measurement upon which the average is to be obtained is a group and not an individual. The success of individual life insurance is predicated largely upon the possibility of careful selection of those insured in order to obtain a normal mortality experience. Clearly if the unit of measurement includes a great number of persons, principles of selection may be established for the group which will attain the same end as the medical examination of individuals. The insurability of a group is determined in the first instance by a preliminary inspection by the insurance company. This survey investigates the number of employees, their sex and average age and their general condition of health. It furnishes a description of the establishment and an analysis of all factors determining its sanitary condition. If the inspection is satisfactory to the company it furnishes the equivalent of a medical examination. Since it determines conditions for the entire establishment it is quite necessary that all employees be included in order to eliminate the possibility of personal selection. Furthermore since changes are constantly occurring, an arrangement must be made for including new employees in the plan which will not adversely affect the mortality experience. By requiring a medical examination for new entrants the possibility of adverse selection is eliminated.

CHAPTER VII

GROUP INSURANCE

1. *Nature and purpose.*—Group insurance is one of the recent experiments of the commercial life insurance companies designed to effect the insurance of a large number of lives against premature death under one policy. Its purpose is to enable employers to buy life insurance for their employes collectively. It has grown less perhaps from a deep sense of need on the part of the employers or their workers, than from the careful fostering of the idea by the insurance companies with the view of opening a hitherto untouched field for the sale of their commodity, life insurance. The attempt has met with a response from many employers who have been interested in plans for caring for the insurance needs of their workers and who realize that the contentment of employes necessary to business efficiency may be stimulated by such a plan. As contrasted with individual life insurance, which has been studied heretofore, the parties to the group insurance contract are the employer and the insurance company.

2. *The unit of insurance.*—There is a sense in which all insurance is group insurance for it is necessary for the insurance carrier to combine a great number of

Thus the present pension load has nearly exhausted the income of the Foundation and the obligations now assumed in associated institutions are more than can ever be paid by this income. The Carnegie Foundation, realizing the seriousness of the situation, has been carrying on educational propaganda among college and university teachers during the last two or three years with the purpose of establishing a contributory pension system on a basis actuarially sound. A Teachers' Insurance and Annuity Association has been granted a charter by the state of New York and will sell to this select group annuities of much the same type as those now offered by the commercial companies. The yearly payments of the teachers are to be accumulated on a straight savings bank basis and the Foundation guarantees four and one-half per cent interest. At the time of retirement the total accumulations are to be used to purchase an annuity on the net McClintock's four per cent basis. The entire administrative expense is to be paid from the capital and surplus of \$1,000,000 contributed to the Association by the Carnegie Corporation.

REVIEW

- Compare an annuity and a death benefit.
- What is an immediate annuity, and what are the objections which led to the guaranteed annuity?
- Describe deferred annuities.
- What has limited the sale of annuities in the United States?
- Compare pensions and annuities.
- Why have pension schemes gotten into difficulties?

Laws Commission as of January 1, 1916 showed the following results:

	Liabilities	Assets	Deficiencies
Police pension fund	\$32,014,976	\$1,412,097	\$30,602,879
Firemen's fund	14,103,917	331,906	13,772,011
Teachers' fund	10,795,641	5,194,442	5,601,199
Municipal employes' fund	8,640,678	1,865,109	6,775,569 ¹

¹ On assumption of retirement at age sixty.

8. *Carnegie Foundation pensions*.—The experience of the Carnegie Foundation for the Advancement of Teaching in the ten years of operation of its system of pensions for retired college and university teachers illustrates very well the failure to grasp the financial problem involved in a pension system. This corporation at present holds approximately \$14,000,000 ¹ in its general endowment. It estimates that an income of about \$750,000 a year will be available for the payment of pensions. The cost of pensions allowed each year from the beginning is shown herewith:

Year	Annual load at end of fiscal year
1906 ²	\$ 96,885
1906-1907	207,905
1907-1908	294,845
1908-1909	433,485
1909-1910	511,285
1910-1911	548,935
1911-1912	601,480
1912-1913	623,060
1913-1914	673,015
1914-1915	681,165
1915-1916	721,230
1916-1917 ³	739,360

¹ Data taken from the twelfth Annual Report (1917) of the President of the Foundation.

² July 1 to Sept. 30.

³ Oct. 1 to June 30.

Within the last few years there has been a gradual awakening to this situation and pension commissions have been created with the avowed purpose of making actuarial valuations of existing funds to determine the question of their solvency and where necessary, to recommend alternative systems which will be financially sound. These commissions represent practically every part of the country.

It is interesting to compare the report of the Massachusetts Commission on Old Age Pensions in 1908 with the recently published (1916) report of the Commission on Pensions of the City of New York. The former dealt entirely with the type of pension system to be established. It discussed in detail the merits of contributory and non-contributory systems and made an analysis of pension systems in force in European countries. It was not concerned with a scientific analysis of the cost of the systems which it discussed. The report of the Commission on Pensions of New York City and likewise the report of the Illinois Pension Commission (1916) are concerned with an exhaustive analysis of the financial condition of the several funds in these two localities. A few figures from these reports demonstrate the need for such investigations as were made. The valuation of the combined pension funds of the city of New York on June 30, 1914, showed liabilities (the present value of payments to be made) of \$215,520,413. The assets were \$12,744,845, leaving a deficiency of \$202,775,568. Four Chicago pension funds valued by the Illinois Pension

has been no need to consider the methods of accumulating the funds for they have been of the nature of immediate annuities supported by the taxing power of the Government.

The majority of municipal pensions, on the other hand, have been of the contributory type, that is, the employes have during their period of service contributed regularly to a retirement fund with the understanding that upon the completion of an agreed period of service and the satisfaction of other requirements they would be eligible for a life pension. The contributions of employes are usually supplemented by subventions from the municipality. This type of pension thus bears several of the characteristics of the deferred annuity. It is often provided that the employe upon the termination of his service before the pension is available, shall receive a return of his contributions with interest, but in many cases these contributions are forfeited in their entirety. The difficulty of this type of pension system lies, not with the method of contribution, but in a total failure to relate its size to the benefits promised.

7. *State and municipal pensions.*—Almost without exception governmental bodies have entered optimistically into this plan of caring for an important economic need of their employes but have paid little heed to the scientific character of the problem with which they have been dealing. Indeed there is slight evidence that the problem has ever been appreciated as one involving the application of scientific principles.

under the various pension systems in operation in the United States. An old age pension is no more or less than a life annuity and may be of the immediate or the deferred type. Pension systems have been established quite generally for government employes and are becoming common in large industrial establishments. The familiar example of the Civil War pensions is known to all; and many municipalities have developed retirement systems for various classes of employes, such as police, firemen and teachers. The avowed purpose of most of these systems is the same, to furnish a fair and just means of releasing superannuated employes from the service for its betterment, and to furnish a cheap and efficient means of caring for the old age of wage-earning employes or those on a fixed salary and who are therefore unable to make this provision unassisted. Such pension plans have been inaugurated almost exclusively for the lower-income groups, on the reasonable assumption that their service pay is insufficient to maintain them while working and at the same time provide savings for old age. They have been characterized therefore by a thoro comprehension of the economic needs of such classes.

Had they been founded with an equally clear comprehension of the scientific basis of annuities or pensions their outcome would have been less disastrous. The Civil War pensions of the Federal Government have had the credit of the United States behind them and no question arises as to its ability to pay. There

times to his payments and the accumulations thereon. This method of accumulation would make an attractive addition to the deferred annuity contracts issued by commercial life insurance companies but is not at present offered by any.

5. *The sale of annuities in the United States.*—While most of the life insurance companies in the United States will quote rates for the various kinds of annuities they make no special effort to sell them. The annuity business is done mostly “over the counter.” The causes for the failure of insurance companies thus to realize one of their greatest opportunities for usefulness are hard to assign. One important reason is undoubtedly the speculative character of our people, who, confronted with great resources, see large profits being made in all sorts of ventures, and cannot content themselves with the return on safe investments. In older industrial countries such as England, where people have become accustomed to conservative investments and slow accumulations, annuities find a much readier sale. The majority of annuities sold in the past by American companies have been taken by people abroad. It is said that when Dr. Emory McClintock constructed his annuity tables in 1899 from the experience of fifteen American companies only about one-fourth of the number of annuitants were actually American lives.¹

6. *Pension systems.*—The annuities sold by insurance companies are closely akin to the benefits given

¹ Henderson: Mortality Laws and Statistics, p. 15.

during productive years with the annuity income thereafter. The deferred annuity furnishes this type of contract. In its simplest form it requires the payment of annual premiums throughout the period of deferment and at the close of this period, providing the insured is still living, begins the payment of the promised annuity in return. The contract can be purchased by a single premium but for practical reasons seldom is. The premiums of the insured are invested and increased at interest during the deferred period. If the insured dies before the age at which his income is due his premiums are forfeited to the insurance fund. This type of contract is often referred to as the pure endowment method of accumulation, the forfeitures by death in a group of such policies being used to increase returns to survivors. It is oftentimes difficult to explain the character of this policy to prospects and the commercial companies find it convenient to modify it by promising that in case of death before the annuity age is reached the amount of premiums paid will be returned without interest. This of course very considerably decreases the return to the survivors, or to put it another way, increases the premium required for an annuity of any stated amount.

The deferred annuity with return premiums is a near approach to a straight savings bank method of accumulation in which the premiums paid at periodic intervals are invested and increased at compound interest and in which the investor retains full title at all

shows 11.6 per cent at age sixty-five, the last 9.5 per cent. The table furthermore shows the extent to which the return varies as the age at time of purchase varies. At age fifty-five the return is 8.3 per cent, at age sixty-five, 11.6 per cent and age seventy-five, 16.1 per cent for the first rate quoted. This fact has an important bearing upon the age at which annuities should be purchased in cases where the capital available for such investment is limited in amount. Thus a man may hesitate to retire at age sixty-five with savings of \$10,000 knowing that he can obtain an annuity of only \$1163 per year when by continuing in productive work for a few years longer he may increase his yearly income thereafter by several hundred dollars.

The second table shows comparative incomes on straight life and guaranteed annuities. Thus \$1000 at age sixty-five returns a life annuity of \$102.54; but if the purchaser insists on receiving a return at least equal to his investment he can obtain only \$83.41 per year in the one case or \$79.99 in the other.

4. *Deferred annuities.*—The investment in an immediate annuity presumes that the capital for this purpose is at hand. This capital fund may have been accumulated through maturing endowments or in various other ways. But the endowment insurance policy does not always furnish the best means of accumulating the purchase price of an annuity. It is desirable to make definite plans in early life for old age needs and in many cases this is best done by a single contract which combines a method of accumulation

COMPARISON OF STRAIGHT LIFE AND GUARANTEED ANNUITIES

Return on investment of \$1000

Annual income after age:

	55	65	75
Life annuity	\$74.51	\$102.54	\$153.46
Guaranteed annuity (a) ¹	65.44	83.41	113.52
Guaranteed annuity (b) ¹	63.61	79.99	106.86

¹ It is (a) agreed that, upon the death of annuitant if sum of annuities previously paid is less than capital invested, company will continue payment until total amount paid shall equal amount of capital invested; it is (b) agreed under above circumstances to return difference between amount paid and annuities and amount of capital invested.

The first table shows different rates quoted for annuities in the United States; in some cases the rate given is used by a single company, in some by several. The quotations show the amount of income received yearly on a straight life annuity for a capital investment of \$1000, when purchased at age fifty-five, sixty-five or seventy-five. This method of quotation permits the determination at a glance of the percentage return yearly on the investment. Thus the first case

object to the possibility of receiving less than the purchase price, an objection which has no economic basis where no more than one person is dependent upon the income. The guaranteed annuity is the answer to this objection. It likewise promises payment throughout the lifetime of the annuitant but adds a supplementary agreement to the effect that a minimum number of payments will be made under any circumstances, usually a sufficient number to cover the original cost. Granted that the psychological objection to the straight life annuity could be removed there is still use for the guaranteed annuity. Where the person in receipt of the income still carries financial obligations to others than himself the guaranteed annuity gives assurance that his death will not leave these obligations wholly unprovided for.

AMOUNT OF ANNUITY ON MALE LIVES PURCHASED BY
\$1000

Eleven different rates used by various companies
Annual income for life, if purchased at:

	Age 55	age 65	age 75
1	\$83.64	\$116.31	\$161.39
2	83.51	115.14	163.88
3	82.30	115.21	163.93
4	80.81	112.37	160.72
5	80.65	112.61	158.73
6	79.23	110.98	157.48
7	78.86	107.99	160.51
8	78.68	107.87	160.00
9	77.10	103.41	153.37
10	74.51	102.54	153.46
11	70.27	95.24	140.25

the fact that death may occur very soon after the income is purchased. A very small return is apparently obtained for the purchase price. This is due to the fact that the insurance principle of average is applied in determining its cost. The income is guaranteed for the complete lifetime of the insured and it matters not whether this be one year or thirty. The cost is based upon the rate at which deaths occur at these ages and is measured, the same as insurance costs, by a mortality table.

The assumption is made and is borne out by experience that for every person who receives less than his purchase price another will receive correspondingly more. Thus an immediate annuity purchased from one of a number of insurance companies in the United States by one aged sixty-five for \$1000 will guarantee \$112.61 per year thereafter for life, the first payment being made one year after date of purchase. Should the insured die within the year less than one complete payment will be received; should he live for twenty years, he will receive \$2252.20 or two and a quarter times his original outlay. It is in this way that the life annuity exactly fits a particular need; by means of the principle of averages it transforms a capital fund into an income the duration of which cannot be known in individual cases in advance but which can be measured with approximate exactness in dealing with large groups.

3. *Guaranteed annuity.*—Despite this very desirable characteristic of the life annuity many persons

require such individual examinations from all applicants for commercial life insurance. This difficulty is easily solved by modification of laws to suit the new conditions established by group insurance. There is no inherent reason why the inspection of the group and its place of work should not guarantee a normal mortality experience for companies writing this business and if the group business is maintained separately from other risks no objection in principle can be found to it.

The fraternal societies have objected to group insurance on the ground that plans were being laid to insure whole lodges or societies on the group plan. It is doubtful if common conditions of health and environment surround the members of a fraternal society in the sense that this is true of the employes of a business establishment. In this case the underwriting of fraternal societies would be of a distinctly unique character. There is no reason why the line of demarcation between the two fields of insurance should not be maintained as at present and the fraternal be given an opportunity to work out their problems alone. Neither of these objections are of serious import.

From the viewpoint of social policy more serious faults can be found with group insurance. In the first place the benefit given upon death bears about as close a relationship to the needs of the employe as did the old employers' liability benefits to the needs of the industrially disabled. One year's salary does not go far toward the care of the dependents of a deceased

employee. It is a beginning, it is true, and has been advertised only as such by the progenitors of the system. But there is danger that it may be over-emphasized to the detriment of a more complete solution of the life insurance needs of the employed class.

A second serious objection to group insurance lies in the fact that its professed purpose of creating loyalty to a certain employer operates as a positive check on the mobility of the insured. The mere fact that leaving a particular employment cancels the benefits may hold the worker to his task when both he and society will be benefited by the change.

REVIEW

What takes the place of separate medical examination in group insurance?

Is it a satisfactory substitute? Is this known by experience?

Describe the customary groups to which this insurance applies.

What elements enter into the computation of the premium?

State the nature of objections of fraternal orders to group insurance. Answer them.

Discuss the advantages of group insurance as well as any disadvantages it may present.

CHAPTER VIII

FUNCTIONS OF INSURANCE CARRIERS—THE OLD LINE COMPANY

1. *Functions of the insurance carrier.*—The insurance carrier, as the organization is called which administers the insurance fund, is charged with the duty of so conducting it as to realize the purposes for which it is established. While the mutual character of the insurance fund has at all times been emphasized, it is necessary when considering its administration to view its organization as distinct from the individuals who compose its membership, dealing with them on the basis of the contractual relationships established by their possession of policies of insurance. In order to fulfil its purposes the insurance carrier must perform three functions, which may be called the underwriting,¹ the insurance writing and the administrative functions.

2. *The underwriting function.*—The fundamental basis of insurance is average. When a company promises the payment of \$1000 upon the death of the insured in consideration for the annual premium of \$27.00, it does so, fully knowing that the premiums of

¹ In the popular use of these terms "underwriting" means "the writing of policies"—the work of the agent. The proper use of the term, as here, confines it to the assumption of risk and the maintenance of averages in loss experience.

the particular policy-holder will not be adequate to guarantee the fulfilment of this obligation; for the policy-holder may die very shortly after obtaining his contract and have paid only one or a few premiums. It is only by combining the risk assumed for this policy-holder with a great many others of like character that the company will obtain assets to cover all maturing obligations. When this combination is effected the uncertainty which operates in the case of the individual contract is reduced to certainty for the group, because of the well-known fact that a small number of deaths will occur out of the total number exposed. The duties of the underwriter are to furnish a measurement of the regularity with which deaths occur among the insured, to establish premium rates adequate to cover the hazards against which protection is offered, and to so distribute the risks assumed by the carrier as to guarantee the operation of averages in its experience. Thru the calculation of monetary values by the means of mortality tables and interest assumptions it has been found that premium rates can be established to cover the costs of the policies issued by insurance companies. This phase of the underwriting function has been thoroly standardized in the field of life insurance.

Where the mortality tables used in these calculations are constructed from insured lives selected by medical examination it is necessary, in order that they may furnish a fair measure of risk among prospective insureds, that the latter be subjected to a like exam-

ination. The medical director is an important adjunct to the work of the underwriter. The importance of medical selection lies in the fact that if no precautions are taken an adverse mortality selection will take place against the insurance carrier, that is, those who seek insurance will show a higher average mortality than that on which policy costs are predicated. The adverse selection may not throw a company into insolvency, it can easily increase costs to such an extent that the company will suffer in competition.

The problem of so distributing its risks as to secure the operation of averages is greatly simplified by the fact that it is necessary only to obtain sufficiency in numbers of insured. In other fields of insurance catastrophe hazards exist which enormously complicate the problems of the underwriter and require a distribution not only in respect to numbers but geographically as well. A fire insurance company, for instance, could not possibly get average experience by insuring all the property in a single large city, because a conflagration might easily throw the company into bankruptcy. This type of catastrophe hazard has been practically eliminated from life insurance by the attainments of modern sanitary science. Distribution of risks in life insurance therefore comprehends the insurance of sufficiently large numbers and, on contracts which contain investment accumulations, the maintenance of adequate reserves. The life insurance underwriter is called an actuary.

3. *The insurance-writing function.*—In order that

the volume of business necessary to its successful operation may be obtained, the insurance carrier must find a means of recruiting policy-holders. This is of primary importance in its early years, for the company must grow to fair size before it can be said to have passed beyond the speculative stage of its existence. In these early years an unfavorable mortality experience or misfortune with its investments may cause disaster before the company has had an opportunity to function properly. Whatever method is utilized to obtain policy-holders, its primary purpose of furnishing the numbers on which average is based is soon overshadowed by another of broader social import, that of educating the community to the service performed by life insurance.

The methods used to perform this function for life insurance at the present time are three, the employment of agents or solicitors, the sale of insurance by advertising and the creation of demand thru some form of voluntary cooperation among those already insured. Where the first method is used, the insurance carrier establishes an agency department which sends solicitors thruout the area in which it wishes to operate, to make known the company and its contracts and to obtain the applications of prospective insureds. Life insurance soliciting takes its place today among the dignified and socially worthy professions because of the high plane of service which these men have taken for their goal.

The noteworthy success of advertising in creating a

demand for the products of manufacturers has led to an attempt to use it to create a corresponding demand for life insurance. If the insuring community can be reached thru advertising it will materially reduce the cost of writing insurance. The most serious objection that can be raised against the agency system is that agents' compensation must be sufficient to enable them to make a profession of insurance writing and this entails a considerable cost upon the policy-holder. If a consciousness of his needs can be developed thru advertising and this should prove cheaper than solicitation society would be gainer by the difference in cost.

The creation of a market for insurance thru the voluntary cooperation of insured groups is a step further in advance. If those insured can be made so keenly conscious of the value of their protection as to urge it upon all their associates and friends, this function will be performed without outlay by the insurance carrier and without cost therefore to the insured. This is the ultimate goal to be desired. The practical results of these three methods will be considered later in detail.

4. *The administrative function.*—The life insurance carrier in common with other business establishments requires an organization to perform the details of its administrative duties. It is required that they shall be performed with that efficiency which will mean the greatest net return in service to its membership. The administrative officials of the life insurance company carry an unusual responsibility with reference

to the investment of the funds of its policy-holders. Where assets run into the hundred millions, it requires financial ability of the highest character to handle them.

The executive management of the carrier is necessarily concentrated in a small group of officials. This concentration is fundamental to efficiency and dispatch in administration. But lest executive officials forget to keep the interests of the policy-holders uppermost it is important that they be subject to control by or in behalf of the insured membership. In mutual organizations this control is exercised directly by the policy-holders thru their voting power; other types of organization may be subjected to governmental control in the interests of the insured group.

There are four types of insurance carriers offering protection against life risks at the present time: the commercial carrier or old line company, the assessment company, the fraternal society and the government.

5. *Old line company's guarantee.*—Old line companies are characterized by the extent to which they detach themselves, in operation, from their insured membership. The contract with the insured furnishes for a fixed premium a guarantee of performance, any failure in which results in the termination of the company's activities. Under the terms of its contract a policy issued for an inadequate premium must be carried to its maturity if the insured performs his part of the contract. The failure of the assets of the company to satisfy all liabilities is the only event which

will prevent this policy-holder from receiving the benefits promised.

6. *Kinds of companies.*—Old line companies are of two kinds, stock and mutual. The stock company is established with a stock capital representing the ownership and control of the corporation. The interest of the stockholders in the establishment of such a corporation is the making of a profit and it is assumed that this profit is made thru their ability to perform efficiently the functions of an insurance carrier. The policies issued may be either of the non-participating or the participating variety. With the former the insured knows in advance the exact cost of his contract from year to year, any difference between liabilities accruing under non-participating policies and the premiums paid for them being a gain for the stockholders. Their profits will be great or small, therefore, in so far as the efficiency with which they conduct the company renders this margin large or small. Even on participating contracts it is assumed that the self-interest of the stockholders will result in more efficient management and therefore leave a surplus after the payment of dividends sufficient to meet the competition of mutual companies. It is claimed that the self-interest of the stockholders, therefore, results in the most efficient operation of the carrier.

The mutual company is, in theory, controlled by the policy-holders thru their right to vote at the election of the officers of administration. Policies issued are always participating, hence, whatever the original pre-

mum charged the policy-holders, any surplus above the maturing liabilities is returned in the form of dividends. In practice as well as theory this represents a close approximation to the essentially cooperative nature of the insurance fund. Instead of returning to stockholders as payment for their efficient management, this surplus is returned wholly to the policy-holders. While the administrative officers of the mutual company hold their positions subject to the will of the policy-holders it does not result in instability of administration, for policy-holders are so scattered and their knowledge of the administrative affairs of the company is so meagre that few have either opportunity or interest in voting at annual elections. The result is that the power of the policy-holders to control the company is a reserve which may be called upon in case of gross mismanagement by those in office.

The so-called mixed company has certain characteristics of both the stock and the mutual type. It has a stock capitalization upon which dividends are limited and which may hold the controlling votes in the election of administrative officials. In some cases mutual companies are required by state laws to maintain capital stock in their early years to guarantee performance on their contracts until a sufficient surplus has been accumulated. This capital stock is retired eventually by payments from surplus.

7. *Method of underwriting.*—The method of underwriting constitutes the strongest claim of the old line companies to permanence. The premiums on

their contracts are calculated by the use of mortality tables which represent experience among insured lives. A prerequisite to obtaining a policy of insurance is the passing of a medical examination which guarantees a normal relationship between the actual mortality experience of the company and the experience on which premium calculations are based. Furthermore on all policies which carry investment accumulations these companies set aside reserves each year according to standards established in the states in which they operate. These principles are of the utmost importance in enabling the company to fulfil the guarantee which has been named as its characteristic. Experience of several generations in life insurance underwriting demonstrates that failures among old line companies are due to other reasons than the method of underwriting.

8. *Method of recruiting policy-holders.*—The agency method of obtaining policy-holders is used almost exclusively by old line companies. One of the chief divisions of the home office organization is the agency department in charge of a superintendent. It is his business to establish agencies in the different territories in which the company wishes to write insurance, to establish the general lines of policy on which solicitors are selected, and to maintain a general supervision over the work of the various agencies. There has been an organized movement in recent years among life insurance solicitors to raise the standard of the profession and to make its membership an active

force in the education of insurance needs and in the organization of a "service" that will fit the policy to the needs of the insured. This propaganda has been in part an answer to criticism directed against old line companies because of the high expense of writing their insurance. It has succeeded in emphasizing the fact that the life insurance agent may be worthy of his hire but that he must give a return in service for the compensation which he receives. At least one company has gone to the extent of establishing psychological tests as a basis for the selection of its sales force and is attempting by this means to eliminate those solicitors who are unfitted to give the service for which the policy-holder pays. The largest single element which enters into the expense of writing old line insurance is, of course, the commission which is paid to the solicitor. It is common for the company to pay the agent fifty per cent of the first premium on ordinary life policies and from five to ten per cent on renewal premiums for about ten years as his compensation for obtaining the policy.

An experiment is now being tried by one old line company with the idea of eliminating a large share of this cost by substituting the method of advertising for that of solicitors. It is too early in the experience of this company to say what the outcome will be. Neither the success or the failure of the scheme has as yet been demonstrated, tho the growth of the company thru accessions of newly insured has been slow. The majority of the old line companies maintain that vol-

untary insurance cannot be written except by agents. Social interest demands that this experiment in obtaining insurance thru advertising be given a fair trial, for tho the agent is worthy of his hire the social gain may be tremendous if a cheaper method of obtaining insurance can be found.

The method of writing group insurance by agents offers a modification of the system used in the old line company's ordinary business which bids fair to make a considerable reduction in agency costs. This is due to the fact of insuring large groups under one policy and to the saving in effort thereby accomplished by not having to solicit individual applications from each member of the group. There is a point of importance which should not pass unnoticed in this connection. This saving in agency costs is due to the fact that a policy is issued on many lives because someone in a position of influence in respect to these lives realizes the need for insurance and takes the responsibility for seeing that his employes have a limited amount of insurance protection. If a method can be found for teaching insurance needs from the top down, as it were, we may yet find that it is possible to make a considerable reduction in the cost of writing policies.

9. *The industrial insurance company.*—The majority of the business of old line companies covers the sale of contracts of the types heretofore described, policies with a face value of \$1000 or more, usually paid for by annual, semi-annual or quarterly premiums. Experience has shown that this type of contract is fitted

to the needs of the fairly well-to-do. The impression is quite general among the poorer classes that such insurance is too "expensive" for them and yet they are found to have an astonishingly clear comprehension of their needs for insurance. The uninformed of all classes have always been a prey to schemes of unsound insurance and this is especially true of the poor. A realization of this situation brought out the attempt by a few of the old line companies to place upon the market a modification of their ordinary contracts which would be fitted to the needs of the lower income groups. This is known as industrial life insurance. A few of the characteristics of industrial policies may be pointed out briefly. Instead of adjusting premiums to unit amounts of insurance, the amount of insurance is adjusted to a unit premium and the latter is made payable weekly instead of annually. It has been found that these classes can meet weekly premiums whereas they are unable to save the funds necessary to pay the whole of an annual premium at one time. Life and endowment policies are sold for weekly premiums of five, ten or twenty-five cents. In the "intermediate" department, policies are issued for a face value of \$250. The premiums on industrial policies are collected by the company's solicitor who calls regularly upon the insured. Industrial life insurance is a specialized phase of commercial life insurance transacted by a few companies in the United States. In fact most of the business has been written by three companies. Its purpose was to furnish the

poorer classes with insurance of the same quality as is sold in the ordinary department of the old line company, and the same underwriting principles have been used in determining costs and guaranteeing the fulfillment of obligations. The medical examination required of industrial policy-holders is of a very inconsequential sort and the mortality rate in this business is correspondingly higher. This necessitates the use of special mortality tables in the calculation of costs. These have now been developed from the experience of American companies.

The industrial company deserves the credit for having demonstrated that insurance can be sold to the masses of the same sterling quality as that which is available for the well-to-do. The one great defect of this insurance is the expense factor. With weekly collection of premiums the cost of handling this business is multiplied several times over that of the ordinary policy. It has meant that industrial insurance cannot be made the basis for adequate provision for the insurance needs of these classes. The matured policy furnishes little more than the requirements for a decent burial. It scarcely touches the problem of the dependents of the deceased.

REVIEW

Explain the connection between the underwriting of insurance companies and medical inspection.

Describe the methods of securing business.

Explain fundamental differences between stock and mutual companies.

What is industrial insurance?

CHAPTER IX

ASSESSMENT AND FRATERNAL INSURANCE

1. *Nature and origin of the assessment system.*—

The essential difference between the assessment system and old line insurance lies in the fact that the benefits offered in the certificate of insurance of the former are not guaranteed upon the payment of a fixed premium. The assessment company reserves the right either to increase the premium or to reduce the amount of the benefit. This system arose in the United States in the years following the Civil War in response to the demand for cheap current-cost insurance such as could not be purchased from the regular companies. The cheapest policy sold by the latter at this time was the ordinary life, and its premium, as has been seen, contains an overcharge above the yearly cost. The public was misled as to the real nature of this premium because of the refusal of the companies to return accumulations in case of forfeiture. It was assumed that the premium covered only the yearly cost of insurance and in view of the large reserve accumulations of the companies the conclusion was drawn that they were making vast profits. In many cases furthermore the choice of the public lay between cheaper insurance and none at all, for many persons could not afford the premiums necessary to carry ordinary life

policies. Assessment organizations therefore were established on the idea of "pay as you go" and left no place for the accumulation of reserves.

2. *Underwriting methods.*—The underwriting methods of the assessment system are determined largely by the method of assessing premiums for insurance. At first upon the death of a member a uniform levy was made upon all the survivors and this entire amount was paid to his dependents. It soon became necessary to limit the amount of the benefits to a definite sum and the number of assessments varied with the number of claims arising. The next step was to collect assessments in anticipation of maturing claims. There are three ways in which these have been apportioned among the membership; uniform assessments upon all regardless of age; assessments graded according to the age at entry; and assessments based upon the rate of mortality at the age attained. The assumption made by the advocates of the level premium for all members irrespective of age is that a sufficiently large group of persons will give a stable rate of mortality. It is claimed with truth that the rate of mortality per thousand in the population of the United States varies but slightly from year to year; if a company, therefore, can insure a sufficiently large group to obtain average results a stable premium can be maintained. The difficulty with carrying this assumption out in practice is twofold. In the first place the premium charge has not been sufficient to cover the mortality rate which would be realized in a

stationary population. In the early years of such an organization the membership is composed largely of young persons and the assessments are made to cover only the actual mortality. It is a well known fact, as every mortality table shows, that the death rate increases with age. As the membership of the assessment association grows older therefore, and the group approaches its stable mortality rate the assessments must necessarily increase. This causes dissatisfaction among the members, who have been led to believe that the low cost of insurance can be maintained from the beginning. When the average age of the group increases to the point where the cost begins to approximate that of policies in old line companies or is greater than that of newly established assessment companies with their younger membership, the second difficulty with this assumption manifests itself. Policies are lapsed in great numbers by the younger members and by those in good health who will be able easily to obtain insurance elsewhere. This sends the average age still higher and the death rate increases in proportion. Were it possible to maintain a level assessment system permanently the younger members would individually pay more than the current cost of their insurance and the older members correspondingly less. The inequity at the younger ages would be remedied in the course of a lifetime. If the selection of younger persons in the earlier years of an assessment association could be avoided and a stable mortality rate obtained from the beginning, there would be no difficulty in

principle with this method of charging costs. If insurance were made compulsory upon everyone attaining a certain age and could not be discontinued, an insurance company could maintain a level premium rate upon all without the accumulation of reserve funds. With voluntary insurance as it exists today, it is difficult to see how this adverse selection can be prevented from producing a mortality rate that will be fatal to success.

