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# LIFE INSURANCE

BY SOLOMON S. HUEBNER, Ph.D.
*Professor of Insurance, Univ. of Pennsylvania*

PROPERTY INSURANCE

LIFE INSURANCE

MARINE INSURANCE

THE STOCK MARKET

D. APPLETON AND COMPANY
Publishers New York

# LIFE INSURANCE

## A TEXTBOOK

(Revised and Enlarged)

BY

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FINANCE AND COMMERCE, UNIVERSITY OF PENNSYLVANIA;
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*ENDORSED BY THE EDUCATION AND CONSERVATION BUREAU
THE NATIONAL ASSOCIATION OF LIFE UNDERWRITERS*

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# PREFACE

The preparation of this text was originally undertaken at the suggestion of the National Association of Life Underwriters. In making the suggestion, the Association was actuated by the desire for a comprehensive textbook adapted to the needs of classroom instruction for beginners of the study of life insurance in colleges and high schools; one which would also serve as a clear and simple exposition of the subject for laymen and life insurance solicitors. Since its first appearance in 1915, the text has been widely adopted by our higher institutions of learning and has maintained a prominent place for the past eight years. During that period, however, life insurance has undergone numerous material changes, especially with respect to practices, and the fields of usefulness to which it is applicable. The present volume aims to incorporate these and represents a detailed revision and a substantial enlargement of its predecessor. The volume, it may be added, embodies in large part the author's conclusions and method of treatment in the classroom arrived at during nineteen years of teaching this subject.

To fulfill the purpose that actuated the preparation of this text, it has been the author's object to bring together in compact and classified form the essential facts, principles and practices of the life-insurance business, and to present them in a simple and untechnical manner. The book does not attempt to discuss the highly technical aspects of the business, such as the specialist may desire; instead its purpose is to treat comprehensively those phases concerning which the student, layman and solicitor should be informed in order to have a clear understanding of the nature of life insurance and its reference to the family, and personal and business uses to which it may be put.

The thirty-two chapters of the text have been grouped into five distinct parts, dealing respectively with the "Nature and Uses of Life Insurance," the "Science of Life Insurance," "Special Forms of Life Insurance," the "Organization, Management and Supervision of Legal Reserve Companies," and "Important Legal Phases of Life Insurance." The first part of the volume is devoted to a discussion of the practical uses to which life insurance may be applied. Separate chapters are devoted to each of the leading types of policies sold, with a view to giving a detailed analysis of the contracts and an extended statement of the advantages and disadvantages connected with their use under various circumstances. Special effort has been made to write and illustrate this part of the volume in a manner so simple as not only to adapt it to collegiate purposes, but to make it suitable also for classroom instruction in commercial and high schools. Life insurance, so vitally affecting nearly every man and woman in the community and so intimately related to the welfare of the masses, should find some place in the curriculum of our high schools. The courses offered must necessarily be simple and untechnical, and may be restricted advantageously to an explanation, chiefly by way of detailed .illustration, of the reasons why it is a duty to insure under certain circumstances, the practical uses to which life insurance can be put, the distinctive features of the main types of policies, and the advantages or disadvantages of each under certain circumstances. For these reasons it is believed that the first ten chapters of the book will lend themselves readily and advantageously for use in high schools, commercial schools and similar institutions.

Part Two of the volume deals with the scientific phases of life insurance and its chapters present the essential considerations connected with the measurement of risk, the principles underlying rate-making, the net single premium, the net level premium, the reserve, loading, surrender values, policy loans, and surplus. For beginners in the subject this phase of life insurance is necessarily the most difficult to understand and appreciate. Every effort has, therefore, been made to emphasize the importance of these aspects of the business and to explain them in a simple manner. Having in mind again the layman, the student, and the average solicitor, this part of the volume is as untechnical in character as possible and only simple mathematics has been used to make clear the scientific foundation that underlies correct principles. Furthermore, the examples used to illustrate these principles are fully stated, and special emphasis has been given to the proper classification of the respective topics so as to assist the student in grasping the subject.

I wish to acknowledge my indebtedness to the many officials of insurance companies who have shown me the utmost courtesy in complying with my requests for explanation of the office and field practices followed by their companies and for forms, data, printed circulars and other information. Special acknowledgment is due to my former colleague, Dr. Bruce D. Mudgett, Instructor in Insurance at the University of Pennsylvania, when the preparation of this volume was first undertaken in 1915, and now Professor of Statistics at the University of Minnesota. Not only did Dr. Mudgett write the first seven chapters of Part Two, dealing with the science of life insurance, as well as the chapter on disability insurance, but, throughout the preparation of the volume, he generously gave me the benefit of his advice and criticism.

S. S. Huebner

University of Pennsylvania

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# PART I

# THE NATURE AND USES OF LIFE INSURANCE

# CHAPTER I

## NATURE OF LIFE INSURANCE AND THE BASIC PRINCIPLES UNDERLYING IT

**Definition and Extent of Life Insurance.**— Mankind is exposed to many serious hazards such as fire, disability and premature death, the happening of which, from the standpoint of the individual, it is impossible to foretell or prevent, but the effects of which, such as the loss of property or earnings, it is highly important to provide against. It is the function of insurance in its numerous forms to enable individuals to safeguard themselves against such misfortunes by having the losses of the unfortunate few paid by the contributions of the many who are exposed to the same risk. If the hazard under consideration is that of premature death, the loss suffered is indemnified through life insurance. From the community standpoint life insurance may be defined as "that social device for making accumulations to meet uncertain losses through premature death which is carried out through the transfer of the risks of many individuals to one person or a group of persons."[1] From the standpoint of the individual, however, life insurance may be defined as consisting of a contract, whereby for a stipulated compensation, called the premium, one party (the insurer) agrees to pay the other (the insured), or his beneficiary, a fixed sum upon the happening of death or some other specified event.

Life insurance had its origin much later than the leading forms of property insurance and its real rise to importance dates back only about half a century. The first attempts at associated life insurance, as far as is known, were undertaken in Great Britain. In 1699 there was formed the "Society of

[1] WILLETT, ALLAN H., The Economic Theory of Risk and Insurance, 106.

Assurance for Widows and Orphans" and in 1706 "The Amicable Society for a Perpetual Assurance Office." It has been estimated that between 1699 and 1720 probably fifty life-insurance schemes were started in Great Britain,[2] but all were conducted under methods very defective as compared with those now in general use; in fact, Mr. Holcombe concludes: "It may be taken as established that no plan of life insurance as we now understand it had been contemplated by any company or society, or had been considered by any legislature in Europe prior to the year 1760."[3] In 1762, when the total amount of life insurance in Great Britain is said not to have exceeded £350,000, the Equitable Assurance Society of London commenced operations, and this society may be regarded as the first to use the modern system of insurance, its policies being issued for fixed amounts and the premiums graded according to age.

But while the institution of life insurance was first carefully studied and applied in Great Britain, its greatest growth has been in the United States, dating chiefly since the Civil War. A few figures will make clear the extent and rapidity of this development. Exclusive of annuity contracts, it has been estimated that the total number of life-insurance policies in the United States at the beginning of the nineteenth century did not exceed one hundred.[4] By 1860 the companies reporting to the Insurance Department of the State of New York showed a total of only 56,000 policies with a face value of $163,000,000, while the annual premium income amounted to only $4,700,000 and the assets to $24,000,000. By 1870 the companies authorized to do business in the state of New York showed the following totals: Annual premium income, $90,000,000; number of policies, 740,000; face value of insurance, $2,000,000,000; and assets $270,000,000.[5] During the next decade the companies experienced a decline, but fol-

[2] Holcombe, John M., "Observations on Life Insurance History," *Yale Insurance Lectures*, i, 18.

[3] Ibid., p. 19.

[4] Ibid., p. 24.

[5] Ibid., p. 25.

lowing 1880 the business enjoyed a phenomenal and almost uninterrupted growth.

It is possible to present only approximately the total insurance carried by the numerous corporations and associations now operating in the United States. Some idea, however, of the present magnitude of the life-insurance business in the United States may be obtained from the aggregates for the year 1921, published in the *Insurance Year Book.* At the close of that year, it appears that as regards 288 companies the amount of insurance in force aggregated $45,983,000,000, the annual premium income $1,537,000,000 and the total income $1,951,000,000, the annual payments to policyholders $840,000,000, and the admitted assets $7,936,000,000. To these enormous totals, however, it is necessary to add the business of the numerous fraternal orders which grant insurance. At the close of 1921, 283 such orders carried certificates aggregating $10,034,000,000, while their annual income amounted to $195,000,000, their annual claims to $107,000,000, and their assets to $327,000,000. The vastness of these figures can scarcely be comprehended. They testify to the fact that the value of life-insurance protection is rapidly being recognized by the rank and file of the nation's population. At present over 70,000,000 policies and fraternal certificates, aggregating over $56,000,000,000 of insurance, are carried in the United States, and over $745,000,000 is distributed annually in claims; yet these enormous figures are small compared with what they will be at the close of the next generation.

**Combination of Many Risks into a Group Is Necessary to Make the Law of Average Apply.**— Our definition of life insurance, it will be recalled, involved " the transfer of risks of many individuals to one person or a group of persons." Such a combination of risks is absolutely essential if the business is to be established on a basis other than speculation or gambling. To eliminate the speculative factor it is necessary to proceed on the theory that the larger the number of separate risks of a like nature combined into one group, the less uncertainty will there be as to the amount of loss that will be incurred.

To insure a single life for $1,000 during a given year, it is clear, is in the nature of a gamble, because the individual must either die or survive that period, with the result that there is either a 100 per cent. loss or gain. If the number of persons insured is increased to one hundred the element of uncertainty will still be present to a large extent, although the variations in the number dying or surviving the year will be much less than that noted in the preceding case. But if 500,000 lives of similar physical condition are combined in the same group, and more than that number of lives are now insured in each of several American companies, the fluctuation in the rate of death from year to year will vary only by the smallest fraction of 1 per cent., with the result that the company will be able to determine in advance the amount of its death claims and thus to place its business upon a non-speculative basis. In fact, if the number of lives insured by a company were so large as to make the application of the law of average perfect, practically all uncertainty as to the amount of loss that would be experienced during a given period would be removed. As has been well said:

> When the insurance is furnished by a company with capital or surplus which answers as a given guarantee of stability, it becomes a business, instead of a speculation, the distinction being that while an individual who assumes a single risk either loses or gains thereby the whole amount involved, the company which takes many, by means of the aggregate business reduces the possible variations to narrow limits and really makes of insurance a business attended with less peril than almost any other. . . . During a given year an individual either dies or he survives the year; the result is a 100-per-cent. loss or a 100-per-cent. gain, if one wagers upon the one life. But make one hundred thousand of these bets upon persons of the same age and like physical condition and the variation in the result will not be 2 per cent. usually, instead of 200 per cent. There is nothing more uncertain than life and nothing more certain than life insurance.[6]

[6] DAWSON, MILES M., The Business of Life Insurance, 4.

**Necessity of Accumulating a Fund for the Payment of Claims.**— While all forms of insurance are alike in that they require for their successful operation a combination of many risks into a group, they are vitally different as regards the nature of the risks covered. In this respect the chief difference between life and other forms of insurance is that in the latter the contingency insured against may or may not happen, and as regards the great majority of policies written, does not happen, while in life insurance the event against which protection is granted, namely death, is a "hazard converging into certainty." It is necessary, therefore, if a life-insurance policy is to protect the insured during the whole of life, to provide not only against the risk of death each year, but also to accumulate an adequate fund for the purpose, as Mr. Dawson states, "of meeting at the ultimate limit of human life an absolutely certain claim if one has up to that time been escaped."[7] He further adds: "It was failure to see the necessity for providing for an increasing hazard, converging into certainty, which has caused many serious errors in the fundamental plans of some institutions formed to furnish life insurance, and the thing which separates plans of insurance into sound and unsound is precisely whether intelligent regard for this principle has guided the company in determining its rates of premium and the management and disposition of its funds."[8]

**Necessity of Accumulating This Fund According to Scientific Principles and a Workable Method.**— In accumulating the fund referred to in the preceding section it is important for the companies to take into account several other characteristics which differentiate life insurance from other forms of insurance. In the first place, the persons combining for life insurance are not of the same age, and it is clear that on the average those insuring at the younger ages will live much longer before receiving payment on their policies than those who insure at the older ages. Justice, therefore, re-

[7] Ibid., p. 5.
[8] Ibid., p. 7.

quires that the premium payments should be graded according to the age when the policy is issued. Furthermore, as future chapters will show, a great variety of policies is on the market, some insuring against death for a limited number of years only while others cover the whole of life, some providing for the payment of premiums for a stated number of years only and others for the entire duration of the contract, some promising the payment of the face of the policy in one lump sum and others for the payment of that sum in a fixed number of installments, etc. Here again justice demands that the rates for each type of policy shall be determined not only with reference to the age of the insured at entry, but also according to the nature of the protection promised.

These complex conditions cannot be treated justly by the companies unless they follow scientific principles in the computation of their rates. Since life-insurance policies promise a definite sum in the event of death, and in some instances in the event of survival at a stated time, it is essential that there be an accurate determination of the liability involved and that an adequate premium be charged which is just as between ages and types of policies. This is especially important because life-insurance contracts, in contrast with most other forms of insurance where the policies are written for only one or at most a few years and are subject to cancellation at the option of either party, are unilateral as against the company and usually extend throughout life or for long periods of time. Later chapters will outline the principles underlying the computation of rates, and the matter will therefore not be discussed in detail at this time. Suffice it to state that the reasons just mentioned make it essential for the companies to compute their premiums on the basis of some table of mortality experience which will indicate to the company the probability of death for average lives at any age.

In addition to the foregoing, life insurance presents a further problem as regards the accumulation of the fund necessary to pay policy claims. Experience has shown that a workable plan of life insurance requires the charge of a uniform annual premium during the premium-paying period. Mathematically, it is possible to consider a life-insurance policy as composed of a series of one-year renewable-term insurances and to make each year's premium just cover the cost of current protection. Under this plan, however, since the rate of death increases with increasing age, the premium will become burdensome and at last prohibitive, with the result that the healthy members of the group will withdraw rather than continue to pay the greatly increased rates. From a practical standpoint it is therefore desirable in the great majority of cases to charge a uniform or level annual premium as contrasted with an increasing one. Mathematically, the two plans are the same, since they are computed on the basis of the same table of mortality experience, but the annual level premium has the great advantage of being moderate in amount and the same from year to year, with the result that policyholders remain satisfied and soon become accustomed to its payment.

But keeping the premium the same from year to year, instead of increasing it in accordance with increasing age, involves the payment during the earlier years of a sum over and above that required to pay the current cost of insurance. In other words during the early years the company is accumulating a fund out of excess premiums which will be drawn upon in the later years when the same annual premium becomes insufficient to meet the current cost. This overcharge in the yearly premiums does not belong to the company but is held in trust for the policyholder at an assumed rate of interest for the purpose just indicated. Considering a large number of policies, this overcharge or unearned premium (usually called the reserve) represents that sum which, together with the future premiums paid by policyholders, will just enable the company to meet its claims according to the mortality table in use. This method of thus accumulating a reserve fund is fundamental to any sound plan of life insurance. The extent of such accumulations by the companies now in operation in the United States is indicated by the fact that at the close of 1921 the reserve value of the policies in force in the 288 American legal-reserve companies, reported in the *Insurance Year Book*, amounted to $6,203,000,000 or nearly 80 per cent. of their total admitted assets.

**Life Insurance Changes Uncertainty into Certainty and Is the Opposite of Gambling.**— Although life insurance serves indirectly to increase the productivity of the community by eliminating worry and increasing initiative, its direct economic function is to change uncertainty into certainty and thus enable the insured to transfer the hazard of premature death to the insurer at the lowest possible cost. The real gain from life insurance is due to the combination of many separate risks into a group with a view to making possible the "substitution of certain for uncertain loss." As already explained, the larger the number of separate risks comprising a group, the less uncertainty will there be as to the amount of loss, and the less the uncertainty of loss the smaller will be the premium that the company needs to collect annually from the insured.

This function of insurance is perhaps most readily understood in connection with fire insurance. Thus let us assume that each of 5,000 persons owns a house valued at $10,000, that all the houses are alike, and that the annual loss by fire as regards the entire number, although varying slightly from year to year, averages one-half of 1 per cent. of the value, or $50. In the absence of any system of insurance making possible the application of the law of average, it is clear that none of these owners can effect any arrangement which will place them in a position of absolute security. At best they can only anticipate their uncertain losses by practicing self-insurance, i.e. by increasing their rentals by an amount considerably in excess of the average annual loss of $50. But even assuming that they can increase their rentals by four or five times the amount actually necessary under a system of insurance, they will still remain subject to a large gamble. At the end of the year the great majority of these owners, since they suffeı no loss, would have the entire extra sum collected from tenants as a clear gain, while as regards those unfortunate few who suffer a total loss the extra sum collected would prove woefully inadequate to indemnify the value destroyed. But let us now assume that these 5,000 house-owners can combine their risks into a group. By doing this they can substitute for the great *uncertainty* of loss which confronted them as individuals a *certain* definitely known loss, amounting on the average to $50 per house and $250,000 for the group. This sum plus a proper addition for expenses, contingencies and reasonable profit, is all that the company needs to charge in order absolutely to secure these owners against the risk of loss by fire. "The risk that an insurance company carries is far less than the sum of the risks of the insured, and as the size of the company increases the disproportion becomes greater."[9]

Now just as each house-owner was enabled to use fire insurance to substitute certainty for uncertainty at the lowest possible cost, so it is also possible through life insurance to hedge against the uncertainty of life by providing for the payment of a definite sum of money at death, whenever that may occur, to replace the economic value of the deceased individual. From a family and business standpoint nearly all lives possess an economic value which may at any time be snuffed out by death, and it is as reasonable to insure against the loss of this value as it is to protect oneself against the loss of property. In the absence of insurance we saw that property-owners could at best practice only some form of self-insurance, and that it was impossible for them to effect any arrangement which would give absolute certainty. Similarly, in the absence of a system of life insurance which makes possible the application of the law of average, no arrangement can be found which will render certain the indemnification of the value of a human life lost through death. The practice of saving such a sum in anticipation of probable death by no means takes the place of insurance as an agency in substituting certainty for uncertainty, because saving requires time and

[9] WILLETT, ALLAN H., The Economic Theory of Risk and Insurance, 108.

death may occur before the savings fund has reached an appreciable size. Unlike the practice of saving, a life-insurance policy means certainty because it guarantees a definite estate from the moment the first premium is paid. Moreover, it furnishes this element of certainty to the public at the lowest possible cost since the companies are enabled through the combination of many risks to determine the exact average cost of the protection for the entire group. From the company's point of view we have seen that life insurance is essentially non-speculative; in fact, probably no other business operates with greater certainty. But it is equally important to remember that from the insured's point of view life insurance is also the antithesis of gambling. Nothing is more uncertain than life, and life insurance offers the only sure method of changing that uncertainty into certainty. Failure of the head of a family to insure his life against the sudden loss of his value through death amounts to gambling with the greatest of all chances, and the gamble is a particularly mean one since in case of loss the dependent family and not the gambler must suffer the consequences.

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# CHAPTER II

## FAMILY AND PERSONAL USES OF LIFE INSURANCE

The primary purpose of life insurance is the protection of the family. Every family is dependent for subsistence upon an income which necessarily varies in amount with the particular circumstances surrounding its case. In some instances this income is obtained from the return on invested funds which have been accumulated or inherited, but in the overwhelming majority of cases the subsistence of the family depends upon the current earnings of the husband. He is the breadwinner who has definitely assumed responsibility for the support of those dependent upon him, and his wife and children have a right to look to him for adequate maintenance. His life has a value (and the same is also often true of the mother or son) to the dependent members of the family, and it is this value of one life in its relation to another that justifies the existence of life insurance. If a man owns a house or other destructible property he usually allows little time to pass before insuring it in some fire-insurance company. Yet why consider the value of property as more important than the value of the life of the owner, when in the great majority of instances the value of the latter to the family exceeds that of the former? Moreover, the property may never burn or be otherwise destroyed, since it appears that only about one fire occurs to every one hundred and seventy-five fire policies, while death is certain to happen. As Benjamin Franklin aptly stated: "A policy of life insurance is the oldest and safest mode of making certain provision for one's family. It is a strange anomaly that men should be careful to insure their houses, their ships, their merchandise, and yet neglect to insure their lives, surely the most important of all to their families, and more subject to loss."

**Capitalization of the Value of a Human Life and Indemnification of That Value.**—Recognizing the value of a human life from both the family and the business standpoint (the two being nearly always closely interrelated), it should next be noted that life insurance constitutes the only safe method of indemnification against the loss of that value through death. Briefly stated, life insurance makes possible the capitalization of that value. By furnishing this capitalized value in the event of death, life insurance may be said to perpetuate the earning capacity of the life for the benefit of those dependent upon it. Through experience and toil the human life may be constantly growing more valuable, the dependent family in the meantime becoming more and more accustomed to a higher standard of living, and suddenly this entire value may be swept away by death. Unless some substitute—some sort of hedge—can be found there will be nothing to take the place of the economic value of the deceased. Life insurance constitutes such a hedge and it should be the purpose of every man who has assumed family obligations to take out such an amount of insurance—to capitalize himself to such an extent —that the principal if put out at the current rate of interest will yield an income equivalent to from one-third to one-half of his earning capacity during life. Nearly all other values are being capitalized in this modern age, and it is entirely proper, in fact essential, that the value of a human life should also be capitalized.

**Life Insurance is Corporation Finance Applied to Human Life Values.**—Emphasis should be placed on the value of human life as contrasted with the value of mere property. The productive lives in any community constitute by far its greatest economic value. For years we have developed a science, "corporation finance," which deals with the capitalization of lands, buildings, equipment, and good will. But it is only in recent years that our thoughts have turned to the incorporation of human life values, and life insurance, as already indicated, furnishes the only known method of capitalizing the producing value of a life.

The analogy between life insurance and corporation finance is complete. Life insurance is corporation finance applied to human values. From the moment the policy is issued an estate has been created, provided the policyholder continues to pay his premiums. Corporations frequently issue bonds that are callable at the option of the corporation, or that provide for their payment at maturity through an accumulating sinking fund. Similarly, a life insurance policy is a *callable sinking fund bond,* issued upon the life of the policyholder. It will be paid promptly if Providence sees fit to call the policyholder. In case there should not be a call, the bond will also be paid through the accumulation of its sinking fund provision, or the reserve, as it is called. Live or die, payment of the bond is a certainty. The value of the earning capacity of the life has been capitalized, and should premature death destroy this value the proceeds of the life insurance policy will serve as a substitute to continue, in a measure at least, the former earning capacity of the deceased.

**The Amount of Life Insurance to be Taken.**—The question is often asked: "How much life insurance protection should be taken out for dependents?" While this is a practical question opinions differ greatly and every one must answer the question according to his opportunities and obligations. One rule which has been frequently advanced, and which assumes that there should be a continuance to the family of at least one-half of the current income earned by the insured at the time of death, is to the effect that "A man's life insurance should be large enough, when invested at the current rate of interest, to produce an income half as large as he earned while living." Others try to arrive at some rough answer to this question by ascertaining the principal which ought to pass upon death to the family of the insured in order to purchase an "income equal to the insured's probable earnings should he survive." Assuming that a $500 income is under consideration, the following table will serve to indicate the present value, at 4 per cent. interest, of such an income during the expectancy of life at various ages, according to the American Experience table of mortality. Thus, as the management of one company states: "At age 30, a sum of $9,332, computed at 4 per cent. interest, or of $8,187, computed at 5 per cent., would be required to produce an income of $500 per annum for thirty-five years, which is the life expectancy of a person aged 30, and an insurance of $9,332, or of $8,187, according to the rate of interest, would be required to indemnify his family fully for the loss of $500 income which would be occasioned by his death thirty-five years in advance of his expectancy." If an income of $1,000 per annum were under consideration the amount of insurance would be twice that indicated.

| Age | Expectancy | Insurance Value 4 per cent. | Insurance Value 5 per cent. |
|---|---|---|---|
| 25 | 38 | $9684 | $8434 |
| 30 | 35 | 9332 | 8187 |
| 35 | 31 | 8794 | 7796 |
| 40 | 28 | 8331 | 7449 |
| 45 | 24 | 7623 | 6899 |
| 50 | 20 | 6795 | 6231 |
| 55 | 17 | 6083 | 5637 |
| 60 | 14 | 5281 | 4949 |

**The Duty to Insure.**—Since life insurance furnishes the surest method of hedging the family against the uncertainty of life, it is essential that all who have assumed family obligations should use it as a means of protecting dependents against the want that may be occasioned by an untimely death. The capitalization of the value of a human life for the benefit of the household depending upon it is a fundamental duty that should be given the widest publicity through the pulpit, the school and the press. In the great majority of instances, life insurance is the only recourse open to the man of moderate income who finds it difficult or impossible by force of circumstances to accumulate a savings fund for those dependents who may outlive him. From the family standpoint, life insurance is a necessary business proposition that is expected of every person with dependents, as a matter of course, just as any other ordinary necessary business transaction which ordinary decency requires one to meet. The care of his family is a man's first, greatest and most important business. The family should be established and run on a sound business basis. It should be protected against needless bankruptcy. The death or disability of the head of this business should not involve its impairment or dissolution any more than the death of the head of a bank, railroad or store. Every corporation and firm represents capitalized earning capacity and good will. Why then, when men and women are about to organize the business called a family should there not be a capitalization in the form of a life insurance policy of the only real value and good will behind that business? Why is it not fully as reasonable to have a life insurance policy accompany a marriage certificate in the same sense that a marine insurance certificate invariably attaches to a foreign bill of exchange? The voyage in the first instance is certainly much longer on the average, subject to much greater risk, and in case of wreck, the loss is of infinitely greater consequence.

The growth of life insurance implies an increasing development of the sense of responsibility. The idea of providing only for the present must give way to a recognition of the fact that a person's responsibility to his family is not limited to the years of survival. Emphasis should be laid on the "crime of not insuring," and the finger of scorn should be pointed at any man who, although he has provided well while alive, has not seen fit to discount the uncertain future for the benefit of a dependent household. As already explained, life insurance is the only sure means of changing uncertainty into certainty and is the opposite of gambling. He who does not insure gambles with the greatest of all chances and, if he loses, makes those dearest to him pay the forfeit. That the gamble is a risky one is easily demonstrated by any mortality table, and even if life is granted until age 50, let it not be overlooked that less than one in ten of our population succeeds in accumulating a reasonable competency, and that through reverses a great majority of this limited number lose the same by the time that age is reached. Woman's *rights* as well as her *duty* in the matter of life insurance should also be emphasized. She should be taught that it is not only her husband's duty adequately to protect the family, if that is at all possible, but that it is also *her* duty, if necessary, to use her persuasive powers to get him to act, and if that does not avail, to insist on action as her *right*. Not only has she a right to personal protection, but her rights as regards life insurance are further increased by her interest in the children which are as much hers as they are her husband's.

In addition to the advantage of life insurance as a direct protection to the family, it also benefits the policyholder personally in a number of important ways. Eight advantages deserve special mention in this respect and all, it should be noted, redound to the benefit of the policyholder's family by qualifying him better to meet its obligations and to protect its comfort and happiness.

**Eliminates Worry and Increases Initiative.**—Writers have frequently asserted that life insurance is not to be regarded as a producer of wealth but that its function is merely to distribute funds from the fortunate to the unfortunate. In reality, however, life insurance will be found to be a powerful indirect force in the production of wealth in that it relieves the policyholder of worry and increases his efficiency. Constant worry is one of the greatest curses that can fall to the lot of man, and life insurance, if universally used, would lift that curse from innumerable shoulders. The knowledge of an assured estate from the moment the premium is paid will enable the insured to feel freer to take the initiative. Let us assume that the head of a family is the possessor of $10,000 and is afforded an excellent opportunity for the investment of this capital in a business pursuit. If it were not for life insurance the owner of this capital could not safely afford to invest this sum and assume the speculative hazard connected with most business enterprises because of the fear that this capital might be lost, and that in case of premature death no provision would exist for those dependent upon him. Life insurance, however, furnishes a hedge against such a contingency and assures the prospective investor in this instance that in case of his death and the loss of his investment, the insurance company will reimburse his dependents to the extent of $10,000. By thus removing a load of care from the mind life insurance promotes efficiency and makes life happier. For this reason life insurance should be regarded by the average man as one of his most treasured possessions, and premium payments should not be looked on merely as an expense to be grudgingly borne. It may safely be stated that the possession of an adequate amount of life insurance causes the average policyholder to eat better, sleep better, feel better, and as a result of these, to work better.

**Life Insurance Makes Saving Possible.**—One constantly meets with those whose argument against life insurance is that they prefer to save. The habit of saving should by all means be encouraged, but it should be borne in mind that the saving of a competency involves the necessary time to save, and that life insurance is the only certain method to use as a hedge against the possibility of the saving period being cut short. A policy of saving can yield only a small amount at the start, while a policy of insurance from its beginning guarantees the full face value and thus safeguards the policyholder against failure through early death to have sufficient time to save adequately through other channels. Thus, if one is able to save $500 annually it will take nearly fifteen years to accumulate a fund of $10,000, assuming that the accumulations are safely invested annually at 4 per cent. compound interest. Yet the resolution of the head of the family to protect the home with such a savings fund is contingent upon his surviving the full period, and may be defeated by death before the savings have reached any appreciable sum. To depend entirely on saving as a means of providing for the future of the family is, to say the least, a highly uncertain policy to pursue. The first requisite in providing for the future support of dependents is *absolute certainty*, and this can be secured only by using life insurance as a hedge against the possible failure to continue the annual accumulations to the savings fund because of early death. Through life insurance the suggested fund of $10,000 can be assured in any case.

Upon death the insurance company pays the face of the policy, while in case of survival the insured is given the necessary time to accumulate a competency.

Moreover, the roseate views which so many hold concerning their resolution and ability to accumulate and keep should be tempered by a frank statement of the distressing facts as they actually exist. Eighty-five per cent. of this country's adults leave no estate at all, and about one-third of the widows in the country lack the necessities, and 90 per cent. the comforts, of life. The habit of saving, as already stated, should be encouraged, but the foregoing facts clearly indicate that it is unwise to practice saving to the exclusion of life insurance. Both should be practiced, and, if only one is possible because of limited means, insurance should be selected because of its much greater certainty in leaving a stipulated fund for the support of the family whenever the breadwinner's income-producing capacity is cut short by death.

For the great mass of people, with dependents, life insurance should be the first type of security to be purchased. Where a dependent family is at stake it is the height of folly to urge investment in other directions, and it is quite beside the point to offer laborious explanations of the relative merits of various classes of bonds and other types of investment. The greatest purpose of life insurance is to protect. As already indicated, it takes time to save, and where dependents must be protected life insurance alone guarantees the accumulation of a competency against the contingency of premature death cutting short the saving period. The great mass of people live only within the life insurance stage and are removed by thousands of dollars from the point where they can judiciously become direct investors along other lines. Even when contemplating the ownership of a home, no man with a family on his hands has a right to say, "I will first buy and pay for a home, and then will buy life insurance." The potential estate is the vital thing when a dependent family is at stake. Life insurance must come first. No man has a right to put money in any other type of investment until he has first made decent provision for a potential estate through life insurance, that being the only way in which to accomplish such a result.

**Furnishes a Profitable and Safe Investment.**—In addition to guaranteeing an estate at once, life insurance contains an investment feature which is absolutely safe and which reaches large proportions in the later years of the policy. With the exception of a few types of policies only, life insurance represents an accumulation of savings admirably adapted to put small sums of money to prompt and profitable use, and in this respect has been aptly defined as "compound interest in harness." As will be explained later, nearly all types of life-insurance policies gradually accumulate a so-called surrender value which may be withdrawn by the insured if he decides to discontinue the policy. This value, as will be shown later, represents an accumulation of a portion of the premiums paid by the policyholder which the company promptly invests at an assumed rate of interest; and in mutual companies the interest earnings in excess of this assumed rate are returned to the policyholder. In other words this value of the policy represents savings left with the company. Past experience shows that on the average life-insurance companies have earned on the savings left with them by policyholders the largest interest returns consistent with safety. Owing to the mathematical and scientific character of life insurance and the stringency of government supervision of the companies, there has not been a failure of a large and well-established life-insurance company in the last quarter of a century, and this is true despite the fact that we have witnessed three severe financial panics during the last twenty-five years. Nearly every company devotes the greatest care to its investments, which are spread out over such a large number of securities and other forms of property that a loss on one investment will be fully counterbalanced by profit on another. Moreover, an examination of the present earnings of life-insurance companies, shows that the great majority make between 4½ and 5 per cent. on their total assets, while in some instances the returns exceed this amount.

From the standpoint of safe investment, life insurance is clearly superior to the various channels of saving and investment open to the average man. These channels are stocks, representing about sixty-five billions or 33 per cent. of the nation's wealth; bonds aggregating about forty billions or 20 per cent. of the nation's wealth; mortgages and real estate comprising a very substantial part of the country's aggregate property; and depository institutions. Aside from life insurance, the latter class comprises savings banks with approximately eight billions of deposits, and building and loan associations with approximately three billions of assets.