3. *Grading premiums by age at entrance.*—The dim realization of this situation by managers led to the attempt to grade premiums according to the age at entry. It is usual to group members into age classes and charge level assessments to all persons coming within a particular group. Thus those insured at ages thirty to thirty-five may be charged one premium; those between thirty-five and forty a slightly higher one. The trouble with this plan is that the amount of the premium assessment is usually based on the mortality costs at the age of entry and the fact is totally ignored that the mortality of this group increases every year, until eventually the premium becomes viciously inadequate. Assessment managers, facing the failure of premiums thus to meet maturing liabilities, have attempted all sorts of subterfuges. They have charged an extra premium for the purpose of establishing a safety fund or an emergency fund, as it has variously been called. Altho they have been unwilling to admit it, this fund is in principle identical with the reserve of the old line company,

Although this graded premium was intended to remain level its inadequacy has forced repeated attempts to raise the assessment and, as in the case of the level assessment at all ages, has caused wholesale lapsing of policies and a cessation of new applications from younger persons. Again there is no fault with the principle of assessments graded according to age granted they are made equal to a level annual premium for life. The fault lies in the inadequate initial charge and the necessity for frequent revision. The right of revising assessments is a safeguard to the company only when used sparingly, for it is always likely to create dissatisfaction, bring about withdrawals, and thus to increase the average age to the point which is fatal.

4. *Variable premiums.*—The third method of distributing mortality costs foregoes completely the idea of a level premium. It presumes to charge annually the cost of insurance for the age attained according to the experience of the society. Since it is known that the mortality rate increases with age this will mean a constantly advancing premium. In actuarial terms, it is natural premium, or yearly renewable term, insurance. In only a few cases has anything approaching this been attempted. There is not the least question but, were it tried out and the premiums for each year stated definitely in the contract, it would offer a solution of the main difficulty of other assessment premium plans, for it would furnish low cost insurance at the younger ages and when the cost became

prohibitive at the older ages the insurance would be lapsed. This is a reversal of the usual experience whereby the younger members lapse and the older persist. This would not be permanent insurance, but it would be pure insurance and would continue as long as any one has use for carrying protection against premature death.

5. *Comparison with old line companies.*—The underwriting system in assessment insurance is thus seen to be of a radically different character from that of old line insurance. Its success apparently lies in one of two directions, either the furnishing of pure insurance on the natural premium plan or the accumulation of adequate reserves to guarantee the payment of policies that are carried to advanced old age. The reserves which have been accumulated in recent years by assessment companies and fraternalists alike are an outstanding admission that premiums have been inadequate in the past; and noteworthy attempts have been made toward readjustments on a sound basis. Business assessment associations have made use of the stipulated premium plan, whereby the smallest premium adequate to the risk has been charged but the company has reserved the right to charge any deficiency in assets against the policy-holder to be made good by extra premiums or by a reduction of the amount insured. Where this plan has failed some have reorganized as legal reserve companies, permitting their assessment membership to transfer to the new basis or, where this meets with too much opposition, carrying out the

assessment contracts according to original stipulations. The cost in the latter case has necessarily been high.

6. *Fraternal insurance.*—The fraternal societies have gone thru the development of uniform assessments, assessments graded according to age at entry, and have created emergency funds. The natural premium was introduced in one instance but it was not carried out consistently, for the premium was made level after age sixty. More recently they have endeavored to readjust their business on the basis of level premiums according to a mortality table, in some cases using their own experience, in others the National Fraternal Congress table constructed from the experience of several societies; a few have reorganized as legal reserve fraternal upon an American Experience mortality basis. This movement has been furthered in a number of states by the passage of a uniform fraternal law, known as the Mobile Law, or, in a modified form, the New York Conference Bill. In addition to establishing mortality and reserve standards, this legislation provides for actuarial valuations of each society at intervals of three years and requires that any deficit shall be reduced five per cent within each of these three-year periods.

The main difference between fraternal and assessment companies lies in the lodge system on which the fraternal are organized. The social feature of the local lodges is an important factor in holding them to-

gether and the management of the societies is essentially democratic.

7. *Contracts.*—The benefit certificates issued by fraternal and assessment companies usually correspond to the whole life policy. That is, they promise the payment of benefits only upon the death of the member. In a few cases attempts have been made to issue limited premium or endowment policies. The benefit certificate which is furnished the member is ordinarily of a much simpler character than the policies of old line companies. It states briefly the character of the benefit which is offered and the right of the society to call for assessments. The statements made by the member in his application are by reference made a part of the contract and its validity is made dependent upon them. Furthermore the provisions of the constitution and by-laws of fraternal societies are made binding upon him, both those in effect upon his entry into membership and any which may be passed thereafter.

8. *Insurance-writing methods.*—In recruiting their membership fraternal societies depend almost entirely upon the method of voluntary cooperation. Paid representatives of the societies, it is true, aid in the establishment of new lodges, but, once established, the group spirit of the members and the social advantages of membership make a strong appeal to the friends and neighbors of those already insured. The result is that the expense factor in fraternal insurance is a

small fraction of what it is in the old line company. This is the greatest contribution of the fraternal insurance carrier to the practical operation of the insurance business. They have proved that their insurance can be written without agents and have effected wonderful savings therefrom. In fact, the inadequacy of the mortality provision of the fraternal has in many cases been for a long time covered up by their low expense ratio. It has not been uncommon for yearly expenses to average less than one dollar per \$1000 insurance.

The assessment companies use both the method of agents and voluntary cooperation among the insured to obtain new applicants. The result is that their expense ratios are higher, sometimes being nearly equal to that of the old line companies. Those companies that operate among homogeneous groups, such as bankers, have sometimes shown a very low expense ratio, but where they operate on a wide scale approaching that of the old line companies the case is likely to be far different.

REVIEW

What was the purpose and origin of assessment insurance?

Describe different stages in the development of this form of insurance, and premium difficulties encountered.

What are distinguishing features of fraternal societies?

How do they enter their business?

CHAPTER X

GOVERNMENT LIFE INSURANCE

1. *Origin.*—The establishment and operation of life insurance funds by governmental agencies are practically unknown in the United States except for the numerous pension funds which have already been discussed. These funds were found generally to have been established in total disregard of the actuarial principles upon which their soundness could be guaranteed and a beginning is only now being made toward reorganizing them in accordance with such principles.

Of government insurance funds offering protection against the risk of premature death there are only two examples in the United States of noteworthy importance. The State of Wisconsin several years ago established a Life Fund to sell policies of insurance to the citizens of the State. The premiums on these contracts are determined in accordance with American Experience mortality, and the regular reserves are carried. The fund has made no endeavor to compete with old line companies by means of agents but has obtained its business entirely "over the counter." The result has been that the growth of the fund has been small and it has taken no important place in the life insurance needs of its community.

2. *War risk insurance.*—The second case referred to is the life insurance furnished by the Bureau of War Risk Insurance created by Congress on September 2, 1914. The Bureau was established at that time for the purpose of insuring vessels and their cargoes against the war risk. Its powers were enlarged by an amendment of June 12, 1917, to permit the granting of war risk insurance on the lives of officers and seamen of American merchant vessels. The amount of insurance carried is determined by the earnings of the men, with minimum and maximum amounts respectively of \$1500 and \$5000. Benefits are paid for death, dismemberment and permanent and total disability resulting from any act of war or detention after capture by an enemy of the United States. Premiums are paid by the owner of the vessel for each voyage and vary according to the type of ship and ports between which it travels. The Secretary of the Treasury was given authority by this amendment to compel owners of American vessels traveling in the war zone to carry such insurance on the officers and men in the crews, and on June 19, 1917, made such insurance mandatory for all voyages to Europe and to the Mediterranean coast of Africa.

3. *Soldiers' and sailors' insurance.*—A further amendment of October 6, 1917, established a division of military and naval insurance. Its primary purpose was to restore the insurability of men entering the military and naval service of the United States and who for that reason were unable to obtain insurance

in the regular companies except at prohibitive rates. Officers and enlisted men can obtain insurance to a maximum of \$10,000 on a yearly renewable term basis. The premiums are to be paid monthly and are the net American Experience three and one-half per cent premiums. The entire cost of administration of this insurance is borne by the Government which had already assumed the extra mortality cost due to the war hazard. It was felt that this was a proper charge for the Government to assume in furnishing protection to the dependents of men in the service. It is provided that the insurance shall be carried on the natural premium basis during the period of the war and for a maximum of five years after. Within these five years, policies may be converted into permanent insurance on the regular life and endowment plans. If conversion is not effected within this time, policies will lapse.

4. *Its educational effect.*—It is an important departure for the Federal Government thus to have become an insurance carrier on so broad a scope. One of the most instructive phases of the plan is the way in which this possibility of insurance protection was made known to the men in the service and the unusual extent to which they made use of the protection offered. The plans were worked out by a government committee in conjunction with the best known actuaries in the United States and were then explained in detail to officers and men in the different army cantonments and military and naval establishments thruout the country. It is said that in a large proportion of

instances the maximum amount of insurance has been taken. On the basis of the amount of insurance in force this division of the Bureau is now one of the largest life insurance institutions in the world. In January, 1919, it carried insurance on the lives of 4,500,000 men in the military and naval service to the extent of approximately thirty-eight billion dollars.

REVIEW

What precedents existed for government insurance before the late war?

What was the nature of the insurance of vessels and their crews provided by the Federal Government?

Describe the Soldiers' and Sailors' Insurance established by the Government.

How far was it successful and what permanent results may properly be looked for?

CHAPTER XI

ACCIDENT AND HEALTH INSURANCE

1. *Risk in accident insurance.*—Personal accident insurance is a form of insurance based upon the contingency of loss of income thru accidental injury. By means of an accident insurance policy, the insured secures for himself an income during that period in which he is prevented, by injury, from earning it. Human beings have always been subject to accidents. They have been crippled and deprived of earning power by falls, flying obstacles and a hundred different causes. But until the era of modern times information regarding the number and frequency of such accidents did not permit the organization and practical conduct of accident insurance businesses.

Industrial progress and the development of the many means of transportation have so affected the risk that it has become possible to measure the chances of injury with absolute safety. Industrial accidents are of two kinds: those incident to the manufacture of thousands of products and those effected by the use of such articles. Transportation accidents also are of two kinds: those resulting in injuries to persons who are being propelled by the vehicle and those to persons who in one way or another come in contact with such vehicles.

The aspect of accident insurance changes with discoveries and inventions. Old causes give way to new. A few years ago the bicycle played an important part in the claims made under policies, and automobiles and airplanes were unheard of. Today the condition is reversed.

2. *Certainty of accidents.*—There is no uncertainty about the happening or frequency of accidents. Human nature is sure that practically the same number and kind of accidents occur annually. It will always be so. The only element of gamble exists in determining who suffers the loss. Not everybody meets with accident. Personally you may never suffer loss thru accidental injury just as you may never experience loss of property thru fire. In your life insurance policy the liability of the company is fixed. At maturity, which may be at the expiration of a limited period or at death, it must pay the principal sum to you or your beneficiary. On the other hand unless you meet with accident, the sole benefit you may derive from your accident policy is the security and comfort which comes from having an income guaranteed against disability thru accident.

3. *Frequency of accidents.*—A leading accident insurance company advertises that "one out of every seven men is killed or injured by accident each year." If no favoritism is shown in the distribution of accidents, and no one man suffers more than one accident, this statement, surprising as it is, may be accepted in regard to industrial workers.

About 67 per cent of all accidents are so-called industrial accidents, sustained thru risks of employment. Out of a total of about 31,000,000 industrial employes in the United States in 1916, 25,000 persons were fatally injured, an average of one out of every 1250 people. There were 3,625,000 accidents during the year which resulted in disability varying from one day to a condition of permanent disability. Add to these figures, the number of accidents that occur to the same people outside of employment, and the average "one out of seven" is found to be true.

It is interesting to note the ratios in which the other accidents have happened, without regard to occupations: at home, 25 per cent; pedestrians, 20 per cent; automobiles, 12 per cent; recreations, 11 per cent; horses and vehicles, 9 per cent; street car travel, 7 per cent; railway travel, 4.3 per cent; bicycles, 1.7 per cent; steamship travel, 1 per cent; miscellaneous, 9.5 per cent.

The significant fact is that the original source of accident insurance, railway hazard, now plays a minor part in the business. Six times the number of accidents occur at home and almost five times as many in walking as occur in traveling by rail. In explanation of these proportions, it may be said that the greater ratio of injuries occurring at home or in walking is due to the fact that, while the individual hazard is less, so many more persons are involved than are in traveling on the railroad.

4. *Health risk.*—Health or sickness insurance is a

form of insurance based upon the loss of income brought about by sickness. Every one fears the day when sickness will deprive him of his earning power and the ability to carry on his particular work. The savings of years are sometimes expended in a period of sickness and recovery is retarded by the realization that income has been cut off. Health insurance was designed to meet and overcome such conditions.

The hazard involved in the early period proved too much for the success of the business. As in accident insurance, scientific and industrial progress have now stabilized the risk. The gospel of good health is preached in literature, in schools, at work and in the home. People are becoming educated in both public and private hygiene. Contagious diseases are now quickly traced to their source and their progress stopped by quarantine and vaccines. Water is filtered. Food is prepared and distributed under proper conditions. Modern labor conditions are conducive to better health. Suitable working hours; clean, light factory buildings, properly ventilated; dietary accommodations and factory physicians, have a tendency to reduce sickness to a minimum. These movements for the conservation of life have made it possible for insurance companies to conduct health insurance as a practical business.

5. *Liability for term only.*—Accident and health policies differ from life policies in being essentially term policies. Once the applicant is accepted by the life insurance company as an insurable risk, he cannot

be deprived of his insurance. The fact that he is unfortunate enough to contract tubercular trouble or in any way become an undesirable risk for additional insurance does not affect the contract already in force. Commercial accident and health policies are issued for terms of three or six months, or one year. Industrial policies are now issued on a monthly basis. Renewal depends upon the mutual agreement of both the insured and the insuring company. One small eastern insurance company is issuing a life health policy, not subject to cancelation, but it so restricts its liability that it is not sold to any great extent.

The accident company also reserves the right to cancel a policy at any time upon return of the unearned premium, without prejudicing the rights of the insured, arising from any loss that may result from injury or sickness having its origin previous to the cancelation. For instance, a policy-holder may change his occupation to one more hazardous. The company may reduce the benefits offered or raise the premium or cancel the policy. If the insured has developed an unsatisfactory physical condition, such as severe loss of weight or chronic indigestion, the policy may be canceled.

Like the "term" policy in life insurance, the canceled or expired policy in accident and health insurance has no "reserve" or cash surrender value. The unearned premium must be returned to the policy-holder.

6. *Accident and health insurance measured.*—If

you are physically sound, there is very little difficulty in getting all the life insurance you can afford to pay for. It is true that companies limit the amount given on a single life, but there are more than two hundred companies to buy from. Accident and health insurance is measured by the loss involved. The feature of weekly indemnity was developed to offset pecuniary loss due to disability, and insurance companies will not permit a policy-holder to collect more than an amount equal to his earnings. Many companies limit the indemnity to three-fourths of the actual loss.

If an applicant for a policy fails to reveal to a company the fact that he already has an accident or health insurance policy, in the event of a claim, the company's liability would depend upon whether the falsity of his statements was with intent to deceive, or materially affected the company's acceptance of the risk. In either case, no liability on the part of the company would exist. No first class company will knowingly accept a risk for over-insurance. Should any company do so, it may not then deny liability under the policy.

Furthermore, if the policy-holder fails to notify the company in which he has insurance that he has taken additional insurance of the same kind, it will be liable only for that portion of the indemnity promised as such indemnity bears to the total indemnity in all policies covering the loss.

Therefore, if a man earning fifty dollars a week already has a policy promising a weekly indemnity of

fifty dollars, and takes additional policies of the same kind in two other companies, in the event of a claim the first company need pay but one-third of the promised indemnity, and the remaining two have no liability except the return of the unearned premium.

But, if a man who earns fifty dollars weekly, takes out a policy promising a weekly benefit of that amount, and should, for some reason, have his earnings reduced, the company has no right in the event of claim to reduce such benefits.

Altho there is no limit to the death benefit for which an applicant may take accident insurance, companies are slow to accept a risk of more than fifty thousand dollars on any one life. In fact an effort is made to have all indemnities on the so-called level plan, that is one thousand dollars principal sum for every five dollars weekly benefit. For example, if a man earns one hundred dollars a week, the largest indemnity the company is willing to guarantee is a principal sum of twenty thousand dollars and a weekly benefit of one hundred dollars.

7. *What is an accident?*—The question arose very early when claims were made as to whether an injury was caused by an "accident." There were many cases which were on the border line and it became necessary for the courts to decide whether or not the insurance companies were liable for the loss.

In the case of the United States Mutual Accident Association v. Barry (131 U. S. 100), the assured died from injuries sustained in jumping off a plat-

form. The Supreme Court approved in its decision the following instructions:

We understand from the testimony, without question, that the deceased jumped from the platform with his eyes open, for his own convenience, in the free exercise of his choice, and not from any perilous necessity. He encountered no obstacle in jumping, and he alighted on the ground in an erect posture. So far we proceed without difficulty. But you must go further and inquire, and here is the precise point on which the question turns: Was there or was there not any unexpected or unforeseen or involuntary movement of the body, from the time Dr. Barry left the platform until he reached the ground, or in the act of alighting? Did he or did he not alight on the ground just as he intended to do? Did he accomplish just what he intended to do, in the way he intended to do? Did he or did he not unexpectedly lose or relax his self-control in his downward movement? Did his feet strike the ground as he intended or expected, or did they not? Did he or did he not miscalculate the distance, and was there or was there not any involuntary turning of the body in the downward movement, or in the act of alighting on the ground? These are points directly pertinent to the question in hand.

And I instruct you that if Dr. Barry jumped from the platform and alighted on the ground in the way he intended to do, and nothing unforeseen, unexpected, or involuntary occurred changing or affecting the downward movement of his body as he expected or would naturally expect such a movement to be made, or causing him to strike the ground in any different way or position from that which he anticipated or would naturally anticipate, then any resulting injury was not affected thru any accidental means. But if, in jumping or alighting on the ground, there occurred, from any cause, any unforeseen or involuntary movement, turn, or strain of the body which brought about the alleged injury, or if there occurred any unforeseen circumstance

which interfered with or changed such a downward movement as he expected to make, or as it would be natural to expect to make under such circumstances, and as caused him to alight on the ground in a different position or way from that which he intended or expected, and injury thereby resulted, then the injury would be attributable to accidental means.

Considerable trouble was also encountered in determining the liability for death thru poison cases. The question as to when the taking of an injurious substance was an accident has been answered by the chief justice of the Supreme Court (152 N. W. 617) in the case of *Riley v. Interstate Business Men's Accident Association*.

I am entirely clear that John N. Riley came to his death by external, violent and accidental means, and am just as certain that deceased did not voluntarily take poison. The only question in the case in my mind is, Did he take it involuntarily, bringing its taking within the meaning of the exception in the policy? The question is a narrow one. What is the meaning of the term "involuntary taking of poison"? I confess to some doubt on this proposition, for I hesitate to apply it so broadly as to cover every case of unintentional poisoning, as where it results from some lethal substance found in ordinary food, or any case where the poison is inadvertently mixed with other apparently innocuous substance or substances by accident only.

There is some reason for saying that the exception is no stronger than if it had read that the policy should not be held to cover death from the taking of poison, no matter whether the assured was sane or insane at the time of its taking. But on the whole I am disposed to think that it is broad enough to cover death resulting from the voluntary or involuntary taking of poison, provided the poison be of

the kind generally regarded as such, that is to say, arsenic, strychnine, carbolic or sulphuric acid, or other drugs commonly known as a poison as distinguished from a drug, or other concoction which, altho poisonous, is not generally recognized as such. I wish to so limit my concurrence so that ptomaine or other like poisoning, the taking of an overdose of medicine not generally regarded as a poison, or any other case except one where death directly results from the voluntary or involuntary taking of what the ordinary mind regards as poison, is covered by the policy.

The question of liability under accident policies was further settled by the Supreme Court of the United States in the following ruling:

That if a result is such as follows from ordinary means voluntarily employed in not an unusual and unexpected way, it cannot be as a result affected by accidental means, but if in the act which precedes the injury something unforeseen, unexpected, unusual occurs, which produces the injury, then the injury has resulted from accidental means.

There may be an unlooked for consequence of an intentional act—such as the rupturing of a blood vessel due to unaccustomed exercise. While the injury may be clearly accidental, it is not effected by accidental means, because the insured does what he wants to do in the way designed, and the only unexpected occurrence in connection with the incident is the unfortunate result.

8. *What is sickness?*—The question involved in determining when a person is justified in presenting a claim under a health policy is much simpler, since according to the terms of the usual contract, regular attendance by a physician is necessary. Total dis-

ability exists when the insured is confined to the house by bodily disease and is unable to perform any of his duties, when not confined to the house, but unable to carry on his work, his condition is that of partial disability. Liability for indemnity under a general health policy depends upon one question—was the sickness contracted during the term of the insurance? No company will pay claims for disease conditions which existed at the time of or prior to the issue of a policy, unless a statement revealing such conditions appears in the application, and the company knowingly accepts the risk. It does not matter that the applicant has been unaware of conditions that may later develop into a disabling sickness. The company may return the premium actually paid and avoid liability on the ground that the sickness did not have its origin during the life of the policy. This is fair since the company issues the policy based upon a clean bill of health. In the early years of health insurance, the question arose in a few cases to whether the disability was the result of accident or sickness. As a result of court rulings, most of the borderline distinctions are settled. Sunstroke and blood poisoning are now called accidents, but ptomaine poisoning is sickness.

9. *Present extent of accident insurance.*—It is to James G. Batterson of Hartford, Connecticut, that accident insurance in the United States owes a great deal of its success. While traveling in England in 1863 he purchased a railway accident ticket and was

impressed with the value of the idea. On returning to the United States he sought and obtained a charter from the legislature of Connecticut for the incorporation of the Travelers Insurance Company.

At first this company issued only railway accident policies, but in 1864 the charter was amended and it was permitted to issue policies against all forms of accidents. Only the greatest care and perseverance kept the company alive during the first few years of its existence. Rates based on English statistics were found inapplicable to American risks and Mr. Batterson completely revised the classification of risks to conform to American conditions. He experimented with great caution and gathered his own experiences. The premium receipts for the first year's business of the Travelers Insurance Company were \$32,148; in 1917 they amounted to \$4,691,655, and benefits paid out were \$2,113,661, representing claims on more than 15,000 accidents. It is the largest accident and health insurance company in the world.

In little more than fifty years this form of insurance has grown from one company which indemnified the insured for loss sustained by railway accident only, to some 70 stock companies and 65 mutual, fraternal and traveling men's organizations, insuring against loss as the result of any kind of accident. Other surety and casualty companies that have not heretofore transacted personal accident insurance are rapidly taking it up.

The total premium for accident insurance in 1917

was \$43,575,777. Benefits paid out during the year amounted to \$21,529,738, a ratio of 49.3 per cent of losses paid to premium.

10. *Growth of health insurance.*—The first period of health insurance in the United States extended from 1847–1897, and was characterized by failure. Several companies were organized, but lack of financial backing and a proper table of premium charges soon destroyed them. The Fidelity and Casualty Insurance Company of New York undertook to write health insurance in 1898 in connection with its accident policies. Other companies quickly followed. A rider was attached in which the company agreed to pay a weekly indemnity in case of disability from a limited number of zymotic diseases. A medical examination of the applicant was then required. As a result of competition and varied experiences this rider was gradually developed until in 1903 a general policy covering all diseases was issued with no requirement for medical examination.

The business is still in its experimental stage, and financially is not a success. One large company recently withdrew its health policy. In order to meet competition, however, most accident insurance companies now issue health policies either as a separate contract or a part of the accident policy. Health insurance has not had the popular appeal that accident insurance has. The premium income for health insurance in the Fidelity and Casualty Company in 1917 was \$1,241,872, with benefits paid out amounting

to \$766,982. The total premium collected by 43 leading companies the same year was only \$9,658,042, an amount but little more than the accident insurance premium collected by two companies. Total benefits paid out were \$4,769,648. It is an unusual coincidence that the same rate between income and loss was shown as in accident insurance, 49.3 per cent.

The future of health insurance is discussed fully in a later paragraph.

11. *Practical conduct of the business.*—The single-trip ticket insurance business of a half century ago was not a very complicated affair. But the well developed business of today, involving thousands of men (including agents) and millions of dollars, invites careful study. In order to understand the practical conduct of the accident and health business, the reader must become familiar with the method of calculating premiums, establishing reserves, selecting risks, features of the policy, and the settlement of claims.

For many years premium rates for accident insurance were fixed in an unscientific manner without reference to experience, simply because no effort had been made to acquire statistical information. The business revolved around a unit of \$25 per year—benefits increasing or decreasing with a higher or lower premium. It was not until the International Association of Underwriters was formed in 1891 that an effort was made to promote harmony and good-will among American accident companies and to find a

basis for establishing rates. But, for a number of years following, all discussions of rates and classifications took place merely among the individual members of the association. In 1904, as a result of the demonstration of many inaccuracies and inconsistencies in the rates, a committee was appointed to receive and tabulate the experiences of all companies.

In 1906, a standard manual of rates was issued. The principal sum offered by the average policy is \$5000, the weekly total disability benefit is \$25. The lowest premium for such a policy is \$20 (\$25 when double indemnity is offered) per year. This is gradually increased, according to the classification of the risk, the highest premium being \$150 per year. The classification of each risk depends upon the exposure to injury incident to employment. Classes are usually designated "Select," "Preferred," "Ordinary," "Medium," "Special" and "Hazardous," tho original titles and more specific divisions are used in some policies.

Classification of risks is determined, first of all, by the comparative hazard of the occupation. A brakeman is more liable to injury than a teacher. Secondly, the effect of the injury upon the performance of the duties attending the occupation is also considered. A dentist or pianist will suffer greater loss thru injury to his fingers than will a salesman or lawyer. Again, the moral hazard is another consideration. The risk is greater among those occupations where employment is not regular, for idleness leads to

trouble. Actors, certain skilled laborers and ball players, for instance, are periodically idle and there is a temptation to have the accident company pay incomes during a period of idleness. Finally, the relation of the occupation to the physical condition of the body is taken into account. The conditions under which certain kinds of work are performed, the habits of a class of laborers, the excessive physical wear on the body as a result of some occupation, may seriously affect the risk.

The stress of competition influences some companies to ignore the manual, but the tendency is to persist in its use. An effort is made to attract the public to accident insurance, and more particularly to their own policies, by a liberalization of the contract and increased benefits.

12. *Health insurance and premiums.*—It has been necessary for insurance companies to establish health rates out of their own experience. In 1847, the Philadelphia Company charged a premium of \$5.25 for a weekly indemnity of \$4.00 for risks from twenty to twenty-five years of age. Succeeding five year groups up to sixty years of age were charged a small increase in rates. Because the older risks were not charged heavily enough, and on account of an unfair selection of risks against the company, and a too liberal treatment of fraudulent claims, the company failed.

In 1897, the "limited risk" policy was sold for \$2.00, regardless of age or occupation. Such a policy is still

sold for \$2.00 or \$3.00, tho it is not satisfactory and hinders the popularity of health insurance. People are so constituted that they look for many benefits for little money, but when the claim is filed under such a policy, usually some restrictive clause is found in the policy under which the claim may be disallowed.

A general health policy is now issued to all those not subject to certain occupational diseases, allowing one thousand dollars as principal sum, and five dollars weekly benefit, for seven dollars a year at ages eighteen to fifty, and nine dollars a year at ages fifty-one to sixty. The same policy is issued to those who are subject to the hazard of occupational diseases at a 50 per cent increase.

Companies issue different policies at varying costs, but a discussion of them would amount to advertising certain features in such policies.

13. *Reserves.*—State insurance departments now require accident and health companies to maintain definite reserves. The reserve fund consists of two parts, "Unearned Premium or Reinsurance" and "Outstanding Claims." An unearned premium is that part of the premium which has been charged for the unexpired term of insurance. Usually the amount to be reserved is arrived at by taking 50 per cent of the gross premiums. This method is used on the assumption that the business is distributed evenly over the year, and therefore, at the time of valuation, the contracts will have been in force for an average of half the term for which they are written.

Under the reserve for outstanding claims we find amounts sufficient to meet (1) unpaid drafts, or drafts which have been sent out but not cashed; (2) claims which may develop thru notices of accidents and sickness already received; (3) continuation of claims now being paid; (4) expense of settling claims which are without merit.

14. *Selecting the risk.*—The key to the successful conduct of the insurance business is a careful selection of risks. This holds as true in the accident and health branches as in the fire and life. The lower the rate of losses or benefits paid out bear to the premium income, the larger the surplus and the stronger the company becomes in the eyes of the insuring public. It is much better to acquire such a reputation by careful acceptance of risks than by disputing claims after they are presented.

The aim is to select risks that are in normal physical condition but, in order to experience the minimum number of casualties, consideration must also be given the moral and financial responsibility of the applicant. Unfortunately there are persons so eager to get rich quick that they do not hesitate to present fraudulent claims to accident insurance companies. Injuries are pretended or even self-inflicted. Misrepresentations not easily detected are often made in the application. Agents should not solicit or accept business from men of questionable honesty or financial irresponsibility.

As a rule medical examinations are not required of applicants for accident or health insurance. The

expense attached to such procedure would have to be added to the premium and the applicant would not pay the increased premium. Securing new business would become more difficult. The statements in the application concerning the policy-holder's previous health and insurance record are warranties upon the truth of which the policy is issued. Medical examination would probably deprive the company of the defence of breach of warranty against imposition by policy-holders. Such an examination, made the basis for issuing a policy, would prevent the company from canceling its contract. The information derived from bureau records, inspection reports, correspondence with other companies, studying an application or claim papers, gives far more satisfactory information to the experienced underwriter than a report furnished by the average examiner. Medical examinations often fail to reveal habits of intemperance, hidden injuries or even chronic diseases.

In many cases, however, much valuable information may be derived thru a medical examination. Especially is this true in all cases where investigation proved previous disability from any form of abscess, rheumatism, indigestion, disease of the ear, lungs, or any disease which experience has shown must be looked upon with suspicion.

15. *Application a part of the policy.*—The basis upon which an accident or health policy rests is the application, which is made a part of the policy itself. The statements made in the application may be

grouped into three classes: identification, exposure and physical condition of the risk.

The identification includes the name, residence and physical description of the applicant, the name, address and relationship of the beneficiary, and the instruction for payment of benefits.

The exposure includes the statements of the general occupation and specific duties of the insured, the earnings from his occupation, and an enumeration of such other insurance as he may carry. These statements will control the premium rate and the benefits to be paid.

Under the statements covering the physical condition of the risk, we find his age, height, weight, bodily and mental condition. There is also a history of medical treatment during the preceding five years and of previous claims with other companies. Since every statement is a warranty, if it should develop that the insured was materially impaired at the time the application was made, as has previously been stated, there would be no liability under the policy, whether the failure to make mention of such impairment was intentional or not.