In comparing the life insurance method of saving and investment with that of stocks, it is highly important to bear in mind that a stock is never an investment but always a speculation. A stock certificate makes absolutely no promise of any kind. It may be defined as a receipt, certifying that the holder thereof possesses the privilege of participating in risk. No promise whatever is made as to the payment of a cent of dividend or the return of a dollar of principal. Perusal of the financial page will fully substantiate the above thought. The number of defunct American corporations exceeds those surviving. Again, taking a group of thirteen standard high dividend paying railroad stocks, representing all the leading systems in all sections of the country, it appears that the average price per share was $165 in 1906, whereas by 1920 the price was only $72, or a decline of over 56 per cent. Using a million-share day as a basis, it appears that 450 stock issues were traded in on the New York Stock Exchange on March 17th, 1923, and this number may be regarded as typical of those currently quoted. Yet of this representative number, forty-seven issues sold at prices which were only 10 per cent. or less of par; one hundred and thirty-five, or 30 per cent. of the entire number were quoted at 25 per cent. or less of par; two hundred and forty-one, or 53 per cent., at 50 per cent. or less of par and two hundred and ninety-three, or 65 per cent. at 66 per cent. of par or under.

Stocks represent ownership in the business, and business is inherently speculative. They also have associated with them the danger of individual selection, and very few indeed are qualified to make such a selection on more than mere guesswork. Moreover, stocks afford little inducement toward compulsory saving, and in no way guarantee an estate in the event that premature death cuts short the saver's efforts to accumulate a competency. Such are the shortcomings of stock certificates to the average man, even when purchased outright. But when bought on a margin, a practice so commonly resorted to by many, a much greater folly is committed. Stocks are only intended for the five or three per cent. of the population that may be regarded as competent to understand and handle them. Any one outside of this limited group, who happens to make a profit in a margin deal, must not attribute the result to intelligence. Good luck alone was the cause, but good luck acts only temporarily. Winning at margin dealing only serves as a temptation to try again, and practically always with the inevitable result of loss.

Unlike stock certificates, bonds are promises to pay interest and principal, and may be regarded as investments if the promisor proves capable and honest. But perusal of the financial page will again show that bond investments turn out badly in ever so many cases. Thus, on March 17th, 1923, four hundred and seventy-one bond issues were sold on the New York Stock Exchange and all of these issues had met the listing requirements of that organization. Despite the fact that the average yield on good investment bonds is only 5.22 per cent., one hundred and sixty-nine or nearly 36 per cent. of the total issues sold on a basis to net approximately 7 per cent. and over, a situation "too good to be true" and clearly indicating that the consensus of opinion regarded the issues as speculative in character. Nearly 17 per cent. of all the issues sold on a basis to net approximately 8 per cent. and over. Even with respect to nonspeculative bonds, price fluctuations are enormous at times. Thus, between 1913 and 1920, twenty representative nonspeculative bonds listed on the New York Stock Exchange declined from an average price of $964 to $694, a total of $270, or 28 per cent. While safer than stocks, bonds nevertheless have shortcomings for the average man with a family to support and old age to provide for. As in the case of stocks, the danger of individual selection and the temptation to obtain a large return are present. Comparatively few bonds are offered in sufficiently convenient denominations to induce systematic and compulsory saving. Many issues, moreover, degenerate into speculative propositions in the course of time. But above all, investment in bonds offers no guarantee of an estate in the event that the investor is not given time through premature death to reach his goal of a decent competency. He who has a family to provide for should certainly not put his trust in bonds, to the exclusion of life insurance. An early death, when only a limited amount has been saved, will leave a dependent family in a most pitiable position.

Real estate mortgages and real estate are, generally speaking, safer than corporate securities. Yet, as regards real estate mortgages a great deal of expert care is required, and as regards real estate a very considerable amount of business management is necessary. Both require individual selection, and neither offers, if purchased on the installment plan, a guarantee of an estate in the event of premature death.

Depository institutions, such as saving banks and building and loan associations, enable the average investor to deposit his money and have the same invested by a skilled investment management. They have the following advantages: (1) individual selection is eliminated, the investment management placing thè money for the depositor; (2) there is usually an admirable application of the law of average, so that a loss, that occasionally occurs, is counterbalanced by gains in other directions; and (3) the return, especially in building and loan associations, is a very decent one. But, aside from life insurance, which is also a depository institution, these institutions have one great shortcoming, namely, that they do not guarantee an estate. As already stated, it takes time to save money, and little good does it do the family for its responsible head to have the finest kind of a saving resolution and then fail in that resolution because Providence does not give him the necessary time to fulfill his purpose.

Not only does life insurance thus furnish a profitable and safe investment, but modern policies also make it possible for the insured to arrange for the safeguarding of the proceeds of the policy upon his death for the benefit of his beneficiaries. Too frequently the competency which a husband or father has provided through saving or insurance is quickly lost by the heir or beneficiary through speculation, unwise investments, or excessive expenditures for unnecessary comforts. Such a contingency should always be contemplated by the insured and may be prevented in various ways. Modern income policies, especially, furnish a guarantee against such a contingency by providing that the beneficiary shall, following the death of the insured, receive during the whole of her life, or for a designated number of years as the case may be, an annual, quarterly or monthly income of a stipulated sum. Or, instead of having the proceeds of the policy paid in one lump sum upon death, the insured may arrange to have the company retain the sum upon the maturity of the policy and pay the same in a designated number of installments. Again, the proceeds of the policy may be left with the company for safe-keeping for a designated number of years.

**Forces and Encourages Thrift.**—Not only does life insurance render safe the insured's effort to accumulate a fund through saving by hedging him against early death, or itself furnish a profitable and safe investment, but for the great majority of people it constitutes an excellent means of encouraging and even forcing thrift. There are few institutions, if any, which have given such excellent schooling along this line. Savings banks, of course, do their share in developing the saving instinct among the masses and building and loan associations have also assumed a prominent position in this respect. But, usually, institutions of this character have the shortcoming that they permit the depositor to withdraw all or nearly all of the funds after giving notice of a certain number of weeks, with the result that a resolution to save over a long period may be broken when the depositor for one reason or another sees fit to withdraw the amount deposited.

In life insurance nearly all the types of contracts sold contain a savings feature, and this is especially true of the so-called endowment policy which, as will be explained more fully later, promises the payment of a stipulated sum not only upon the death of the insured during a given term of years but also upon his survival at the end of that term. Of course, in order to receive, say, $10,000 at the end of fifteen or twenty years the insured is obliged to pay to the company a sufficient amount in annual, semi-annual or quarterly premiums to enable the company, after improving these payments at compound interest, to accumulate a fund by the end of the period which will equal the sum stipulated in the contract. Whatever the policyholder has accumulated to his credit cannot as a rule be withdrawn from the company during the first two or three years, and it is also the general practice to apply a penalty in the form of a surrender charge in case of withdrawal during a considerable number of years following the payment of the third premium. Furthermore, the regular payment of the premium from year to year will soon be looked upon by the insured in much the same manner as he comes to regard interest upon a mortgage. Consequently to secure the necessary funds to pay the premium his industry will be considerably enhanced or his efforts to save the required premiums out of income will be increased. In fact, it is the common assertion of innumerable individuals who were the holders of endowment policies that at the end of fifteen, twenty, or twenty-five years they became the possessors of a considerable sum of money which, under other circumstances they would never have accumulated, or which, if they had done so, would have been lost or dissipated. Life insurance, in other words, tends to bring about compulsory saving, and represents the accumulation of small sums (which in all probability would not otherwise be accumulated) over a long period of years into a substantial sum. In brief, life insurance generally bears the relationship to thrift that the modern utilization of by-products (largely wasted in former years) bears to many of our leading manufacturing enterprises of to-day.

**Facilitates the Purchase of a Home.**—While this advantage may be considered essentially a business one, it is mentioned here because of the enormous volume of outstanding mortgages on homes and the direct bearing of this situation in nearly all cases upon the welfare of the mortgagor's family. One who has purchased or built a home with funds borrowed on a mortgage which provides for payment at a specified date is exposed to the danger of dying before a fund sufficient for such payment has been accumulated. Let us assume that the head of a family has mortgaged his home for $5,000 and expects to pay off the same through a series of payments at fixed intervals, such payments being made out of current earnings. It is apparent that the fulfillment of this purpose is dependent upon the mortgagor living long enough to earn the amounts necessary to make the periodic payments. Premature death, however, after only a few payments have been made, may seriously jeopardize the welfare of the family, since the remaining members of the household may be unable to effect a settlement of the mortgage and thus prevent a foreclosure on their home at a time when troubles are amply abundant. Here life insurance, involving only a moderate cost, affords an excellent protection against such a contingency. A $5,000 life-insurance policy may be taken out by the mortgagor to hedge his $5,000 mortgage. If his life is spared he will pay off the mortgage and because of a little extra thrift, will also be the holder of $5,000 life insurance, the beneficent purpose of which as family protection will by that time be appreciated. If death, however, should occur when only $1,000 has been paid on the mortgage, the proceeds of the policy become immediately available for the extinguishment of the balance of $4,000. The family thus becomes possessed of full title to the home, while the balance of $1,000 of life-insurance money will prove exceedingly welcome as a means of tiding over the period of adjustment that nearly always arises when the breadwinner is removed by death.

The same situation also presents itself on every hand among the large farmer and retailing classes of the country. Here a vast volume of mortgages covers the farms and small retail establishments in which the mortgagors' families have a vital interest. Foreclosure of the property in case of failure to meet the mortgage because of the mortgagor's untimely death, or serious hardship on the part of the heirs in attempting to pay off the mortgage, can easily be obviated through the use of life insurance. The possibilities of the spread of life insurance among the farmers of this country are exceedingly great, because as a class they stand sadly in need of its protection and at present know comparatively little about its usefulness.

**Creates a Self-administered Estate.**—The insured may name as beneficiary either one or more individuals, or, in the event that he desires to have the insurance paid to his estate, may make the proceeds payable to "the executor, administrator or assigns." In the latter case, the insurance proceeds become a part of the estate, and are distributed to the heirs in accordance with the terms of the will just like other property comprising the estate; or, in the absence of a will, in accordance with law.

Where individuals have been named as beneficiaries the situation is entirely different. Then the proceeds are paid by the insurance company directly to the designated individuals, and in strict conformity with the expressed wishes of the insured. In fact, with respect to his insurance estate, the insured may be regarded as his own administrator. Stated in another way, the insurance company will administer the estate as per the terms of the insurance contract. There is no probating of a will and no costs of administration, no delay in settlement and no publicity with respect to the inheritance. Litigation between heirs is eliminated and the numerous annoying details usually connected with the settlement of an estate under a will are avoided. At the same time the insurance estate is freed from the claims of the insured's creditors. It is also freed from the Federal inheritance tax, unless it exceeds $40,000, and then is taxed only on the excess. Should there be no other estate, the exemption allowed under the inheritance tax law in favor of life insurance payable to a designated beneficiary is $90,000, i.e., $40,000 referred to above, as well as a $50,000 general estate exemption.

**Expedites the Settlement of the Insured's Other Estate.**—The majority of estates are either encumbered with claims of one kind or another or present serious problems of administration. To hedge against such a contingency, life insurance may again be used to great advantage. Reference has already been made to the way in which life insurance serves to liquidate mortgages, in the event of the mortgagor's premature death. But the same principle is also applicable to a host of other obligations or difficulties of settlement that the deceased leaves to his heirs. Thus the proceeds of life insurance will often serve to effect a *prompt* settlement of the estate through payment of loans on securities or other property, all bills outstanding at the time of death or incident thereto, administration costs, and inheritance, income or other taxes.

Not only does life insurance facilitate the prompt settlement of estates, but it serves as a safeguard against *depletion* of the estate. By furnishing ready cash for payment of the above-mentioned claims, and by tiding the heirs over a readjustment period with respect to living expenses, adequate life insurance avoids the forced liquidation of any portion of the estate which at that particular time may be selling at bottom prices. Stocks and bonds, real estate, or other business interests, that hold the promise of future appreciation, may be conserved instead of being sold. Should the insurance proceeds be sufficiently large after the payment of all current claims, cash will be available to put the deceased's real estate or other business on a better paying basis. In the case of temporary sources of income, such as contracts, royalties or patents, the insurance proceeds may offset the contemplated decline in the family income. Should it be found necessary to shift a considerable portion of the estate from highly remunerative but excessively speculative securities to strictly investment securities with a lower yield, the shrinkage in income will likewise be compensated by the insurance proceeds. Where the business is so organized as to make a division of the same into units undesirable, life insurance may be used to make proper provision for various members of the family, thus avoiding the undesirable division of ownership of the business. And even where such an arrangement has not been effected, and it is found advantageous to sell the business of the deceased, particularly to certain of the beneficiaries under the will, life insurance proceeds may serve as a basis for a fair settlement among all the heirs.

**Furnishes an Assured Income in the Form of Annuities.**—Life insurance also proves valuable to a very considerable number of people, who, as the result of a lifework have succeeded in saving only a limited amount of capital, and who have no one to whom they particularly care to transfer this sum in case of death. Thus, let us assume that a person aged 60 has accumulated $10,000, and that this represents the entire estate available for the maintenance of the owner during his later years. Owing to the limited size of the estate, the owner will be obliged to invest the same in the most careful manner, and the current rate of return for such investments would probably not exceed 4 per cent. Consequently this individual's income will be limited to $400, an amount insufficient for proper maintenance during old age. Nor can he afford to take a portion of his principal for living expenses, because this would reduce his annual income. The danger confronting him is just the opposite of that facing the man who wants insurance against death. The latter wants insurance because he does not know how long he will live, while the former is confronted with the danger of living too long, i.e. of outliving his income.

Just as the man who felt that death might intervene too soon, could hedge himself against that risk, so our owner of the $10,000 fund, who feels that his income is too limited and that he might outlive this income if he should resort to the expenditure annually of a portion of the principal, can protect himself by buying an "annuity." An annuity is a contract by which an insurance company promises to pay the holder thereof a certain stipulated income every year as long as he lives, the payment ceasing upon death. Thus, for illustrative purposes, let us apply an annuity to a man aged 60 who has saved $10,000, which sum, as stated, will yield only $400 income a year if invested at 4 per cent. Now, to quote the rates of a certain company for annuities, this individual may deposit $1,066 and receive therefor a promise of an income of $100 a year throughout life. This sum, it will be observed, represents a yield of 9 per cent., or more than twice as much as the assumed current rate of 4 per cent. The older the annuitant is when he buys an annuity the larger is the annual return the company can afford to give. Thus if the individual, assumed in our illustration, should be sixty-six years old this same company promises him $100 a year throughout life for each $888 paid in, or over 11 per cent. At age 70 the $100 annuity will cost only $630, or an annual return four times greater than the 4 per cent. rate used for illustrative purposes. If, therefore, the holder of a limited estate does not particularly care to transfer his property to some individual or institution, life insurance makes its possible for him to pay the same to an insurance company in return for a promise of a certain definite income a year, thus relieving him from all further worry as to the sufficiency of his future income. The companies can afford to give these large returns at the later years of life because the death rate at age 60 and thereafter is high and because of the understanding that the annuities will cease just as soon as the annuitant dies, in which case the balance of the money deposited with the company goes to the benefit of the other annuitants who may survive.

**The Relation of the Foregoing Advantages to Society at Large—Imposition of Unjust Taxation.**—The many advantages discussed in the preceding pages, it is apparent, will greatly benefit the community as a whole if life insurance is widely used. Mr. Holcombe writes:

> It is clear that any agency which improves the mental or moral attributes, or the material circumstances of any one of its citizens, raises the condition of the community of which he is a member, and thus benefits the state. Savings banks encourage thrift and produce accumulations which would in many cases be otherwise wasted, and thus they constitute a distinct and tangible benefit to the state. Life insurance promotes a sense of responsibility, strengthens family ties, and thus elevates the general character of the nation. It lessens those fam-

ily discords which end in divorce, it checks intemperance, and often by its requirements brings a realization of the benefits of right living. . . . There can be no doubt, furthermore, that life insurance curtails the expense to the public treasury, of almshouses and police, of criminal courts and prisons, and of the various other necessary branches of the public service which have to do with the prevention and punishment of crime, and the relief of the suffering and unfortunate. . . . It is certain that in many cases the proceeds of a life-insurance policy are practically all that remain at the death of the one responsible for the support of helpless dependents, and in a vast number of these cases, were it not for this aid, many persons would be forced to accept public charity.[1]

The value of life insurance as an agency for increasing the individual's sense of responsibility, and for relieving the community of much needless expense in supporting members of destitute families, has been recognized for years by the governments of all civilized countries. As early as 1840 the state of New York enacted legislation to the general effect that any life-insurance policy taken out for the benefit of a married woman, or assigned to or held in trust for her, or which in case of her death before payment is to inure to the use of her or her husband's children, was to be free from all claims of creditors. A large number of our states have since enacted legislation substantially similar in character, the laws, however, usually providing that if the annual premium on said insurance should exceed a stipulated amount (usually $300) the excess together with interest should be available for satisfying the claims of creditors of the person paying the premium. Many foreign governments have also done everything possible to encourage the taking out of life insurance by adopting a very lenient policy of taxation, although this very commendable method of encouraging the spread of life-insurance protection has been neglected or refused by the several American commonwealths.