16. *Consideration and term of policy.*—A statement of the consideration, which is the amount of premium passing from the insured to the insuring company is placed at the beginning of the policy. The term of the policy follows, usually either for three, six months or one year. At the expiration of the term all liability ceases unless the company offers

a renewal of the policy and the insured pays the premium. A renewal can be effected only by a mutual agreement between the insured and the company.

17. *Insuring clause.*—There is little variation in the insuring clause of accident policies. The language used is similar to that found in a well-known policy:

“... does hereby insure . . . against loss resulting directly and independently of all other causes from bodily injuries effected solely thru external, violent and accidental means, . . .”

Three conditions must be met before liability is assumed. First, as previously pointed out, insurance is not against loss due to “accident” but to loss due to “accidental means”; second, bodily injuries must be effected by accidental means directly and independently, without the intervention of other causes, i. e., any contributing infirmity or disease; third, there must be a loss resulting from the injury. There is no insurance against injuries as such, if they result only in pain or inconvenience.

Many companies now omit the words “external and violent” from the insuring clause. These words neither enlarge nor limit the words “accidental means.”

18. *Specific losses.*—A schedule of fixed indemnities for specific losses as a result of accidents is provided. Some policies make a distinction between the loss of right and left hand, but usually all policies agree on indemnities. The principal sum is paid for

loss of life, both hands, both feet, a hand and a foot, or a hand or foot and an eye; one-half the principal sum is given for either one hand, foot or eye. Then there are lesser indemnities for the loss of thumb, finger, toe, speech, hearing, etc.

Any of these losses must occur within ninety days from the date of the accident, unless there is continuous and total disability as a result of the injuries. If, during the period of total disability of not more than four years any of the above losses occur, directly as a result of the injuries, the specific benefit will be paid in addition to the weekly benefit.

19. *Weekly indemnity.*—The policy states the weekly disability benefit which the company agrees to pay. There are two classes of disability, total and partial. Total disability exists when the condition prevents the insured from attending to, performing or transacting any and every kind of duty pertaining to his occupation. The disability must immediately follow the injury and be continuous. Exception is made in infection cases where a few days usually elapse before the disability begins. The indemnity is paid as long as total disability continues. (Many policies limit benefits to four years.)

Partial disability exists when the condition prevents the insured from performing one or more important daily duties pertaining to his occupation. It may follow the injury directly or a condition of total disability. One-half of the amount payable for total

disability is given and the benefit is usually limited to twenty-six weeks.

20. *Optional indemnity*.—The insured is allowed to take an immediate settlement for his injury rather than await the end of his disability. The amount payable is found by taking the average length of disability resulting from the specific injury. Such preference must be stated within ten days (in some cases twenty days) from the date of injury in order to avoid adverse selection against the company.

21. *Double indemnity*.—If the injury is sustained in one of certain specified ways, all allowances are doubled. Most policies contain similar limitations:

If such injuries, causing any of the losses — are sustained (a) while a passenger in or on a public conveyance provided by a common carrier for passenger service (including the platform, steps or running board of railway or street railway cars); (b) while a passenger in a passenger elevator (excluding elevators in mines); or are caused (c) by the burning of a building while the insured is therein; (d) by the collapse of the outer walls of a building, while the insured is therein; (e) by a stroke of lightning; (f) by a cyclone or tornado; (g) by the explosion of a steam boiler; the company will pay double the amounts otherwise payable —.

22. *Special benefits*.—Policies now provide indemnities for surgical operations, should the injury necessitate such, in addition to other indemnities. In lieu of the claim for an operation fee, the insured may be reimbursed for the expense of hospital treatment in

a sum not exceeding one-half of the total weekly indemnity over a period not exceeding fifteen weeks. (Some policies limit the period to ten weeks.) If the injury is such as to prevent indemnity under the policy, but services of a surgical nature are required, the company agrees to pay the cost of such treatment in an amount not exceeding one week's total disability.

23. Accumulations.—In order to lend a permanency to the business, many companies have established cumulative insurance. In all policies where this feature is included it applies to the principal sum, and in some it extends to the weekly indemnities. These sums are increased annually from five to ten per cent for five years. If a policy has been in force five years, the principal sum under the ten per cent accumulation would be increased from \$5,000 to \$7,500 and the weekly benefit from \$25 to \$37.50. The clause has been of great benefit to the policy-holder.

24. Identification clause.—If a policy-holder is suddenly stricken and is unable to reach relatives or friends, the company agrees, upon receipt of the number of his policy, to communicate with relatives or friends respecting him, and to defray all expenses necessary to put the insured in their care, to an amount not exceeding one hundred dollars.

25. Provisions of the health policy.—The contents of the health policy generally used are similar to those of the accident policy. There are indemnities for total and partial disability; for permanent disability as a result of loss of sight, use of arms or feet; for

hospital charges not in excess of 50 per cent of the weekly indemnity; surgical benefits according to a schedule appearing in the policy and double indemnities under certain conditions.

New benefits are being constantly added in an effort to make a policy more attractive than a competitor's.

26. *Settlement of claims.*—Accident and health premiums are based upon the sum needed to meet the claims which may be expected to arise, plus the cost of securing the business and handling it and a margin of profit for the investors. First of all, then, in order to be financially successful, a company must have care in selecting responsible risks, but hardly less in importance is the equitable, fair and liberal settlement of just claims and firm resistance of all fraudulent claims. Manifestly, certain conditions must be fulfilled before claims are recognized.

Notification of an accident within a period varying, according to the state in which the policy is issued, from thirty to sixty days from the date of the accident must be sent to the company or an authorized agent. Notice of illness usually must be given within ten days. If the notice is not sent within the required period, the burden is upon the insured or beneficiary to prove that it was not reasonably possible to give notice within that time.

Proofs of loss, upon forms furnished by the company, must be sent within ninety days after the date of loss or termination of disability. These include a

"Claimant's Affidavit," "Attending Physician's Certificate," and in certain cases a "Certificate of Employer."

The claimant must submit to medical examination when and as often as the company so demands or, in the case of claim for accidental death, an autopsy may be held in order to determine whether the death has been due solely to bodily injuries received thru accidental means.

The company must be satisfied, before settling a claim, that the policy was in force at the time of loss; that the premium had actually been paid, that the loss does not fall within exceptions made in the policy; that the time for which indemnity is claimed is reasonable in view of the evidence submitted, and that no case of over-insurance exists thru the presence of other policies covering the same loss.

27. *Future of health insurance.*—The premium income from health insurance—less than ten million dollars annually—when compared with the forty-four millions from accident insurance, shows that it has not been taken up very largely by the community. But for the past few years there has been a determined effort, owing largely to the success of workmen's compensation, to place health insurance in much the same class, that is, to make it compulsory so far as that may be possible under the state and federal constitutions.

Those who favor compulsory health insurance take the ground that it is incumbent upon the State to safeguard the health of its people since the people

themselves have not taken advantage of the opportunities for self-protection. They also lay a similar duty upon the employer, claiming that the average wage system has not permitted individuals to purchase such protection, and that compensation given for industrial accidents should be extended to cover disability growing out of occupational diseases. The committee on social insurance which has for years labored on the preparation of a health insurance act has not ignored the fact that all responsibility for the preservation of one's health should not be taken from the individual. In the tentative draft of such an act which is now before the public for criticism and discussion, the committee has divided the responsibility, thru the payment of premiums, into three, leaving two-fifths to the State, two-fifths to the employer and one-fifth to the employee. No plan satisfactory to all concerned has yet been evolved.

Much opposition has been shown to the effort to make health insurance compulsory. First of all, it is said that the idea is contrary to American principles. It is looked upon as retrogressive. It would take away at least four-fifths of the responsibility for personal progressiveness. It might even put a premium upon sickness. It would tend to form classes in the social scale in America and it would be with difficulty that an individual could move from one class to another. Those who oppose compulsory health insurance say that it would be folly to attempt to restrict this national characteristic. They contend that the

American wage-earner is not seeking relief of this sort.

The experience of Germany can not be cited as an indication of the success of such insurance in this country. German political and economic conditions, the highly developed administrative powers, and the utter dependence of the people upon governmental authority have made compulsory health insurance almost a necessity there, but such conditions are not desirable here nor would a similar scheme of insurance be workable here in practice.

Furthermore, such a system does not prevent sickness. If it does not tend to spread sickness and cause malingering, it will do nothing more than mitigate results. It does not get at the causes and conditions which superinduce sickness, and undermine them.

The solution probably lies somewhere between the system of voluntary and compulsory insurance. The existing agencies, in an isolated effort, have been very useful and have gone far in decreasing suffering and poverty. A properly supervised state control of existing insurance organizations, under a well-thought-out system of coordination between the voluntary associations and companies and the public health authorities, will eliminate the evils of sickness, poverty, invalidity and old age.

REVIEW

Give a general idea of the frequency of accidents and sickness.

Why is it necessary to define precisely the terms accident and sickness?

What has been the history of these two forms of insurance in the United States? How are they related?

Are there any limitations upon amounts of health and accident policies? Why? How are the usual limits fixed?

What are the usual conditions of an accident insurance policy?

Give the arguments for and against compulsory health insurance.

CHAPTER XII

LIABILITY INSURANCE

1. *Scope of liability insurance.*—Take up the latest edition of your newspaper and glance thru it, with the idea of noting the number of accidents in which people have been killed or injured. You will find automobile collisions, runaway teams, falling scaffolds, fires, explosions and all manner of accidents, great and small. Then if you will classify these accidents properly, throwing aside a few cases where the responsibility cannot be fixed upon anyone except the unfortunate victim himself, you will have a good assortment of arguments for the liability insurance agent.

Liability insurance covers every variation of the liability fixed by common law upon employers and owners or lessees of property for injury done to the persons of others, not their employes, by them personally, their property or their representatives or employes: in addition, it embraces the common law liability imposed upon employers for injuries suffered by their employes during the course of their employment where this method of indemnification for the results of industrial accidents has not been superseded by workmen's compensation.

2. *Liability to others and to workmen.*—From the beginning of law and legal procedure, there has been a measure of responsibility upon an employer or property owner for injuries done to the persons of others. In the beginning, however, because employes were little more than slaves and were thus virtually the property of their masters, no particular attention was paid to them. If they were injured or killed, it was equivalent to so much lost time or to a certain property loss on the part of their owner. It was different with the public, however. Their rights were safeguarded from the first. Later as the status of the employe improved, the responsibility of the employer for his well-being during working hours assumed more definite form and the law on the subject was amplified by interpretation and decisions until a respectable code was established. Today there is scarcely an accident which does not involve the question of liability. It follows that liability insurance has a considerable field to cover and it is apparent that its influence must be far-reaching.

The reasons for this liability and the theory upon which it rests need not be stated here. It will suffice to quote from a decision written by Chief Justice Shaw of Massachusetts for the purpose of pointing out the general principles involved. Justice Shaw said:

This rule is obviously founded on the great principle of social duty, that every man in the management of his own

affairs, whether by himself or by his agents or servants, shall so conduct them as not to injure another; and if he does not, and another thereby sustains damage, he shall answer for it.

3. *Beginnings of liability insurance.*—The first policy of liability insurance in this country was issued by the American branch of an English company in 1886. This was an employers' liability contract. It was not long before additional companies, both foreign and domestic, entered the field and the insurance was extended to cover other phases of common law liability. Strangely enough, however, this insurance has only recently attained a volume comparable with the importance of the liability against which it affords protection. Ten years ago (1908) the small volume of twenty-one million dollars in premiums represented the combined writings, of the nineteen companies transacting this line of insurance in the United States. In 1917, which is the last year for which complete returns are available, fifty companies transacting liability insurance wrote a total volume of premiums of approximately fifty-three million dollars. This comparison indicates a more rapid growth than is apparent from the figures involved. In 1908 there were no workmen's compensation laws in this country and the volume of liability premiums in that year included a relatively large proportion of income from employers' liability insurance. In 1917, on the other hand, workmen's compensation had replaced employers' liability in the majority of States, and the premiums

from this source had, therefore, shrunk to a low figure.

There are two reasons for the rapid development in this field. The insuring public is just now awakening to the importance of this coverage and the insurance carriers have only comparatively recently specialized in and extended this line of insurance.

4. *Features of policies.*—The common law liability is so involved in its application to individual cases that a complex insurance is necessary to provide coverage against it. In fact, liability insurance is probably as intricate as any other form of insurance.

First of all, there is insurance protection for the employer in those states where the common law doctrine of employers' liability still obtains. This is known as employers' liability insurance. It is being gradually superseded by workmen's compensation insurance and nothing will be said concerning it here, as the subject is sufficiently covered in the following chapter on workmen's compensation insurance.

Then there is a variety of forms of coverage to provide protection against the liability imposed upon owners or lessees of property and employers of labor, for injury done to the persons of others, not their employes. These various forms of coverage come under the general heading of public liability insurance. They constitute the greatest source of revenue from liability insurance and are important enough to warrant a somewhat detailed description.

Public liability policies are not uniform either as regards the different forms of coverage or the prac-

tices of the various insurance carriers, but there are essential points common to all. The insurance carrier, with certain limitations, steps into the place of the assured and assumes the obligation in all its details. It engages to "indemnify the assured against loss from the liability imposed by law . . . for damages on account of bodily injuries, including death at any time resulting therefrom, accidentally suffered or alleged to have been suffered . . . by any person or persons not employed by the assured. . . ." It agrees to make investigations of all accidents, to defend any suit which may be brought against the assured, even tho it may be groundless, and it undertakes to make such settlement in each case as it may deem advisable. Finally, it assumes the expense of investigating and adjusting claims, the costs of legal procedure and in certain cases it holds itself responsible for the expense of such surgical relief as may be imperative immediately following an accident.

The limits of coverage are always stipulated. The standard rates provide for a limit of \$5000 on account of injury or death to one person and a limit of \$10,000 for the total claims arising out of one accident. If higher limits are desired, they may be obtained upon payment of an additional premium. As part of the service which it renders, the insurance carrier demands the right to make inspections of the operations or premises covered by the policy. This is a most important consideration in some forms of public liability insurance such as elevator insurance, where efficient

and intelligent safety inspection is more valuable than protection against damage suits. The assured, among other things, engages to report all accidents covered by the policy without delay. This provision is essential inasmuch as delay in notifying the insurance carrier of the occurrence of an accident may be prejudicial, not only to its interests but to the interests of the assured as well, for the coverage is not complete because of the limits and it is desirable, therefore, that prompt investigation and adjustment of all claims should be made. In addition to these provisions there are others which deal with the calculation of the premium, the cancelation of the policy and like matters, which, tho important, need not be described in detail.

5. *Varieties of liability insurance.*—The various forms of public liability coverage may be roughly classified into two groups on the basis of the degree of liability assumed by the insurance carrier. This will result in placing in one group those forms which provide coverage for persons who are primarily liable for damages and placing in the other, those forms which are sold to persons whose interests, by reason of their connection with an enterprise, may be affected by some underlying or contingent liability. Adopting this method of classification, we may group the principal forms of coverage as follows:

Group 1.

- Teams, public liability insurance,
- Automobile public liability insurance,

Manufacturers' and contractors' public liability insurance,

Owners', landlords' and tenants' public liability insurance,

Elevator public liability insurance,

Theatre public liability insurance,

Druggists', Physicians' and Hospital public liability insurance.

Group 2.

Owners' and contractors' protective liability insurance,

Landlords' protective liability insurance.

It is impossible to describe every refinement of this insurance. A general idea of the scope and application of each form of coverage is all that can be attempted. The fact is emphasized, however, that every insurable interest may be made the subject of insurance, and that failure to mention all the variations should not be taken to signify that there is a limit to the flexibility of the insurance to cover the many phases of the problem.

6. *Team insurance*.—The teams' public liability policy covers the liability arising out of the maintenance, use and operation of draught animals or vehicles. In addition, the loading and unloading hazard is covered, so that the policy applies while goods are being placed upon or taken from the assured's trucks or other conveyances. For the purpose of this insurance, teams are classified by the nature of the trade or business of the owner or the use to which they are

put, and the rate or cost of insurance is quoted per team per annum.

A subsidiary form of coverage, related to this one is known as teams' property damage insurance. It is similar to teams' public liability insurance except that, instead of covering personal injury, it covers damage done to the property of others. This insurance may be effected only if it is purchased concurrently with a public liability policy and the rate is a definite percentage of the public liability rate.

7. *Automobile insurance*.—An automobile public liability policy offers protection against the liability arising out of the ownership, maintenance or use of automobiles. As might be expected, this insurance originally grew out of and was modeled after teams' public liability insurance. Today, however, it is far more complex and the premium income from this source is considerably greater than that ever produced by its predecessor.

There are four principal forms of automobile liability insurance, each of which has peculiar characteristics of its own as regards the classification and rating of automobiles. They are

- (a) Private Pleasure
- (b) Commercial
- (c) Public
 - 1. Livery
 - 2. Other than livery
- (d) Manufacturers' and Dealers' (including sales agency, garage and station risks).

In the case of private pleasure automobiles, the unit of exposure is a single car insured for one year, and rates are quoted per car per annum. Automobiles are first classified by type and motive power. The gasoline and steam propelled automobiles are thrown into one class, the electrically driven automobiles into a second and motorcycles into a third. Until recently the insurable horse power was taken as the basis for the further classification of gasoline and steam driven automobiles. This was obtained by using a standard horse power rating formula in which the bore of the cylinder and the number of cylinders were important elements. Under the plan the rate increased with increasing horse power, so that a high powered car took a higher rate than one which developed a lower horse power. For various reasons insurable horse power was not an adequate basis for premium calculation and it therefore was set aside. Under the revised plan, cars of the private pleasure type, propelled by gasoline or steam, are subjected to a two-way classification for rating purposes. The manufacturers' list price is the primary basis of classification instead of insurable horse power. In addition, a second classification is provided according to the use of the car and the character of the driver. The classifications in detail follow:

<i>Group</i>	LIST PRICE	<i>Range of List Price</i>
I.		\$ 0 to 1199
II.		1200 to 2499

<i>Group</i>	<i>Range of List Price</i>
III.	2500 to 3499
IV.	3500 and over
USE AND DRIVER	
<i>Group</i>	<i>Description</i>
I.	Car of private pleasure type used for private pleasure purposes exclusively and driven by no one except the owner.
II.	Car of private pleasure type used for private pleasure purposes exclusively and driven not only by the owner but also by members of the family or an employe.
III.	Car of private pleasure type used incidentally for business or professional purposes. No qualification as to driver; car may be operated by owner, members of the family or an employe.

The rates increase with increasing list price. In addition, cars of a given list price are classified according to use and driver. The lowest rates apply to cars used exclusively for private pleasure purposes and driven by no one except the owner. The highest rates apply to cars which are used incidentally for business or professional purposes and in this case there are no restrictions upon driving. Electrically driven automobiles and motorcycles are rated in separate classifications, there being but a single rate for each classification.

Commercial automobiles are classified and rated in the same manner as teams; that is, according to the nature of the trade or business of the owner or the use to which they are put. Dependent upon the classification, the rate is quoted per machine per annum.

Here again there is some dissatisfaction with the premium basis, for at the present time all of the automobiles of a certain description are similarly rated, irrespective of carrying capacity or speed of operation. This phase of the problem is likewise receiving consideration and a study is being made to ascertain whether other practicable premium bases exist.

Public automobiles are classified according to type and use, into two groups—"livery" and "other than livery." Livery automobiles are then further classified by motive power into two groups—gasoline or steam propelled and electrically driven automobiles, and every automobile of each class, irrespective of horse power or other method of differentiation is rated the same. Public automobiles other than livery are classified by carrying capacity and use into five groups. Thus, all taxicabs are thrown together for rating and all public automobiles designed to carry more than twenty passengers are similarly treated. The unit of exposure again is a single car insured for one year, and the rate is quoted per car per annum.

Manufacturers' and dealers' automobile risks are first classified into two divisions—manufacturers' and dealers' risks and sales agency, garage or station risks. Manufacturers' and dealers' risks are rated in two ways, either of which may be applied to an individual risk. The number of chauffeurs operating cars for testing and demonstrating purposes, each of whom must be specifically named in the policy, or the number of cars actually operated, each of which must be

specified by number, may be used as the basis of premium computation. The rate is quoted per named chauffeur or specified car per annum. In the case of sales agency, garage or station risks, the premium basis is the pay-roll of all employes and the rate is quoted per \$100 of pay-roll exposure per annum.

It is worth while in passing to point out that, as in the case of teams' public liability insurance, there is an incidental automobile insurance covering damage done to the property of others. Separate rates are provided for this insurance, and it may be purchased with or without concurrent public liability coverage.

8. *Manufacturers' and contractors' insurance.*—This form of public liability insurance is issued for the protection of manufacturers of every description, general contractors, building contractors, telegraph and telephone companies, electric light and power companies, mining companies and others who conduct operations not confined to manufacturing premises. In general the unit of exposure is \$100 of pay-roll expenditure and rates are quoted per \$100 of pay-roll per annum. Thus, when a public liability policy is written concurrently with a workmen's compensation or employers' liability policy, as is usually the custom, a single basis is used for the computation of both premiums and the transaction is thus simplified to some extent. There are other premium bases, however, which are used whenever for any reason the pay-roll expenditure is impracticable. Thus, rates are quoted per machine in the case of the installation,

operation and maintenance of slot and vending machines and per day in the case of hod hoist installation, operation and removal.

This coverage does not include protection against the liability arising out of the use, maintenance or operation of teams or automobiles. If such protection is desired, separate policies must be purchased.

9. *Owners', landlords' and tenants' insurance.*—The owners', landlords' and tenants' public liability policy may be purchased by an owner, landlord or tenant (not a manufacturer), for the purpose of providing protection against the liability for accidents occurring to persons "while within or upon the premises" under his control "or upon the sidewalks or other ways immediately adjacent thereto, from any cause whatsoever, including the making of such ordinary alterations and repairs as are necessary to the care of the premises and their contents and the maintenance of such premises and contents in good condition." The premium is calculated on what is known as the "area and frontage" basis; that is to say, the rates are based upon each lineal foot of street frontage and each one hundred square feet of area in the building or premises named in the policy. There are exceptions to this rule in a few cases where for one reason or another, the area and frontage basis does not produce proper results. Thus, in the case of dance halls, rates are quoted per \$100 of admission receipts.

In connection with this form of coverage, it is a universal rule that elevators, if there are any, must

be either specifically rated in accordance with the manual rules or else excluded from the policy.

10. *Elevator insurance.*—As the name implies, elevator public liability insurance is designed to cover the liability for injuries sustained by reason of the operation, maintenance or use of elevators. The policy covers not only the car but also the hoistway and equipment and it applies to ordinary repairs as well as to the actual operation of the elevators. For the purpose of premium computation, elevators are classified according to type, the character of the building in which they are housed and the use to which they are put. The unit of exposure is one elevator insured for one year and rates are quoted per elevator per annum.

11. *Theatre insurance.*—The theatre public liability policy is issued to owners or lessees of theatres or motion picture halls. It offers protection against the liability for "accidents sustained by persons while within the theatre or hall (including rooms or other spaces appurtenant thereto and connected therewith by interior openings) and upon approaches, exits or sidewalks, by reason of the use, occupancy or maintenance thereof. . . ." The premium basis is the seating capacity of the house. The unit is one seat and rates are quoted per seat per annum.

12. *Druggists', physicians' and hospital insurance.*—In general these forms of insurance may be said to cover the liability which arises out of malpractice committed in the treatment of patients, or mistakes made

in compounding prescriptions or selling drugs or medicines. In the case of the druggists' policy, the mistake of any employe whether "in preparing, compounding, dispensing, selling or delivering . . . any of the drugs, medicines or merchandise customarily kept for sale in drug stores" is covered. It is usual to provide, however, that the carrier will not hold itself responsible for injury or death caused by an employe employed in violation of law or by failure to comply with a local statute or ordinance. In other words, every effort is made to restrict the application of the policy to unintentional errors or mistakes. In the case of physicians, surgeons, dentists or registered nurses, malpractice is covered, except that no responsibility is assumed for the actions of persons under the influence of intoxicants or narcotics, or while they are engaged in the performance of an unlawful act. The provisions of the hospital liability policy are similar.

The calculation of premiums for these forms of insurance is complicated. In druggists' insurance, there is a charge per store in addition to which there is a charge per clerk which varies, the highest being assigned to registered prescription clerks and the lowest to soda dispensers and employes of similar character. The premium basis for physicians' and surgeons' policies is the number of persons covered by the policy. There is a charge for the physician or surgeon and an additional charge for each assistant. The premium for hospital policies is based upon the

number of beds in the hospital and also upon the number of attending physicians or surgeons.

This completes a description of the policy forms in Group 1.

The policies classified under Group 2 are issued to persons who are not directly liable for injuries to the public, but who nevertheless, by reason of their connection with an enterprise, are contingently liable.

13. *Owners' and contractors' protective insurance.*

—Owners' and contractors' protective policies are issued to owners of buildings in the course of construction, or to principal contractors. Here there is a measure of responsibility, even tho the actual work may be performed by a contractor or sub-contractor who is primarily liable for injuries inflicted by his employes upon the persons of the public. The existence of this underlying and contingent liability has made necessary the establishment of this particular form of coverage. In this case the premium basis is "the total cost of all work let or sub-let, including all labor, material and equipment used or delivered for use in the execution of such work, whether furnished by the owner, the contractor or the sub-contractor, also all allowances, bonuses or commissions made, paid or due." The unit of exposure is \$100 of cost and rates are, therefore, quoted in these terms.

14. *Landlords' protective insurance.*—Landlords' protective policies are issued to owners or general lessees of buildings, who have leased the entire premises

to others and retain no control over them. In this case there is also an underlying and contingent liability for injuries sustained by the public, and this form of insurance is designed to offer protection against it. Landlords' protective coverage is closely allied to owners', landlords' and tenants' insurance, the rates being obtained from those corresponding by the use of a percentage differential.

In conclusion, a word should be added concerning the rates for these various forms of insurance. Enough has been said to indicate the complexity of the rate making problem. The many variations of hazard and the different methods of classification create a number of difficult problems. Until comparatively recently no effort was made to standardize this insurance. Today steps are being taken with this end in view, and as a result, progress is being made in the direction of uniformity of underwriting procedure and a more scientific development of the rating problem.

It should not be taken for granted that public liability rates are the same thruout the United States. They differ considerably in certain forms of coverage dependent upon the degree of hazard involved. The exposure is one which involves the public and for the most part it varies with population density. Thus, in the case of teams' insurance, there are three sets of rates for the state of Pennsylvania, one set for Philadelphia, which represents the greatest traffic hazard because of population, another for Pittsburg, which

represents a second degree of hazard, and still another for the remainder of Pennsylvania, which may be considered to represent a third degree of hazard. This is only one example of the variation in rates. Another cause for so-called differential rates is found in variations in the legal and moral hazards in different sections of the country. The statutes covering liability for personal injuries do not differ widely from state to state, altho there are some states where the law on the subject is more severe than others, and in these cases, this fact is recognized by an increased rate. The principal variation, however, arises out of the administration and interpretation of the law. In some communities juries are less strict in their interpretation of the law than in others. Then again, wherever certain elements predominate in the population, claimants are especially prone to exaggerate personal injuries and it is extremely difficult to control the administration and adjustment of claims. In this case, also, the effect of these conditions is reflected in the rates and an effort is made to assess the individual district, city, or state for its proper share of the cost of insurance.

REVIEW

- In what does liability insurance take its origin?
- How prevalent is this form of insurance in the United States?
- What are the usual features of liability policies?
- Enumerate the different varieties of liability policy and discuss the chief characteristics of each.

CHAPTER XIII

WORKMEN'S COMPENSATION INSURANCE— GENERAL FEATURES

1. *The insurance risk.*—A policy of insurance always covers a contingent loss on the part of the policy holder. Discover the nature of this loss and the essential characteristics of the insurance will disclose themselves. If workmen's compensation insurance is subjected to this analysis, it will be found to rest upon the fact that there are laws in existence in certain states which provide for the payment of definite compensation to employees who are injured in the pursuit of their duties. To appreciate the function of workmen's compensation insurance, therefore, it is first necessary to understand the principle of workmen's compensation and its application.

2. *Accident indemnity under employes' liability.*—Prior to the introduction of workmen's compensation, the only measure of responsibility imposed by law upon an employer for injuries sustained by his employees in the course of their employment was embodied in a code known as the employers' liability doctrine. Under this system an employer was liable for damages to an injured employee only when it could be proved that the accident was the direct result of negli-

gence on his part or on the part of his personal representative. In practice the position of an employer in resisting an action to recover damages was strengthened by three common law defenses, which were introduced not as the result of legislation but by judicial interpretation.

When an employer was sued at common law and the charge of negligence was brought against him, he might disclaim all responsibility and be relieved of liability, provided he could prove: (1) That the employe himself was negligent, that is, that by some action or wrong doing, no matter how trivial, he contributed to the cause of the accident, the defense of contributory negligence; (2) That a fellow-employe was responsible for the occurrence of the accident, the fellow-servant defense; or, (3) That no person could be held responsible for the accident: that the accident was one which might be termed a pure accident arising out of the normal and inherent hazards of the industry, of which the employe was aware and which he accepted upon entering the employment, the assumption of risk defense.

The net result of this situation was most unsatisfactory. With the complication of industry and the consequent widening of the breach of personal contact between employer and employe, the employers' liability doctrine was carried to its logical conclusion and its weakness as a method of adjusting claims for damages was forcefully disclosed.

3. *Difficulties in enforcing liability.*—It became al-

most impossible for an injured employe to secure indemnity for an injury except in cases where the negligence of the employer was glaring and thus clearly demonstrable. The fact that damages could only be collected by legal action created antagonism between employer and employe. It made adjustments inefficient and wasteful and entailed expensive lawyers' and court fees. It gave rise to ambulance chasing with its gruesome practices. Instead of giving an employe speedy relief and thus preventing suffering and destitution, the system was slow in operation and cases were adjusted only after great delay. Thus, where legal proceedings were resorted to, the final outcome was not ascertained for years. In one state where an investigation was made, it was found that the average time required to effect such settlements was about five years. This in turn led to the practice of lump sum settlements, the employe in many cases preferring to accept a sum certain, no matter how inadequate, in lieu of a possible uncertain adjustment in the courts. It also resulted in the establishment of the contingent fee practice, whereby an injured employe without funds turned his case over to an attorney, upon condition that 50 per cent or so of the final settlement was to be retained as payment for legal expenses.

4. *Growth of compensation legislation.*—The first country to adopt workmen's compensation was the German Empire in 1884. To be sure there may be something in the argument that Bismarck was forced

to sponsor legislation of this sort to quiet the socialistic tendencies of the laboring classes. Nevertheless, the fact that workmen's compensation is immensely superior to employers' liability is demonstrated by the rapidity with which the principle was accepted elsewhere. The remaining European countries followed Germany's example in rapid succession, the principle being accepted even by autocratic Russia in 1903.

The first American state to adopt a workmen's compensation law was New York in 1910. The law was declared unconstitutional and was never applied, but nevertheless it established the principle in this country and the lessons which its overthrow brought to light were valuable in avoiding a similar fate for legislation in other states.

Today the majority of the states have laws on the subject and it is easier to enumerate those which still operate under the antiquated employers' liability system than it is to list those which have enacted some form of workmen's compensation legislation.

The so-called employers' liability states are:

Arkansas	Mississippi
Florida	Missouri ¹
Georgia	North Carolina
South Carolina	

This list is gradually becoming smaller with each year of legislative activity and it may safely be predicted that the principle of workmen's compensation will completely replace the doctrine of employers' lia-

¹ Now being subjected to a state referendum.

bility in this country within the next five or ten years.

5. *Advantages of workmen's compensation.*—It is obvious that inasmuch as workmen's compensation is a remedy, it should largely eliminate the evils inherent in the employers' liability system. This it has accomplished to a considerable extent. Under workmen's compensation, the question of responsibility for an accident has little or no bearing upon the compensation of an injured employee. The common law defenses of assumption of risk and fellow-servant have been abrogated and the contributory negligence defense greatly modified. The indemnity for injury is no longer left to court judgment. Specific compensation is provided, which is intended to measure the degree to which the different types of injury result in loss of earning capacity and deprivation of income. The payment of compensation is certain and there is no long delay in delivering it to the injured employee or his dependents. The cumbersome legal procedure has been eliminated. For the most part cases of controversy are taken from the courts and their adjustment is intrusted to arbitration boards or commissions which administer the compensation laws. These administrative bodies have adopted a greatly simplified procedure of an informal character and have to a large extent eliminated the lawyer as a factor in settling claims. Their work may be characterized as a conscientious endeavor by an impartial body to get at the facts and to conserve the interests of both employer and employee in adjusting differences of opin-

ion. Thus, the time necessary for the final adjustment of controversies has been reduced to a minimum. In all jurisdictions the average is well under a year.

This revolutionary development in the method of providing indemnity for work accidents rests upon the theory that industry and society are responsible for the cost of accidents; that as a matter of fact payments of compensation are legitimate charges against the cost of production and should be thus made. The employer is assumed to be primarily responsible for the reason that he is conducting an enterprise which has accident-producing possibilities. He does not, nor is he obliged to, bear the cost of compensation alone. He passes it along to the ultimate consumer by including it in the price of his product. The employe also takes part of the burden. He is required to bear a percentage of the wage loss. In addition, he, and those dependent upon him, must bear the entire burden of suffering and mental anguish, which the work accident creates.

6. *Stimulus to Safety First movement.*—One result of this new theory concerning the responsibility for accidents has been the inauguration of the "Safety First" movement. Accidents from certain causes occur more frequently than they should. With the introduction of workmen's compensation these accidents were forcefully brought to the attention of employers and the public, and a demand was made for the elimination of the waste and the inefficiency from this source. A preventable accident was, and still is,

looked upon as unnecessary and in the nature of a crime. Accident prevention is becoming progressively important and thus the principle expressed by the saying "an ounce of prevention is worth a pound of cure" is being rigorously practiced.

7. *General features of compensation legislation.*—

It is impossible to go deeply into the details of workmen's compensation legislation, for the reason that there are as many different laws as there are compensation states. A thoro knowledge of any individual law can be gained only by careful study. Certain general principles may be mentioned, however, for the purpose of pointing out important features which should be given careful attention by an employer who desires to become familiar with his obligations under any law of this character.

1. All laws are not compulsory. Where the law is elective, it is usually provided that in case an employer fails to accept, his common law defenses are removed. He is thus left defenseless under the employers' liability code.

2. Workmen's compensation laws are not universal in application. The usual exceptions are farm, domestic and casual laborers. In some cases the act covers only specific industries of a hazardous character or is limited in application to establishments of a certain size. It is possible also that the act may apply to accidents sustained outside the state provided the contract of employment is made within the state.

3. There are always provisions limiting the character of injuries which will be subject to compensation. Compensation never applies to accidents sustained outside the course of employment. Thus accidents occurring while employes are on the way to or from work are never covered. It is usual also to provide that wilful misconduct or intoxication shall bar an employe from his right to claim compensation. Where the term "injury" is used without the qualification that it must be the result of accident, certain occupational diseases have been included by interpretation.

4. The benefit schedule is perhaps the most important feature. Accidents are classified, according to the severity of the injury, into temporary partial, temporary total, permanent partial, permanent total and fatal cases. Specific compensation is provided for each type and provision is made also for medical, surgical and hospital treatment. A waiting period, that is to say, a period of time immediately following the occurrence of the accident, during which no compensation is paid, is established. This varies from one to two weeks, although in certain jurisdictions if the disability is of sufficiently long duration, compensation is paid retroactively to the date of accident. Compensation is payable weekly or monthly, and as a usual rule, the payment is a specified percentage of the employe's average weekly earnings, there being rules for the computation of the compensation basis. Limits are imposed with regard to the amount of

weekly or monthly payments, the period over which payments may extend and the total compensation which may be received on account of injury.

5. A definite procedure is outlined for the adjustment of controversies.

6. Reference may be made to the manner in which insurance against the compensation obligation may be effected.

7. In some cases provision is made for the supervision and regulation of insurance carriers. Policy forms are required to be filed and approved; rates must be adequate, reasonable and non-discriminatory.

8. Reports of all accidents are required to be filed with the administrative body.

9. In some cases, the liability of principals and contractors is clearly defined.

10. There may be important provisions regarding accident prevention.

8. *The workmen's compensation insurance contract.*—From the description of workmen's compensation laws, general as it is, the coverage offered by a policy of insurance must be evident. By the terms of its contract, the insurance carrier steps into the place of the employer and engages to fulfil his obligations under the compensation law. It agrees to pay such compensation as the employees of the assured may be entitled to receive. It represents him before the administrative body and in the courts in adjusting contested claims. It undertakes to advise him concerning the most economical and efficient methods of

accident prevention. In certain cases it goes beyond the workmen's compensation law and covers the underlying common law liability which may result in claims for damages. Thus, in the case of marine risks litigation in the Admiralty Courts may be taken care of as well as claims under the workmen's compensation act.

The important considerations in connection with the insurance transaction are the method of payment of the premium (the cost of insurance) by the assured and the return which he receives in the way of coverage, service and guarantee of the solvency of the carrier. It is next in order, therefore, to examine the various methods of insurance available and the character of the carriers engaged in the business.

9. *Forms of insurance carriers.*—The following forms of insurance carriers are found in workmen's compensation insurance:

1. Stock Companies
2. Mutual Companies
3. State Funds
4. Reciprocal Exchanges

To these may be added a fifth, which in reality is not a form of insurance at all, namely, self-insurance.

Self-insurance may be disposed of with brief mention. It is really non-insurance, the employer himself assuming the burden of his obligation under the compensation law, or, in technical parlance, carry-

ing his own risk. Obviously, it is unsafe to permit this practice indiscriminately and without supervision because of the disastrous effects which might result from the insolvency of an employer. The practice is prohibited entirely in some states and is allowed in others only after careful investigation by the administrative body. In these cases, an employer must convince the administrative body of his ability to carry his own risk; he must file a bond, make a deposit or otherwise guarantee his obligations. Self-insurance has advantages if the operations of the employer are so extensive that they furnish a basis of averages in themselves. Even in such cases, however, it is questionable whether self-insurance is desirable.

Criticisms which have been made may be summarized briefly as follows: The employer may be led to discriminate against employees who are partially disabled or who have dependents. In the administration of claim settlements, the employer may offer reduced compensation, which employees will accept for fear of losing employment. In case of permanent disability, an employer by carefully placing an employee in certain occupations and later discharging him may escape the full payment of compensation. In general, the arrangement tends to establish the same spirit of antagonism and distrust that existed under employers' liability conditions.

The relative importance of the different forms of insurance carriers will be evident from the following exhibit, which represents the approximate amount of

premium income derived from workmen's compensation insurance by each form of carrier during the calendar year 1917:

FORM OF INSURANCE CARRIER	PREMIUM INCOME
Stock Companies	\$66,600,000
Mutual Companies	12,600,000
State Funds	17,000,000
Reciprocal Exchanges.	3,600,000

A common point of distinction between the different types of insurance carriers is the method of premium payment. Stock companies, with one or two unimportant exceptions, issue so-called non-participating policies. The price of stock insurance per unit of exposure is definitely fixed before the policy is issued, and no further adjustment is contemplated. The remaining carriers, however, issue participating policies and do not as a usual rule guarantee that the original quotation will represent the ultimate cost of the insurance. In such cases it is customary to consider the original rate of premium as approximate and to provide for a return in case too much is collected to cover losses, reserves and expenses, or for an additional premium in the event that the original rate proves to be inadequate.

It is understood, of course, that in either case the original premium is subject to adjustment if the number of units of exposure estimated beforehand is in excess of or less than that actually experienced. Thus, the rate of premium in workmen's compensa-

tion insurance is quoted per \$100 of pay-roll exposure per annum. An estimate of the pay-roll is given when the policy is issued and provision is made for an adjustment when the actual payroll for the year has been ascertained. The distinction between participating and non-participating insurance is that the rate itself is subject to adjustment at the expiration of the policy term in the former and not subject to adjustment in the latter case.

Other peculiarities of the different types of insurance will be disclosed upon examination.

10. *Stock companies.*—The stock company organization is analogous to similar organizations in other lines of business. The stock is privately owned by the stockholders and the financial status of the carrier depends upon the capital and such surplus as may be accumulated. The control of affairs is in the hands of a board of directors chosen by the stockholders. It is not at all essential that the directors be experts in insurance matters, as the technical details are always entrusted to the officers, who are insurance men, trained in finance, underwriting, salesmanship, claim adjustment, engineering and actuarial and statistical science. The stock company is in business to sell insurance as a commodity, to give the best and most efficient service, the most absolute guarantee of solvency and it expects in return to retain a reasonable margin of the premium volume as its profit.

An important feature of the stock company organization is the agency force. Insurance is solicited and

a total acquisition cost of approximately $17\frac{1}{2}$ per cent of the premium income is expended in this process. There has been much argument concerning the validity of this expense. On the one hand it is argued that workmen's compensation insurance is a social matter and that inasmuch as it is practically compulsory, solicitation by the agent is unnecessary. On the other hand, it is argued that the agent is worthy of his hire and that he performs valuable service for his commission. All forms of insurance are experimental in workmen's compensation and it remains to be seen whether the agency system is undesirable or indispensable.

The stock insurance company usually transacts business in a number of states and this develops a large volume of premiums which stabilizes its affairs and allows the law of averages full play. Furthermore, this form of carrier does not rely upon workmen's compensation insurance for its existence, premiums from other collateral lines of casualty insurance amounting in all cases to considerably more than those derived from workmen's compensation.

The affairs of stock insurance carriers are supervised and regulated by insurance departments.

11. *Mutual companies.*—The mutual company, with two or three exceptions, conducts its operations in one state or in a single industry. As its name implies it is a cooperative arrangement for pooling the insurance hazards of its members. It is in fact owned by the policy-holders and the board of directors, which

is responsible for its management, is chosen by them and holds office at their will. The officers for the most part are trained insurance men, and they are entrusted with the technical details of the business.

As in other forms of mutual insurance, no attempt is made to derive a profit from the business. Except for the contributions, which may be made periodically to the surplus of the company, the excess of premiums collected over the amount necessary to pay losses and expenses, and to establish reserves for outstanding obligations, if an excess develops, is returned to the policy-holders as dividends.

It has been pointed out that the original premium quotation of the mutual is tentative; if too much is collected on this basis, dividends will be available for distribution. On the other hand, if an insufficient amount to carry the insurance is collected, policy-holders are responsible for the deficit and must share, with certain limitations, in any assessment which may be levied to meet the situation.

The fact that the operations of the mutuals are limited in scope to a state or an industry has both advantages and disadvantages. The intimate relationship between policy-holders which such condition creates is satisfactory. It leads to the proper spirit of cooperation. Furthermore, it permits specialization. With a comparatively narrow field to cover, intensive studies may be made of safety conditions, claim settlements and other features which affect the insurance. On the other hand, a limited spread of exposure and

an adverse selection of risks may result. It is possible also that the importance of securing expert insurance men to manage the business may not be appreciated, and finally, politics may play a part in the conduct of the affairs of the organization. There are usually statutes requiring definite qualifications for mutual associations as regards the number of risks which must be combined before the organization can be effected, etc., and the affairs of such carriers are carefully regulated by state insurance departments. The declaration of dividends is a most important matter for supervision, because the obligation in workmen's compensation may extend over a period of years and excessive dividend returns may thus result in a serious impairment of reserves.

As opposed to stock insurance, the mutual carrier seldom solicits business. Where this is done it is not accomplished by the commission plan but by the employment of salaried representatives. With the elimination of the agency system, the mutual reduces the expenses of management. It is questionable, however, whether this actually results in a saving to the policy-holders, for as has been pointed out, the agency force is capable of performing various kinds of service, which must be valuable else it would have been abolished long ago.

12. *State funds.*—The state fund is in reality a form of mutual. The initiative for its formation, however, rests not with independent groups of employers but with the state, which administers and

controls its affairs. In some cases this paternal relationship is definitely expressed by the payment of the fund's expenses or by granting it special privileges, which are not enjoyed by carriers in general. In all cases the management of the fund is appointed by and is directly responsible to the state government.

State funds are of two types, competitive and monopolistic. The competitive fund, as its name implies, operates in competition with other forms of insurance carriers. Its functions are to provide insurance at cost, to serve as an insurer for such risks as cannot secure coverage elsewhere and to act as a balance wheel in the insurance field for the purpose of preventing excessive rates and regulating the business generally. The monopolistic fund, on the other hand, takes the place of all forms of insurance carriers and is set up as the single recognized carrier for workmen's compensation insurance.

State insurance in this field rests upon the theory that workmen's compensation insurance is a social proposition; that it should be conducted efficiently and with a minimum of expense. The state provides the insurance carrier, engages to carry the insurance at cost and in general undertakes to administer the obligations of employers without waste and in such a manner that the greatest part of each premium dollar may find its way to the employe.

The initial rate is subject to adjustment, altho in certain cases provision is made by law that no assessment shall be levied upon the policy-holders. In

these cases dividends may be returned, but there is no possibility that the cost of insurance will be greater than that expressed by the initial rate. Should inadequate premiums be collected under this arrangement, the state legislature would probably be called upon to meet the deficit.

One difficulty which state funds experience in competition is that for the most part they are restrained from providing coverage against anything except the compensation obligation as defined by the workmen's compensation law, whereas other forms of carriers may engage to indemnify the employer against the incidental and underlying liability at common law, which in certain jurisdictions may constitute a most important consideration.

The state fund operates as does the mutual, without the agency system. Branch offices are maintained and salaried home-office attachés are employed as field representatives. In at least one case, county clerks and other local officials act as agents, but in general the fund relies upon mail-order methods for its business.

The state fund experiment has not progressed far enough to warrant a positive statement concerning its success or failure. It will take some time to ascertain whether the rates which have been charged and the reserves which have been established are adequate, as the compensation obligation extends over a considerable period of years and time must elapse before an experience can be had with catastrophe and other

losses of considerable magnitude. Furthermore, the effect of politics, if it is to be a factor, will only develop as time passes.

13. *Reciprocal exchanges.*—Little need be said concerning the reciprocal or inter-insurance exchange. A manager or attorney-in-fact is the promoter or organizer. He attempts to form a pool of risks under his management. The arrangement is thus one in which every policy-holder insures all of the remaining policy-holders and is in turn insured by them. An advisory board is usually formed, the attorney-in-fact nominating certain of his subscribers for positions and submitting the matter to a vote of the members of the exchange. This is purely a formality, however, and the constitution of the council and its powers in directing the affairs of the exchange obviously rest with the attorney-in-fact.

The attorney-in-fact receives a certain percentage of the premium income, say 30 per cent, which he uses to defray the expenses of the exchange and to compensate himself for his services. The remaining 70 per cent of the premiums constitutes a fund for the payment of losses. If this fund is more than sufficient, a dividend is returned. If not, an assessment limited in amount may be levied to meet the deficiency.

The attorney-in-fact is carefully relieved of all responsibility for the solvency of the exchange and his personal financial integrity and ability as an insurance executive are, therefore, most important factors in the situation. It is possible to make the cost of this insur-

ance low but the service is limited, the coverage is likely to be incomplete and the financial uncertainty of the arrangement is most pronounced. So great has been the distrust of inter-insurance that the exchanges are barred from certain states. In others they are admitted only under certain conditions and with severe restrictions.

REVIEW

Describe the rights of injured workmen under the principle of employers' liability.

Why is workmen's compensation deemed a superior protection to the workman?

What are the most general features of workmen's compensation laws?

Name the different forms of insurance carriers, and describe the operations of each.

CHAPTER XIV

WORKMEN'S COMPENSATION INSURANCE— RATE MAKING

1. *The premium rate.*—The price of insurance is usually expressed in terms of rate, that is, the cost per unit of exposure. In workmen's compensation insurance the rate represents the price per one hundred dollars of pay-roll expenditure. The pay-roll has been taken as a basis because compensation payments are computed on the wages of injured employees and the pay-roll indicates the extent of the insured's operations and the consequent exposure to industrial accidents.

The rate is divided into two parts, one of which is designed to provide for the payment of such losses as may be incurred during the currency of the insurance and for the establishment of reserves to cover any losses which may be outstanding at the termination of the insurance; the other provides for the necessary expenses of administering the insurance contract and, in the case of stock insurance, for a reasonable margin of underwriting profit.

2. *What the rate covers.*—To fulfil its functions the rate must meet three conditions:

(1) It must be adequate, otherwise sufficient funds will not be available to enable the insurance carrier

properly to meet its obligations and its solvency will be threatened. In case of insolvency, employer and employe alike will suffer. The employer will find himself in the possession of a worthless contract and will be forced to meet claims for compensation from his own funds. The employe runs the risk of finding himself without redress, for it is possible that the employer as well as the insurance carrier may be unable to meet the insurance obligation.

(2) It must not be excessive else the burden upon industry will be too great.

(3) It must be equitable so that each state, each industry, and even each risk shall contribute to the total premium volume in proportion to its peculiar hazard characteristics. The total premiums for workmen's compensation insurance may be considered to form a fund from which losses and expenses are withdrawn. A form of taxation maintains this fund and it is essential that the taxation should be so designed that it will levy assessments upon states, industries and employers in proportion to the demands which these units impose upon the fund.

3. *State supervision and control of rates.*—More than in other forms of insurance, it is important in workmen's compensation insurance, that rates should fulfil their proper function, because of the social aspects of such insurance. This has been recognized in a number of compensation states by the adoption of special legislation providing for the regulation and control of insurance rates and practices. There is

some form of supervision in twenty-one states which ranges from mere prohibition upon the carriers to combine for the purpose of fixing rates to what is almost equivalent to the establishment of rates by the state itself. The usual practice is to fix a minimum rate, which is designed to be adequate to carry the burden of insurance, altho in some cases a maximum rate is also established, thus absolutely fixing the premium for each risk.

Some regulation of rates is desirable provided it is intelligently administered and not influenced by political considerations. Where there is no state action, the carriers themselves have voluntarily combined for the purpose of pooling their experience and thus determining scientific rates upon the best basis obtainable.

4. *Rate making organizations.*—Except where there are monopolistic state funds, it is customary to have some form of cooperation between insurance carriers. In certain cases this is accomplished by a voluntary arrangement among the carriers themselves. In others, the state sets up the rating organization and membership is practically compulsory.

The original organization for rate making and rate administration and control was founded in 1910 by stock companies under the name of the Workmen's Compensation Service and Information Bureau. This Bureau has grown considerably in importance. At the present time it is known as the National Workmen's Compensation Service Bureau. The functions

of the Bureau are to collect statistics and information with reference to workmen's compensation and other forms of casualty insurance, to establish rates, to issue manuals, to regulate and standardize inter-company practices and to serve in general as a clearing house for knowledge on the subjects of casualty rates, casualty statistics and casualty underwriting procedure.

This Bureau originally made rates for workmen's compensation insurance, which, because they were the only rates based upon dependable statistical data, served as the basis for rates for all forms of insurance. This continued to be true until 1914, when the first independent state rating bureau known as the Compensation Inspection and Rating Board was established in New York. It is a voluntary organization but embraces all the insurance carriers of the state, which, of course, makes its membership broader than that of the National Workmen's Compensation Service Bureau, which at the present time is limited to stock companies. It was formed for the purpose of standardizing workmen's compensation rates and their administration in the state of New York, and it acts in an advisory capacity to the New York insurance department.

Since 1914, as other states have taken over a more or less complete supervision of workmen's compensation insurance, additional local bureaus have been formed. Today there are such organizations in New York, Wisconsin, California, New Jersey, Delaware

and Pennsylvania. The National Workmen's Compensation Service Bureau also operates branch bureaus in a number of states for the benefit of its members, and in certain cases these local bureaus have been recognized by the state authorities, and mutuals and inter-insurance exchanges have been admitted as members in the local jurisdiction only.

The decentralization of the rate making function would have upset matters considerably had it not been possible to organize and maintain a nation-wide conference on workmen's compensation insurance rates. The first effort in this direction was made in 1915, when it became apparent that three bureaus were about to proceed independently to undertake the enormous amount of work incidental to a complete revision of rates. As the result of this effort, the first joint conference on workmen's compensation insurance rates was held. There have been some changes in title and membership but substantially the same sort of organization exists today under the name of the National Reference Committee on Workmen's Compensation Insurance, with headquarters in New York City. A second organization known as the National Reference Committee on Schedule Rating completes the machinery for national consideration of rating problems in workmen's compensation insurance.

These Committees are representative of stock, mutual and state fund viewpoints. The proceedings are held under the auspices and with the cooperation of the insurance departments having approval of rates.

They have been successful not only in maintaining uniformity but in advancing the science of rate making. The insurance departments in rotation act as chairmen of the various committees. The managers of the several bureaus act as a board of governors and the membership of each committee is equally divided between representatives of participating and non-participating carriers. The committees serve as a clearing-house for workmen's compensation insurance. Each bureau, before changing the manual on merit rating plans, submits its proposition to the proper committee. The committee considers it and makes a recommendation which it transmits to all bureaus. In this way the rates and the rating procedure are carefully supervised and made uniform. General revisions of rates and rating plans are made by the committees, the experience of the United States being pooled for this purpose and the work being done by experts.

5. *The rating scheme—basic rates.*—In discussing rates and rating practices it will be understood that no reference is made to conditions obtaining in the so-called monopolistic state fund states. These states do not come within the jurisdiction of the National Reference Committees and space will not permit a discussion of the many variations which are found in monopolistic state fund practices.

The scheme of rating in workmen's compensation insurance is divided into two parts. First, there is a manual of classifications and rates. This represents

an attempt to classify industry upon broad lines and to establish average rates, which reflect the peculiar characteristics of the risks falling within the several classifications. There are thirteen hundred classifications in the manual. These are not intended specifically to describe each and every risk which is found in industry, and the use of the manual involves a considerable element of underwriting judgment. It is the function of the underwriter to classify the business of his company. He must, therefore, know what hazards are represented by the manual classifications and what risks are inherent in industrial processes and hazards of all kinds. He is a specialist in industry, his interest being centered principally upon the accident-producing qualities of industrial operations of every description.

It is obvious that with skillful and intelligent use, a manual constructed on broad lines can be fairly applied to the problem of classifying industries or types of risks. But even assuming that the manual can be made to serve this purpose, the question then arises as to whether or not the resulting rates are as equitable as it is possible to make them. The classification of risks throws them into compartments on the basis of product or industrial process; it makes no pretense of distinguishing between risks of the same classification on the basis of relative hazard. Now it is known that risks of any classification range from good to bad. The average rate is, therefore, an accurate measure of but a few risks within each division. It is too low for

the bad risks and too high for the good risks. In recognition of this, a method known as merit rating has been devised, which superimposed upon the manual classification scheme brings into the rate determination a more intimate valuation of the peculiar hazard characteristics of individual risks. This constitutes the second part of the rating scheme.

6. *Merit rating.*—There are two forms of merit rating in practice—schedule rating, which distinguishes between risks upon the basis of physical hazards and experience rating, which in addition to measuring variations in physical hazards, brings in a valuation of such intangible hazards as the moral hazard, plant management, the attitude of employers and employees toward safety, etc.

In the complete scheme as it is designed at present, the manual comes first, the schedule second and the experience rating plan last, except in the case of non-manufacturing risks where, in the absence of a schedule which can be practically applied, experience rating is the only method of merit rating available.

In the case of a manufacturing risk, the manual is consulted and the risk is assigned to a classification describing it. Thus, a first approximation to the rate is obtained. A closer approximation is then made by the schedule, which subdivides the classification and reclassifies the risks therein on the basis of physical hazards. The experience rating plan then completes the process and produces a rate which reflects the actual loss history of the risk as far as it is possible to

use this information as a guide to the hazard of the risk.

It is unnecessary to describe the details of the rating scheme. A general analysis will be sufficient to point out the characteristics of the manual and the schedule and experience rating plans, and to explain the fundamental principles to which they give expression.

7. *Basic manual.*—The best basis for an insurance rate is a broad experience. It follows that the most satisfactory method of establishing workmen's compensation rates in this country involves the pooling of the experience of all workmen's compensation states. There are difficulties in this procedure, however. In the first place, the workmen's compensation laws are all different, thereby requiring entirely different benefit payments per unit of exposure. Furthermore, the frequency of accidents and the conditions surrounding the interpretation and administration of workmen's compensation laws may vary considerably. It is obvious, therefore, that if there is to be a pooling of experience, it must be done by establishing some common level and reducing the individual state experiences to this common denominator.

This has been done. The common level is represented by the benefit provision of some one workmen's compensation act and the state experiences are modified so that they may be pooled and combined on this basis. The basic act may be hypothetical or it may be an act which is, or has been, in actual operation in some state. When workmen's compensation was

first introduced, the Massachusetts insurance department required the carriers to compile and file certain statistical data concerning the cost of compensation in each classification. This involved a record of payroll exposure and losses and was known as Massachusetts Schedule "Z." It was natural, therefore, that with this information as the only data of any value in this country, the original Massachusetts act should be taken as the basis for the establishment of the first basic manual. This manual was prepared by the National Workmen's Compensation Service Bureau in 1914. The Massachusetts Schedule "Z" experience was utilized and some use was made also of European experience and the experience in this country under employers' liability and workmen's collective policies.

As the principle of workmen's compensation was adopted by additional states, greater volumes of experience became available. The manual was gradually extended, the experience basis was broadened and greater and greater accuracy was attained in the establishment of rates. Today the original Massachusetts act is still the basic act, altho it is certain to be discarded in the next general rate revision, because under present conditions, it has outgrown its usefulness.

8. *Standard accident table.*—The first step in rate making involves the reduction of state experiences to a common level. This is accomplished by means of reduction factors which reflect differences in cost conditions between the common basis and the state experience. An important element of the reduction factor

is what is known as a law differential, the function of which is to value the comparison between the benefit provisions of different acts. For its computation, a standard distribution of accidents by type and severity of injury is assumed. This is the so-called "Standard Accident Table," in which 100,000 accidents are analyzed by kind of injury. Thus, 94,196 are classified as temporary total disability cases, 932 as deaths, etc. These groups in turn are analyzed. The temporary total cases are classified by duration of disability, the death cases by degree of dependency, etc. In calculating a law differential, it is assumed that there are 100,000 accident claims to be adjusted under the basic act and under a certain state act. The cost of benefits in each case is determined in terms of weeks' wages and a comparison is made to establish the relative cost of the two schedules. Thus, the present New York law is found to be 91 per cent more costly than the original Massachusetts law and the present Kentucky law 50 per cent more costly. In reduction, therefore, the New York losses must be modified so that each \$1.91 in New York losses will become \$1.00 in losses under the original Massachusetts law. Similarly the Kentucky losses must be reduced 33½ per cent. In either case, the result will be the losses which would have been expended had the New York or Kentucky claims been subject to adjustment under the benefit scale of the original Massachusetts act. By this process, the experience of all compensation states can be brought together and com-

bined and the greatest fund of information obtainable can be utilized for rate making.

9. *Pure premium.*—That part of the rate which represents the provision for the payment of losses is known as the pure premium. The pure premium must be loaded for management expenses, taxes and profit to obtain the gross rate. The problem of establishing rates, therefore, naturally divides itself into two parts—the determination of pure premiums and the establishment of the loadings, which are used in obtaining gross rates.

The first approximation to the pure premium is what the experience shows actually has been incurred in the past per unit of exposure in the way of losses. The losses of an experience are divided by the pay-roll exposure to obtain this figure, which is known as the experience or indicated pure premium. This is dependable and can be used as the basis for rates only in case the experience is broad enough to be reliable. The reliability of experience depends both upon the size of the pay-roll exposure and the distribution of losses. If the pay-roll exposure is large, the number of employes exposed is likewise large, and this means that a fair average is represented by the experience pure premium. On the other hand, if there is but a small pay-roll exposure, the experience cannot be taken as absolutely conclusive. Again, if there are losses arising from medical services and the payment of temporary disability compensation, the experience cannot be considered to represent the entire cost of

compensation, for important elements of cost are not represented at all. It is evident, therefore, that the establishment of pure premiums and the use of classification experience is no simple matter. The reliability of the experience must be weighed; its deficiencies must be appreciated and accounted for and where it is impossible to accept the experience as a reliable guide, judgment must be used for the purpose of determining the basis for the rate.

Another difficulty which should be noted in this connection arises from the fact that cost conditions in workmen's compensation insurance are constantly changing. The cost conditions of today are not those of the past, nor are they representative of those which we may expect in the future. Couple with this the fact that the experience which is used for rate making purposes is past experience and the problem can be appreciated. The establishment of proper pure premiums requires a careful analysis of the experience to ascertain what cost conditions are reflected therein. It requires also a forecast of conditions which it may be assumed will obtain during the period for which the rates are contemplated. Differences which are found in this investigation must be analyzed and factors must be established to measure their effect.

In present practice the experience which is used as the basis for rates, has been reduced to the level of the benefit provisions of the original Massachusetts act. The pure premiums derived from this source, therefore, represent the cost of benefits under this act and

such other cost conditions as are reflected in the experience. They are known as basic pure premiums.

10. *Differential rates.*—The theory of the basic manual is that there is a fundamental relationship of hazard between manual classifications, which is not affected by state lines. This fundamental relationship is expressed by the basic pure premiums, which measure the hazard of each classification and place the proper relative value upon each. Thus, the basic pure premium for steel foundries is approximately twice that for iron foundries. It is assumed that this is the relationship which should exist between the rates for these classifications in all states. This is an assumption which has been demonstrated to produce approximately correct results in the majority of cases. Where it is found to produce an improper result because of peculiar state conditions, a special state pure premium is erected and the relativity expressed by the basic pure premium is not maintained. As a general rule, however, the basic pure premiums are used in all compensation states as the basis for rates.

In the translation of basic pure premiums into state rates, differences in benefit conditions are measured by the law differentials. Differences in cost conditions are measured by other factors. Thus, experience which is used for rate making purposes may not be completely known because of an element of outstanding liability. The estimates of this liability may be too low. If there is a feeling that this is true, an investigation is made to ascertain how much too low

the estimates are and account is taken of this deficiency in the establishment of rates. A statement has been made to the effect that cost conditions in workmen's compensation insurance are changing. Benefit schedules are being liberalized both by legislation and by interpretation. The past experience must be modified to reflect these changes. Industrial conditions affecting the production of accidents and their severity are constantly fluctuating. If the past experience has been accumulated during a period of subnormal business activity and the rates are intended for a period of intense activity, this fact must be considered. Finally, there is the problem of establishing and applying the loadings for management expenses, taxes and profit.

11. *Resultant rates.*—All the factors and loadings for a state are combined into a multiplier. This multiplier is then applied to the basic pure premium for each manual classification. In this way the corresponding state rate is determined. Thus, the basic pure premium for a classification may be \$1.00. This represents the loss cost of the classification per one hundred dollars of pay-roll exposure, upon the assumption that the losses were incurred and adjusted under the terms of the original Massachusetts law. For a certain state the factors reflecting changed conditions, and the fact that adjustments in that state will be made under the compensation schedule of the state law and the loading for management expenses, taxes and profit, may combine to produce a state mul-

tiplier of 2. In this case the state rate for the classification would be \$2.00. If the state multiplier were 3.75, the corresponding state rate would be \$3.75. If the basic pure premium were \$2.00, the state rate would be \$4.00, in the case of a state with a multiplier of 2 and \$7.50 in the state with a multiplier of 3.75.