American taxation of life insurance may be justly characterized as a crime. Evidently, those who pass these tax laws

[1] *Yale Insurance Lectures* i, 39, 41.

think they are taxing the companies, with their great accumulations of wealth. But they are not. The tax on gross premiums of from two to three per cent., depending on the State under consideration, is a tax on the policyholder. And that is not all. An insurance premium divides itself into two parts. One pays for current mortality loss; if we tax that, and we actually do, we are placing a tax upon losses. We are taxing death. The other part of the premium represents the accumulation of a savings fund. We make this fund earn some interest, it is true, and we may argue that it ought to be taxed somewhat. But it ought not to be taxed more heavily than other depository savings institutions. Thus, let us contrast the situation with that of building and loan associations. The Federal Government exempts such associations from all income taxes, even from the stamp tax, and until 1929, $300 of income derived from such associations may be deducted as far as income tax returns are concerned. In Pennsylvania also such associations are free from all taxation, except on real estate owned. Now can any one explain wherein life insurance does not do everything that a building and loan association does for the good of mankind? Life insurance even goes farther than building and loan associations—it guarantees an estate. Life insurance is conservation, and the gross premium tax is one on conservation. He who does not insure, he who fails to exercise any foresight and lets the future take care of itself and gambles with his family, he who does not play the part of decent citizenship, is not taxed; but he who exercises foresight, does his religious duty, takes care of his family as he should, and protects society from shouldering the burden of providing for dependents, that man is taxed! Now, what is the sense of such a proposition? He who insures in a fraternal order is not taxed, or if so in certain places then very little. But he who insures in a regular life-insurance company is taxed. Yet insurance is insurance, irrespective of the insurer. The whole system of gross premium taxation prevailing in this country—taxing the gross premiums with respect to all kinds of insurance—is a crime. Not a single argument can be advanced in favor of it, for the simple reason that there isn't any. A big corporation, with its many buildings or its many ships, can afford to self-insure, i.e. such a concern will carry insurance in a manner exactly like that prevailing with an insurance company. That self-insurance of the big corporation is not taxed at all. But the small fellow, the fellow who can't self-insure, but must go to a third party and pay a premium in order to have the risk taken off his shoulders, that fellow we do tax heavily.

In conclusion, two general benefits of life insurance not yet discussed should briefly be referred to as vitally affecting the entire community. They are:

1. Through their enormous investments life-insurance companies have exerted a powerful influence in the upbuilding of the industrial life of the nation. Two hundred and eighty-eight companies, reported in the *Insurance Year Book,* 1921, show total admitted assets of $7,936,496,844, of which $2,792,259,598 represent investments in real-estate mortgages and $3,459,116,840 in corporate bonds and stocks. The significance of these large totals becomes apparent when it is stated that they represent the contributions over a long series of years of millions of policyholders, each of whom has contributed his little mite. The companies, in other words, have been the medium through which a vast aggregation of small sums has been devoted to the furtherance on a large scale of the nation's leading business interests. The investments of over three billion dollars in bonds and stocks will be found to be fairly well distributed over the principal transportation and other corporate properties of the country and represent a very substantial part of the total funds that have been necessary for their development. The $2,792,000,000 of real-estate mortgages also represent investments in properties located in all parts of the country. Because of such loans, owners of real estate have been enabled to erect buildings or otherwise improve their properties. Not only have large sums been furnished for the development of cities and towns, but for many years the companies have granted loans upon western and southern farming lands, thus enabling the purchase, stocking, and cultivation of large areas.

2. By carefully restricting the admission to membership and by requiring answers to numerous questions relating to intemperate habits, the applicant's attention is forcefully directed to the close relationship between temperate living and longevity. Physical ailments are also frequently discovered for the first time as a result of the physical examinations which the companies require all applicants to undergo. The knowledge thus obtained leads to the application of remedies, and results in the conservation of the value of many lives for the benefit of the community.

The movement toward the conservation of health and life is receiving increasing attention on the part of the companies, and has been a subject for special consideration by various prominent life-insurance associations. Various companies are already pursuing a policy of disseminating advice for the treatment of various diseases and of offering periodical health examinations for the detection of ailments. While the movement is yet in its infancy the tremendous possibilities for good along this line cannot be overemphasized, and the desirability of having life-insurance companies participate actively in a comprehensive conservation movement is apparent. The possibilities along this line have ably been set forth by the Life Extension Institute, Inc. In a circular on "Life Extension Service for Life Insurance Companies" the promoters of this Institute show clearly the desirability of "checking the life waste that is going on in our country as a result of ignorance or defiance of the simple laws of health," and express their belief that "by the study of problems relating to national vitality, by disseminating knowledge of personal hygiene and the science of disease prevention, and by offering and encouraging periodical health examinations to detect disease in time to check or cure it, a substantial contribution to longevity and to human happiness generally will be made."

# CHAPTER III

## BUSINESS USES OF LIFE INSURANCE

So-called "business" or "commercial" life insurance has assumed large proportions only within the past twenty years. While the primary purpose of life insurance is to protect the family against the loss of the income-producing capacity of the breadwinner, it is becoming clear that the business enterprises of the country likewise have need of protection against the loss of the valuable lives that give them vitality and success. During recent years the business world seems to have discovered this fact, and as a result an enormous amount of insurance has been written on the lives of business men who have had in mind chiefly the stabilizing of their business through the establishment of better credit relations and the procurement of protection against the loss through death of those most valuable to its success. So large is the volume of business insurance becoming, and so rapid is its increase that there is good reason to believe, as one writer on the subject recently stated, that "the time is fast coming when the life-insurance policy will be almost as integral a part of corporate and copartnership structure as are the charter, the bond, the stock certificate, and the articles of copartnership."[1] The business uses of life insurance afford a boundless field for study and thought, because there are few men, indeed, who do not at some time face a business situation, the solution of which will be made simpler and less hazardous through the medium of some kind of life insurance.

**Close Relationship Between the Home and Business.**—Business life insurance should particularly appeal to a busi-

[1] ANDERSON, STEWART, "Commercial Life Insurance," published in H. P. Dunham's The Business of Insurance, I, 387.

ness man when it is shown that in nearly all instances there is a very close relationship between his home and the business in which he is engaged. So close is this relation that a policy taken for the special conservation of the business may often prove even more valuable than a policy taken out for the direct protection of the family. The latter policy can seldom do more than alleviate in a measure the financial injury caused by the death of the income-producer, while the former may be the means of successfully continuing in operation the business of the deceased. Had not the former policy been taken out the business might have failed or declined. The family policy usually assures the continuance of a portion only of the insured's income during life, while the business policy, since it conserves the efficiency of the insured's business, may be instrumental in bringing about the continuation of a much larger income, viz., the income from a successful business.

Moreover, the owner of a business, generally speaking, conducts the same primarily with a view to supporting a home, thus again showing that the welfare of the home and the welfare of the business are so intimately related as, generally speaking, to be inseparable. On the one hand the advantages of family insurance as discussed in the preceding chapter, such as freedom from worry, increase in initiative, etc., will produce a very wholesome effect upon the welfare of the insured's business, and business success means, as a rule, family happiness and contentment. On the other hand business adversity practically always means family adversity, and, therefore, business insurance which protects the business against disaster is in reality also family insurance since it preserves the family's interest in the income derived from that business.

The speculative risks connected with nearly all business pursuits and the danger of meeting with business failure need not be outlined to men of experience. Suffice it to say that compilations show that the number of actual business failures is exceedingly large, that the amount of failure liabilities over a series of years is about the same as the total fire loss and is equally subject to great fluctuations because of unforeseen contingencies, and that the probability of business mortality is about as great as human mortality at age 41. It is also noteworthy that in a year like 1907 approximately one-fifth of the total number of business failures, involving over 55 per cent. of the total failure liabilities, was due to disasters, failure of apparently solvent debtors and undue competition — causes which cannot be considered as due to the faults of those who failed — while another 37 per cent. of the failures was traceable to lack of capital and 5 per cent. to inexperience. In every community we meet with instances of once prosperous families reduced to straitened circumstances through failure brought about by the sudden death of the head of the business or of a valued official or employee. At such a time all adverse influences will seem to operate at once against the credit facilities and the competing powers of the business, with the result that the enterprise may go under because of lack of capital and the inexperience of the survivors. But the cruelest results of business failures become apparent when we note the effects upon the homes of the deceased and surviving partners. Here the reduced income may necessitate moving to humble quarters, curtailing expenses, and withdrawing the children from school or college. That such occurrences should be so common is truly a pity when by the employment of life insurance the business might easily have been protected against the dangers referred to.

**Life Insurance as a Means of Indemnification Against Loss Through the Death of Officials and Valuable Employees.**— Turning now to a discussion of the numerous business uses to which life insurance lends itself, we find that one field for its application consists of the numerous businesses which depend upon, in fact have been built around, some one man whose capital, energy, technical knowledge, experience. or power to plan and execute make him a most valuable asset of the organization and a necessity to its successful operation. Numerous examples may be pointed to as illustrating the dependence of successful business upon the personal equation. Thus a corporation or firm may be vitally interested in one of its officers whose financial worth as an indorser, or whose ability as an executive, may be the basis of its bond issues or bank credit. A manufacturing or mining enterprise may be dependent upon someone who alone possesses the chemical or engineering knowledge necessary to the concern. A publishing house may have engaged someone who alone can be the author of a proposed work and may be obliged to incur considerable outlay before it is written. The sales manager of a large business establishment may have made himself indispensable through his ability to organize an efficient body of salesmen, to employ the most effective methods of selling, and to develop profitable markets. Again, some officer of the concern, although not actively engaged in its daily operations, may prove indispensable because he is its principal owner and because his experience and business connections make him its chief adviser.

These are only a few illustrations of the many that might be given to show the importance of a human life as an asset to the successful operation of a business. Now why not insure the business against the loss of that life — that asset — through death? Surely, the extinction of such valuable lives will in many instances prove a more serious loss than that by fire or any of the other sources of loss in business against which insurance is invariably procured. The death of the officer whose indorsement or executive ability is the basis for the firm's bank and bond credit might result in a refusal on the part of lenders to renew old and make new loans, thus possibly jeopardizing the business because of a lack of capital. If adequately insured, however, for the benefit of the business, the firm would immediately upon his death receive the face value of the policy. Not only would the insurance proceeds help to enable the company to meet any obligations falling due during the period of adjustment, but the mere knowledge that the business was the recipient of a large amount of cash would be a powerful factor in allaying doubt and in restoring confidence on the part of creditors. Similarly the death of the person who alone possessed the chemical and engineering knowledge required by his employer might result in the lowering of the quality or the volume of the output of the commodity in question, thus causing much inconvenience and possible loss of business; while the death of the sales manager might involve the disintegration of the selling force and the consequent loss of profitable markets. Furthermore, in many instances an untimely death may leave a special piece of work unfinished and subject the employer to a loss of the advances made, since no one else can be found to bring the unfinished project to completion. Here the amount of life-insurance protection may be made to equal approximately the outlay incurred, and if the work is known to require only a few years for its completion, the term of the policy may be made to cover only this limited period. Such short-term policies also often prove desirable for the protection of a business against the death of its owner or manager during the first five or ten years required for the business to become firmly established.

All losses of a character like those enumerated may be guarded against by making the business the beneficiary of a sufficiently large policy on the lives of the officers or employees under consideration. In the event of death the business will promptly be indemnified for the loss of the services of the deceased, and the proceeds received will enable it to bridge over the period necessary to secure the services of a worthy successor. Mr. Stewart Anderson writes:

> In the conservation of business, many other kinds of insurance, highly useful because deeply needed, are employed—fire, casualty, surety, employers' liability, title, plate glass, etc.—but none of these, except casualty (and that only in case of accident), defends against loss or destruction caused by the death of a man who is the blood, brains, gold, and very life of the business. Curious omission, dangerous neglect, is it not?—fire? insurance; embezzlement? insurance; accident to a workman? insurance; title? insurance; broken pane of glass? insurance! —but against the staggering loss or the supreme disaster of total ruin following the snuffing out of a man upon whom the

whole fabric of the business rests—*no insurance!* and that snuffing out occurs in innumerable cases as quickly and as suddenly as the smashing of a plate glass front. Business has greater need of life insurance than of any other kind, because it is the only form that completely encircles with impregnable protection against utter destruction through death.[2]

**The Use of Partnership Insurance.**—To an increasing extent copartners in any line of business find it advisable to insure their lives for the benefit of the surviving partners. This may be done in one of two ways: either each member of the partnership may take out a separate policy on his life and make the same payable to the firm, or to the surviving member or members of the firm; or the insurance may be taken jointly upon all or any number of the partners, the contract in this instance (called a joint-life policy) promising payment to the firm or its surviving partners in the event of the death of any one of the members covered by the policy. The method usually regarded as most certain to avoid legal complications, consists of separate insurance on each partner, made payable directly to the other partner instead of to the firm itself. According to this plan each partner effects insurance on his own life to the extent of his interest in the firm and names the other partner as beneficiary absolutely, i.e. without reserving the privilege of changing the beneficiary. At the same time each partner executes a special agreement with the other definitely providing, among other things, that the premiums shall be paid out of the firm's assets, that upon the death of the insured the business shall be liquidated in accordance with the method prescribed in the agreement, that the surviving partner (the beneficiary) will use the proceeds of the policy for the liquidation of the deceased partner's interest, and that the inventory of the firm's assets, and this is all-important, shall not include the proceeds of the insurance. The special agreement further provides that the surviving partner shall have the right to purchase the deceased partner's interest, that the policies shall be regarded as assets of the firm in the event

[2] ANDERSON, STEWART, "Commercial Life Insurance," in H. P. Dunham's The Business of Insurance, i, chap. 23, p. 389.

of dissolution during the lifetime of both partners, and that upon dissolution of the firm each may retain his own policy upon payment of the equivalent of its cash surrender value into the assets of the firm. By making the policy payable to the firm itself, instead of using the aforementioned plan, the proceeds of the policy legally become a part of the assets of the firm. As such they will be distributed like the other assets, the deceased partner's heirs receiving their share. The surviving partner, it is thus clear, has not been protected by this method to the extent of the full face value of the policy.

The numerous benefits derived from partnership insurance become apparent upon a consideration of the many difficulties that may confront a copartnership upon the death of one of the members of the firm. In most partnerships the several partners not only have supplied their respective portions of the necessary capital, but each is a specialist in some particular department. The death of any member of the firm, therefore, may involve not only the withdrawal of his share of the capital by his heirs, but the loss of his skill and active coöperation. If, however, the deceased partner has been insured for the benefit of the firm, the proceeds of the policy will enable the surviving partners to pay off his interest to his heirs and carry on the business without delay and embarrassment during the time necessary to find a successor. Frequently the purchase of the deceased partner's interest becomes highly desirable, especially where the business is a specialized one, in order to prevent that interest from coming under the control of persons who may be entirely ignorant of the business and possibly hostile to its management.

Again, the death of a copartner, usually implying the loss of skill and the withdrawal of capital, often awakens doubt and fear among the firm's creditors with the result that at the very time when the deceased partner's heirs are clamoring for the withdrawal of their interest the firm is subjected to the embarrassing situation of having its loans called and its requests for credit refused. When bankers and other creditors, however, know that the deceased partner's life was insured for the benefit of the firm, credit is immediately established and confidence takes the place of doubt. The value of life insurance in this respect is well recognized by bankers, wholesale houses and commercial agencies. Banks at present almost invariably require prospective borrowers to reveal the amount of life insurance they carry for the benefit of their business. Commercial agencies also consider this matter important when reporting upon the financial standing of business, as was clearly indicated by the late Charles F. Clarke, President of the Bradstreet Company, when he wrote: "It is practically beyond a doubt that corporation insurance strengthens the credit of firms adopting it. The increased confidence which it establishes is recognized in the mercantile community and thus reflected through our reports." This is merely one of many statements which might be furnished to indicate the growing conviction that partnership insurance is an agency which strengthens credit at all times and furnishes a quick asset when credit is impaired, which safeguards the deceased partner's interest and permits its withdrawal without embarrassment to the firm, which provides ready cash to pay off indebtedness and to replace in a measure at least the loss of the deceased partner's services, and which makes possible the retention of the management and control of the business by the surviving members.

**The Insurance of Employees for the Benefit of Their Families.**—Thus far attention has been called to the insurance of officials and valuable employees for the benefit of the business with which they are connected. Numerous policies, however, are issued to-day which have for their purpose the insurance of the rank and file of the employees in any given line of business for the benefit of their families, although the employer pays all or a portion of the premiums. Although such insurance appears to be primarily family insurance, it also serves a useful business purpose in increasing the efficiency of the employer's working force. Long service on the part of employees is deemed desirable by employers as one of the best means of keeping up the quality and keeping down the cost of the product. Frequent change in the labor force not only necessitates constant instruction, but, in the long run, spells loss through inefficiency. It is, therefore, with a view to lengthening the service of their employees that many corporations and firms have adopted the profit-sharing plan or are maintaining for their employees, at considerable expense, comprehensive pension or insurance plans.

A great variety of methods is used in this respect, but all have the same general purpose, viz., the elimination of the loss that is connected with frequent changes in the working personnel. Sometimes the employer accomplishes this purpose through a plan of self-insurance, while in other instances the insurance protection is obtained from a company. Sometimes the plan simply provides for the payment to the deceased employee's family of a stipulated pension or a lump sum of insurance, while in other instances, and this is coming to be regarded as preferable, the insurance does not mature as a lump sum payment but the proceeds are paid to the beneficiary in annual, semi-annual, quarterly or monthly installments. Again the employer may seek to bind his employees to himself by rewarding them with an endowment policy which provides for the payment of a stipulated sum either in the event of death during a given period like twenty years, or upon their survival of that period. If the employee dies during this period and while still in the service of the employer, the proceeds of the policy pass to the employee's family either under the lump sum or installment plans of payment. If, however, the employee remains with the business during the entire twenty years the proceeds will at the end of that period be paid to him directly. Should the employee cease to remain in the business, the employer usually has the option of surrendering the policy for its cash value, or of permitting the employee, if he is willing to refund the back premiums, to take over and himself carry the policy to its maturity.

**Life Insurance as Security for Bond Issues.**—Life insurance may also conveniently be used as a hedge against the possible failure to pay a bond issue at maturity. Thus, let us assume that a firm wishes to raise $50,000 on bonds which will mature in twenty years, and that the nature and organization of the business are such as to make it chiefly dependent for its credit and successful operation upon the life of one man. Under such circumstances the unexpected death of this individual might ruin the company to such an extent that the liquidation of its assets might not prove sufficient for the full redemption of the bonds. Unless some means can be found which will assure the creditors that the bonds will be redeemed upon maturity, the loan will in all probability not be effected at all or only under severe restrictions and at a very high rate of interest.

Proper security to the creditors may conveniently be furnished in this instance through the medium of endowment insurance. In other words, the head of the business may insure his life for $50,000 under a twenty-year endowment policy. In case of survival, the business is likely to prosper with the result that the security back of the bonds will greatly increase. In that case the endowment policy will serve the purpose of creating a sinking fund which increases year after year until at the end of twenty years it will amount to $50,000 or just the sum needed to redeem the bond issue then falling due. On the other hand, should the insured die before the expiration of the twenty-year period, and this is the real contingency that the creditors desire to be protected against, the business at once receives the full face value of the policy. The firm would thus have on hand sufficient funds to pay off the bonds at once if that were possible and desirable. But if it is found, instead, that the business can be continued advantageously, such a portion of the $50,000 of insurance money may be set aside in a sinking fund as will at the current rate of interest amount to $50,000, or the face of the bond issue, at the end of the twenty-year period. The balance of the insurance money not needed for the sinking fund may be used for the improvement of the business, thus in turn still more enhancing the security back of the bond issue.

**Life Insurance as a Means of Endowing Educational and Philanthropic Institutions.**—Similar in nature to the above function is the further use of life insurance as a means of accumulating a sinking fund for the benefit of such institutions as schools, colleges, churches and hospitals. Many times such institutions are largely dependent upon the efforts and generosity of one man or a limited number of men. While he or they live the institution prospers, but in the event of unexpected death, the absence of ample endowment funds compels retrenchment and consequently impairment of usefulness. Such a contingency the supporters of the institution may obviate by taking out endowment insurance in its behalf. In case of death the institution receives at once the face of the policy, while in the event of survival the policy will enable the insured gradually to accumulate a sinking fund to be turned over to the institution in question at the expiration of the term.

During recent years the graduating classes of numerous leading universities and colleges have also adopted this method, and it is mentioned here merely as illustrative of the numerous ways in which the principle may be applied, as a convenient method of raising a substantial class fund for their Alma Mater. The plan adopted consists in each member of the class pledging himself to take and maintain, say, a $250 or $500 twenty-year endowment policy, the university or college being named the beneficiary. In this way one hundred graduates by setting aside the small sum of only about 3 or 6 cents a day can during the twenty-year-period, using as a basis the present experience of the average American company, accumulate approximately $25,000 or $50,000 as a class fund. Ask these one hundred persons twenty years from date to give that sum, and the refusal will be general. Through the use of the endowment-insurance plan, however, this substantial result can be obtained at a sacrifice so small as to be hardly worth mentioning. It is practically certain that the sum involved, owing to its smallness, would, in the absence of this plan, have been wasted in daily expenditures for trifles, and the large sum that may be secured through endowment insurance may therefore be regarded as the utilization of a by-product—odds and ends that would not otherwise have been saved—for a noble purpose.

**The Use of Life Insurance as a Means of Enhancing the Credit of Business Enterprises During Times of Financial Stringency.**—Just as endowment insurance proves serviceable as a means of accumulating a substantial fund without the insured being conscious of any sacrifice, so nearly all other forms of life-insurance policies, as will be explained more fully later, contain a savings feature, although in none does that feature appear so prominently as in the ordinary types of endowment policies. Nearly all policies are paid for by an annual premium which is uniform throughout life or the premium-paying period, with the result that the company gradually accumulates through overcharges in the early years, when the premium is more than sufficient to meet the current cost of insurance, a fund which when improved at interest at an assumed rate will just enable the company to meet its claims as they mature. On a whole-life policy, for example, this fund reaches large proportions in the course of years.[3] It follows, therefore, that the taking out of life-insurance policies from time to time, made payable to either the insured's estate or to his business, means the gradual accumulation of increasing cash or loan values which are obtainable at any time by surrendering the policy or by borrowing against its cash value.

It is not intended here to encourage the altogether too common habit of borrowing the loan value of policies, because in many instances the privilege is exercised unnecessarily, simply because some luxury is desired or because the security market seems low, or because some other apparent opportunity to make money quickly seems to present itself. And, even where these considerations are not the motive, the insured frequently uses this asset because it is so easily obtained, never considering at the time the relation of that asset to his beneficiary and often overlooking some other available asset which should have been used in preference to the cash value of his policy. Borrowing under such conditions is not con-

[3] The extent to which the cash or loan value of a policy increases in the course of years is indicated by the table on page 83 of this volume.

templated in this discussion. What it is intended to show is that the surrender or loan value of a policy is a real asset which enhances the credit of the business man because it is available on demand, or on comparatively short notice, irrespective of the financial conditions which may prevail, and usually at the fixed rate of 5 or 6 per cent.

Bankers and other creditors always regard the cash value of a business man's policies as an additional asset justifying larger extension of credit on his firm's paper. But suppose the borrower must have additional credit at a time when the condition of the money market is such as to make it highly inconvenient or impossible for the banks to meet his requirements. It is at such times that the loan privilege contained in insurance contracts affords a convenient and most excellent means of relief, as has been amply testified to by many of the nation's leading business men. During the panic of 1907, for example, when such stringency prevailed in the credit market as to make impossible the floating of loans even on the best collateral, millions of dollars were borrowed on life-insurance policies and numerous business men, firms and corporations used their life-insurance contracts as a means of securing funds to make up their payrolls or to meet other pressing obligations. This service of life insurance to the business community and the spirit in which it should be used is well exemplified by the experience of one of the nation's leading business men. He writes:[4]

> Never, except as a last resource, should a man use his insurance policies as the basis for borrowing. It should be a source of joy and satisfaction that this sacred investment is kept clear of encumbrance. Whatever advantageous financial operations may offer with reference to other investments, sums set aside for insurance should be regarded as of a different class, to be maintained unimpaired. It is a satisfaction to know that the gradually increasing cash value offers, however, a resource always available and unquestionable. It is a stout anchor to

[4] JOHNSON, ALBA B., "A Business Man's Views Upon Life Insurance." An address delivered before the Philadelphia Association of Life underwriters, December 4, 1913.

windward holding firm against any storm of family or business misfortune that may arise. In the autumn of 1907, there was a panic, during which there was a practical suspension both of currency payments and of credits. Rates of interest advanced to prohibitory figures, but notwithstanding the enhanced rates, loans were practically impossible to obtain. Three or four years before, one of my partners and I had taken out life-insurance policies for considerable amounts. These gave the right to borrow from the insurance company at the fixed rate of 5 per cent. We were, therefore, enabled to place this credit at the disposal of the partnership of which we were members, and about $120,000 of cash was instantly available in a time of great need. Of course, these loans were repaid to the insurance company immediately upon the restoration of normal conditions. Such a privilege must in many cases mean the avoidance of actual disaster.

**The Use of Life Insurance as a Means of Borrowing Without Collateral.**—Thus far it has been shown that life insurance may be the means of strengthening and safeguarding the credit of a business whose tangible collateral might be adversely affected by the death of those who are the brains and the life-blood of the concern. But life-insurance policies may also be used for effecting loans by persons who possess no tangible security whatever but who are trusted by the lenders because of their well-known integrity. The usefulness of life insurance in this important respect has been too little appreciated. Thousands upon thousands of young men fritter away the best years of their lives and fail to take advantage of the finest opportunities simply because they are laboring under the assumption that they are handicapped in doing what they would like to do because they do not actually possess the necessary capital.

The serviceability of life insurance in helping such young men to realize their ambition may be illustrated by the following example: A young man desires to obtain a college education, yet he himself does not possess the necessary means nor can his parents, owing to their moderate circumstances, assist him, much as they would like. His best interests require that he should take the course of study as soon as possible and pursue it consecutively and without interruption, but this he feels he cannot do. Assuming that this young man is determined to get the education, he will see that one of two courses is open to him. He may first earn the necessary money, but this course is likely to consume some of his best years, and will defer the time of graduation and his entrance into his chosen vocation. Or, he may, as the saying is, "earn his way through college," but in doing this he is serving two masters, to the detriment of himself. He is in college for the express purpose of preparing himself for his lifework, yet he must give much time and energy that should be devoted to study, to the performance of work in which he has no other interest than the earning of necessary funds. Clearly, it is to the interest of this young man to borrow money, if that is possible, so as to enable him to give all his time to the mastery of his studies, and upon their completion, promptly to begin his vocation with a view to repaying the loan as soon as possible.

Now, as is frequently the case, this young man has some relative or friend who is interested in his welfare, and who can be induced to advance the necessary amount at the current rate of interest and without tangible collateral if only assurances can be given that the loan will be repaid. Knowing the young man's reliability, the lender feels certain that the loan with interest will be repaid in due course of time, but he cannot afford to gamble with the contingency of death, because he knows that should the borrower be removed by an untimely death the loan would never be repaid. This uncertain element in the transaction may be obviated in one of two ways. Either the young man may insure his life for an amount sufficient to cover the principal of the loan, any premiums that the creditor might have to pay, and all anticipated interest charges, and then assign the policy to the creditor; or, the creditor may, if he so desires, take out a policy on the life of the debtor. Usually it is best for the debtor to take out the insurance and protect the creditor with an assignment.

Moreover, if the debtor finds it necessary he may arrange to have the creditor pay the premiums and consider these as a part of the loan. Now if the borrower completes his course and continues to live he will repay the loan with interest and at that time the assigned policy will revert to him and may then be used for family or business protection. Should the borrower die, however, before he has had time to repay all of the loan, the creditor will retain out of the insurance proceeds the amount still owing and refund the balance to the person or persons designated as beneficiaries by the insured.

Numerous other illustrations may be mentioned to show the value of life insurance as a means of making possible borrowing without collateral. It may serve as a means of enabling a young man to obtain the initial supply of capital to start in business. It may enhance the value of an indorsement or any other obligation when the indorser or debtor is not the possessor of marketable collateral. It may also advantageously be used in that large number of instances where a man already established in business may need more credit for its proper development but where the banker feels that the business, standing by itself, does not warrant the making of a new loan. To the banker the man at the head of the business is a very important asset, and he may feel that while the business itself does not warrant another loan, the business plus the man who manages it would justify the extension of further credit. Here, however, just as in the previous illustration, the contingency of early death must be provided against, since in that event the last loans are apt to be unsecured. In other words a life-insurance policy in favor of the creditor is a hedge against the contingency of the loss of the value of the human life upon which the repayment of the loan is primarily dependent.

**Life Insurance as an Aid to the Payment of Inheritance and Other Post-Mortem Taxes.**—Following the death of its owner, an estate may stand in need of ready cash to pay (1) Federal and State inheritance taxes, (2) property or other local taxes that have accrued since the last assessment, and (3) Federal income tax for the current year up to the time of death. In addition, the estate is also responsible for the payment of any property or income taxes past due and unpaid.

Much attention has been devoted in recent years to the growing importance of inheritance taxation. Not only are estates subject to the Federal tax, but nearly eveiy state has also seen fit to adopt this plan of taxation in one form or another. Space limits forbid a detailed discussion of the various laws since they differ greatly in many essentials, such as rates of taxation, classification of heirs, exemptions allowed, and the location of taxable property. Suffice it to say that the combined effect of both Federal and State taxes is often such as to cause a serious depletion of the estate, especially where the same is large, and to constitute a serious burden in its settlement. Cases are not wanting where the inheritance tax gatherer has claimed 25 per cent. or more of the estate. Various digests of existing inheritance tax laws are available, and, in view of the importance of this type of taxation to life insurance, all salesmen are urged to acquaint themselves with the subject in detail.

Briefly outlined, the functions of life insurance with respect to the payment of inheritance and other post-mortem taxes are two in number, namely:

(1) Furnishes cash for the prompt payment of taxes, thus avoiding the necessity of selling a portion of the estate, probably at a most inopportune time. Taxes for which the deceased's estate is responsible must be paid in cash, irrespective of economic conditions that may prevail at the time the taxes fall due. Hence, it may be necessary, in the absence of adequate life insurance proceeds, to raise the necessary cash through the sale of very desirable items of real estate, possibly at a time when it is difficult to obtain a buyer except at great sacrifice. Or the estate may consist of stocks and bonds, with the tax falling due in the midst of a business depression when such securities are selling at greatly depreciated prices. Attention has already been called to the way in which a representative list of standard high dividend-paying railroad stocks can decline from an average price per share of $165 in the

boom year of 1906 to only $72 per share in the depression year of 1920, and how twenty representative nonspeculative bonds declined between 1913 and 1920 from an average price of $964 to $694, or 28 per cent. These are merely illustrations to show how a forced sale at bottom prices, in order to raise cash for tax-paying purposes, may deplete an estate to an extraordinary degree. Such a situation, however, may be avoided through the carrying of adequate life insurance, the full face value of which becomes immediately available upon death for the payment of taxes, thus enabling other investments of the estate to remain undisturbed. Only one other plan suggests itself, namely, the maintenance of a cash balance at all times so large as to meet the contingency under consideration. But that plan is clearly impossible for the great majority, and most unbusinesslike for the limited number who could afford to adopt it. Immediate availability of life insurance proceeds for the payment of post-mortem taxes, it may be stated, also gives the added advantage of obtaining the discount of 5 per cent. frequently allowed for the payment of inheritance taxes before the due date.

(2) Prevents a substantial reduction in the amount paid to the various heirs. In the absence of adequate life insurance, the amounts thus paid may be so reduced, after the payment of taxes, as to yield an insufficient income.

**The Use of Life Insurance as a Means of Making Contingent Interests Marketable.**—One of the minor functions of life insurance is its use in making contingent interests marketable. Reference is had especially to the use of so-called contingent or survivorship policies which expressly provide that the face of the policy will only be paid upon the death of the insured if some other designated person is still living at the time, i.e. the policy is said to insure one life against another. The function of such contracts becomes apparent when we reflect that frequently the owners of estates bequeath the entire income to the widow throughout her life, the property itself to be distributed upon her death to certain heirs who may then be living. Such heirs, it is clear, possess a valuable right under the will, but it is a contingent one and may be lost in case of death during the lifetime of the widow. Manifestly, it will be most difficult for any such heirs to give this contingent interest a marketable value for the purpose of a sale or a loan unless some means can be found to protect the purchaser or lender against the loss of the interest through the death of the heir before the death of the widow. Such protection is furnished most cheaply through a so-called contingent or survivorship policy. Thus let us assume that A—— is entitled to property contingent upon surviving B——, who is the life-tenant of an estate. Save as a speculation, depending largely upon the condition of B——'s health, the contingent reversion has no realizable value. But this contingent interest may be converted into a marketable proposition through a life-insurance policy payable only upon A——'s death during the lifetime of B——. Such policies may be secured by the payment of a single premium in advance, or may be paid for by annual premiums continuing during the joint duration of the two lives.