The application of the basic manual theory will be found to involve the establishment of basic pure premiums, the determination of a multiplier for each state and the consideration of special pure premiums and special rates where state conditions are unique. Thus, there is a so-called basic manual of classifications and rules, which is common to all states. In this manual, instead of expressing rates in monetary values, they are expressed in symbols. These symbols are then interpreted by reference to state rate sheets. If a rate is desired for Illinois, the symbol will be interpreted with reference to the Illinois rate sheet. If a rate is desired for Texas, the Texas rate sheet is consulted. The symbol is the same in each case. The rate is different, however, depending upon the difference between the Illinois and Texas multipliers.

This arrangement has saved a great deal of time and labor in the establishment of rates, for otherwise it would have been necessary to establish a complete manual for each state and with the large number of states for which rates must be established, this would have been practically prohibitive.

This subject should not be passed without reference to minimum premiums. A minimum premium is pro-

vided for each manual classification and for each state. In practice this is equivalent to the establishment of a minimum premium for each type of risk which is subject to manual rating. The minimum premium is designed to do two things. It represents the overhead cost of writing and delivering a policy, and administering the insurance obligation, and in addition it provides some margin for the payment of losses. It will be appreciated that the overhead expense per policy is greater than the premium which might be collected on a very small risk at a low rate. The minimum premium is necessary for this reason. At the present time the minimum premium represents the sum of two quantities. First, the cost per policy of issuing and administering the insurance contract; second an amount calculated on the basis of the manual rate as being sufficient to provide for the payment of losses on a minimum pay-roll exposure of \$1,000 per annum. One thousand dollars is taken as representative of the yearly earnings of a full time employe, it being assumed that the minimum risk which should be undertaken by an insurance carrier is represented by the exposure of one full time employe for one year. The minimum premium is only applicable in the case of a small risk where the manual rate is low, although there are exceptional cases such as window cleaning and blasting, where by reason of the peculiar nature of the hazard, a special minimum premium of considerable size must be established.

12. *Schedule rating*.—Schedule rating is designed

to take into consideration variations in physical hazards between risks. A schedule in reality represents a list of hazard points, each of which may produce accidents and all of which can be observed upon inspection and corrected by physical safeguards. Thus, the various hazard producing qualities of elevators will be enumerated, as will also the hazards of machine equipment, etc. Each risk which is subject to schedule rating is visited by an inspector, who makes a survey of the plant, noting the condition of each element covered by the schedule. There is a standard for each condition. If in a given plant the condition is either better or worse than the standard, a credit or debit will be imposed.

It will be seen that the application of a schedule has far-reaching results. Not only does it more equitably adjust the manual rate to fit the peculiar conditions of the individual risk, but it also commercializes safety. Here is a list of hazards which are physically in evidence so that they can be localized and brought to the attention of the assured, and which also can be remedied or entirely removed by physical safeguards. Furthermore, the relative importance of each is given and its value is expressed in terms of insurance cost. The proposition of safety is reduced to a simple problem in arithmetic. An employer desires to purchase insurance against his liability to pay compensation to injured employees. The cost is estimated by ascertaining the premium for his risk at manual rates, but at the same time a survey is

made of his risk, in order that its condition, as an accident producing unit, can be determined. Then a comparison is made of his risk with the average risk which the manual rate represents. It is found to be better than the average in certain respects and worse in others. But instead of telling the assured that his risk as a whole is better or worse than the average, the insurance carrier can be specific and give him a list of details. He will receive a credit for those conditions in his plant which are superior and the prospect of a greater reduction is held out as an inducement to him to correct those features which are unsatisfactory. Or the same result is accomplished by the imposition of a charge which may be removed in case a bad condition is remedied. As long as a certain stairway remains unguarded, he must pay \$15.00 in excess premiums each year. If the lighting of the stairway is improved to standard, one-third of this will be removed. If standard hand-rails are provided, another one-third will be eliminated and if the treads are all guarded properly, the remainder of the charge will go. A simple calculation will show how long it will take to save enough in insurance premiums to make the correction and the assured knows that after the safety installation has been paid for by a saving in insurance premiums, the installation will be his. He also has the pleasant knowledge that the presence of the guards may result in the elimination of accidents from that source. Furthermore, the schedule tells him where to start houseclean-

ing. If he desires systematically to make his plant safe, he can start with the more hazardous conditions and gradually work down to the least hazardous. The standards are there to guide him in this work, and aside from humanitarian considerations there is the certainty that with a reduced hazard there will come a constantly reduced cost of insurance.

The present schedule is known as the Industrial Compensation Rating Schedule—1918. It was produced by the National Reference Committee on Schedule Rating and has been ratified by the majority of the subscribing boards and bureaus. The schedule is too complicated to describe in detail, but it may be said that it is superior to any schedule which has been developed, for the reason that there is greater uniformity of standards, the values have been more carefully selected and the rating procedure is so designed that the results may be subjected to statistical analysis and control.

The schedule is applicable to all manufacturing risks which produce an annual payroll of \$5,000 and an annual premium of \$50.00. There are two systems of inspection in practice. In some states a central bureau makes all inspections and promulgates the rates. In others, the central bureau makes the first inspection and the insurance carrier subsequent inspections, all rates being checked and promulgated by the bureau. In either case, one or more inspections are made each year, depending upon the size of the premium. Thus, if the premium is over \$500.00, an

assured's plant may be inspected three times a year. The first inspection is made for the purpose of determining the initial rate. Then the assured is given three months to make safety installations and to observe and correct the conditions which the insurance carrier or the inspector of the bureau has found to be unsatisfactory. At the end of three months, the plant may be reinspected and credit may be given for preventive work done in the interim. Further inspection and modification of rates may then be made if warranted at the end of six months.

13. *Experience rating*.—Schedule rating is applicable to manufacturing risks alone and can be used with success only in measuring physical hazards. It, therefore, does not cover the entire field of merit rating. It has no place in the rating of mercantile and contracting risks, nor does it adequately reflect the effect of intangible hazards such as plant morale, the attitude of employer and employe toward safety, and so forth.

Experience rating, on the other hand, covers all the hazards of a risk, for it deals with the actual loss experience of the risk, which, of course, reflects every condition which tends to produce accidents and losses.

It is the function of experience rating to bring into the rate-determination the evidence contained in the loss history of the risk. To some extent, it parallels the schedule, but it goes further and accomplishes a much closer approximation to the true hazards of individual risks. The problem of experience rating is

to determine the evidential value of the risk experience and to place upon it the weight it should have in establishing the rate for the risk. If the risk experience is complete and dependable, it can be given a considerable weight in modifying the manual or schedule rate. If not, the manual or schedule rate cannot be deviated from to any considerable extent.

The reliability of the risk experience as an indication of the hazard and the rôle it should play in fixing the risk rate depend upon two elements. It will be apparent that as the risk increases in size and the payroll exposure becomes greater, the basis of averages is thus broadened. The result is an experience to which considerable dependence can be attached. The indication of such experience should have a large weight in determining the rate for the risk. On the other hand, as the risk grows smaller, the exposure is reduced and the law of averages has less opportunity to develop. Here an adverse or favorable experience may result from pure chance and the experience cannot be considered reliable as an absolute indication of the hazard of the risk. The second element has much the same effect as the first. It concerns the degree of hazard represented by the risk experience. As the hazard increases, the expected number of accidents increases also, and this is equivalent to an increase in exposure. To illustrate, if two risks are taken, each with the same payroll exposure, the first having an expectation of one hundred accidents per year and the second an expectation of five hundred accidents per

year, it is obvious that the second will develop as much experience in one year as the first will develop in five years. In using the risk experience, therefore, greater weight can be placed upon it as the degree of hazard increases.

The experience-rating procedure may be summed up by saying that the weight of the risk experience in modifying the manual or schedule rate increases with increased payroll exposure and increased degree of hazard, and decreases with decreased payroll exposure and decreased degree of hazard. If the risk is small and the degree of hazard low, it is impossible to place much dependence upon the risk experience, and it is thus impossible to produce much modification in the manual or schedule rate. On the other hand, if the risk is large and the degree of hazard high, the risk experience will play an important part in determining the risk rate and a considerable modification of the manual or schedule rate will be permitted. Thus, an extremely large risk with favorable experience may by experience and schedule rating receive a rate based almost entirely upon its own experience. This rate will naturally be lower than the manual or average rate for the class and in its determination the manual or average rate will have less influence than the risk's own experience.

The present experience rating plan follows these principles and was devised by the Actuarial Section of the National Reference Committee. It has been adopted by the majority of the compensation States

where experience rating can be done, there being a few States where workmen's compensation has not been in existence a sufficiently long period of time to produce experience for individual risks and others where experience rating is either prohibited by statute or by a ruling of supervisory authorities. The new plan is so fundamentally sound, however, that there is apparently a very good chance that it will be universally adopted thruout the United States. It is applicable to all risks of whatsoever type provided they produce a premium at manual rates of approximately \$300.00 per year. The risk experience is furnished by the insurance carrier to the rating bureau, where it is checked and rates based thereon are computed and promulgated once a year.

REVIEW

What must the premium rate in workmen's compensation insurance cover?

Describe cooperative methods which have produced the existing body of rates.

Explain the theory of basic rates and how they are established.

In what way are basic rates modified to meet the varying requirements of state laws?

What is the underlying idea of schedule rating, and what influence does it have on accident prevention?

Describe what is known as experience rating. Where is it applicable?

CHAPTER XV

FIRE INSURANCE

1. *Purpose of fire insurance.*—Fire insurance indemnifies one who may sustain a “direct loss” by reason of fire. If a claim for loss is to be sustained under the policy it is necessary that there shall be an actual fire, a “glow” as it has been termed in the court reports. Mere smoke of itself, with no fire, is not sufficient. The phrase “direct loss,” with reference to a fire, however small, is used to indicate the damage caused by the smoke of the fire as well as incidental damage that may be done, as by the use of water in putting it out.

2. *Insurable interest.*—One essential of fire insurance is that the insurer must have some actual interest, either vested or contingent, in the property. The first requisite, then, is that there be a financial interest, capable of being measured in terms of money, in whatever the subject matter may be. This insurable interest may appear in many forms. When a person is the absolute owner of property there is no question as to his possession of a valid insurable interest. The property may be mortgaged and still the owner will have sufficient financial interest to insure. Under such a circumstance the mortgagee also possesses an insurable interest. Similar rights are possessed by

those with an equitable interest in property, even tho the legal title has not passed as in the case of a written contract of sale. In transactions where one party is the custodian of goods and has incurred a liability for their safe keeping, he possesses a right that enables him to insure the property. Such cases are those of warehousemen, wharfingers, executors and administrators who owe a duty to the distributees of an estate, sheriffs who have attached property, and in general all pledgees or other persons responsible for the safe keeping of property of any description. So, also, a person who has a right to receive money from a transaction involving the transportation or distribution of goods has sufficient interest to insure. A boat owner who is transferring freight has a right to collect charges for its transportation and this right will enable him to insure the cargo, even tho he has no actual legal or equitable interest in the goods themselves. The principle applies in the same way in the case of consignees on consignment sales. Here, the right is to receive the agreed share of any sale made by virtue of the consignment.

In general, any person who possesses a legal or equitable interest in property or who has a liability to other persons in respect to that property possesses an interest that may be insured. Where there are a number of persons or concerns interested in a property the individual may insure his own interest alone or he may insure the entire property for the benefit of all concerned.

3. *Insurance methods.*—There are four different types of companies that conduct the insurance business today:

(A) The stock companies which do 95 per cent of the business.

(B) The mutuals. These may be divided into two classes: The first consists of small, local mutuals which may operate to advantage with a limited line of risk and in a limited territory. Such companies have not succeeded where they have branched out to any great extent. Second, the mill mutuals, as they are called, which specialize in large manufacturing plants. They have had a most successful career. They are organized primarily for fire prevention and deal largely with sprinkler risks. These companies have attained a high standard in the work of fire prevention.

(C) Reciprocal Underwriters. Insurance business is sometimes carried on by a group of individuals who agree to insure one another. The work is conducted by one person who is appointed as attorney and who transacts the business for the underwriters. He is paid a certain percentage of the business written and out of this the expenses are paid.

(D) Lloyd's. A somewhat freer form of individual business called Lloyd's has almost entirely passed away. It is still possible in some parts of the United States for a group of individuals to undertake the business of fire insurance if they do it within cer-

tain limits. Many of these organizations spring up and take the name of Lloyd's because the name is synonymous with insurance.

4. *Agents*.—The business of fire insurance is written thru agents of whom there are several types. The local agent who is the company's salesman is the one with whom the insured is most apt to come into touch. Such an agent is merely the company's field representative and his authority is recognized generally as being limited to the solicitation of business. In some cases he has the authority to give *interim* receipts to protect insured property pending the actual writing of the policy. A commission agent holds a written authority from the company which, in effect, gives him the right to solicit insurance, write policies and countersign them, fix premiums in a specific territory assigned to him and to receive premiums paid. The powers of such an agent are wide. It has even been held that such an agent may waive provisions in a policy even tho it may be stated in the face of the policy that oral waivers will not be binding. It is otherwise, however, if it is expressly stipulated in the policy or agreement that agents have no authority to vary in any way the terms of the written policy. In dealing with a commission or a general agent, then, the prospective insurer is dealing with a representative who has rather wide powers and who may, under some circumstances, be able to bind the company to agreements not specifically stated or to waive pro-

visions of policy. General managers are a class of representatives having wider powers and more extensive territory.

5. *Brokers.*—Between the agent and the company has arisen a class of brokers who represent specifically the interests of the insured. They are more numerous in New York City than in any other part of the country and are found only to a limited extent in the smaller towns. In New York City, for instance, the insured is far more apt to know the broker whom he employs than to know the company.

6. *How the business is transacted.*—In writing fire insurance, there are ordinarily five steps that are gone thru. In the cases which involve a loss, there is a sixth step in the matter of settlement. These successive steps are as follows:

- (A) Application for insurance
- (B) Inspection of the risk
- (C) Making of the rates
- (D) Writing of the policy
- (E) Collection of the premium
- (F) Settlement of the loss.

The insurance contract may be entered into either verbally or in writing. In smaller towns a large percentage of the business is applied for and accepted in this way. In larger cities, however, where the volume of business is great, it is customary to undertake the contract in writing, and in such cases, a contract

called a binder is used. This contract is usually limited to fifteen days. A form of this binder contract follows:

NAME
 Location
 on

 Address of Mortgagee-Payee or of representative thereof.....
 Amount \$.... Rate.... Time.... Months....

Each of the undersigned companies, for itself only, insures the property above described for the amount set opposite name until the issue of its Standard Policy on the same in place hereof, or until twelve o'clock noon of the next business day after the risk is declined, by notice to the insured or to the representative of the insured placing the risk; provided, however, that if the address of a mortgagee-payee or of a representative thereof is given above, such notice must also be sent to that address in order to terminate the insurance as to such mortgagee-payee. But in no event shall this insurance be in force over fifteen days from the date of commencement of liability hereunder.

7. *Inspection.*—The next step will be an inspection of the property on the part of the company by its agents. The points looked for in this inspection are both general and specific. The general conditions from a civic point of view in a town or city in which the risk is located will be considered. These will include not merely the fire department and those related directly to it, such as water supply or those related

directly to the business of insurance, but many things, which perhaps are not ordinarily thought of, such as the kind of streets, police force, high winds and numerous other points. When this foundation has been laid, the individual risk will be considered—its construction, occupancy, hazards, exposure—that is, its relation to the surrounding properties, its fire prevention devices, the general tone of the management, usually called house-keeping. Just as there are no two human beings alike, so in all probability there are no two risks that are absolutely identical.

8. *Details of inspection.*—In the case of the individual risk, some of the points that are noted are as follows: The kind of building, as frame, ordinary, or fireproof; height; area; roof; thickness of floors, floor openings such as stairways, elevators, dumb-waiters and protection, if any. The business conducted floor by floor, including the nature of the property on each floor; any work that is done, the number of hands employed in the work and the kind of machines used.

The majority of fires are due to carelessness. Therefore, the inspector goes very carefully into the question of unsafe heating or lighting apparatus, untidiness, broken floors, windows, oily floors and other points which denote a somewhat sub-standard conception of housekeeping. In office or factory buildings fire-fighting devices will be carefully scanned, such as the fire pails, the extinguishers, stand pipes, sprinkler system and anything of that nature on the

premises. The care of packing material and the kind of doors which separate one building from another will be taken into consideration. When the insurance inspector is thru with the property he probably knows many things about it which the insured himself never suspected and in fact may never have had time to investigate.

9. *Canadian inspection system.*—Inspection work of the Underwriters' Associations in Canada is thus described by Mr. A. W. Ross, formerly secretary of the Mainland Board of Fire Underwriters:

We maintain a number of experts who have had extensive experience in inspection and applying schedules to various classes of risks. Uniform practices in the manner of conducting the business are demanded, concurrent forms of policies upon all important individual risks are maintained. In this connection, all daily reports are examined, and approved or otherwise, as the cases may warrant. In the congested or mercantile sections of a city, special inspections and rates are made, each risk being rated upon its own merits. The same thing applies with respect to special hazards and all important risks. The inspections or survey of each risk, together with detailed information, are kept on file in our offices, and are open to the inspection of all parties interested. It has been the practice of this association to invite the inspection and criticism of the owners of the risks, and we are only too pleased upon every occasion to have the interested parties visit our offices and consult upon any real or supposed grievance which may exist. We advise always to undertake improvements which they may suggest. In this way we can materially improve the hazard in the risk thereby reducing the rate. In a few instances, we experience some difficulty in inducing owners to undertake suggested improvements, but we find the number of such per-

sons is gradually becoming less, and our experience proves that the large property owners and public generally are daily becoming more disposed to consult with us on the question of construction and protection than they ever have been before.

Our surveying staff make periodical inspections of the more important risks in so far as it is possible with the assistance employed. Investigations are constantly being made as to the extent and efficiency of fire departments, water supply, character of streets, conditions and constructions of buildings in various cities and other important matters incident to the suppression of fires and the extent of the conflagration hazard.

We also employ, or have made arrangements with other associations for the use of their sprinkling engineers, and we suggest and assist in the drawing up of plans for specifications for the sprinkler equipments and when installed finally inspect and pass upon the same.

10. *Rates.*—Rates are minimum and specific. A minimum rate applies to a large group of properties such as dwelling houses where the hazard, or risk, as it may be better understood, is uniform in its character and does not vary much in extent. Minimum rates apply to groups of properties which the underwriter finds he may safely insure without the expense of a specific inspection and the specific rating. Stores and dwellings, including dwellings above the stores, also come under the minimum rates, provided the stores are occupied by a business of a very mild hazard such as dry-goods, groceries, drugs.

A specific rating applies where a business, or some operation in it, is deemed to have a risk attached. The underwriter goes to greater expense, exercises more

care, an inspection is made by the rating organization and a rate promulgated. The risk in question may be a property with a dwelling above and a store underneath, but the store may be devoted to the sale of furniture, a kind of stock which furnishes the very best of fuel for a fire, with the result that there is usually a heavy damage. In such a store, too, there are usually oils, paints and varnishes, all highly inflammable.

11. *Schedule rating*.—A property in which there is any risk at all owing either to its business or size, is subjected to a very close analysis of all its features. This analysis is made by means of a device called the schedule. What enters into a schedule can be seen from the case of theaters and churches. These properties are erected for certain definite and specific purposes. Both are distinguished by large auditoriums, a condition which greatly facilitates the spread of fire once it has started. Schedules for these types of properties always take the life-hazard into consideration to some extent, altho primarily the fire underwriter is not charged with responsibility for that feature of a property. Let us take a theater for a closer analysis of this type of risk. The modern theater is divided into three divisions: the stage, including all that part of the theater which is behind the proscenium wall; the auditorium where the audience assembles; the entrance which includes the ticket and general offices, and possibly some other features. After the great Iroquois Theater fire in Chicago, a special study of the design of theaters was made and

the effort is now to separate these three parts so that a fire, originating in either the entrance or stage portions, may not be communicated to the auditorium and so endanger the audience. The same would be true in regard to a church property where the activities conducted in connection with parish houses were prominent. Such parish houses are frequently attached to the church building without standard separations. Schedule rating splits the rate into parts instead of providing a flat rate, which was a practice for many years. A schedule may make a uniform rate, but one divided into many parts, charging for this defect and crediting for that superior condition. This system of charges and credits shows the property owner where he has fallen below the standard, and where he has reached it.

12. *Universal mercantile schedule.*—There are two schedules which have been very successful in the attempt to make a uniform method for all properties of a given class. One is the universal mercantile schedule. The essential features of the schedule are as follows: (1) The key rate which is based wholly on the general conditions of the town or city. It considers all that is within the jurisdiction of the people themselves, covering everything from the water supply up to the paving of the streets, the police force, etc. This is measured by a certain standard and the key rate is fixed accordingly. (2) The building is then analyzed as to walls, height and area, and these are measured by a standard building. For example,

a standard building is not supposed to be more than four stories high, since the fire department cannot fight a fire to advantage above that height, hence a charge is made for the additional stories. Good features, which differentiate the property from ordinary buildings, such as extra heavy beams and timbers, first floor, fireproof, etc., receive credits. (3) The occupancy of the building is then analyzed. The schedule includes a list of occupancies which in the beginning numbered over 1,200. In actual practice it has been expanded by 600 further items. The analysis of the occupancy of the building is divided into two parts. The first embraces two features, the risk or hazard and combustibility, while the second part measures the susceptibility to damage. The stock may not be a very dangerous or combustible stock, but it may be very susceptible to damage. Millinery, for instance, represents such a stock. It will not of itself start a fire very quickly; but will burn rapidly and, owing to its very light nature, it is highly susceptible to damage from smoke, fire or water. (4) The fire-fighting appliances of the risk are then considered. These include water pails, watchman's service, special alarms and perhaps sprinklers. Certain features of location may be considered, as where a building stands on a corner so that a fire may be fought from two sides. All these points help to constitute a property as a favorable risk. (5) The exposure of a building is the next item taken into consideration. This means the danger of fire from the surrounding property.

The next classification includes items which are called faults because they need not exist. They mean unsafe stove pipes or heating conditions, untidiness, improper care of waste cans and all the numerous things which are called in business properties, bad housekeeping. For these the underwriter will make fairly stiff charges. They are placed last in the rate as they can be easily corrected when called to the attention of the interested parties. They can then be taken off without recomputation of the whole rate.

13. *Rate of a non-fireproof brick building.*—The rate is based on the Universal Mercantile Schedule; the building has but one tenant, who is a wholesale dealer in drugs.

Key rate for city	.10
Floors, single	.05
Wood ceiling finish	.07
Wooden side wall finish	.08
Floor openings, stairs only	.075
Skylight, non-standard	.15
Electric lighting	.01
Stoves for heating purposes	.01
Sub-standard chimney	.06
Unprotected metal columns	.10
TOTAL	.705
Charge for hazard.....	.125
TOTAL	.83
Deduct for fire escapes 2% or.....	.017
Remainder	.813

Add for exposure.....	.05
TOTAL	.863
Deduct 15% because insurance equal to 80% of the value is carried.....	.129
FINAL RATE ON BUILDING	.734
Key rate for contents.....	.769
Susceptibility charge contents.....	.563
The stock above and below grade floor.....	.07
TOTAL	1.402
Deduct for fire escapes 2% or.....	.028
Remainder	1.374
Add for exposure.....	.06
TOTAL	1.434
Deduct, because insurance equal to 80% of the value is carried, $7\frac{1}{2}\%$ or.....	.108
FINAL RATE ON CONTENTS	1.326

It would be possible to make a substantial reduction in the rate of insurance on this property by correcting the skylights, for which a charge of .15 gross is made. This would not be a difficult or expensive thing to do. It should be noticed that the charges which build up the schedule are specific amounts, while the credits are percentages.

14. *Analytical schedule.*—The universal schedule probably owes its completion to the energy and per-

sistence of Mr. F. C. Moore. The analytical schedule is equally indebted to Mr. A. F. Dean. The base rate in this schedule is founded on the town conditions. Towns are divided into some seven classes. No. 1, the highest, is one which has everything the underwriter could desire in the shape of water supply, fire department and civic conditions which favor a low fire record. No. 7, the last, shows a complete absence of these, especially of water supply and fire-fighting force. The schedule from this point on is different from the universal in that it makes all charges as well as credits percentages of this base rate. The theory on which this is founded is that there is a relation between the defective conditions of buildings and the town in which they are situated. For instance, if there is a town which is in grade 7 and in that town there is a building with a defective chimney, the charge for the defective chimney will be a certain percentage, say ten. Now if the town improves so that it grades in class 3, the charge for the defective chimney will still be 10 per cent of the base rate. That is, the same relation will exist between the chimney and the base rate of the town then as that which existed between the chimney and the town in the first instance. This shows the schedule as a system of relations between all the forces which make for good or poor conditions in fire matters. The credits are based on a percentage system.

The charges for occupancy are divided into three parts, ignitibility, combustibility and susceptibility.

It carries the analysis of the occupancy to a finer point than the universal schedule in that it does not lump the two first conditions into one charge. The first and second charges are percentages, but the third charge, susceptibility, is a flat fixed charge and is based on the principle that when fire has started, the contents have a certain susceptibility to damage which is not affected by their environment.

The treatment of the exposure is very highly developed, the tables providing for something like eighty different conditions. This schedule has been applied over a great extent of property and probably with more uniformity in its application than any other that has been made. The universal schedule is not copyrighted and so it can be changed. With but few exceptions, it has not been used in its true form, but has been adapted more or less by the local boards. The analytical schedule, however, is copyrighted and cannot be changed without the consent of the copyright holders. This provision of the copyright is an excellent feature since it has enabled the business of fire insurance to have a fair test of the schedule over a wide extent of territory. It has been used in approximately seventeen states.

As a general rule, conditions governing the conduct of the fire insurance business, and the establishment and maintenance of rates, are on parallel lines in Canada and the United States, but the attitude of the people to insurance rating associations has been much more demonstratively hostile in the United States

than in Canada. As a consequence, legislation of one kind or another has been general thruout the United States, and while much of it has been wholesome, some of it has been ill-advised.

15. *Fire protection.*—Closely wrapped up with the business of fire insurance is fire protection. The business of fire insurance may be said to have invented fire protection. It is quite true that there were such things as fire companies before fire insurance was known, but it is equally true that they were on a very small scale and of very primitive development. When the underwriter began to make allowance thru his schedules for certain forms of fire-fighting devices, it at once stimulated the manufacturer to furnish these appliances. At present, thru the underwriters' laboratories of Chicago, nearly all such devices are subject to a test and only those which have passed the test and whose manufacture is subject to inspection by the laboratory force, are accepted by the underwriters for a reduction in the rate of insurance.

Prevention is a matter which is vital both to insurer and insured. The yearly loss to the insurance companies thru fire approximates \$250,000,000. Fire fighting devices tend to reduce this sum and if the insured can reduce his premium payment five per cent by installing fire pails, it will be a good investment in most cases. A fire pail is the simplest, the oldest and even today one of the most serviceable fire-fighting tools that we have. One of the most modern is the sprinkler. This is a device which is attached to pipes

in the ceiling of the building. One sprinkler head is presumed to protect 100 square feet. In a wet pipe-sprinkler system, there is water in the pipes. The sprinkler is held tight by a special solder which melts at about 160 degrees. This releases the cap and the water flows out of the sprinkler head thus putting the fire out. In buildings equipped with sprinklers, 90 per cent of the fires which originate are extinguished with not more than three heads opening. If it were not for the fire protection afforded to properties in the form of sprinklers, large manufacturing plants, stores and loft buildings would not be possible today. We should be confined to very small units as the danger of conflagration would be so great. Again, the sums paid for fire insurance in the City of New York have not increased in the past ten years, altho the liability which the insurance companies are carrying has increased in that time nearly \$1,000,000,000. This increased liability is carried for the same amount of money because of (1) the increase in properties of fireproof construction, and (2) the increase in the properties which are equipped with sprinklers.

Risks with sprinkler equipments are taken care of by especially designed schedules, based on experience. Today the difference in rate between sprinkled and unsprinkled property is, in most cases, 40 per cent.

16. *Rating organizations.*—The making of the rate of fire insurance is the difficult problem connected with the business. This work is done today almost entirely by organizations which are known as rating

organizations. They may cover a single city, as Chicago, New York, Philadelphia, Baltimore, Boston, Washington, or a state or group of states. The area embraced depends largely on the local conditions and the volume of business that is to be handled. The making of this rate in the cooperative way is one of the things which the business of fire insurance finds necessary to its existence, and at the same time it is one of the things which the insured is inclined to view with the utmost suspicion. It exposes the business to the epithet "trust" and similar names.

REVIEW

Define insurable interest as it affects real property.

Name four methods of conducting fire insurance.

What is included in the application for a policy?

What is the purpose and scope of the inspection of the property?

What do you understand by minimum rate? By specific rate? Of what advantage is the minimum rate?

How is the key rate under the Universal Mercantile schedule determined?

How are the charges and credits under the Universal Mercantile schedule figured?

What elements affect the rate under the analytic schedule?

What is made the basic rate?

How are devices intended for fire protection tested?

CHAPTER XVI

FIRE INSURANCE POLICIES

1. *The Policy.*—The insurance policy today is almost entirely standardized and based on either the standard policies prescribed by the State of Massachusetts or the State of New York. The importance of New York as a commercial commonwealth has caused the New York form to be very widely adopted, altho it is later in date than the Massachusetts standard.

The standard policy is lettered from A to F for the first six lines and thereafter in numerical order for convenience of reference. The first six lines read as follows:

In consideration of the stipulations herein mentioned of \$. . . . premium does insure
for the term of from the
day of 19.., at noon, to the
day of 19.., at noon
against all direct loss and damage by fire except
as hereinafter provided to an amount not exceeding \$. to the following described property
while located and contained as herein and not elsewhere, namely, etc.

A few points in connection with the opening will be noted: (1) The consideration is not merely the

premiums paid but the stipulations which are a part of the policy. (2) The courts have decided that the noon specified is that of local time and not standard time, but in Massachusetts there is a special statute which fixes the time as standard. (3) The insurance is against direct loss and damage by fire. Direct loss and damage means not merely damage from the flame but also from smoke and water. (4) The company desires at all times to have the most definite knowledge concerning the property it insures and the location is of primary importance. Therefore, unless the policy is what is called a floating policy, it will apply only where the property is in a special location.

From the point given the policy is numbered line by line. The general tenor will be gathered from the comments made. The first ten lines set forth briefly the limit of the company's liability which cannot be more than the face value of the policy, or the actual cash value of the property destroyed by the fire, in case this is less than the face value.

Cash means the nearest approximation that can be arrived at, between the company and the insured, as to the amount of cash that will make the insured whole at the time the loss has occurred. The value of the goods destroyed may have been more at the time of the fire than when they were purchased. The insured is entitled to a settlement at the value at the time of the fire. The value may have been less and if that is the case the settlement must be on this lower value. It is not intended that the insurance policy

shall do more than indemnify the insured. It aims to make him whole and to put him in as good a position as he was before the fire occurred, but not in a better one.

2. *Restrictions.*—The standard policy provision is made for insuring certain classes of property which the company may be willing to insure, or for granting certain privileges which the company may be willing to grant, but about which it wishes to have exact knowledge.