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# CHAPTER IV

## CLASSIFICATION OF POLICIES

Despite the numerous forms of life-insurance policies already on the market, each year sees the various companies announcing to the public new contracts containing some special feature. Ignoring the numerous minor differences that exist, life-insurance contracts may be classified briefly under the following six leading groups. This chapter will merely undertake to define and indicate the nature of the contracts comprising each of these groups; the discussion of the special uses and the relative advantages or disadvantages of the respective policies being deferred to the next six chapters.

**Policies Classified According to the Term.**— Under this heading contracts may be classified as " whole-" or " straight-life policies," and " term policies," the first implying that the policy continues during the whole of the insured's life and that the face value is payable only at death, and the second referring to a policy payable only if death occurs during a stipulated period, such as five, ten, fifteen, or twenty years. A whole-life policy may be defined as a " term policy for the whole of life," while a term policy, as understood in life-insurance terminology, is one written for a definite period of years. It should be noted, however, that where the company is a mutual one the divided distributions on the whole-life policy may be allowed to remain with the company with a view to shortening the time of maturity of the contract. In other words, the dividend accumulations, if left with the company, may be used to terminate the policy for its face value at a given date although death may not have occurred by that time.

**Policies Classified According to the Method of Paying Premiums.**— Life-insurance premiums are customarily paid on the "annual level premium" plan, i.e. the premium collected by the company each year remains the same during the whole of life or during an agreed term of years. As contrasted with this method there is the "natural premium" plan, according to which the insurance is granted in the form of renewable one-year-term insurance, the annual premium increasing from year to year in accordance with the increase in the cost of insurance brought about by the increased risk attaching to increasing age. This plan is rarely used to-day and, as will be explained in the chapter on the "Reserve,"[1] the success of modern life insurance is dependent upon the charging of a uniform level premium.

Annual premiums on any policy may be discounted to their present value, and this discounted amount paid in advance in one lump sum, commonly called the "single premium." Mathematically, the net single premium (i.e. the single premium without any additions for expenses and contingencies) is equivalent, taking into consideration the element of time and an assumed rate of interest, to the net annual level premiums paid for the same policy. Annuities are commonly paid for with a single premium in advance, but life-insurance policies are rarely paid for by this method, the policyholder finding the small annual premium much more convenient, and also not wishing to risk the chance, in case of early death, of losing the much larger sum paid to the company under the single premium plan. It should also be stated that companies, as regards the great majority of policies written, permit the annual level premium to be paid semi-annually or quarterly, while in the case of industrial insurance premium payments are made weekly. While such frequent payments may prove a convenience to the policyholder, the aggregate premium paid is somewhat larger because of the loss of interest to the insurance company as well as the greater collection expense.

Various other premium-payment plans are in use to-day. Thus under the terms of the so-called "limited-payment pol-

[1] Chapter xvi.

icy," an annual level premium is charged for a limited number of years, such as ten, fifteen, or twenty years, and upon the payment of the last premium the policy becomes "full paid." This method of paying premiums may under certain circumstances be applied advantageously to any type of life-insurance contract, except very short term policies. The premium under this plan is, of course, larger than the annual level premium paid throughout the life of the policy. Thus in the case of a limited payment whole-life policy, the ten, fifteen or twenty premiums called for by the contract represent a total payment sufficiently larger than the aggregate amount paid in during the same period under the ordinary annual level premium plan, so that at the end of the designated period the company will have accumulated an amount which will be sufficient, together with compound interest earnings at an assumed rate, to carry the policy to maturity without requiring any further payments from the policyholder.

As contrasted with limited-payment policies, there is the so-called step-rate plan which may be either an *increasing* or *decreasing* one. Renewable term insurance is the most common form of an increasing premium policy, the annual premium being level during each term, but the rate for each term rising in accordance with the then attained age. Again, temporary insurance may be combined, for example, with a whole-life policy, the premium being low during the first five years (this period being regarded as term insurance) and the insured possessing the option, at the expiration of the five-year period, to renew the policy as a life policy and at a higher premium. Many fraternal benefit societies also follow the plan of issuing life benefit certificates under various forms of the increasing step-rate plan. The level premium, for example, may be increased at five-year intervals until age 60 is reached, when an increased level premium is charged for the rest of life. This is done to prevent the heavy withdrawals which would inevitably result if the five-year step-rate plan were consistently followed during the older years when the high mortality would cause the term rates to reach prohibitive figures. Some of the societies even encourage the accumulation of a small sum per week during the earlier years of the policy with a view to building up a reserve which can be applied to a reduction of the annual level premium for the period following age 60.

Some companies make use of the decreasing step-rate plan, although it seems that this method has not met with much popular favor. The plan most generally adopted employs four steps. During the first five years, for example, the premium is level; for the next five years the original premium is decreased 25 per cent., the reduced premium, however, being again level for that period of years; for the third five years the level premium is reduced to 50 per cent. of the original charge; for the last five years to 25 per cent.; and at the end of that period the policy becomes full-paid. It will be observed that such a decreasing premium plan constitutes a limited-payment insurance, as already explained, except that the premium in the ordinary limited-payment policy is uniformly level for the entire period during which premiums are paid.

**Policies Classified According to the Inclusion or Exclusion of a Pure-Endowment Feature.**— A pure endowment is a contract which promises to pay to the holder thereof a stated sum of money if he be living at the end of a specified period, nothing being paid in case of prior death. Term insurance, on the contrary, consists of a promise to pay a stated sum in case of death during the given period, nothing being paid in case of survival. The two promises are, therefore, exactly opposite in their nature. They may, however, be combined in the same contract, in which case the policy goes under the name of "endowment insurance." Thus a $1,000 twenty-year endowment policy may be regarded as a combination of twenty-year term insurance for $1,000 and a twenty-year pure endowment for an equal amount. In other words the policy assures the holder that he will receive $1,000 whenever death may occur during the twenty-year term; likewise that he will receive $1,000 in case he outlives the said twenty-year period.

In either case the policyholder receives $1,000, the payment at death being provided for under the term insurance feature of the endowment contract, and the payment upon survival being provided for under the pure endowment.

The mathematical premium for endowment insurance represents the sum of the premiums for the term insurance and for the pure endowment. The premium paid at a given age will be higher for short- than for long-term endowments because the company must collect a sufficient amount of money so that together with compound interest it will have the face value of the policy at the end of the term. Such policies have become very popular during the past twenty years, and now represent a very considerable proportion of the total life insurance written. They may cover any stipulated period, such as ten, fifteen, twenty, thirty, and forty years. In Great Britain the tendency has been towards the selection of the longer terms, while in America the twenty-year period seems to have proved the most popular, although various companies are now strongly urging the long-term period with a view to having the policy, by making it mature at such ages as 60 or 65, afford a convenient combination of life-insurance protection with provision for old age. Their contention is that a whole-life policy is an endowment policy maturing at age 96, according to the American Experience table, and that by the payment of a slightly higher premium, or by leaving all dividend accumulations with the company, the policy should be made to mature at a more logical age, such as 60 or 65. Premiums are usually paid on the level plan throughout the life of the contract. Often, however, long-term endowments for periods like thirty or thirty-five years are paid for on the limited-payment plan, the premiums, for example, being paid during the first ten or fifteen years, although the face of the policy is not payable until, say, twenty years after premium payments have ceased.

Many types of endowment policies are issued in addition to the ordinary form which promises a stipulated amount in the event of either death or survival. Thus there may be " double endowments," in which case the pure endowment equals twice the sum of the amount that will be paid in the form of term insurance in case of death, or "semi-endowments," where the pure endowment equals one-half the amount paid upon death. Various special types of so-called "child endowment policies" are also issued. Sometimes these policies provide merely for the return in full of all the premiums paid in the event of the child's death, the face of the policy being paid only upon the child surviving a fixed age. Policies of this character are not life-insurance contracts in the true sense, but have for their purpose the accumulation of a fund for business or educational purposes upon the child attaining a specified age. In other instances a smaller premium may be charged because only the payment of a pure endowment is promised, there being no return of the premiums in the event of the child's death during the specified term. Again, it may be provided that upon the death of the purchaser of a child's endowment policy, usually the father or some other near relative, all premium payments shall cease, the policy becoming full-paid and the principal becoming due when the child reaches a specified age. It may be added that until recently various companies also extended the pure-endowment feature to the payment of dividends on various types of contracts. This was done under the so-called "tontine plan," whereby the dividends were paid only at the end of a certain number of years, such as ten, fifteen, or twenty years, provided the policyholder was living at that time, these dividends, however, being forfeited in case of death before the expiration of the indicated number of years.

**Policies Classified According to the Method by Which the Proceeds Are Paid.**— Reference is had under this heading to the various types of so-called installment policies. Instead of paying the face of the policy in one lump sum in the event of death or maturity, the proceeds are paid in regular installments, either annually, semi-annually, or monthly, over a prescribed period of time, such as ten, fifteen, or twenty years. This installment feature may be applied to the payment of the proceeds of any of the usual types of policies.

Thus it may be arranged that under a $10,000 whole-life policy the principal of $10,000 shall not be paid in full upon death, but the company's liability shall be limited to the payment of $1,000 upon the happening of death and $1,000 each year thereafter until the tenth or last installment has been paid. In case the company's liability should be limited to the payment of the $10,000 in the form of fifteen or twenty installments, each installment would be, respectively, $666.66 and $500. Should the beneficiary die before all the installments have been paid, provision is usually made that the unpaid installments may be continued for the original amount to the deceased beneficiary's estate or to a newly designated beneficiary, or may be commuted and paid in one lump sum.

If the total installments aggregate the face value of the policy, the cost of the contract will naturally be smaller than if the face value of the policy be payable in full upon maturity of the contract. It is apparent that by paying the $10,000 in ten installments the company retains the use of a large part of the policy's proceeds for a considerable period, viz, $9,000 for one year, $8,000 for one year, $7,000 for one year, etc. Mathematically, the company can arrange to give the interest earnings (at an assumed rate) on these balances to the insured during his lifetime in the form of a reduced premium. Many companies, however, follow the plan of charging the same premium that would be required on the same kind of policy when providing for the payment of the proceeds in one lump sum, and then make allowance for interest earnings on the proceeds retained under the installment plan by increasing the size of the installments.

While the ordinary installment policy, as just described, affords the advantage of giving the beneficiary a definite income for a prescribed number of years and thus prevents the possible loss or dissipation of the proceeds of the policy as might be the case if the entire sum were paid at once, it should be remembered that these installments are limited in number, and that upon the payment of the last installment the beneficiary may still be in need of an income. This shortcoming of the ordinary installment policy may be avoided by arranging for the continuance of such payments throughout the lifetime of the beneficiary. Such an arrangement may be effected under the so-called "continuous-installment policy." Here the company agrees to pay a definite number of installments, irrespective of the death or survival of the beneficiary, and to this extent the continuous-installment policy includes the ordinary installment feature. But after the entire face of the policy has been paid in installments the company gives the further very important guarantee that it will keep on paying these installments if the beneficiary be still living and will continue to do so during the lifetime of said beneficiary.

The continuous-installment feature lends itself to a large variety of applications, and almost any set of circumstances requiring a guaranteed income can be met by the contracts of certain companies. The continuous income may be so arranged as to be paid annually, semi-annually, or monthly, as desired. Instead of guaranteeing an income throughout the lifetime of merely one beneficiary, several beneficiaries may be protected. Thus one beneficiary may be assured an income throughout life, and following his or her death, another designated beneficiary may become the recipient of the stipulated income either during the whole of life or for a specified number of years. Similarly, the continuous-installment plan may be combined with the endowment principle. Thus if the holder of an endowment policy should outlive the endowment period an annual income may be promised to him throughout life. Further arrangement may be made whereby, following his death, an annual income may be paid to his wife or other beneficiary or beneficiaries as long as they may live. Or, the policy may be made to contain a guarantee to the holder of, say, twenty definite annual payments with a further promise that such installments will continue, following the payment of the twentieth installment, during either the lifetime of the insured or of the insured and another beneficiary.

Two other types of policies should be mentioned under our classification of policies according to the method of paying the proceeds, viz, so-called "reversionary annuities" and "gold" or "debenture bonds." The first type of contract, said to be the first form of installment insurance written, provides a life annuity to the beneficiary in case of the insured's death before the beneficiary's death. If, however, the beneficiary should die first, the insurance contract is regarded as having expired and all premium payments are considered fully earned. The debenture gold bond plan, like the installment feature, may be applied to any of the ordinary types of policies written. According to this plan, considered in connection with a whole-life policy, the company retains the entire proceeds of the policy upon the death of the insured and issues a bond to the beneficiary bearing an agreed annual, or semi-annual rate of interest. At the expiration of the interest-paying period such as ten, fifteen, or twenty years, the bond is redeemed. Usually the interest rate promised is high as compared with the rate of interest which life-insurance companies use in the computation of their rates. This high rate of interest on the bond is entirely feasible owing to the fact that the company will have safeguarded itself in advance by charging a higher premium during the lifetime of the insured. Thus, according to the rate book of a certain company, the annual gross rate for a 5-per cent. twenty-year gold bond on the ordinary life plan is given as $25.74, while the annual level premium for an ordinary life policy at the same age is given as $20.14. In both cases the mathematical computation was based on the same assumed rate of interest, and the larger premium in the case of the bond is simply charged to assure the accumulation of a sum of money sufficiently large to enable the company to guarantee the promised rate of interest on the bond. It is thus apparent that any rate of interest, no matter how high, may safely be promised if the difference between that rate and the assumed rate for computation purposes is collected in the form of higher premiums.

**Special Types of Contracts.**—A very large variety of special contracts, differing materially from those already mentioned, might be described; but special attention will be directed to the following three main classes:

1. *Return-premium policies.*— Such policies differ from the usual forms of life insurance in that they promise upon death to pay not only the face of the policy, but in addition thereto a sum equal to all or to a portion of the premiums paid. The premiums returned may comprise the entire amount paid during the existence of the contract, but usually such return is limited to the premiums paid during a limited period, such as ten, fifteen, or twenty years. A promise of this kind should cause no surprise since the policy merely represents increasing life insurance under a level premium plan. In other words, the face value of the policy increases as the number of premium payments increases, but this increasing amount of insurance must be paid for by an extra charge, i.e. the premium on a policy allowing a return of all or a portion of the premiums, is higher than the premium for the same kind of policy when not containing a return premium privilege. It may be added that pure-endowment contracts sometimes provide for the return of premiums paid in the event of death before the expiration of the pure-endowment period.

2. *Policies which involve more than one life.*— In addition to the various types of continuous-installment policies, which it will be remembered involve the lives of the insured and one or more beneficiaries, there are three other types of policies under this heading that deserve special mention. One type goes under the name of "ordinary joint-life insurance." Joint-life policies may be taken out on two or more lives, and sometimes prove advantageous to several business partners who may wish to utilize the same for the protection of their partnership against the withdrawal of capital or other financial embarrassment occasioned by the death of any one of them. The policy promises the payment of the principal in the event of the first death amongst the two or more persons covered by the contract. This joint-life principle may be applied to any of the ordinary forms of life insurance, such

as whole-life policies, limited-payment policies, term insurance, endowment insurance, etc.

"Last-survivor" and "contingent" or "survivorship" insurance should also be referred to briefly, although policies of this kind are used to only a limited extent. The last-survivor policy differs from the ordinary joint-life policy in that the principal is payable in the event of the *last* death instead of the *first* death. Contingent or survivorship policies, on the other hand, "insure one life against another" and provide for the payment of the face value in the event of the death of a certain person, but only on the condition that some other person designated in the policy is still alive. In his discussion of these two forms of policies, Mr. Henry Moir indicates their purpose in the following words:

> Last-survivor policies are seldom required, although sometimes when two persons have an income which will be continued to the survivor, and they desire to borrow money on their joint interest, a policy of this nature may enable them to effect their purpose on reasonable terms. . . . Contingent or survivorship policies will be understood more readily if the circumstances under which they are generally issued be explained. It is common in the will of a wealthy man to provide that the entire income from his property be paid to his widow, and that the property be divided on her death amongst certain heirs or legatees who may then be living. In such circumstances it is evident that the share of the property would be lost by any heir or legatee who might die during the lifetime of the widow. The cheapest form of protecting this share from absolute loss is the survivorship assurance, providing the sum assured at his death in event of its occurring in the lifetime of the widow. Assurance companies occasionally grant loans secured by contingent interests in estates to be divided at some future time, called reversions, and any such loans should be protected by a survivorship policy.[2]

3. *Policies containing total disability features.*— Since a separate chapter is devoted to a discussion of total

[2] Moir, Henry, Life Assurance Primer, 1907, 29, 30.

disability benefits[3] in life insurance, it will suffice to indicate here merely the nature of the special benefits offered. Without special provision a life-insurance policy may not fully protect where the holder becomes totally disabled and is not in a position to keep his insurance alive by further premium payments. Moreover, even granting that the policy can be maintained, no part of the face value can be realized under the contract until death actually occurs, although such payments may be sadly needed at the time. Considerations like these have induced a very large number of American companies to assist the policyholder in various ways in the event of total disability. Such assistance usually takes one of two forms in the event of total and permanent disability before the attainment of a prescribed age such as 60 or 65: (1) the premiums cease and the policy is considered fully paid during the period of disability; or (2) the policyholder, in addition to the waiver of the premium, is promised a monthly payment, usually equal to one per cent. of the face of the policy, throughout the period of disability. Some companies have also seen fit to make their policies grant double indemnity in the event of death from accident occurring before the insured attains some prescribed age like 60 or 65.

**Classification of Annuities.**—The ordinary annuity contract is an agreement whereby the company promises, in return for a cash payment made in advance, to pay the annuitant while living an agreed amount annually, semi-annually, or quarterly, such payments to cease whenever death occurs. The purchase of an annuity therefore represents the purchase of a fixed income, and the general purpose of the contract is seen to be the reverse of that accomplished under life insurance.

As is the case with life-insurance policies, annuities may be of various kinds. The annuity may be one for the whole of life (a life annuity) or merely for a stipulated term (a term annuity). Sometimes it is provided that a stated minimum number of annuity payments shall be made under any circumstances, as, for example, that at least ten annual

[3] Chapter xxii on Disability Insurance.

payments are guaranteed although the annuitant may have died before the expiration of that time. So-called "deferred annuities" may also be granted for the purpose of enabling the purchaser to provide an income for himself at some future time, and the purchase price of such an annuity may take the form of a single premium at the time of purchase, a level premium during the entire time between the date of purchase and the commencement of the annuity, or the payment of a limited number of premiums under the limited premium payment plan. Under the ordinary annuity, the first annuity is usually payable three, six, or twelve months following the date of purchase, whereas under the deferred annuity the payments do not begin until the purchaser reaches a certain age, such as twenty or thirty years following the age at purchase. Should death occur during this twenty- or thirty-year period, no refund of the premiums or purchase price is ordinarily made; although it is entirely feasible under the deferred annuity plan to provide that in case of death before the annuity payments begin, the premiums which may have been paid shall be refunded to the heirs of the purchaser. It should also be stated that two persons, such as husband and wife, or two sisters, may purchase an annuity payable to them jointly while both live and also continuing during the lifetime of the survivor. As has been well stated: "By this means an income is provided so long as the survivor of the two can possibly require it. The same principle may, of course, be extended to three or more lives, but the circumstances are rare when such annuities are desirable, while for two lives it is a common form of contract."[4]

**Combination of Various Types of Policies.**— A large number of the special contracts referred to in the preceding classification represent in the aggregate only a limited percentage of the total insurance written. Probably three-fourths of the total life insurance in America, it has been estimated, consists of three forms of policies, viz, whole-life

[4] MOIR, HENRY, Life Assurance Primer. 1907. 32.

policies on the continuous premium plan, twenty-payment whole-life policies, and twenty-year endowment insurance. The remaining one-fourth of the outstanding insurance represents a vast variety of policies, some differing from others only in minor particulars. In this respect it should be noted that many of the foregoing policy features easily lend themselves to the effecting of an almost endless number of combinations. Thus there may be issued a limited-payment whole-life continuous-installment policy, or a limited-payment endowment policy with the proceeds payable in ten or more installments. As already indicated, all the various methods of paying the premium, or of distributing the principal of the contract, may be applied to any of the ordinary types of policies written.

**The Several Types of Policies Equivalent in Net Cost.**— While policies differ greatly in form, it is important to note that the *net* premium (the premium before any addition is made for expenses or contingencies) for all, as will be shown later, is computed on the basis of the same assumptions. Thus a company in computing the net premiums for all its types of policies may use the same mortality table, usually the American Experience table, and the same assumed rate of interest, usually 3 or 3½ per cent. If this is done, it follows that all the policies issued by a given company are equivalent to each other from the standpoint of dollars and cents.

**Some Policies Better Adapted than Others to Meet the Special Needs of the Insured.**— Although the policies issued by a given company are usually equivalent to one another in net cost, it is highly important to remember that one form of policy may be much better suited to the needs of the policyholder than another. Much has been written lately concerning the "fitting of the policy to the client," by which is meant that the various kinds of policies have certain advantages or disadvantages, depending upon the circumstances surrounding the applicant and the particular purpose that he wishes to realize by the taking out of life insurance. It is therefore highly important for the salesman, after ascertaining the prospective applicant's financial ability to pay premiums and the object which it is desired to accomplish through insurance, to recommend impartially that contract which will best serve his client. The matter may be illustrated by the following example: A merchant may display a large variety of suits of clothes all valued at the same price. But, despite their common value, these suits may differ in color, style, and material. One suit may be totally unfit for the use of a prospective buyer, although inherently worth just as much as another suit which may be selected by him as meeting his requirements. In life insurance, likewise, the many policies on the market may from a mathematical standpoint be of equal value. But in selecting a contract the prospective buyer should be careful to see, and in such selection it is the professional duty of the agent to render impartial advice, that the character of the policy is such as to give him what the family or business circumstances surrounding his life require.

# CHAPTER V

## TERM INSURANCE

A term policy in life insurance may be defined as a contract which furnishes life-insurance protection for a limited number of years, the face value of the policy being payable only if death occurs during the stipulated term, and nothing being paid in case of survival. Sometimes such policies are issued for business purposes for a period as short as one year, and at various times such policies have also been issued upon the "yearly renewable term plan," according to which the insured could exercise the option of renewing the policy for successive one-year periods, each year's premium being regarded as the cost of that year's protection, and the premium thus increasing as the policyholder's age advanced. While this plan, also commonly known as "natural-premium insurance," is theoretically sound, it has proved impracticable in actual practice, because it is apparent that under this plan the premium would ultimately become prohibitive.

Owing chiefly to the aforementioned fact, the issuance of very short term policies is limited at present to cases involving business and financial transactions. In nearly all instances term policies are written by American companies for periods of five, ten, fifteen, or twenty years, although other periods are sometimes used. Such policies may insure for the agreed term of years only, or may be renewable for successive term periods at the will of the insured and without medical examination. Various restrictions are also imposed by many companies in the issuance of term contracts, such as limiting the size of the policy to a certain amount or the length of the term so as not to carry the insurance period beyond a certain stipulated age. Term insurance may, therefore, be regarded as temporary insurance, and, in principle, more nearly compares with a property insurance policy than any of the other life contracts in use. If a building, valued at $10,000, is insured for that amount under a five-year term policy, the company will pay this insurance in case of the destruction of the building during the term; but if at the end of the specified five-year period the owner neglects to reinsure the building by renewing the policy and a fire thereafter ensues, the company is absolved from all liability in view of the expiration of the contract. Similarly, if a person insures his life for $10,000 under a five-year term policy, either keeping the policy in force by paying a single premium in advance or by paying, as is nearly always the case, annual premiums from year to year, the company will pay $10,000 in case of the insured's death at any time before the expiration of the five years, nothing, however, being paid in case death occurs after the expiration of the contract period, the term life policy, like the fire policy, having expired at that time.

**Advantages of Term Insurance.**—Term policies are especially designed to afford protection against contingencies which either require only the taking out of temporary insurance or call for the largest amount of insurance protection for the time being at the lowest possible cost. The advantages of this type of contract may be enumerated briefly as follows:

1. Term contracts are often desired by those who need a large amount of family protection at a time when the income is so small as to make impossible the payment of the premium for an equal amount of protection under other types of policies. This is especially the case where family responsibilities have been assumed by young professional or business men who are just starting their careers and who, appreciating the necessity of adequately protecting their families against the contingency of early death, feel that they need heavy insurance protection at small cost pending permanent establishment in their profession or business. Persons so situated may feel inclined to subordinate the investment feature in

life insurance to its protective function. Wanting all the protection possible during early years, they may feel that they can more advantageously use all available savings in their profession or business. Or, looking forward to a larger income later in life, they may reason that they can then advantageously replace or supplement this type of contract with policies of other kinds which have permanent protection as their primary purpose.

The extent to which large protection is granted by term policies for a small outlay at a time when such increased protection is absolutely needed at small cost, may be exemplified by the following rates charged by a certain company selected for purposes of illustration. The annual premium charged by this company for a $1,000 whole-life policy at age 25 (the policy in this instance being paid whenever death may occur) is $19, at age 35, $25.45, and at age 45, $36.50. But the risk of death during a limited term of years is less than that under a whole-life policy where the risk converges into certainty. Because of this fact term policies for five, ten, fifteen, or twenty years offer the advantage of a much lower annual premium. Thus in the case of the company referred to a five-year term policy for $1,000 at age 25 requires a gross premium payment of $11.09, and the premiums charged for successive renewals of this five-year contract are: at age 30, $11.65, at age 35, $12.50, and at age 60, $42.21. In the case of a ten-year term policy at age 25 this company charges $11.34, while the renewal premiums at ages 35, 45, 55, and 60 are, respectively, $13.10, $18.27, $34.54, and $51.20. The same principle applies to term policies for fifteen, twenty, or any other number of years. If such policies are renewable at the option of the insured without medical examination, the policyholder may feel that by a number of renewals he may enjoy a large protection for a considerable number of years at a low cost, and discontinue such renewals when the protection is no longer needed, or when the renewal rate becomes too burdensome. It should be noted in this respect that, whereas the rate for a ten-year term policy at age 25 is only $11.34, as contrasted with $19 for the whole-life policy at the same age, the latter rate remains the same throughout life, while the successive renewal rates for the term policy increase with advancing age until they become practically prohibitive, the rate charged by this insurance company being $34.54 at age 55, and $51.20 at age 60.

2. Term insurance may also enable young men to acknowledge their debt to parents or relatives of modest means who have given them their education or who have started them in business. Under such circumstances every young man owes this debt to parents and should, as soon as he is able to pay the premium, acknowledge it by carrying insurance for their benefit so that their investment in him will be protected against the contingency of an untimely death. In the same way a term contract may enable one to provide adequately during the early years of one's professional or business career for a dependent mother, sister, or other relative. Where the age of the parent is advanced the term of the contract may be so arranged as to afford protection during the probable lifetime of the beneficiary. But where the beneficiary is comparatively young, the purpose of the term contract may be regarded as furnishing a large protection at small cost, the insured looking forward to a larger income in later years which will then enable him the more readily to make the protection permanent by other types of contracts. Again, the insured may desire additional protection while his children are young and his own estate is small so that in case of early death there will be an adequate fund for educational and maintenance purposes until the children become self-supporting.

3. Such contracts are also well adapted in many instances to furnish protection against some temporary business hazard. Many such contingencies may arise, but only a few need be mentioned to illustrate the usefulness of term insurance in this connection. A business firm may wish to protect itself for a definite number of years against the loss through early death of the highly valued services of an employee or of an

official who is regarded as essential to the continued success of the business enterprise. Or the firm may have engaged the services of an expert in an undertaking which it will require a certain number of years to complete, and as the work progresses may be obliged to make a considerable outlay of capital which might be lost or seriously impaired by the death of said expert before the completion of the work. Under such circumstances the firm might find a term policy, especially in view of its low cost, highly attractive as a means of protecting itself against loss during the period required for the completion of the work. The sum secured under the policy in case of death would indemnify the firm for any loss incurred by way of impairment of the capital, or by delay in completing the work, assuming that another expert might be found to continue the project. In many business undertakings it may be found desirable to protect the business during the first five or ten years — usually the crucial and experimental stage — when its promoters are confronted with the task, frequently involving great risk, of establishing it on a firm foundation as regards clientele and credit. These are a few instances to illustrate how a firm or corporation may cover any temporary extra hazard, when the low cost of insurance is of chief importance.

In the same way an individual may, in many instances, use term insurance advantageously to enhance his opportunities or to make his financial position more secure. A young man may, for example, complete his college course or may start in business on borrowed capital which has been secured by protecting the lender against the possible loss occasioned by early death which would prevent repayment of the sum borrowed. Sometimes a person may have definite assurance of a certain sum of money in the future, such as an inheritance, pension, or death benefit, but is obliged during the interval to borrow money or to obtain insurance protection against death before the stipulated time arrives. In such cases term insurance may be used to great advantage. The lender will be doubly protected, since the loan will be paid out of the inheritance in case of survival and out of the insurance proceeds in case of death. On the other hand, the need for insurance protection may expire when the policyholder is assured protection under the terms of the pension or insurance fund established by the firm or institution with which he is connected, the term policy in the interval of waiting having served its purpose as temporary protection. Again, money may have been borrowed on a mortgage on real estate, the mortgage running for a definite number of years and the mortgagor expecting to pay off the mortgage out of income during that period. While the mortgagor may feel entirely competent to accomplish the payment of the mortgage out of savings from his income, it is highly important to remember, as already stated, that it takes time to save, and that a resolution to save should be hedged with an insurance policy so that if the saving period is cut short by an untimely death the proceeds of the policy may liquidate the balance of the indebtedness. A $5,000 mortgage, which it is expected to pay in ten years, can, therefore, be advantageously hedged with a $5,000 ten-year term policy, assuming that the obligation has been incurred and must be seen through, and that the mortgagor's income is so limited in view of his other financial needs as to make payment for a higher premium type of policy impossible.

Where a higher premium can be paid, it seems advisable to use some more permanent form of insurance, as contrasted with term insurance, for the purpose of hedging loans or other obligations. Moreover, when contemplating the assumption of loans or investments, it is highly important to recall the thought, already emphasized, that no one has a right to enter into any other type of investment until he has first made *decent* and *permanent* provision for a potential estate through life insurance. The matter is particularly important with respect to the purchase of shares in building and loan associations. In numerous instances these associations are recognizing the relation of life insurance to saving, and are inducing the members to hedge their accounts with life insurance policies. Yet one is surprised to find how much opposition still exists to making this combination. Building and loan association accounts are usually based on a ten or eleven-year period, and, even where life insurance is advocated as a hedge, the effort is often made to have the account protected by term insurance only. Yet at the end of that period, there may be a real need for insurance, without the same being obtainable, if at all, only at an advanced rate. For this reason savings accounts in building and loan associations or in depository institutions of all kinds should be hedged with insurance that is the equivalent of at least an ordinary whole life policy.

**Disadvantages of Term Insurance.**—While the foregoing illustrations serve to indicate the useful purposes that may often be derived from term insurance, it is important to note that this type of contract presents various dangers that are frequently overlooked and that should always be borne in mind by the person contemplating the taking out of such a policy. Although the absolute cost of term contracts is very low in the younger years the sole purpose of such policies is to furnish temporary protection. The entire premium represents payment for this protection and nothing is paid to the insured in case of survival at the expiration of the policy. It is a common assertion that the chief objection to this form of insurance is that the insured is apt to feel dissatisfied at the expiration of the contract, and that it is most difficult to make the average holder of such a policy, after he has paid ten or twenty premiums, appreciate the fact that he has already received full value in the form of protection for the permiums paid and is therefore not entitled to any refund.

While the insured may feel that he will be in a financial position later to make the carrying of insurance unnecessary, or to replace his term insurance with policies at a greater cost but which afford permanent protection, there is nearly always the danger that he may have miscalculated the future or may neglect to carry out his original ideas. Hence, if the ordinary term policy is not supplemented with other forms of insurance, such as whole-life or very long term insurance, there may come a day when the policyholder, upon the expiration of the term contract, will be without insurance at the very time when he may need it most. Assuming that he will be able to obtain other insurance at the time by passing the required medical examination, his advanced age will have greatly increased the premium, and possibly at that time, his early expectation of a larger income not having been realized, such increased cost may prove exceedingly burdensome. Moreover, other types of policies generally commend themselves in preference to term contracts in that they inculcate in the policyholder to a much greater extent a compulsory spirit of thrift and cause the great majority to have to their credit a large sum, accumulated from small payments promptly invested, which otherwise they would not have accumulated or would have lost or wasted. Term insurance, as already stated, represents cost for protection only, and the smallness of the premium should prove an attraction only where large protection is absolutely needed and where the available fund for premium payments makes a more permanent form of protection impossible.