Lines 11 to 30 contain provisions making the policy void if certain things are done or exist without the consent of the company. Briefly summarized they are as follows: (1) If there is other insurance; (2) if the plant is a manufacturing establishment and it is continued in operation later than ten at night, or if it cease to be operated for more than ten consecutive days; (3) if the hazard is increased without notifying the company; (4) if mechanics are employed more than fifteen days at one time for repairs; (5) if the interest in the property is not sole ownership; (6) if the insured property stands on ground not owned in fee simple by the insured; (7) if the property insured is personal and there be a chattel mortgage; (8) if foreclosure proceedings are commenced and notice of a sale given; (9) if there is a change in the title other than by death of the insured; (10) if the policy is assigned before a loss without notification to the company; (11) if illuminating gas is generated within the property; (12) if benzine or similar oils are al-

lowed on the premises; (13) if the building is vacant or unoccupied for ten days.

Each of the conditions above specified renders the property more hazardous than is contemplated in the usual run of risks. The company may be quite willing to grant the privilege for any or all of these conditions. As a matter of fact many are granted as a pure matter of form but it is very necessary that if the insured wishes any of these privileges, the policy contain the proper indorsement. Such indorsement is obtained by "riders" which the agent attaches to the policy.

3. *Non-liability*.—Lines 31 to 35 mention causes such as invasion, insurrection or other circumstances when there is a suspension of the real civic authority from which, if losses occur, the insurance company is not liable. These lines also include the much vexed problem of loss from explosion. The policy provides that the company shall not be liable for loss by explosion unless there is a fire, and then only for the loss caused by the fire. It is needless to point out the difficulty of separating the two forms of loss.

Lines 36 and 37 make provision that the insurance shall immediately cease if the building fall. The company insures a complete construction and not a mass of rubbish; hence this provision.

4. *Non-insurable items*.—Line 38 gives a list of items such as accounts, bills and currency, which the company may not insure. The difficulty of proving the loss in the case of money will be self-evident. If

they could be insured the temptation to have such losses would be possibly too much for human nature. Many of the other items such as accounts and evidences of debt have no real insurable value; they represent a certain legal right to property, a right which exists altho the evidence may be destroyed.

5. *Specific items.*—Lines 39 to 41 take up a set of items which the company may insure but which must be mentioned specifically—awnings, patterns, curios and things of that character. In the case of patterns, there is the susceptibility to damage coupled with the fact that in many cases they may represent a value utterly disproportionate to the rest of the plant, as in the case of an iron foundry. The common practice in connection with patterns is to limit the insurance to not more than ten per cent of the face value of the policy. This is probably not a necessary procedure where the property is insured for its full value or 80 per cent of its value.

The latter part of lines 41 to 44 provides that no loss shall be paid by the company if the property is damaged or the loss increased thru a city ordinance. In some cases, where a city ordinance forbids the erection of a frame building in a certain section of the city, so that when a frame building is destroyed or damaged by fire it may not be rebuilt in the same territory, provision is made for this form of loss, but it is questionable whether it is a loss that is properly insurable under a fire policy. If the insured is obliged to erect a building of better character than the one

he lost, then he has the value in the better building. In other words, it is not a loss that he has suffered.

6. *Cancellation*.—In lines 51 to 55, it is stipulated that the contract may be cancelled by either party—by the insured immediately, and by the company if it gives five days' notice. If the insured cancels the policy the company retains what is called the short rate, which is a higher percentage of the premium than the pro rata return would be. For instance, a policy written for one year would on a pro rata cancellation call for a return of six months' premium to the insured if the company were to cancel in that time, but if the insured cancels the policy, the company is allowed to retain 70 per cent of the actual premium. The five days' provision means five days from the receipt of the notice, and it is customary for the company, in order to be positive that the cancellation notice is received, to send it by registered mail. The framers of the policy intended that, after the company has sent the cancellation notice, the insured would return the policy, and that the unearned premium should then be sent. The New York Court of Appeals has decided that the unearned premium must be tendered to the insured with a notice of cancellation, but this has not been the decision where the question has gone to the United States Courts. It has never been taken up to the Supreme Court, but the Circuit Court has rendered an opinion that the return premium need not be tendered with the cancellation notice.

7. *Mortgages*.—Lines 56 to 59 provide that if there is a mortgagee interest, that interest shall be subject to the provisions of the mortgagee clause. Less responsibility is placed on the mortgagee than on the mortgagor. The mortgagee, after all, has only limited rights in connection with the property and so should not be held to the same degree of responsibility as the owner or mortgagor. It would be impossible, of course, to secure loans on property without a prohibitive rate of interest if the lender were held to the same degree of responsibility as the borrower. Hence, it has been necessary to make a modified degree of responsibility to fit the conditions of the mortgage interest.

8. *Removal cover*.—The insured is responsible for the proper care of his property during a fire as much as he is before a fire occurs. If prudence makes it necessary while a fire is burning to remove the property which is undamaged, the insured may do this and have the benefit of insurance for five days on the property so removed to a new location. This is a salutary provision which the policy makes for the parties, to encourage the insured to take care of the property.

9. *Procedure in loss settlements*.—Beginning with line 67, down to and including 107, the procedure, in case a loss occurs, is given. This procedure may be epitomized briefly under fifteen different heads. They are as follows: (1) Immediate notice must be given of any loss. The notice must be in writing and the word "immediate" has been considered by the

courts to mean reasonable promptness under the circumstances of the case. (2) The property must be protected from further damage. (3) The damaged and undamaged personal property must be separated. (4) It must be put in the best possible order. (5) A complete inventory must be made. (6) Within 60 days from the date of the fire, a complete statement must be made to the company as to the time and origin of the fire. This statement must be in writing and signed and sworn to by the insured. (7) He must set forth his interest and that of any other parties in the property. (8) He must set forth the cash value of each item and the loss incurred. (9) He must state any incumbrances on the property that exist. (10) He must furnish a complete list of the insurance whether valid or not. Policies may be issued whose issuing companies are now insolvent or out of business on the property, but if they have not expired by time limit, they must be set forth just the same as those policies which are in good companies. (11) The insured must have a copy of the description and schedules in all policies. (12) He must notify the company of any changes of title to the property, or in its use or occupancy. (13) A complete statement as to who were the occupants of the building at the time of the fire, must be given. (14) If called upon he must verify the plans and specifications of the building and machinery. (15) A certificate from a magistrate or notary public may be required, setting forth the fact that he has examined into the circum-

stances of the fire and it is his belief that the loss sustained is an honest one. This is not usually required at the present time.

This list of the duties which are placed upon the insured may seem somewhat formidable but they are not really so. The insurance companies are in business for the purpose of meeting their obligations and obstacles are not placed in the way of a just settlement with the insured. No company could afford to do otherwise because it would soon be obliged to retire from business.

10. *Forms*.—Between the first six lines and line No. 1 in the average policy, there is quite a blank space. This space is commonly known as the space for the "form." The form is a description of the property that is to be insured under the policy in question. It should also be borne in mind that, where the insured employs a broker or prepares the form himself, the use of ambiguous language will be construed against him and not against the company. Two examples of forms are given below:

(1) On Household Furniture, useful and ornamental, Beds, Bedding, Linen, Wearing Apparel, Plate, Plated Ware, Chandeliers and Gas Fixtures, Printed Books and Music, Pictures, Paintings and Engravings, and their Frames (at not exceeding cost price), Bronzes, Statuary, and other works of Art, and objects of Vertu, Pianofortes and other Musical Instruments, Scientific Instruments, Sewing Machines, Mirrors, Watches, Diamonds, and all other Jewelry in use, Fuel and Family Stores, Tools, Bicycles, Guns and other Sporting Implements, and Utensils, the property of the Assured, or any member of the Family.

(2) \$.....On household furniture and other personal property usual to a dwelling, but excluding accounts, bills, currency, deeds, evidences of debt, money, notes or securities; all while contained in the.....building while occupied as.....situate.....

Permission is granted to use kerosene oil stoves, to be filled by daylight only; also to keep on hand not exceeding one quart of gasoline, benzine or naphtha for household use, but the use of gasoline, benzine or naphtha for cooking, heating or lighting is prohibited unless special permission is endorsed hereon.

Permission is given for mechanics to be employed for ordinary alterations in the described premises, but this shall not be held to include the constructing or reconstructing of the building or buildings, or additions or the enlargement of the premises.

Permission granted for the building to remain unoccupied a portion of each year.

The first represents the style where many words are used and the second represents a modern attempt to reduce the language to the least possible limits. It is doubtful, perhaps, whether the language in the latter is quite sufficient to meet the conditions of the standard policy, but these two are furnished as illustrations for comparison.

11. *Clauses*.—There are certain fundamental provisions which both parties to the contract may be willing to embody in the policy. A good illustration of this is the matter of coinsurance. The state provides that the policy may be written under the terms of coinsurance, but if so, that the clause which expresses this fact must be the one provided by the state.

12. *Average clause.*—The standard clause in use with the New York Standard Policy, where the policy is issued with the understanding that the insured shall carry insurance for a certain percentage of the property, usually 80 per cent, reads as follows:

This company shall not be liable for a greater proportion of any loss or damage to the property described herein than the sum hereby insured bears to per centum (....%) of the actual cash value of said property at the time such loss shall happen.

If the insurance under this policy should be divided into two or more items, this average clause shall apply to each item separately.

The important thing in the consideration of this part of the contract of insurance is not the language but the thing itself. A great deal of misapprehension exists as to the true aim and purpose of this part of the insurance contract. The clause makes it obligatory upon the insured to carry insurance equal to a certain percentage of the value of the property. Ordinarily this is fixed at 80 per cent. Sometimes in sprinkled risks it is fixed at 90 per cent; very rarely at 100 per cent. There is a common error of supposing that if the policy has the 80 per cent average clause attached it means the insured will collect only 80 per cent of the amount of the loss. If the insurance equals the amount called for, the clause will have no effect in settling the loss. Perhaps an illustration of the effect of a clause in an actual case will be better than any words of explanation. The property is

valued at \$10,000 and insured with the 80 per cent clause which makes it obligatory on the insured to carry \$8,000 of insurance. The property is damaged to the extent of \$4,000 by a fire. When the policies are brought in, it is found that the insured has \$8,000 worth of insurance and so will receive the full amount of his loss, \$4,000. Let us suppose, however, that when the policies are brought in for checking up, the insurance carried is not \$8,000 but \$6,000. Now this \$6,000 is three-fourths of the amount which the insured agreed to carry and therefore he has failed by one-fourth to fulfil the obligation which he assumed, he will fail to recover his loss in the same proportion at the settlement. Instead of recovering \$4,000, the amount of his loss, he will recover \$3,000 which is one-fourth less than the amount of the loss.

The whole aim of the average coinsurance clause is to make sure that practically the whole body of property that may be subject to a loss, is covered by a policy of insurance. The fire insurance business has for many decades been working to the point where a fixed percentage of insurance is called for.

13. *Premium.*—The policy implies that the premium is paid as soon as the policy is issued. As a matter of fact, however, custom governs the payment of the premium. On an average thruout the United States there is usually a credit of two months. Like all other commercial transactions some credit probably would be necessary. Insurance may be wanted on any day during the month by the busy merchant,

but as in the case of purchases, he would not expect the bill to be rendered until at least the first of the month. The policy, therefore, whether the premium be paid or not, may reasonably be expected to be in force when it has passed into the possession of the insured. If the premium is unpaid the cancelation notice must be furnished in the same way as tho the premium had been paid. The fact that the company has waived its right to immediate payment of the premium will not enable it to deny liability if a loss occurs.

14. *Loss settlement.*—We have set forth on previous pages the steps which the insured must take in the event of a loss. These need not be recapitulated. The person who settles the loss for a company is called the adjuster and for strictly business reasons, even if it had no higher motive, the company has every inducement to make its loss settlement promptly, equitably, and we might almost say, liberally. Neither agent, broker nor insured would wish to do business with a company that was a laggard in settling its losses. Hence it follows that a company cannot afford to be behind in any one of these things, if it hopes to continue in the business. The losses under fire insurance policies are settled in 99 per cent of the cases without the necessity of going to court. The man engaged in fire insurance, like the merchant, knows that to continue in business, he must pay his bills and he does so.

REVIEW

A owns a house in your city. He goes away for six weeks, leaving it unoccupied. The house is insured and no riders are attached to the policy. A fire occurs during his absence. Does his policy cover the loss?

In the preceding question, if A had employed workmen to make extensive repairs during the time he was away would your answer be different? Why?

Outline the steps to be taken by the insured in case of a loss.

What is the application of the average clause?

X and Y are engaged in the manufacturing business. X owns the factory and Y is a secret partner in the business. Insurance is taken out on the factory and stock. X is given as the owner. In case of fire will the company raise any objection to paying the loss on either factory or goods?

What is the reason underlying the provision that answers the preceding question?

X takes out a policy on his house. Five months later he sells the house to Y and Y immediately conveys it to X's wife. Mr. X wishes you to take a mortgage on the property. What do you wish to know about the insurance policy?

What will you instruct your agent to do with the policy?

CHAPTER XVII

MARINE INSURANCE

1. *Purpose and service of marine insurance.*—The purpose of marine insurance is to indemnify the loss of ship, cargo, freight charges and anticipated profits when caused accidentally by any of the numerous perils connected with navigation. Without such protection commerce could not become general and continuous, and would at best be a highly speculative if not a gambling enterprise. Few would care to risk their fortunes, except with the prospect of abnormal profits, in enterprises surrounded by so many risks as are mercantile ventures were it not for underwriters who are willing for a definite consideration to assume the consequences of such risks and who, by thus removing the sense of fear, make the shipping industry one of certainty instead of uncertainty. The universal use of credits in mercantile transactions and the small margin of profits on which business is usually conducted make marine insurance an absolute necessity to the shipowner and the over-seas merchant. In fact the size of the premium itself is often the deciding factor as to whether or not a mercantile venture will be undertaken.

Vessel owners need marine insurance as protection

against the loss of their vessels and of freight charges that have not been collected in advance. Since most cargoes are financed with borrowed funds and since vessel owners can rarely be held responsible, it is also absolutely necessary that shippers and consignees should be secured against marine losses. They may be further dependent upon insurance for the reimbursement of (1) lost profits because goods do not reach their destination, and (2) prepaid or collectible freight on lost or damaged goods, because bills of lading issued by ship lines usually provide that "freight prepaid will not be returned, goods lost or not lost," and that "full freight is payable on damaged or unsound goods." Creditors, likewise, are vitally interested in the protection of goods against which they have a lien, and for this reason a marine policy or certificate always accompanies a bill of lading or a foreign bill of exchange. By enabling all these interests in a marine venture to eliminate the element of uncertainty, marine insurance enables business to be conducted on a much smaller margin of profit than could otherwise be the case. Vessel owners, no longer obliged to accumulate a fund to meet an uncertain hazard, will be willing to give their service for a reasonable freight charge. Merchants will now be in a position to handle all kinds of goods on a narrow margin of return; while creditors, their task being greatly reduced, can afford to be more liberal in the making of large loans at greatly reduced rates of interest. From every viewpoint marine insurance, by changing

uncertainty into certainty, constitutes a material factor in reducing the cost of conducting maritime commerce.

2. *Types of underwriters.*—Five leading types of insurers (or plans of insurance) furnish marine insurance today, namely: (1) individual underwriters organized into so-called Lloyd's Associations; (2) marine or fire-marine companies, the former doing a marine insurance business exclusively and the latter writing fire insurance in conjunction with their marine business; (3) self insurance; (4) mutual ship owners' associations; and (5) Government plans.

3. *Lloyd's.*—Individual underwriting of marine risks is best illustrated by the corporation of Lloyd's, or London Lloyd's as it is commonly referred to. The great importance of this Association from an international standpoint justifies a brief explanation of its organization and purposes. Although dating back to the middle of the Seventeenth Century, Lloyd's did not become an incorporated body until 1871. The act of incorporation states that the Association exists for the purpose of conducting an insurance business, of protecting the commercial and maritime interests of its members, and of collecting and disseminating information pertaining to shipping. Relative to the first purpose, Lloyd's is an insurance exchange with some four hundred underwriters as members. No risks are assumed by the Association as a corporation; instead, all business is underwritten by the members in their individual capacity. No responsibility is as-

sumed by the corporation for the solvency of its members, and it only aims to provide them with proper facilities for the conduct of their business, to limit admission to persons of recognized standing, and to safeguard transactions by the rigid enforcement of rules and regulations. As long as there is compliance with its regulations, members are free to do as much underwriting as they like and may pursue any kind of insurance they choose.

4. *Making a contract at Lloyd's.*—To effect insurance at Lloyd's the insurance broker must pass before the desks allotted to the several underwriters and place before them his proposal of insurance, commonly called the "slip," containing the essential particulars of the risk he desires to place. Any underwriter who may desire to accept will sign his initials on this slip, at the same time indicating the amounts that he is willing to accept for himself. This amount is usually not very large since underwriters prefer to spread their business over many risks in order to secure greater certainty thru the operation of the law of average. Accordingly, it frequently happens that a large risk may be assumed by as many as fifty to seventy-five underwriters. Later, when the policy is issued, each of the accepting underwriters will sign the same and again indicate after his name the amount of his individual liability. To save time in placing insurance among so many individuals, it may be added, various groups of underwriters have organized themselves into syndicates with a syndicate manager

who is authorized to accept a certain volume of insurance which is then apportioned among the members as per the terms of the syndicate agreement. But tho the syndicate manager accepts the insurance for the group, the policy is later signed by all the underwriters separately.

5. *Lloyd's information service.*—Intelligent underwriting at Lloyd's requires prompt and detailed shipping news. To serve its members in this important respect, Lloyd's is represented by agents at all the leading ports of the world. All maritime news of importance is promptly cabled to London headquarters and is then distributed to Lloyd's underwriters or to such insurance companies or commercial bodies as may be subscribing members. Various shipping publications are also issued by the Association as follows:¹

¹ Publication of *Lloyd's List* and *The Index* was suspended during the war. Formerly Lloyd's also published "Lloyd's Register of British and Foreign Shipping," a volume enjoying a world-wide use in insurance, shipping, and commercial offices. At present, however, this publication is issued by the Society of Lloyd's Register, a separate organization representing not only the corporation of Lloyd's but insurance companies, ship owners' associations and other commercial bodies. This famous publication furnishes a statement of the general character of all vessels in the British marine of not less than 100 tons, besides numerous vessels of other nations. Among other information, it states name, materials of construction, and state of repairs of the vessel, dimensions, registered tonnage, and general equipment, the date and place of construction and by whom constructed, the name of the owners, port to which the vessel belongs, the date of the last survey, and name of the master and the date of his appointment. Similar classifications of vessels have been organized in France, Germany, Austro-Hungary, Holland, Norway, Italy, Greece, and the United States. In the United States we have the "American Bureau of Shipping," the "United States Steamship Owners', Builders' and Underwriters' Association," and the "Inland Lloyd's of the United States."

(a) *Lloyd's List*.—The official daily publication of the corporation, containing shipping news as currently received.

(b) *The Index*.—A detailed list of British and foreign vessels showing their condition and location according to the latest reports. This publication is not only open to inspection at Lloyd's but is also available to subscribers.

(c) *Register of Captains*.—A biographical dictionary, containing a record of the service and proficiency of the certified commanders of the British marine.

(d) *Record of Losses*.—Frequently called the "Black Book."

6. *American insurance*.—While members of London Lloyd's underwrite a considerable portion of this country's marine insurance, by far the largest share of American business is transacted by insurance companies. Under this plan the liability is assumed by the corporation as distinguished from individual underwriters. Some of the large steamship companies practice self-insurance, i. e. insure their own risks under an insurance fund especially established for the purpose. Usually, however, this plan is limited to the less valuable items of the company's property and is not extended to very costly vessels where a single loss may prove so large as to seriously impair or exhaust the fund. Moreover, the plan may be safely used only where the corporation's vessels are sufficiently numerous to enable the law of averages to

apply. Other vessel owners, particularly in Great Britain and European countries, have seen fit to obtain their marine insurance thru the creation of mutual ship owners' associations. These are essentially assessment associations, the several members being assessed from time to time, usually in proportion to the insured tonnage, to meet the payment of current claims.

7. *War hazards and government insurance.*—To meet the enormous war hazard of the last few years various nations have organized government plans of insurance. Thus the British Government has for some time extended insurance to American ship owners and merchants. As a result of the submarine menace, marine insurance rates reached such a high level as to seriously interfere with the profits of American exporters and importers. It was to meet this emergency that the British Government offered to assume the hazard at a rate much below the actual cost of the insurance. No doubt the Government was willing, because of the necessity of maintaining the overseas trade, to furnish the insurance at a loss. The Bureau of War Risk Insurance of the United States Treasury Department furnishes another example of government marine insurance for the assumption of the war risk of vessels, cargoes and freight moving under the American flag. Since the creation of this Bureau on September 2, 1914, a total of \$800,000,000 of insurance has been issued and at the begining of September, 1917, the net amount at

risk was \$165,700,000. The profitableness of the plan is indicated by the fact that premiums received by the Government up to September 6, 1917, exceeded \$25,000,000 while the known losses on that date reached \$15,700,000.

8. *Types of policies.*—Probably no class of insurance presents such a large variety of forms of policies as marine insurance. Thus, classified according to the subject matter insured, there are so-called "hull policies," "cargo policies," "lighterage policies," "yacht policies," "fishing policies," "builders policies," etc. A comparison of these numerous policies shows the printed form to be substantially the same altho certain differences are found which adapt the contract to the particular character of the risk insured.

Again, classified with reference to the method of assuming the risk, policies may be "voyage" or "time," "floating" or "named," and "open" or "valued." A voyage policy covers the risk for a single voyage, as from New York to Glasgow, as distinguished from a time policy which covers the subject matter for a specified period like a year. Floating policies cover cargo carried by any vessel or vessels, altho the type or class of vessel to be used and the limits of the voyage are usually described. Such policies are especially useful to importers who usually order their goods long in advance and frequently are not advised of the shipments until after the goods have been started. As soon as the name of the vessel becomes known, however, this information is declared to

the underwriter, thus making the policy a "named" one. Under an open policy the value is left open to be ascertained when the shipping documents are received, whereas a valued policy stipulates some agreed value to the property insured.

Special mention should be made of the "open policy cargo form," under which probably 90 per cent of cargo insurance is written. Altho specifying the ports to or from which the goods are to be insured, the date when the insurance commences, the description of the cargo and the method of its valuation, and the underwriter's limit of liability by any one steamer, this form of policy does not contain a termination date, altho cancelation by either party is usually permitted, subject to thirty days' notice. Under this arrangement the insured must report all shipments to the underwriter and pay all premiums thereon as provided in the rate schedule attached to the contract. The benefit of such an arrangement to merchants, who cannot always be posted as to goods consigned to them and who would therefore constantly labor under the anxiety of loss before receiving knowledge of the shipment, must be apparent.

Besides offering the advantages connected with open policies, marine underwriters furnish so-called "marine certificates" which serve a very useful purpose to exporters and bankers. Under this arrangement exporters may themselves issue certificates containing the essential provisions of the policy against which they are issued. The commercial usefulness of

this device is well set forth by one leading company in the following statement:

"Their use has been occasioned by the demands of bankers and merchants for some kind of negotiable insurance document, which is immediately available and can be issued without any delay, so as to permit forwarding along with other shipping papers, thus facilitating banking and other commercial purposes. They are usually issued in sets of three each, and are not valid unless countersigned by someone so authorized by the company. The original is sent forward with the other shipping documents, the duplicate retained as the office record of the assured, and the memorandum copy sent to the insurance company as an insurance declaration. The use of certificates of insurance also promotes dispatch in the settlement of losses occurring abroad, since besides their function as certificates of insurance, they show in addition the essential clauses of the contract, and our foreign settling agents are thus enabled to pay claims without referring to the terms of the original policy."

9. *General nature of the risk assumed.*—The opening words of the policy are devoted to a general description of the subject matter insured. When insuring vessels the policy usually contains the following introductory wording:

"by the insurance company, or account of in case of loss to be paid in funds current in the United States to, lost or not lost, at and from (here follows the insertion of the voyage or the terms of the insurance). If on a passage on the expiration of the term, with liberty to the assured to renew the policy for one, two or three months, at the same rate of premium, if application be made to the company on or before the expira-

tion of the first term. The risk, however, is to terminate at any port at which she may first arrive during the said extended time, on her being moored therein twenty-four hours in good safety; a pro rata premium to be returned for each entire month not entered upon of the extended time, there being no loss or other claims made. (Here usually follow certain agreements) . . . upon the body, tackle, apparel and other furniture of the good . . . called the (*name of vessel*) whereof is master for this present voyage —' or whoever else shall go for master in the said vessel, or by whatever other name or names the said vessel or the master thereof, is or shall be named or called.

And it shall and may be lawful for the said vessel, in her voyage to proceed and sail to, touch and stay at, any ports or places, if thereunto obliged by stress of weather or other unavoidable accident, without prejudice to this insurance. The said vessel, tackle, etc., hereby insured are valued at . . . without any further account to be given by the assured, to the assurers, or any of them, for the same."

In the case of cargo policies, while the form is similar to that mentioned above, the following provision is usually inserted with reference to the beginning and ending of the risk and the valuation of the property:

Beginning the adventure upon the said goods and merchandises, from and immediately following the loading thereof on board of the said vessel, as aforesaid, and so shall continue and endure until the said goods and merchandises shall be safely landed as aforesaid. . . . The said goods and merchandises, hereby insured, are valued (premium included) at"

In examining the above wording, the first feature to attract attention is the expression "lost or not lost."

This phrase is intended to cover those cases where insurance is desired on a vessel or cargo which may be overdue and unheard from, or where goods may be exposed to marine perils before the consignee has knowledge of their having been shipped. Under this phrase the policy will cover the vessel or cargo altho already lost or damaged at the time the insurance is effected. But to make the insurance valid it is essential that the underwriter must be given all the known facts and that the insured does not conceal any unfavorable knowledge concerning the condition of the risk to be covered.

The importance of good faith on the part of the insured when negotiating marine insurance cannot be overemphasized. Not only is the communication of all material facts known to the insured and which he feels would influence the judgment of the underwriter in accepting or declining the risk or in fixing the premium an implied condition in every marine insurance contract, but it is absolutely essential, since wager policies are illegal, that the insured should possess an insurable interest in the property covered by the policy. Moreover, certain unwritten understandings—commonly known as “implied warranties”—are presumed to exist altho nowhere specifically mentioned in the policy. Thus it is understood that the vessel must be sea-worthy in all respects (as regards the hull, machinery, supplies, efficiency and sufficiency of the crew, etc.) for the intended voyage at the time of starting. It is also always assumed that the vessel

will proceed on her voyage without undue delay or deviation from the usual route or usages of trade. Again, it is presumed that the venture is a legal one in all particulars.

Turning next to a consideration of the statement of valuation as expressed in the policy, we meet with one of the chief differences between marine insurance and fire insurance. Fire insurance companies, unless compelled otherwise by so-called "valued policy" statutes, are only liable for the actual cash value of the property at the time the loss or damage occurred. The face of the policy merely indicates the maximum liability of the underwriter, and the value of lost or damaged property is settled after the occurrence of the loss either by mutual consent or by appraisement under the terms of an appraisal clause contained in the policy. In marine insurance, however, it is the general practice to have the insured and the underwriter agree in advance that the insured property shall, in case of loss, be paid for at an agreed valuation. As a result one of the leading sources of friction between underwriter and insured under fire policies is eliminated in marine insurance. As one leading marine underwriter has recently stated:

The wisdom of this provision is indicated by the fact that in all my experience of twenty-five years in the marine business I have yet to see a suit between a marine underwriter and his assured about the valuation of goods or other insured property in case of loss, and I think this is solely due to the fact that before the adventure is undertaken,

the value is agreed upon and that source of friction removed.¹

10. *The perils covered by the policy.*—Following the general description of the risk assumed, the policy enumerates the many perils against which insurance is granted, and in this respect presents another contrast to fire insurance where but one hazard is covered. This so-called “risks and perils” clause usually reads as follows:

Touching the adventures and perils which the said Insurance Company is contended to bear, and takes upon itself in this voyage, they of the seas, fires, men-of-war, enemies, pirates, rovers, thieves, letters of mart and countermart, surprisals, takings at sea, jettison, barratry of the master and mariners, unless the assured on cargo be a part owner of the vessel, arrests, restraints and detainments of all kings, princes and people of what nation, condition or quality soever and all other perils, losses and misfortunes (illicit or contraband trade excepted in all cases) that have or shall come to the hurt, detriment or damage of the said goods and merchandise or any part thereof.

Many of the aforementioned risks are self-explanatory, while others, altho important at one time when travel and means of communication were slow, have become relatively unimportant thru modern improved appliances. Four of the perils mentioned, however, should be briefly described, namely, “perils of the sea,” fire, jettison, and barratry.

The first has been defined as including

¹ Benjamin Rush: A Brief History of Marine Insurance with an Explanation of the ordinary marine cargo form. 1916, p. 11.

all marine hazards and casualties resulting from the violent action of the elements as distinguished from their silent, gradual influence upon the vessel, and embraces all kinds of marine casualties . . . and every species of damage to the ship or goods at sea by the violent and immediate action of the winds and waves not comprehended in the ordinary wear and tear of the voyage, or directly referable to the acts and negligence of the insured, as its proximate cause.¹

Accordingly, the term "perils of the sea" would cover all loss or damage to vessel or cargo occasioned at sea from foundering, grounding, stranding, collision, and straining of the vessel in heavy weather. The term, however, does not embrace causes of loss which are incidental to all navigation, such as ordinary wear and tear by wind and waves and inherent defects and natural deterioration of commodities. The same limitation also applies in the case of fire, there being no liability in case the fire is caused by the damaged condition of the goods at the time of shipment or by their inherent defects. Underwriters, however, are responsible where the fire results from damage sustained following the shipment of the goods, or where the fire, irrespective of the origin, extends to other goods (or to the vessel) in no way connected with the cause, or where, in the effort to extinguish the fire, irrespective of cause, water damage or other loss ensues. The fire hazard is also assumed where by express agreement or usage the insurance covers goods while discharged and warehoused at a port of refuge or to enable the repair of the vessel.

¹ Benjamin Rush: *A Brief History of Marine Insurance*, p. 13.

Jettison has reference to "the throwing overboard of a part of the cargo or any article on board the ship, or the cutting and casting away of masts, spars, rigging, sails, or other furniture for the purpose of lightening or relieving the ship in case of emergency."¹ The act, however, does not involve liability where occasioned by natural deterioration of commodities or where, unless usage or express agreement provides otherwise, they are carried as deck cargo. Losses, such as water damage, immediately and necessarily connected with the jettison are also borne by the underwriter.

Barratry of the master and mariner relates to wilful and unlawful acts, with criminal intent as distinguished from mere error or omission, of the master or crew of a vessel and without the connivance of the ship-owner. Among the chief offenses coming under this heading are the scuttling, burning, or wrecking of a vessel, the fraudulent diversion of a vessel from its course with a view to selling it, or the using of a vessel for smuggling, illegal trade, or the violation of a blockade. Barratrous acts thus refer to criminal conduct of those aboard the vessel as distinguished from the numerous perils arising from the violent conduct of those not aboard and which are enumerated in the policy under "men-of-war, enemies, pirates, rovers, thieves, letter of mart and countermart, surprisals, taking at sea, . . . arrests, restraints and detentions."

¹ Templeman: "Marine Insurance: Its Principles and Practice," p. 33.

After so long an enumeration of perils our curiosity is naturally aroused by the terminal expression "all other perils, losses and misfortunes that have or shall come to the hurt, detriment or damage of the said goods and merchandise (or vessel) or any part thereof." It might appear that this clause was intended to be all comprehensive and to make the underwriter liable for losses resulting from causes not specifically enumerated elsewhere. Such, however, is not at all the case. Since the general terms follow the specific list of perils, the purpose of the clause is to make the policy cover all perils which are similar to, but not necessarily identical, with, the enumerated risks. Specie thrown over-board to prevent its being captured or the loss of a steamer thru a boiler explosion, may not be construed as losses resulting from capture and fire respectively; yet, under the "all other perils clause" they may reasonably be construed as sufficiently akin to capture and fire losses to bring them within the scope of the contract. It is well understood, however, that the clause does not cover loss resulting (1) from ordinary wear and tear, leakage or breakage, and (2) from inherent defects of the subject insured, unless occasioned directly by a sea peril, such as decay, dampness, discoloration, moldiness, etc.

Frequently several perils, successively following one another, may be held to have contributed to a loss, and one or more of these risks may have been expressly waived by the parties to the contract; or in other cases facts may be advanced by the underwriter

to show that the loss was originally occasioned by negligence or some other cause not covered by the policy. To determine the underwriter's liability in such cases it is necessary to apply the well-established legal doctrine or "proximate cause of loss," i. e., in order to determine the insurer's liability the proximate, as distinguished from the remote, cause must be ascertained. The proximate cause, as summarized by Ostrander,

is not the one which is nearest in time to the result unless such cause be independent. That must be regarded as proximate which is primary, efficient, the one which is the cause of causes. That which is only incidental and contributing is in no sense responsible for the disaster.¹

11. *Marine losses classified—total loss.*—Having outlined the perils against which marine insurance grants protection, we should next note that these perils give rise to various forms of losses which are known by special names and referred to in this manner in policy provisions and special clauses. Thus there may be a "total loss," which is either an "actual" or "constructive total loss," and the latter may involve the practice of "abandonment." A partial loss, on the other hand, may constitute "general average," "particular average," or "salvage."

Actual total loss refers to those cases where the subject matter of the insurance is totally destroyed, completely taken out of the possession of the owner, or so badly damaged as to be of no commercial value.

¹ D. Ostrander: "Law of Fire Insurance," p. 365.

"Constructive total loss," on the contrary, has reference to those cases where the subject of insurance "tho existing in specie, is justifiably abandoned on account of its destruction being highly probable, or because it cannot be saved from actual total loss, unless at a cost greater than its value would be if such expenditure were incurred."¹ A case in point is that of a stranded vessel uninjured in any serious particular and yet so unfortunately located as to make the cost of liberation so high, when compared with its value afterwards, as to make the attempt commercially undesirable. Under such circumstances the property, assuming good faith on the part of the owner, may be "abandoned" to the underwriters as a total loss. This practice, it may be added by way of contrast, is expressly prohibited under the terms of fire insurance policies. Then if the underwriters accept the "notice of abandonment," they will make payment on the basis of a total loss, and will become subrogated to all rights in the abandoned property with a view to possibly reimbursing themselves later by a recovery of part or all of the vessel or cargo.

12. *Partial loss—general average.*—Turning now to partial losses, the terms "general average" and "particular average" require careful definition, because one or the other may be excluded by the terms of the contract. To come under the heading of "general average" the loss must occur under all of the

¹ Templeman: "Marine Insurance: Its Principles and Practice," p. 45.

following circumstances: (1) it must result from a voluntary sacrifice or an extraordinary expenditure to avert an impending peril; (2) the sacrifice must be made for the common safety of all interests involved, viz., the vessel, cargo and freight; and (3) the sacrifice or expenditure must produce a successful result. Water damage to cargo resulting from efforts to extinguish a fire aboard the vessel, or the jettisoning of a part of the vessel or cargo in time of distress, may be mentioned among many others as typical instances of this type of loss. Loss of interest on capital, demurrage, loss of market, or deterioration thru delay, however, are not held to be direct consequences of a general average act.

Since the very foundation of the law of general average is a common peril, it follows that the loss should be assessed equitably over all the interests benefiting from the sacrifice. Justice demands that the owner of goods jettisoned for the benefit of all other parties to the marine venture should not be compelled to bear the loss alone. Instead, all interests involved should contribute their just share, the sacrificed interest, however, also contributing its proper proportion. Hence we have the principle, now a part of the maritime law of all nations, and in existence even before the Christian era, that all general average sacrifices should be compensated by making them a charge upon the value of all the other interests benefited. Thus assuming the vessel, cargo and freight to be valued respectively at \$300,000, \$250,000 and \$30,000, and

that \$10,000 of the cargo has been jettisoned, the following apportionment of the loss among the several interests would occur:

Total value of \$580,000, contributing to a loss of \$10,000.		
Property saved (\$570,000)	contributes $\frac{570}{580}$	of \$10,000
Property jettisoned (\$10,000)	contributes $\frac{10}{580}$	of \$10,000
Vessel (Valued \$300,000)	contributes $\frac{300}{580}$	of \$10,000
Cargo (Valued \$250,000)	contributes $\frac{250}{580}$	of \$10,000
Freight (Valued \$30,000)	contributes $\frac{30}{580}$	of \$10,000

It is important to note that liability for general average contributions is fixed by law and is therefore a matter independent of marine insurance. Should the risk not be covered by insurance, the owners must assume the contributions themselves. Where insurance is carried, however, the liability for the contribution falls upon the underwriter. In case the sacrificed property is insured, the underwriter, after paying the insured value, becomes subrogated to the right to receive the contributions due from the other interests involved. Space forbids a discussion of the complex problems and varying usages connected with the determination of the amounts to be collected under general average, the ascertainment of the several contributing values, and the enforcement of the payments. Suffice it to say that questions of settlement

have been discussed and regulated at several International Congresses, particularly those at York, England, in 1864, and at Antwerp in 1877, with the result that marine policies are often stamped today as subject to York-Antwerp Rules.

13. *Particular average*.—Partial losses resulting from accident, as distinguished from voluntary sacrifices, and in consequence of marine perils are termed particular average losses. Since they present no sacrifice for the common benefit there is no compensation from the other interests in the venture, and the loss therefore falls altogether upon the owners or the underwriters who may have assumed the risk. Salvage, on the other hand, has been defined as "the compensation allowed to persons by whose voluntary exertions the vessel or cargo are saved from damage or loss in case of wreck, capture or other marine misadventure." The compensation thus paid is usually apportioned over the values of the several interests saved in much the same manner as is the case under general average, and where the contributing interests are insured, recovery may be had from the underwriter.

Frequently, in order to obtain a lower rate, the insurance may be written "free of particular average," thus relieving the underwriter from liability for partial losses that do not come within the meaning of "general average." In the same way a policy may be written free of general average. The most common forms of particular average clauses are three in number, viz.:

(1) The "F. P. A. E. C." clause, meaning "free of claim for particular average English Conditions," or explained more fully, "free of particular average unless the vessel be stranded, sunk, burned, on fire, or in collision."

(2) The "F. P. A. A. C." clause, meaning "free of particular average, American Conditions," stated more fully, "free of particular average unless caused by stranding, sinking, burning or collision." Under this clause the loss must be shown to be directly occasioned by some one of the perils mentioned, whereas under the first clause it is not essential to the validity of a claim that the loss or damage should have resulted directly from one of the specified perils. Assuming that the vessel was stranded only for a brief period and without injury to the cargo, that harmless stranding would, under the first clause, change the policy and the cargo would for the balance of the voyage be subject to, instead of free of, particular average, thus making the underwriter liable for damage occasioned by storm or some other peril not enumerated in the clause.

(3) The "free of particular average unless amounting to — per cent" clause. Usually three or five per cent is stipulated, and the loss or damage must amount to the stated percentage before a claim can be enforced. This clause, it will be noted, does not exclude any of the marine perils, and aims to protect the underwriter against small losses irrespective of the cause.

14. *Other leading policy provisions and clauses.*— By far the largest part of a marine policy consists of provisions which aim to protect the underwriter against undesirable risks and fraud. An endless variety of special clauses, usually incorporated into the contract by endorsement or attachment, are also used to alter or supplement the terms contained in the printed form of the policy with a view to meeting special circumstances. Our limits of space make im-

possible an explanation of all these clauses, and therefore only those which are almost invariably used will be explained. For the sake of clearness these provisions may be grouped under the following heads:

15. *Sue and labor clause*.—The universal use of this clause in marine contracts justifies its statement in full, viz.:

And in case of any loss or misfortune, it shall be lawful and necessary to and for the assured, his or their factors, servants and assigns, to sue, labor and travel for, in and about the defence, safeguard and recovery of the said goods and merchandise, or any part thereof, without prejudice to this insurance; nor shall the acts of the assured or insurers, in recovering, saving and preserving the property insured, in case of disaster, be considered a waiver or an acceptance of abandonment; to the charges whereof, the said insurance Company shall contribute according to the rate and quantity of the sum hereinafter insured.

Constituting an agreement distinct from the main contract of indemnity, this clause aims to encourage the owner to make every effort to save the insured property from loss in case of accident by definitely agreeing that such efforts shall in no way be regarded as invalidating the insurance, and that the underwriters are willing to assume all expenses incurred to the extent that the property has been insured. Manifestly, the owner of the property should be interested in saving it and must therefore bear "sue and labor" expenses in the proportion that he has chosen to be self-insurer. The terms of this are also regarded as mandatory upon the insured, so that losses resulting

from a failure on his part, or that of his agents, to exercise reasonable efforts in saving the property, are not recoverable under the contract. Neither does the clause cover general average losses which, as already explained, are settled in accordance with the requirements of maritime law, nor to losses arising from perils not assumed under the policy.

16. *Memorandum clause*.¹—In cargo policies this clause represents an enumeration of a considerable variety of articles, arranged in groups, concerning which the underwriter limits his liability for particular average losses unless amounting to a specified percentage. Originally, no such limit was found in marine contracts, but the increasing complexity of commerce soon demonstrated that some limitation was desirable for certain classes of commodities whose inherent nature made them susceptible to small losses resulting from dampness, sweating, atmospheric conditions,

¹ A typical form of the memorandum clause is the following:

"It is also agreed, that bar, bundle, rod, hoop, and sheet iron, wire of all kinds, etc. (here follow a large number of other enumerated commodities), and all other articles that are perishable in their nature, are warranted by the assured free from average unless general; hemp, tobacco stems, matting and cassia, except in boxes, free from average under 20 per cent, unless general; and sugar, flax, flaxseed and bread, are warranted by the assured free from average under seven per cent, unless general; and coffee, in bags or bulk, pepper in bags or bulk, free from average under 10 per cent, unless general. Profits warranted free from claim for general average, but subject to same percentum of partial loss as if the insurance were on goods. In case a total loss of profits be claimed, the underwriters to be entitled to a credit of the same percentum of salvage as if the insurance were on goods, and in case of contribution in general average for any portion of the goods at the customary sound value, this company to be free from claim for loss on such portion. Not liable for loss arising from wet, breakage, leakage, or exposure of goods shipped on deck."

etc., for which underwriters have not legally assumed liability but which are apt, unless specifically provided for in the contract, to be the cause of endless dispute. Hence the memorandum clause will usually enumerate one group of products which are warranted free from all damage unless the loss be total or in the nature of general average. Next follow other classes of goods which are warranted free of loss, respectively, under 20, 10 and seven per cent, unless the loss is a general average one. Indeed, so detailed is the memorandum in some policies that the underwriter's liability is often limited with respect to more than 100 specified articles. Changes have also been made in the clause from time to time to meet the needs of commerce in different markets.

With the increasing size of vessels and cargoes, it soon became apparent that a comparatively small percentage limitation in the memorandum might nevertheless represent an unduly large loss, as, for example, \$10,000 on a cargo of \$100,000 under a 10 per cent limitation. Here the underwriter was compelled to compromise with the needs of commerce by subdividing risks as regards the application of the percentages. This is done by dividing the cargo into "series," as a certain number of bales of cotton or chests of tea, etc., or, in the case of a vessel by applying separate valuations for the hull, machinery, etc., with provision that the memorandum percentages shall apply to each "series" or valuation separately. It may be added that the memorandum clause is often

modified by special agreement since, as regards all the various classes of articles mentioned in the clause as well as others usually excluded under other clauses, underwriters are willing to assume all risks of loss resulting from marine perils if paid a sufficient rate of premium.

Closely resembling the agreement in the memorandum are the policy provisions (some of which are at times included in the memorandum) which protect the underwriter against loss arising:

From wet breakage, leakage or exposure of goods shipped on deck.

From dampness, change of flavor, or being spotted, discolored, musty or mouldy, unless caused by actual contact of sea water with the articles damaged, occasioned by sea perils.

From leakage of molasses or other liquids unless caused by stranding or collision with another vessel.

*17. Other insurance clause.*¹—This clause is peculiar—

¹ This clause usually reads as follows:

Provided always, and it is hereby further agreed, that if the said assured shall have made any other insurance upon the property aforesaid prior in day of date to this Policy, then the said Insurance Company shall be answerable only for so much as the amount of such prior insurance may be deficient towards fully covering the property hereby insured. And the said Insurance Company shall return the premium upon so much of the sum by them insured as they shall be by such prior insurance exonerated from. And in case of any insurance upon the said property subsequent in day of date to this policy, the said Insurance Company shall nevertheless be answerable for the full extent of the sum by them subscribed hereto without right to claim contribution from such subsequent insurance. And shall accordingly be entitled to retain the premium by them received in the same manner as if no such subsequent insurance has been made. Other insurance upon the property aforesaid of date the same day as this policy, shall be deemed simultaneous therewith; and the said Insurance Company

lar to American policies—in fact is usually called the American Clause—and serves to define the respective liabilities of the several underwriters who may have insured the same vessel or cargo. It provides that the several policies shall attach in the order of their dates, i. e., the first policy in date shall cover to its full extent, the subsequent policy being liable only for any unpaid balance. Where, however, the several policies are issued on the same date they will all share the loss pro rata, i. e., each underwriter will contribute in the proportion that his insurance bears to the entire insurance on the lost or damaged property. Such pro rata contribution, it may be noted, is the general rule in fire insurance, irrespective of whether the policies are prior, concurrent, or subsequent in their date. For all practical purposes, however, the difference is only one of method. A loss in one case, because of the prior date of a company's marine policy, will be counterbalanced, on the average, by some other case where the company will happen to be the subsequent underwriter.

18. *War risk clause*.¹—From an underwriting

shall not be liable for more than a ratable contribution in the proportion of the sum by them insured to the aggregate of such simultaneous insurance."

¹ This clause assumes some such form as follows:

"It is also agreed, that the subject matter of this insurance be warranted by the assured free from loss or damage arising from riot, civil commotion, capture, seizure, or detention or from any attempt thereat, or the consequences thereof, or the direct or remote consequences of any hostilities, arising from the acts of any government, people, or persons whatsoever (ordinary piracy excepted), whether on account of any illicit or prohibited trade, or any trade in articles con-

point of view the risk of war has proved so hazardous as to preclude its assumption except for a very large additional premium. This clause is therefore inserted into the policy with a view to giving the underwriter, in the event of war being declared, the right to demand an adequate rate to meet the greatly increased risk. War rates must necessarily change from day to day, depending upon the situation prevailing at the time of the acceptance of the risk, and it would be grossly unfair to expect an underwriter to assume the war hazard at the same rates as those prevailing in the ordinary course of business. Originally this clause was written or stamped as an endorsement in the margin of the policy for the purpose of nullifying the perils of "men-of-war, enemies, letters of mart and counter mart, etc." Later, however, it was embodied in the main portion of the policy in order to avoid clerical labor. Should the risk of war be assumed by endorsement, the policy usually contains another clause by which the insured warrant "not to abandon in case of capture, seizure, or detention until after the condemnation of the property insured, nor until ninety days after notice of said condemnation is given to the company"; also "not to abandon in case of blockade," and to free the company "from any expense in consequence of detention or blockade, but in the event of blockade, to be at liberty to proceed to an open port and there end the voyage." Were it not for this addi-

triband of war, or the violation of any port regulation, or otherwise. Also free from loss or damage resulting from measures or operations incident to war, whether before or after the declaration thereof."

tional clause the insured could legally abandon his property to the underwriter the moment it was captured. Under this clause, however, the owner will have an interest in defending and recovering the property, while the underwriter will have time to combat the decree of condemnation. Furthermore, in case of blockade, the underwriter is relieved from all expenses resulting from delay or detention.

19. *Subrogation clauses.*¹—Within recent years underwriters have seen fit to use a clause which prevents common carriers from endeavoring to avoid liability for their own negligence by stipulating in their bills of lading that the insurance carried by merchants on their goods shall inure to the benefit of the carrier. Formerly underwriters paid all losses to the insured, even tho indirectly caused by the negligence of the car-

¹ Three main clauses may be mentioned under this head, viz.:

"Warranted by the assured that this insurance shall not enure directly or indirectly to the benefit of the carrier or other bailee, by stipulation in bill of lading or otherwise, and any breach of this warranty, and any act or agreement by the assured prior or subsequent hereto, whereby any carrier or party liable for or on account of loss of or damage to any property insured hereunder, is given the benefit of any insurance effected thereon, shall render this policy of insurance null and void."

"In case of any agreement by the assured, prior or subsequent hereto, whereby any right of recovery of the assured for loss of or damage to any property insured hereunder, against any person or corporation is released, impaired or lost, which would on acceptance of abandonment or payment of a loss by this Company, have enured to its benefit, but for such agreement or act, this Company shall not be bound to pay any loss, but its right to retain or recover the premium shall not be affected."

"Warranted by the assured, that the assignment of this policy or of any insurable interest therein, as also that the subrogation of any right thereunder to any party, without the consent of this Company, shall render the insurance affected by such assignment or subrogation, void."

rier, and then sought to reimburse themselves by bringing suit in the insured's name against the carrier at fault. This practice was resisted by the carriers, and one of the plans adopted was the aforementioned method of confiscating the insurance. To meet this situation the policy now stipulates that any act or agreement by the insured, either before or subsequent to the time the policy takes effect, whereby the carrier is given a claim to the insurance, shall void the policy. Other clauses forbid the insured, on pain of having the insurance invalidated, from entering into any arrangement which impairs or destroys the underwriter's right legally to recover a loss from those who are responsible, or from assigning any interest in the policy or from subrogating any right thereunder without the underwriter's consent.

20. *Collision clause*.—Collisions at sea constitute one of the great risks of navigation, yet the ship owner's liability, if found to be at fault, for damage to the other vessels by collision is not covered by the ordinary form of marine policy. In other words, while the damage received by the insured vessel is assumed by the underwriter, the ordinary policy does not cover damage inflicted on the other vessel, as determined under the Admiralty Law, and which will therefore fall upon the vessel found to be at fault. To obtain protection against such legal damages it is necessary to have the underwriter specifically assume this risk, and to accomplish this purpose the so-called collision clause has become well-nigh universal. Sometimes,

the owner's liability for such loss is assumed in full, but frequently the insurance covers only three-fourths of the damage, the owner carrying one-fourth himself with a view to having him exercise the greatest care in engaging efficient navigators for his vessel. The underwriter's liability is also limited to the proportion that the insurance carried bears to the value of the insured vessel. A like proportion of all legal costs is also assumed where the liability of the ship has been contested with the consent in writing of a majority of the underwriters. Where both vessels are held to be at fault, the underwriter's settlement is usually based on the principle of cross-liabilities, i. e., each party pays to the other one-half the damage incurred.

21. *Settlement of losses.*—American policies usually provide for the payment of losses thirty days after proofs of loss and proofs of interest have been presented. But while given this ample opportunity to examine proofs, payments are as a rule made much sooner, sometimes in the course of a few days. Proofs of loss consist of a "protest" or sworn statement, usually made to a Consul if at a foreign port or to a Notary Public if at a domestic port, in which the master and a part of the crew of the vessel explain the circumstances and perils under which the loss occurred. Usually this protest is supplemented with a survey made by a sworn surveyor of the port, by certain Government officials, or by some disinterested expert appointed by the interested parties. Should it prove impossible to agree on the amount of the loss in this

way, the insured may exercise his right to ask for a sale at auction in order to determine the extent of the loss or damage.

Proof of interest usually consists, in the case of a ship, of the register of the vessel recorded in the Customs House, setting forth the owner and the extent of his interest. In the case of cargo, proof of interest usually consists of the invoice and bill of lading and an affidavit of the insured setting forth that he actually possesses the interest claimed in the subject insured. It should be added that underwriters usually have representatives at the leading ports who are placed in a position to effect a settlement or to agree on a scale at auction, thus greatly simplifying matters as regards insurance on cargo consigned to distant ports. The final statement of loss, or "adjustment," is usually prepared by an expert, and presents a detailed showing of the kinds of loss, the cause, and the amounts of the underwriter's liability. It is from the time that these several documentary proofs are presented by the insured that the thirty-day time limit before payment begins to run. Space again forbids a technical account of the method of handling extra charges, customs duties, and various deductions and credits for materials in the adjustment of a claim. But attention should once more be called to the important fact that in marine insurance, unlike fire insurance, the policy is a valued one, i. e., the value is fixed for all purposes of the insurance. Accordingly, the claim can only be determined by first finding the percentage of

depreciation and then applying that percentage to the insured value. Thus with respect to a cargo policy, let us assume that the goods, had they reached their destination in sound condition, would have had a market value considerably greater than the insured value. In that case the principle underlying the determination of the claim might be illustrated as follows:

Insured value	\$20,000
Market value	30,000
Market value	\$30,000
Sold at auction for	15,000
Depreciation	\$15,000 (or 50%)
Claim.....50% of insured value of \$20,000 =	\$10,000

Similarly, if we next assume that the market value had declined below the insured value, it will again be found that the underwriter pays the same loss, namely 50 per cent of the insured value. The method of determining the claim in this instance may be indicated as follows:

Insured value	\$20,000
Market value	15,000
Market value	\$15,000
Sold at auction for	7,500
	\$ 7,500 (or 50%)
Claim.....50% of insured value of \$20,000 =	\$10,000

22. *Determination of marine rates.*—There is no analogy between marine and fire insurance in the determination of rates. With few exceptions stock fire insurance companies are members of fire underwriters' associations which prescribe rating schedules and standards and fix rates that are binding on all members. In marine insurance, on the contrary, there are no rating compacts. Instead, rates are largely intuitive or judgment rates, and are much more responsive to the condition of the insurance market or to the effects of current events influencing navigation. Marine insurance is probably the freest market in the world. In fact the business is constantly subject to international competition and for this reason there will probably never be a binding marine rate compact. Even supposing that American companies could effect an iron-clad agreement among themselves, there would still remain the free-lance competition of Lloyds underwriters.

It must not be assumed, however, that because there are no elaborate schedules and rating compacts in marine insurance, that the companies "go it blind" and foolishly ignore the benefits of cooperation and the value of each other's experience. In fact, two American associations—the American Hull Underwriters' Association and the Atlantic Inland Association—possess rating committees of an advisory character. Altho no "basis" or "key" rates exist in marine insurance, as is the case in fire insurance, there are various important factors which necessarily enter into the

making of a marine rate and in connection with which past experience serves as a guide to underwriters. Thus cargo rates are based upon the nature of the commodity, the voyage, the season, the vessel or shipping line used, the method of packing and discharging, and the special conditions of the insurance contract. Vessel rates will also take into account the owner of the vessel, its master, its class, and the condition of its hull, engine and other equipment. But in addition to all these factors constant attention must be given to special existing conditions affecting the voyage and to congestion at the wharves. The importance of the last two factors was clearly indicated by conditions during the war. Not only did the unprecedented congestion then prevailing at most Atlantic ports result in great delay and increased hazard, which were reflected in the rates, but the presence of enemy submarines and the elimination of various aids to navigation made certain trade routes so extremely hazardous as to warrant rates at various times from ten to forty times as high as those prevailing elsewhere.

REVIEW

What is the general purpose of marine insurance and what is the necessity for it?

Describe the organization and operation of Lloyd's.

What is the general character of the marine insurance business transacted in the United States?

Describe the various types of marine insurance policies.

What are the risks involved in navigation and what losses are commonly provided against in the policies?

Distinguish between total loss, general average and particular average.

Summarize and discuss the various clauses usually found in marine policies.

Explain the methods of settling losses and contrast them with those of fire insurance.

Why are there no standard rates in marine insurance?

CHAPTER XVIII

MISCELLANEOUS INSURANCE

1. *Casualty insurance*.—An inclusive term for all kinds of insurance outside of the three main groups of life, fire, and marine insurance is casualty insurance. Under this designation are included many widely dissimilar forms. Some of the more important of them, accident insurance, health insurance, the various forms of liability insurance and workmen's compensation insurance have already been considered in this volume; and these forms comprise little more than two-thirds of all casualty insurance business.

There are certain minor forms of insurance which merit brief consideration.

2. *Plate glass insurance*.—The breakable nature of glass might alone seem enough to prevent the development of an insurance company to take care of this risk. Plate glass insurance is now, however, a very substantial business. It originated in this country in 1868, when the New Jersey Plate Glass Insurance Company was organized. When only small panes of glass were manufactured there was but little demand for this type of insurance, but as the demand came for large pieces of plate glass and the value of a single pane increased, some form of protection became a

necessity. The growth of the business may be ascertained by comparing the premiums in 1874, which were \$18,000, with those of today, which amount to nearly \$6,000,000.

It is estimated that there are at least 400,000 store fronts insured under plate glass policies. The business differs from possibly all others in that most of the losses are not settled by cash payments. The company replaces the glass, and for this purpose maintains warehouses at central points, or makes arrangements with jobbers for handling the losses.

The causes of breakage number about one hundred. Stones and the small boy are accountable for about 75 per cent of all the losses. There are certain mechanical features, such as the settling of a building, which may cause a loss; or the glass itself may be improperly set in the sash and the undue strain may cause it to break.

The cost of replacement varies. In the metropolitan centers the contracts with the jobbers can be made to fair advantage and even large losses can be quickly replaced; but away from the larger centers, especially if the glass is of unusual size, the cost runs up to comparatively large figures. This cost of replacement naturally is a very important matter to take into consideration in writing the insurance.

The risks assumed cover also the show-cases in stores. These are often damaged by objects placed on them for display. Church windows are in a special class. The windows above the first floor are sel-

dom insured, since they are considered outside of the zone of danger. This view, however, has changed since the noted explosion and fire in July, 1916, at Black Tom Island in New York Harbor. The loss was the largest from a single disaster in the history of the plate glass insurance business, and incidentally it gave the business an amount of advertising which it perhaps could not possibly have received in any other way.

The fact that so fragile a thing as glass can be successfully insured reveals the possibilities in the field of insurance for many types of risks which are now considered outside the scope of that business.

3. *Steam boiler and fly-wheel insurance.*—Steam boiler insurance, like that of personal accident insurance in connection with railroad travel, was among the earliest of the casualty lines to be developed. It has now passed its fiftieth anniversary, while its younger cousin, fly-wheel insurance, was not taken up until 1901.

The distinguishing feature of these two forms of insurance is conservation. The funds gathered in the form of premiums are not spent primarily—and are not intended to be—for the payment of losses, altho those are, of course, paid; but a larger proportion of the funds, perhaps, than in any other branch of insurance is expended in the high-grade inspection service which it is necessary to maintain if this business is to be carried to a successful conclusion.

No money indemnity can pay for the loss of a life,

and that usually results when a boiler explodes. It is found that one boiler in every 170 is mechanically defective and physically unsound, so that it is not safe to operate it and, naturally, is not insurable. One boiler in seven has defects that require attention, and sometimes the immediate suspension of work; while one boiler in every two possesses some defect, altho it may be of a minor character. One boiler in three has scale, and one in every seventy is affected by it to a dangerous degree. The insecure stay-bolt is found in one of every sixty boilers; while one in 270 is positively dangerous on account of this defect. A fractured plate or head is found in one boiler in forty, and one in every 250 is seriously affected. One man is injured annually, to every 1,000 boilers under steam; and one killed, to every 5,000 boilers in operation.

This list of defects and disasters could be expanded, but as it stands it is sufficient to put one in touch with the general conditions which inspection service has shown in this important field of conservation. All too frequently the insured does not appreciate the loss that will follow from the shutting down of his plant. The failure to make allowance for such loss is too often the reason why the insured is indifferent to the kind of insurance which brings him inspection service.

Fly-wheel insurance, which is now in its eighteenth year, is a very small part of this form of insurance; its total premiums amount to less than half a million dollars per year. Undoubtedly the increasing use of

electricity as a form of light, heat and power has had a marked effect on the development of steam power.

4. *Burglary insurance.*—Protection thru insurance against loss by burglary originated in the United States in Reading, Pennsylvania, some time prior to 1892, but had no great development. In 1892 one of the larger casualty companies undertook to guarantee banks and bankers, and other users of safes, against loss of money and securities and other valuable articles thru attacks by burglars. The business had a very slow growth, the bankers required much education. Some of this education took the form of advertising, and even demonstrations of how easy it was to break into a safe.

In 1895 the business amounted to \$65,000 a year, and included only the banks in the small towns. Other companies entered the field in 1896, and from that period on, due probably to advertising, the business commenced to grow and has now attained a point where the income is almost \$5,000,000.

The phrase "burglary insurance" means loss occasioned by burglars, and in the beginning the policies were somewhat restricted and covered what were known as safe burglars and bank burglars; but today the scope is broadened. In addition to protecting banks and trust companies, the business has been extended to protect the merchants, and also, of course, to protect the private homes.

5. *Other forms.*—The broadening of its lines, while it increased the business, brought certain problems;

for instance, in the case of residence theft insurance there is difficulty in the adjustment of those losses which are due to disappearance. The articles have disappeared but it is impossible for anyone to state that they have been actually stolen. It is not difficult to prove a burglary because that usually means the entrance into the property, and there will in most cases be some visible mark; but this is wholly lacking in the disappearance cases. The policies now cover the loss from the person of jewelry and other ornaments. This is merely an illustration of the broadening-out process.

"Mercantile Open Stock Insurance" provides for stocks which are not protected by safes or vaults. These command a high premium because there is no coinsurance and the experience with it has been rather unsatisfactory.

6. *Robbery insurance*.—Robbery insurance is analogous. It includes:

(a) Interior Robbery, which covers a hold-up in an office or store;

(b) Outside Messenger Robbery, which protects bank messengers, delivery men and collectors while away from their respective places, that is, engaged in some outside delivery;

(c) Payroll Robbery Insurance. The papers frequently announce that the employe of an institution returning from the bank with the money for the payroll has been held up and robbed. Some noted cases have occurred in this form of robbery, and protection

is provided against it under the Burglary policies.

In this form of insurance there are six basic safe rates and ten basic vault rates, including many combinations, as, where the safe may be inside the vault. The rates are different for different territories, and there are allowances which depend on the size of the city or town, and discounts for burglar alarm and any watchman service. In robbery insurance the base rates are discounted for the number of guards who accompany the messenger, and for any additional safeguards deemed of value that are placed around the risk.

Those engaged in this form of insurance maintain a central organization for the purpose of standardizing many features of the business which are of common value, and probably this cooperative method has done as much as anything else to place a business—which by its very nature is precarious—on a sound and substantial footing. It is a business which in due time will grow, and if the principle of coinsurance can be introduced into the policies successfully it probably would mean a very widened scope for the business because the rates would be very much lower.

7. *Title insurance.*—Another form of insurance which merits attention is title insurance. It had its origin in the city of Philadelphia in the centennial year 1876. Its underlying idea was not so much to pay losses that occurred thru defective titles, but to change the method of passing real estate from one party to another. The plan contemplated was that instead of

having the title examined individually, at every transfer of property, it would be possible to have it thoroly examined by competent parties, and that policies of insurance could then be issued against any loss that might occur because the opinion that the title was sound proved incorrect.

There is no real risk assumed here unless the work of searching the title by the company originally was defective, but the expense of the work is very heavy. It must be done by men of great ability, who command a good price for their services.

When first launched the business had to overcome the opposition of those who had done the work in the past, and also the general feeling that the examination of the title was a thing that ought to be done whenever property was transferred. This hostile attitude has passed away, and title insurance has taken its permanent place in the world of business.

There are no renewal fees required in order that the policy may be kept in force. This is contrary to other forms of insurance, but the initial payment protects the title and covers the expense in connection therewith.

8. *Other insurance forms.*—Closely associated with the business of many casualty companies is corporate bonding and fidelity insurance. Originally established to prevent employers from suffering loss from the dishonesty of employes it has extended to many other situations in which bonds are required.

Another form of insurance is hail insurance which

has relatively a much larger importance in Europe than in the United States. It is, however, used to some extent in the northwestern part of the country and in the contiguous portions of the Dominion of Canada. It insures the farmer against loss to growing crops from hail storms.

Any attempt to enumerate all the varieties and sub-varieties of risk against which provision can be and is made by insurance would lead us into much detail. The main forms have received consideration in this Text.

9. *Magnitude of insurance business.*—In closing it may be well to give the reader some idea of the relative importance from a financial point of view of the different forms of insurance. Uniform statistics for all branches of insurance are not available, but some characteristic facts may be noted.

In the following table concerning life insurance in 1917, facts are given in terms of millions.

	Ordinary Life	Industrial Life	Fraternal Orders
Policies or certificates.....	11.5	38.0	7.0
Insurance in force	\$22,024	\$5,223	\$9,129
Income	\$1,248.7		155.0
Payments to policyholders.....	590.0		97.0

Fire and marine insurance are frequently conducted by the same companies and a distinction between the two is difficult. Some of the facts for the year 1917 are given in terms of millions in the following:

	Stock and Mutual Companies	Lloyd's and inter- insurance associations
Total income	\$681.9	\$14.0
Losses paid	293.8	5.8
Returned to policyholders.....	299.7	

From one-quarter to one-third of the business of these organizations can probably be assigned to marine insurance.

From the business point of view as already noted other forms of insurance are grouped as casualty insurance. The volume of business transacted in this field in 1917 was as follows:

	Millions of Dollars	
	Premiums received	Losses paid
Accident and health	53.35	25.39
Liability	51.41	19.88
Workmen's compensation	81.38	35.60
Fidelity and surety	28.45	7.96
Plate glass	5.94	2.72
Steam boiler	3.55	0.28
Fly wheel	0.38	0.06
Burglary and theft	6.47	2.48
Credit	1.64	0.09
Sprinkler	0.29	0.10
Automobile property damage.....	15.05	5.74
Workmen's collective	0.42	0.24
Live stock	1.50	0.62
Physician's defense	0.23	0.07
TOTAL	250.06	101.23

REVIEW

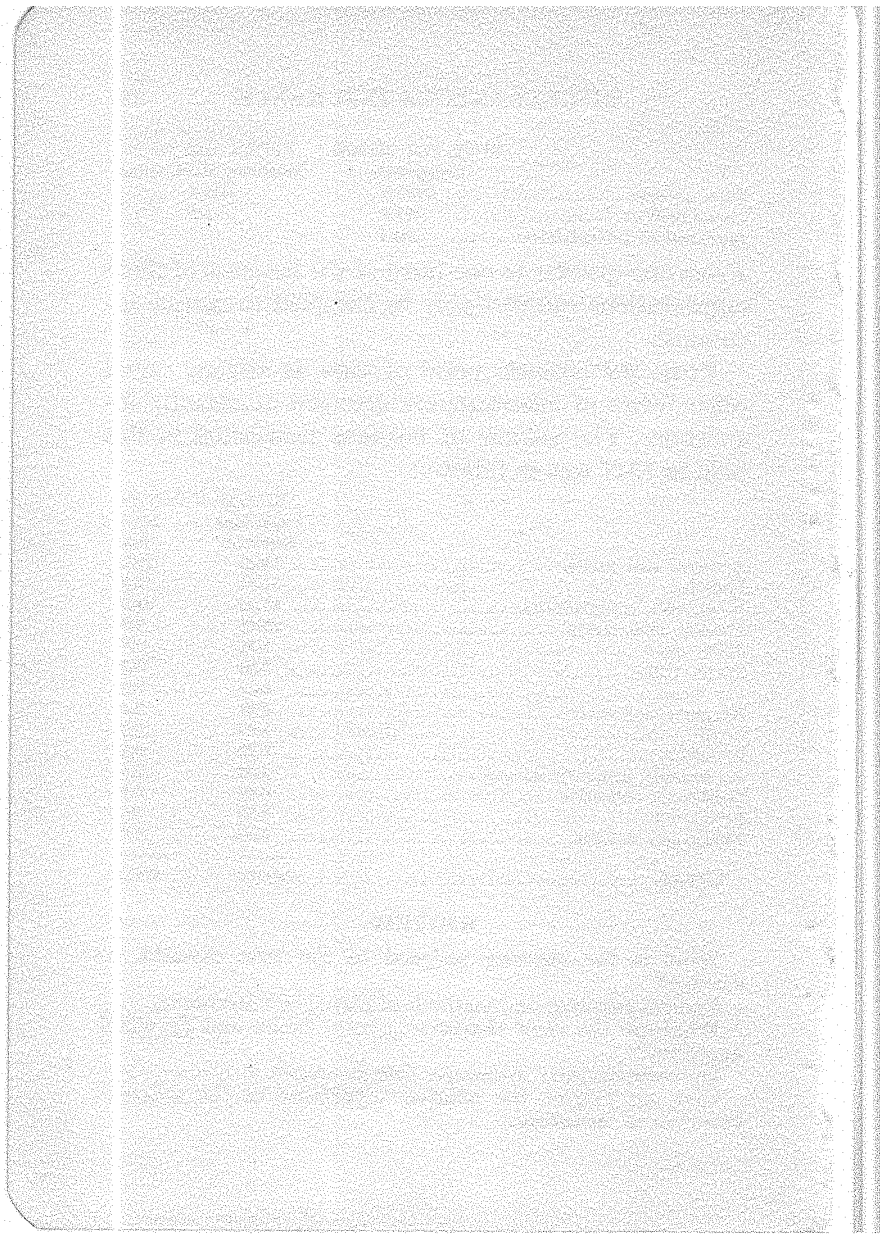
What is the meaning assigned to the term casualty insurance?

Explain purposes and methods of plate glass insurance.

What are the chief characteristics of boiler and fly wheel insurance?

Describe burglary insurance, title insurance.

Give an idea of the relative importance of the different branches of insurance.



INDEX

Accident and Health Insurance.

Risk in, 137; Two kinds of industrial accidents, 137; Certainty of accidents, 138; Frequency of accidents, 138; 67 per cent of all accidents are industrial accidents, 138; Health risk, 139; Liability in, for term only, 140; Accident and health insurance measured, 141; What is an accident?, 143; United States Mutual Accident Association versus Barry, 143; Question of liability under accident policies, 146; What is sickness?, 146; Liability under health policy, 147; Present extent of accident insurance, 147; James G. Batterson's aid to accident insurance, 147; Growth of health insurance, 149; Practical conduct of the business, 150; Premium rates for accident insurance, 150; International Association of Underwriters, 150; Classification of risks in accident insurance, 151; Health insurance and premiums, 152; Reserves for, 153; Selecting the risk in, 154; Medical examination not required, 154; Application a part of the policy, 155; Consideration and term of policy, 156; Insuring clause in, 157; Specific losses, 157; Weekly indemnity in, 158; Optional indemnity in, 159; Double indemnity, 159; Accumulations, 160; Identification clause, in health and accident policies, 160; Provisions of the health policy, 160; Settlement of claims, conditions to be fulfilled in, 161; Future of health insurance, 162; Opposition to making health insurance compulsory, 163

Accident, Standard Table of, 213

Agency System, in Workmen's Compensation, 196

Agents,

Fire insurance, 231; Local agent, 231; Commission agent, 231; Brokers and, 232

Analytical Schedule,

Indebted to A. F. Dean, 241; Base rate of, 242; Charges for occupancy, 242; Copyrighted and cannot be changed, 243

Annuities, in Life Insurance,

Purpose of, 91; Kinds of—immediate, 92; Guaranteed, 93; Table of annuity on male lives purchased by \$1000, 94; Comparison of straight life and guaranteed annuities, 95; Deferred, 96; Sale of, in United States, 98

Annuity Payments, 70

Assessment System of Insurance,

Nature and origin of, 124; Underwriting methods of, 125; Three methods of apportioning assessment among the membership, 125; Impossible to maintain a level assessment system, 126; Grading premiums by age at entrance, 127; Variable premiums, 128; Comparison with old line companies, 129; Difference between fraternal companies and, 130

Automobile Insurance,

Four principal forms of, 173; Private pleasure automobiles, 174; Classification of automobiles—by type and motive power, 174; Classification of automobiles according to the use of the car and character of the driver, 174; Classification and rating of commercial cars, 175; Classification of public automobiles, 176; Manufacturers' and dealers' automobile risks, 176

Average Clause, in New York Standard Policy, 257

Barratry, Meaning of, 276

Basic Rates, in Workmen's Compensation, 209

Batterson, James G., and Accident Insurance, 147

Benefit Schedule of Workmen's Compensation, Importance of, 191; Classification of

- Benefit Schedule of Workmen's Compensation**—continued
accidents, 191; Compensation payable weekly, 191
- Brokers,**
Fire insurance, 232
- Building and Loan Associations,**
Purpose of, 40; Plan of, 40
- Burglary Insurance, 302**
- Business,**
Risks of, 1; Insurance and, 1;
Wastes and losses in the operation of, 1; Inevitable wastes in, 3;
Wastes inherent in business as a whole, 3; Credit insurance in, 4;
Insurance a contract of indemnity against uncertain losses, 4; Reducing costs of, 9; Reducing the loss payments, 11; "Safety first" movement in, 11; Business insurance, 37
- Canada,**
System of inspection for fire insurance, 235; Underwriters' Association, 235; A. W. Ross on inspection for fire insurance, 235
- Cancellation, of Fire Insurance Policies,**
May be canceled by either party, 252; Company must give five days' notice of, 252
- Carnegie Foundation Pensions,**
Cost of, 102; Purpose to establish a contributory system, 103
- Casualty Insurance,**
Meaning of term, 298; Plate glass insurance, 298; Steam boiler and fly-wheel insurance, 300; Burglary insurance, 302; Other forms of, 302; Robbery insurance, 303; Title insurance, 304; Hail insurance, 305; Magnitude of, 306-07
- Clauses,**
Disability, 87; Insuring, in accident policies, 157; Identification clause in accident and health insurance, 160; In fire insurance, 250; Average clause, 257; Risk and perils clause in marine insurance, 274; Particular average clauses in marine insurance, 282-83; Leading clauses in marine insurance, 283; Sue and labor clause in marine insurance, 284; Memorandum clause, 285; Other insurance clause, 287; War risk clause, in marine insurance, 288; Subrogation clause, 290; Collision clause, 291
- Claims, Settlement of, in Accident and Health Insurance, 161**
- Collision Clause, in Marine Insurance, 291**
- Competitive Fund, in State Funds, 200**
- Contract, in Insurance, 33**
Types of, 44; Life policy contract, 60; Addition of disability clause in, 87; Two classes of, 91; Annuity contracts, 91; In assessment and fraternal companies, 131; Workmen's compensation insurance contract, 192; Fire insurance contract, 232-33; Making a contract at Lloyds', 264
- Contractors' Insurance, 177**
- Disability Clause, in Insurance, 87**
- Dividends, 56**
Methods of calculating, 57; Table of, paid on ordinary life policies, 58; Paid on participating policies, 65
- Duggists' Insurance, 179**
- Elevator Insurance, 179**
- Employers' Liability,**
Accident indemnity under, 184; System in use before workmen's compensation, 184; Employer and, 185; Unsatisfactory results of, 185; Difficulties in enforcing, 185; Time required to settle, 186; Growth of compensation legislation, 187; Workmen's compensation and, 188
See Liability Insurance
- Endowment Insurance,**
Accentuated accumulation, 79; Whole life, term policy and, 79; Table of cost of insurance—comparison of policies, 81; Providing for old age needs, 83; Policy of, to be taken out, 86
- Experience Rating,**
Field of, 224; Function of, 224; Reliability of, 225; Summary of experience rating procedure, 226
- Fidelity and Casualty Company, 149**
- Fire Insurance,**
Purpose of, 228; Insurer must have some actual insurable interest in the property, 228; Mortgagee and, 228; Insurance methods, 230; Four types of companies conducting, 230; Mutual companies, 230; Reciprocal underwriters, 230;

Fire Insurance—continued

Lloyd's, 230; Agents for, 231; Brokers, 232; Transaction of the business, 232; Insurance contract, 232; Inspection of the property, before policy is granted, 233; Details of inspection, 234; Canadian inspection system, 235; Rates of, 236; Schedule rating, 237; Universal mercantile schedule, 238; Rate of a non-fireproof brick building, 240; Analytical schedule, 241; Fire protection, 244; Rating organizations

See Fire Insurance Policies

Fire Insurance Policies,

Standard policy, 247; Opening of, 247; Meaning of cash, 248; Restrictions, 249; Provisions in, making policy void, 249; Non-liability, 250; Non-insurable items, 250; Specific items in, 251; Cancellation of, 252; Mortgages, 253; Removal cover, 253; Procedure in loss settlements, 253-55; "Form" space in, 255; Clauses in, 256; Average clause, 257; Premium, 258; Loss settlement, 259; Difference between marine policies and, 273

Fly-Wheel Insurance,

Inspection service of, 300

"Form" Space, in Fire Insurance Policy,

Use of, 255; Two examples of, 255

Fraternal Insurance,

Nature of, 130; Difference between assessment companies and, 130; Contracts, 131; Insurance-writing methods, 131

General Average, of Partial Losses in Marine Insurance, 279-82**Government Insurance**

As result of war, 267; Bureau of War Risk Insurance, 267

Government Life Insurance,

Origin of, 133; Two examples of in United States, 133; War risk insurance, 134; Soldiers' and sailors' insurance, 134; Educational effect of soldiers' and sailors' insurance, 135

Group Insurance,

Nature and purpose of, 104; Unit of, 104; Mortality experience, 106; Coverage of the group policy, 106; Premiums under, 106; Advantages of, 107; Objections to, 108; Fraternal societies, 109

Hail Insurance, 305**Health Insurance,**

See Accident and Health Insurance

Hospital Insurance, 179**Illinois Pension Laws Commission, 101****Income Insurance,**

Principle of, 69; Instalment and annuity, 69; Instalment and annuity payments, 70

Indemnity,

In life insurance, 32; As an essential element of insurance, 32; Fixed indemnities for specific losses, in accident policies, 157; Weekly, in accident policies, 158; Optional, 159; Double, 159; Special, 159; Not specific, in workmen's compensation, 188; Theory of, in workmen's compensation, 189

Individual, The,

Insurance a protection of, 6; Risks of, 22; Three periods of life of, 24; Protection to, thru life insurance, 35-43

Inspection, for Fire Insurance,

Of property, before policy is granted, 233; Details of, 234; Canadian system of, 235; A. W. Ross on, 235; Universal Mercantile schedule method of, 238-40

Instalment Payments, 70**Insurance,**

An indemnity against uncertain losses, 4; A protection of the individual, 6; Value of grouping the losses in, 7; Cost of, 8; Purpose of the premiums, 8-9; Reducing costs by, 9; Reducing loss payments, 11; Forms and divisions of, 19; Protection of life insurance, 30-43; Indemnity as an essential element of, 32; Contractual obligations in, 33; Participating and non-participating, 56-8; Duration of, 71; Unit of, 104; Fundamental basis, 111

Insurance and Risk,

See Risk and Insurance

Insurance Business, Magnitude of, 306**Insurance Carriers,**

Functions of, 111; Underwriting function of, 111; Insurance writing function, 113; Administrative function of, 115; Executive management of, 116; Old line company, 116-23; Assessment and fraternal insurance, 124-32; Govern-

- Insurance Carriers—continued**
 ment life insurance, 133-36; Accident and health insurance, 137-65; Liability insurance, 166; Workmen's compensation, 184-227; Duties of, in workmen's compensation, 192; Forms of, in workmen's compensation insurance, 193; Relative importance of different forms of, in workmen's compensation and premium income from, 195; Cooperation between, 206; Fire insurance, 228; Marine insurance, 261.
- Insurance—Writing Function of,**
 Importance of, 113; Methods used in, 114; Advertising and, 114; Creation of a market thru voluntary cooperation of insured groups, 115; Method of recruiting policyholders in old line company, 119.
- International Association of Underwriters,** 150.
- Investment,**
 Function of life insurance, 38; Two main functions of, 39; Building and loan associations as an aid in, 40; Skilled management of, 42; In endowment insurance, 83.
- Jettison, Meaning of,** 276.
- Landlords' Protective Insurance,**
 Issued to owners of buildings, 181; Coverage, 182; Rate of, 182.
- Liability, Employers',**
See Employers' Liability.
- Liability Insurance,**
 Scope of, 166; Liability to others and to workmen, 167; Chief Justice Shaw on, 167; Beginnings of, 168; Growth of, in America, 168; Features of policies, 169; Varieties of, 171; Two groups of, 171; Team insurance, 172; Automobile insurance, 173; Manufacturers' and contractors' insurance, 177; Owners', landlords' and tenants' insurance, 178; Elevator insurance, 179; Theater insurance, 179; Druggists', physicians' and hospital insurance, 179; Owners' and contractors' protective insurance, 181; Landlords' protective insurance, 181; Accident indemnity under employes liability, 184.
- Life Insurance, Government,**
See Government Life Insurance.
- Life Insurance Protection,**
 Mutuality in life insurance, 30; Indemnity in life insurance, 32; Contract in, 33; Protection given, 34; Family protection, 35; Personal credit insurance, 36; Business insurance, 37; Saving and investment functions of life insurance, 38; Building and loan association, 40.
See also Life Policies and Premiums.
- Life Policies and Premiums,**
 Types of contract, 44; Ordinary life policy, 44; Calculating the premium, 45; American experience table of mortality, 46-48; Single premium, 48; Annual premium, 51; Premiums based upon average, 51; Level premiums and annual cost, 51; Net premiums per \$1000 insurance, 52; Policy reserves and surrender values, 53; Table of reserves and surrender value per \$1000 insurance, 55; Dividends, 55; Policies issued on two bases, participating and non-participating, 56; Table of dividends, 58.
See Life Insurance Protection; Life Policy, Modifications of the Ordinary, 60.
- Life Policy, Modifications of the Ordinary,**
 Limited usefulness of life policies, 60; Value of, 60; Methods of paying premiums—limiting the number, 62; Limited payment policies, 62; Continuous premium policy, 63; Terminal reserves on policies, 64; Increasing the frequency of premium payments, 66; Methods of paying losses—lump payments, 67; Income insurance, 69; Instalment and annuity payments, 70; Duration of insurance, 71; Purpose of term insurance, 72; Premiums on term insurance, 73; Advantages and disadvantages of term insurance, 76; Conversion clause in term insurance, 77; Accentuated accumulation endowment insurance, 79; Comparison of policies—table of cost of insurance under different policies, 81; Providing for old age needs, 83; Disability clause, 87.
- Life Risks,**
 Element of uncertainty in modern life, 21; The risks of the individual, 22; Life risks in life insurance, 23; Three divisions of

Life Risks—continued

life, 24; Requirements for the productive age of life, 24; Responsibility of man, 25; Needs of old age, 27; Magnitude of these risks, 28; Two characteristics of, 30

Life, Three Divisions of,

Youth, 24; Productive period, 24; Old age, 24; Requirements of productive period, 24

Lloyd's, 230

As a type of underwriter, 263; London Lloyd's, 263; Importance of, 263; Purpose of, 263; Making a contract at, 264; Information service of, 265; Lloyd's list, 266; Index of, 266; Register of captains, 266; Record of losses, 266

Loss Settlements,

Lump payment, 67; Income insurance, 69; Term insurance, 72; Endowment insurance—accentuated accumulation, 79; Procedure in, in fire insurance, 253; Fifteen points in, in fire insurance policy, 253; Duties placed upon the insured in, 255; Adjuster in, 259; In marine insurance, 292; Determination of the claim in marine insurance, 294

Manual of Classifications and Rates, 209, 212**Manufacturers' Insurance, 177****Marine Certificates,**

Commercial usefulness of, 269

Marine Insurance,

Purpose of service of, 261; Types of underwriters, 263; Lloyd's, 263; Making a contract at Lloyd's, 264; Lloyd's information service, 265; Lloyd's list, 266; Lloyd's index, 266; Register of captains, 266; Record of losses, 266; American insurance, 266; War hazards and government insurance, 267; Bureau of War Risk insurance, 267; Types of policies, 268; General nature of the risk assumed, 270; Difference between fire insurance companies and, 273; Perils covered by the policy, 274-78; Jettison, 276; Barratry, 276; Marine losses classified—total losses, 278; Partial losses, 279; General average of partial losses, 279-82; Particular average, 282; Leading policy provisions and clauses, 283; Sue and

Marine Insurance—continued

labor clause in, 283; Memorandum clause in, 285; Other insurance clause, 287; War risk clause, 288; Subrogation clauses in, 290; Collision clause in, 290; Settlement of losses in, 292-95; Determination of marine rates, 295

See Marine Insurance Policies**Marine Insurance Policies,**

Types of, 268; Classified according to subject matter insured, 268; Classified according to method of assuming risk, 268; Open policy cargo form, 269; Marine certificates, 269-70; Opening words devoted to general description of subject matter insured, 270; Cargo policies, 271; Meaning of expression "lost or not lost" in, 271; Implied warranties in, 272; Perils covered by, 274; Meaning of jettison, 276; Meaning of barratry, 276; Leading policy provisions and clauses in, 283-92; Sue and labor clause in, 284; Memorandum clause, 285; Other insurance clause, 287; War risk clause, 288; Subrogation clauses in, 290; Collision clause in, 290

Marine Losses,

Classification of, 278; Total losses, 278; Actual total loss, 278; Constructive total loss, 279; Partial loss, 279; General average, 279-82; Particular average, 282-83

Memorandum Clause, in Marine Insurance, 285**Merit Rating, in Workmen's Compensation, 211****Minimum Rates, for Fire Insurance, 236****Monopolistic Fund, in State Funds, 200****Mortality Experience,**

American experience table of mortality, 46-48; In group insurance, 106

Mortgagee Clause, in Fire Insurance, 253**Mutual Companies,**

As a form of insurance carrier in workmen's compensation, 193; Ownership of, 197; Officers of, 198; No attempt made to derive profit in, 198; Operations limited in scope, 198; Seldom solicits business, 199; State funds a form of, 199; In fire insurance, 230; Two classes of, 230

- Non-Participating Insurance Policies,** 56-58
- Occupancy,**
Charges for, under analytical schedule for fire insurance, 242
- Old Age,**
As a division of life, 24; Needs of, 27; Providing for, 83
- Old Line Company,**
Guarantee of, 116; Kinds of, 117; Stock company, 117; Mutual company, 117; Mixed company, 118; Method of underwriting in, 118; Method of recruiting policy-holders, 119; Advertising in, 120; Industrial policies of, 121; Industrial company, 121-23; Comparison of underwriting, assessment system, with, 124, 129
- Ostrander, D.,** Proximate cause of loss in marine insurance, 278
- Owners' Insurance,** 178
- Owners' Protective Insurance,** 181
- Participating Insurance Policies,** 56-58
- Pension Systems,**
Purpose of, 98; Civil War pensions, 99; Contributory type of, 100; State and municipal, 100; Comparison of Massachusetts Commission on Old Age Pensions in 1908 and Commission on Pensions of the City of New York, 101; Illinois Pension Laws Commission, 101; Carnegie Foundation, 102
- Personal Credit Insurance,** 36
- Physicians' Insurance,** 179
- Plate Glass Insurance,**
Origin of, 298; Causes of breakage, 299; Cost of replacement in, 299; Risk in, 299
- Policies, Fire Insurance,**
See Fire Insurance Policies
- Policies, Life,**
See Life Policies and Premiums; Life Policy, Modifications of the Ordinary
- Policy Reserves,** 53
- Premium,**
Purposes of, 8; Life insurance premiums, 45-53; Methods of paying premiums—limiting the number, 62; Continuous premium plan, 63; Increasing frequency of, in life insurance, 66; Premiums on term insurance, 73; Table of comparison of, in different policies, 85; Under group insurance, 106; Grading of, by age at entrance in assessment system of insurance, 127; Variable, in assessment system of insurance, 128; Premium rates in accident insurance, 150; Health insurance, 152; Druggists', physicians' and hospital insurance, 179; Premium income derived from workmen's compensation, 195; Method of premium payment in workmen's compensation, 195; In state funds, 200; Rate making in workmen's compensation, 204-27; Fire insurance, 236; Minimum rates in fire insurance, 236; Specific rates in fire insurance, 236; Schedule rating in fire insurance, 237; Universal mercantile schedule, 238; Analytical schedule, 241-44; Rating organizations, 245; Payment of fire insurance, 258; Determination of marine rates, 295
See Workmen's Compensation Insurance, Rate Making; Schedule Rating
- Premiums, Life Insurance,**
See Life Policies and Premiums
- Productive Age,**
As a division of life, 24; Requirements of, 24; Responsibilities of, 25
- Protection,**
As a result of fire insurance, 244; Loss to insurance companies thru fires, 244; Value of, 244-45; Marine insurance as a protection of cargoes, 261
- Protective Insurance,**
Owners' and contractors', 181; Landlords', 181
- Pure Premium** 215-17
- Rates,**
See Premiums; Workmen's Compensation Insurance—Rate Making
- Reciprocal Exchanges,** 202
As a form of insurance carrier in workmen's compensation, 193; Organization of, 202
- Reciprocal Underwriters for Fire Insurance,** 230
- Reserves,**
Policy, 53; Accident and health insurance companies required to maintain, 153

- Risk and Insurance,**
 Business risk, 1; Wastes and losses in the operation of business, 2; Insurance an indemnity against uncertain losses, 4; Regularity of uncertain, 5; Insurance a protection of the individual, 6; Cost of insurance, 8; Reducing costs, 9; Classification and selection of risks, 10; Reducing the loss payments, 11; Provision for future losses, 13; Cost of operations, 14; Varying risks, 15; Increased knowledge of risk, 16; Principle of indemnity, 17; Forms and divisions of insurance, 19; Risk in accident insurance, 137; Classification of risks in accident insurance, 151; Selection of, for accident and health insurance, 154; Risk in workmen's compensation, 184; Universal mercantile schedule inspection of risks, 238-40; Under analytical schedule, 241; Fire protection, 244; General nature of risk, in marine insurance, 270, 274; War risk insurance, 267
- See Life Risks*
- Risks, Life,**
See Life Risks
- Robbery Insurance,**
 Interior robbery, 303; Outside messenger robbery, 303; Payroll robbery, 303
- Ross, A. W., on Inspection for Fire Insurance, 235
- Rush, Benjamin, on Marine Insurance, 273-74, 75
- Safety First Movement,**
 Workmen's compensation as a stimulus to, 189; Accident prevention becoming important, 190
- Schedule Rating,**
 Represents a list of hazard points, 221; Results of application of, 221; Applicable to manufacturing plants alone, 223; Industrial Compensation Rating Schedule—1918, 223; In fire insurance, 237; For a theater, 237; Universal mercantile schedule, 238; Essential features of universal mercantile schedule, 238; Key rate, 238; Analytical schedule, 241
- Self-Insurance,** 193
- Shaw, Chief Justice, on Liability Insurance, 167
- Soldiers' and Sailors' Insurance,**
 Cost of, reduced to a minimum, 15; Establishment of, 134; Educational effect, 135
- Specific Rates, for Fire Insurance,** 236
- Standard Policy,** 247, 249
- State Funds,**
 As a form of insurance carrier in workmen's compensation, 193; Form of mutual, 199; Two types of, 200; Competitive fund in, 200; Monopolistic fund in, 200; Theory of, in workmen's compensation, 200; Initial rate of, 200; Competition and, 201
- Steam Boiler Insurance,**
 Distinguishing feature of, inspection, 300
- Stock Companies,**
 As a form of insurance carrier in workmen's compensation, 193; Premium income of, 195; Price of stock, 195; Organization of, 196; Agency force in, 196; Business transacted in a number of states, 197
- Subrogation Clause, in Marine Insurance,** 290
- Sue and Labor Clause, in Marine Insurance,** 283
- Surrender Value, 54**
 Reserves and surrender values per \$1000 insurance, 55
- Team Insurance,** 172
- Tenants' Insurance,** 178
- Term Insurance,**
 Purpose of, 72; Premiums on, 73; Differences between whole life insurance and, 73-76; Table of terminal reserves per \$1000, 75; Advantages and disadvantages of, 76; Conversion clause in, 77; Accident and health policies as, 140
- Theater Insurance, 179**
 Schedule rating in, 237; Divisions of a theater, 237
- Title Insurance, 304**
- Travelers Insurance Company, 143**
- Uncertainty,**
 Certainty of the uncertain, 5; Element of, in modern life, 21
- Underwriting Function of Insurance,** 111-13
 Methods of, in old line company, 118; Methods of, in assessment system of insurance, 124; Methods in fra-

- Underwriting Function**—continued
 ternal insurance, 131; Reciprocal underwriters, 230; Use of agents in underwriting fire insurance, 231; Types of, in marine insurance, 263; Lloyd's, 263-67
- Universal Mercantile Schedule**, Essential features of, 238; Methods of inspection and divisions of risks, 238-40; Rate of a non-fireproof brick building, 240
- War**,
 Hazards of, and insurance, 267; Government insurance, 267; Rise in marine insurance rates as result of, 267; Bureau of War Risk Insurance, 267
- War Risk Clause**, in Marine Insurance, 288
- War Risk Insurance**, 134, 267
- Workmen**, Responsibility of Employers for,
See Liability Insurance
- Workmen's Compensation Insurance**—
 General Features,
 Insurance risk in, 184; Accident indemnity under employes' liability, 184; Difficulty in enforcing liability, 185; Growth of compensation legislation, 186; New York the first state to adopt, 187; States still under employes' liability system, 187; Advantages of, 188; Theory of indemnity of, 189; Stimulus to 'safety first' movement, 189; General features of, 190; All compensation laws are not compulsory, 190; Laws of, are not universal in application, 190; Provisions in, limiting the character of injuries, 191; Benefit schedule of, 191; Contract of, 192; Duties of the carrier in, 192; Forms of insurance carriers, 193; Self-insurance, 193; Premium income from, 195; Stock companies, 196; Agency system in, 196; Mutual companies, 197; State funds, 199; Two types of state funds, 200; Reciprocal exchanges, 202
See Workmen's Compensation—Rate Making; Liability Insurance
- Workmen's Compensation Insurance**—
 Rate Making,
 The premium rate, 204; Rate divided into two parts, 204; What the premium rate covers, 204; Functions of the rate, 204; State supervision and control of rates, 205; Rate making organizations, 206; Workmen's Compensation Service and Information Bureau, 206; Decentralization of rate making function, 208; Rating scheme—basic rates, 209; Scheme of rating divided into two parts, 209; Merit rating, 211; Basic manual, 212; Standard Accident Table, 213; Pure premium, 215; Conditions constantly changing in workmen's compensation, 216; Translation of basis pure premium, 217; Resultant rates, 218; Schedule rating, 220; Application of schedule rating, 221; Experience rating, 224
- Workmen's Compensation Service and Information Bureau**,
 Organization for rate making, 206; Services of, 207; New bureaus in, 207; Success of, 209