**Renewable and Convertible Features in Term Policies.**—Exclusive of the term covered, term policies are of two main kinds: (1) those which grant insurance only for the specified term and are renewable only upon a satisfactory medical examination; and (2) the renewable-term policy, rarely written at present, the conditions of which give the holder the option, at the expiration of the first-term period or at the end of any subsequent term period, to renew the policy without a medical examination and irrespective of the insured's health at the time of renewal. The renewal of the policy, in other words, can be effected by the insured by paying the premium for the age then attained. Usually, however, the companies limit the age (generally 55 or 60 years) at which such renewal term policies may be issued, and in some instances the number of renewals permitted is limited. Where the term policy contains no renewal privilege the insured may be placed at the disadvantage at the end of the term, of being without insurance and of not being in a position, because of poor physical condition, to secure a renewal of the contract or to obtain any other form of life-insurance protection. In many instances, also, the particular contingency which the term policy was designed to cover, may still exist at the expiration of the term, thus making highly desirable the privilege of renewing the contract for one or more terms at the will of the insured and without the possibility of denial on the part of the company.

Nearly all term policies also contain the so-called converitable feature, i.e. the privilege on the part of the insured of converting the policy into another type of contract upon a proper adjustment being made in the premium charge. Some companies extend this conversion privilege throughout the term period, but the great majority grant the right only for a limited number of years, such as the first four, five, or seven years of the term. Conversion is usually allowed into whole-life, limited-payment, or endowment insurance. The exchange is usually allowed on any anniversary of the policy during the period when conversion is permitted, and may be effected in one of two ways. The new policy may bear the date of the surrender of the original policy and the premium thereon be that required for such new policy at the attained age of the insured. Or, the new policy may be considered as bearing the date of the original policy, in which case the insured is usually required to pay to the company the difference between the premiums which would have been paid on the new policy if it had been issued at the same time as the original policy, and the premiums paid thereunder for the same amount of insurance, with interest on such difference at a certain stipulated annual rate.[1]

The advantages of the conversion privilege become apparent if we consider the disadvantages usually attaching to term insurance. At the time of taking out the policy the insured may not have definitely selected the type of policy best adapted for his needs. Following the issuance of the term policy his circumstances may soon become such as to enable him to

[1] According to another method the "exchange may be made as of the age and date of issue of the original policy, regardless of the attained age of the insured, upon payment of the difference between the reserves upon the respective policies."

take out adequate permanent insurance. Or he may desire to utilize insurance as a means of accumulating an estate rather than to use it entirely for protection against death. As soon, therefore, as he concludes that term insurance does not meet his present and future needs he may carry out his conclusions by exchanging his term contract for one on the whole-life or endowment plan in either of the two ways already suggested. Moreover, another great value of the conversion privilege also becomes apparent (where the policy does not contain a renewable privilege) when it is remembered that a considerable percentage of the insured lives become physically impaired to such an extent during even the first five or seven years following the issuance of the contract, as to make impossible the securing of any other plan of life insurance in a reliable company. Under such circumstances a nonrenewable term policy may, because of its expiration before death, fail utterly to protect the insured. If, however, the policy contains the conversion privilege, and if the time limit for making an exchange of the policy for a whole-life policy has not yet expired, the insured will certainly want to take advantage of this privilege and thus protect himself against the possibility of his insurance expiring before death occurs.

# CHAPTER VI

## ORDINARY LIFE INSURANCE

Ordinary whole-life policies provide for the payment of the face value only upon the death of the insured. Maturing only upon death, such policies are taken out primarily for the benefit of others, and, therefore, represent pure life-insurance protection which the insured has unselfishly provided for those dependent upon him. During the earlier years of the insured's life this type of insurance in the great majority of cases affords protection at moderate cost for wife and children or other dependents. In the later years of life when it may be felt that such protection is no longer necessary, because the children have become financially independent, the insurance affords a convenient means of leaving legacies and bequests. As explained in a previous chapter, the premiums on this form of insurance are paid annually, semi-annually, or quarterly, under the level premium plan for the whole of life, while the proceeds of the policy may at the option of the insured be paid either in one lump sum or on the installment plan.

**Furnishes Permanent Protection.**— Several advantages may be noted as essentially associated with this plan of insurance. In the first place it gives the insured *permanent* protection at moderate cost, and this is highly important for the average man of moderate salary or daily wage who requires considerable family protection and whose limited income does not enable him both to pay premiums and to accumulate a large savings-bank fund. Term insurance is essentially designed to afford protection against a *temporary* family or business hazard, and can be recommended safely only when it is definitely known that the hazard under consideration is temporary in character. But such contracts, as we have noted, contain elements of danger which are inseparable from temporary insurance. The chief danger connected with such insurance is that the insured may have miscalculated the duration of the hazard confronting him and his future need for protection, or may neglect to carry out his original purpose to convert his temporary insurance into or replace it with policies which afford protection for the whole of life. Under ordinary life insurance all danger as to miscalculations relative to the uncertain future need of insurance or the failure to carry out original purposes is obviated. Such insurance is certain in its results in that it provides protection that is *permanent,* payable in the event of death, whether that occur early or late, and purchasable at a definite and moderate premium which remains uniform throughout life.

**Furnishes Permanent Protection at the Smallest Initial Outlay.**— As has been aptly stated " the ordinary life policy is of all policies the one which gives the maximum of permanent protection at a minimum annual charge." This may be illustrated by comparing the gross premium charged by companies for ordinary life policies with those required under the limited payment and endowment plans. For instance, the annual premium charged by a certain company per $1,000 of ordinary life insurance is $19 at age 25, $21.80 at age 30, and $25.45 at age 35. On a twenty-payment life policy at the same ages the annual premiums charged by this company are $26.75, $29.70, and $33.28; while on an endowment policy, maturing in twenty years, the premiums are respectively $44.82, $45.63, and $46.70. It is therefore seen that the ordinary life policy furnishes permanent protection at the smallest initial outlay, although, as will be shown later, the limited-payment and endowment policies will, if the insured continues to live, ultimately yield certain advantages which probably induced the insured to prefer these forms and which will compensate for the higher premium. In case of early death, however, the insured would realize the same amount under each of the aforementioned policies, yet the outlay on the part of the insured would have been considerably greater under the limited-payment and endowment plans than under the ordinary life policy.

Owing to its moderate annual cost, an ordinary life policy tends to bring adequate protection within the reach of nearly all. It is particularly well adapted to those whose income is small and who find desirable a considerable amount of permanent protection. To the rich man, on the other hand, the policy affords ample protection and enables him to use any surplus money to better advantage probably than if allowed to accumulate with an insurance company. The policy is also well adapted to persons who, although having passed middle life, may still desire the largest amount of permanent protection at the lowest cost. Even at ages 45 and 50 the annual premiums charged by the aforementioned company are, respectively, only $36.50 and $45.10; while for a twenty-payment life policy at the same ages the premiums are $43.46 and $51.26, and for an endowment policy, maturing in twenty years, $51.45 and $56.55.

**Combines Saving with Insurance.**— Besides its moderate cost and the permanent character of the protection offered, the ordinary life policy furnishes the further advantage of combining saving with insurance. In term insurance, as already explained, nearly all of the premium represents payment for the current protection, and the companies follow the practice of not refunding anything upon withdrawal. Moreover, under term insurance nothing is paid to the insured in case of survival at the expiration of the term, and it is this fact that constitutes one of the chief objections to this type of insurance, it being most difficult, as previously stated, to make the average holder of such a policy, after he has paid ten or twenty premiums, appreciate the fact that he has already received full value in the form of protection for the premiums paid, and that he is therefore not entitled to receive any refund.

As contrasted with this shortcoming, the ordinary life policy presents an entirely different situation. In the early years of such a policy the annual level premium is much in excess of the amount required to pay the current cost of the insurance protection, the balance being retained by the company as a reserve (called the legal reserve) and improved at compound interest at an agreed rate for the purpose of making good the deficiency in the later years of life when the annual level premium is no longer sufficient to pay for the actual cost of the insurance. The overcharges in the early premiums are instrumental in inculcating thrift on the part of the insured and in the great majority of instances, repre-

Guaranteed Values

*Age:* 35. *Amount:* $10,000. *Annual Premium:* $270.
*Plan: Ordinary Life.*

| Number of Years after Policy Has Been in Force | Cash or Loan Value | Participating Paid-Up Insurance | Extension Participating | |
|---|---|---|---|---|
| | | | Years | Days |
| 3 | $ 397.60 | $ 900 | 4 | 183 |
| 4 | 537.70 | 1,190 | 6 | 7 |
| 5 | 681.60 | 1,480 | 7 | 182 |
| 6 | 829.40 | 1,770 | 8 | 326 |
| 7 | 981.10 | 2,060 | 10 | 57 |
| 8 | 1,136.80 | 2,340 | 11 | 100 |
| 9 | 1,296.50 | 2,620 | 12 | 87 |
| 10 | 1,460.10 | 2,890 | 13 | 21 |
| 11 | 1,627.60 | 3,160 | 13 | 269 |
| 12 | 1,798.70 | 3,430 | 14 | 108 |
| 13 | 1,973.50 | 3,690 | 14 | 271 |
| 14 | 2,151.60 | 3,950 | 15 | 33 |
| 15 | 2,332.80 | 4,200 | 15 | 128 |
| 16 | 2,516.80 | 4,450 | 15 | 196 |
| 17 | 2,703.40 | 4,690 | 15 | 239 |
| 18 | 2,892.20 | 4,920 | 15 | 259 |
| 19 | 3,083.20 | 5,150 | 15 | 261 |
| 20 | 3,275.80 | 5,370 | 15 | 245 |
| 21 | 3,470.00 | 5,590 | 15 | 215 |
| 22 | 3,665.20 | 5,790 | 15 | 172 |
| 23 | 3,861.40 | 6,000 | 15 | 118 |
| 24 | 4,058.10 | 6,190 | 15 | 54 |
| 25 | 4,254.90 | 6,380 | 14 | 348 |

The values given above will be increased by any surplus or additions standing to the credit of the Policy.

sent a saving — an accumulation of small amounts promptly invested by the company — which would otherwise not have been earned or, if earned, would have been lost or needlessly wasted. The fund thus accumulated out of the overcharges in the early premiums does not belong to the company, but is held in trust by it for the policyholder. It represents the "cash value" of the policy, and may either be withdrawn by the insured, in whole or to a certain designated percentage, if he decides to lapse the policy, or be made the basis of a loan, usually at 5 or 6 per cent., to be used in time of illness, financial emergency, or business opportunity. The loan privilege also is often valuable in that it enables the insured to keep his policy alive for its full amount under temporary circumstances when the payment of the premium would otherwise not be possible. The extent to which such cash or loan values accumulate may be illustrated by the table on page 83, which furnishes the figures for the first twenty-five years of a $10,000 ordinary life policy issued by a company which grants such values at the beginning of the third year and to the full extent of the legal reserve.

Usually cash or loan values are not granted by the companies until at least three annual premiums have been paid. Usually, also, the companies do not refund the entire legal reserve during the first ten, fifteen, or twenty years, but retain a fixed percentage thereof as a surrender charge. In the above illustration it will be observed that the cash value of the $10,000 policy has accumulated to $4,254.90 during the first twenty-five years, and this accumulation continues until it reaches the face value of the policy by age 96, the last year in the American Experience table.

**Disadvantage of Continuous Premium Payments.**— The chief objection usually advanced against ordinary life insurance is the continued payment of the premium throughout life. This objection, however, is more apparent than real, and may at the option of the insured be obviated to some extent by allowing the annual dividends to accumulate with the company with the view of either shortening the premium-paying period or hastening the maturity of the contract. Under the first option the contract becomes a paid-up policy for the full amount after a period of years — thus requiring no further premium payments — the insurance, however, being still payable at death only. Under the second option the dividend accumulations on the policy cause it to mature as an endowment at an earlier age, thus enabling the insured to realize the proceeds before death occurs.

The cash surrender and other options allowed under an ordinary life policy may also, under certain circumstances, make desirable a discontinuance of premium payments. Changing circumstances may cause the insured to desire the taking of any one of three important options customarily allowed by the companies. If the policy has served its protective purpose and the insured is satisfied that the change in his circumstances is such as no longer to require insurance protection and does not wish the full face value of the policy for legacies or bequests, he may surrender the policy to the company for its cash value. Or, instead of taking the cash value, the insured may choose the option of stopping premium payments and taking a paid-up policy, payable upon death to his estate or designated beneficiary. The amount of paid-up insurance which the companies grant after the policy has been in force a specified number of years is indicated in column three of the preceding table, and represents the amount of insurance that can be purchased at the then attained age with a net single premium equal to the surrender value. The amounts, it will be observed, are very considerable in the later years, the face value of the paid-up insurance granted on the $10,000 policy, after the same has been in force twenty-five years, being $6,380.

Lastly, it may happen that the policyholder contracts some fatal disease or meets with some accident which incapacitates him for the earning of future premiums. Under such circumstances the necessity for insurance is greater than ever, and the policyholder is allowed to avail himself of the option of "extended insurance," which means that he can without further premium payments enjoy the full benefit of his original policy for a designated number of years and days. This option may also be chosen, even though the ability to pay premiums continues, when the insured is satisfied that his physical condition is such as to prove fatal before the expiration of the term during which extended insurance is granted. The duration of the term of extended insurance as allowed by the companies will again depend upon the cash value of the policy, which is used as a single premium to purchase insurance at the then attained age. The respective amounts on the $10,000 policy, used for purposes of illustration, are shown in the fourth and fifth columns of the preceding table. Thus, it will be observed, for example, that after this policy has been in force nineteen years it may be extended for its full face value, without further premium payments, for a term of fifteen years and two hundred and sixty-one days.

# CHAPTER VII

## LIMITED-PAYMENT POLICIES

Under the terms of these contracts the face of the policy is not payable until maturity, but premiums are charged for a limited number of years only after which the policy becomes paid-up for its full amount. This method of paying premiums is applied to-day, if the insured so desires, to practically all of the leading types of contracts sold. Its most popular application, however, has been in connection with whole-life policies, and its nature and advantages will, therefore, be discussed from the standpoint of this type of contract. Ordinary whole-life policies involve the payment of an annual level premium until a claim ensues through death. But under the limited-payment plan premium payments, instead of continuing indefinitely, may be fixed at almost any number of years, from one to thirty, or even more. Customarily the payments cease after ten, fifteen, or twenty years, but life policies providing for twenty-five or thirty premiums are not uncommon, and in a mutual company the stipulated term may be further reduced by applying the dividends for that purpose. If premiums are limited to twenty years, for example, and this seems to be the favorite choice of the public, the policy is known as "a twenty-payment life policy."

**Necessity for Larger Premiums Under This Plan During the Premium-Paying Period.**— Since limited-payment policies require the payment of premiums during a term which averages less than the term of the contract, it follows that the annual level premium under this plan is larger than that necessary when premium payments continue throughout the life of the policy. The purpose of the plan is to have the policyholder pay an extra amount annually during the fixed premium-paying period so that after the termination of this period the policy may be carried to successful completion without further financial obligation on the part of the insured. Thus in the case of a limited-payment life policy, the ten, fifteen, or twenty premiums called for by the contract represent on the average a total sum sufficiently larger than the aggregate amount paid on the average during the same period under the continuous annual level premium plan, to enable the company to accumulate an amount which will be sufficient, together with compound interest earnings at an assumed rate, to carry the policy thereafter to its maturity without further charges upon the insured. While the mathematics underlying the computation of net premiums on the limited payment plan is referred to in Chapter XV, the manner of applying the principle in actual practice may be illustrated by the following rates[1] taken from the rate book of the company already used for purposes of illustration in the two preceding chapters. The rates presented are those charged by the company at various selected ages on a whole-life policy on the ten-, fifteen-, and twenty-payment plans. and the rates on the continuous-payment plan are also given so that a comparison may be made.

PREMIUM RATES TO SECURE $1,000 PAYABLE AT DEATH

| AGE | WHOLE OF LIFE | 10 YEARS | 15 YEARS | 20 YEARS |
|---|---|---|---|---|
| 20 | 16.60 | 38.30 | 28.96 | 24.16 |
| 25 | 19.00 | 42.34 | 32.06 | 26.75 |
| 30 | 21.80 | 46.80 | 35.50 | 29.70 |
| 35 | 25.45 | 52.00 | 39.60 | 33.28 |
| 40 | 30.25 | 58.46 | 44.74 | 37.84 |
| 45 | 36.50 | 65.82 | 50.80 | 43.46 |
| 50 | 45.10 | 75.20 | 58.94 | 51.26 |
| 55 | 56.50 | 86.75 | 69.52 | 61.84 |
| 60 | 72.70 | 101.68 | 83.98 | 76.80 |

[1] These rates are merely used for illustrative purposes. It should be noted that the gross premiums charged by different companies vary considerably, and that in mutual companies these premiums are considerably reduced through the distribution of dividends.

An examination of the table shows that the fewer the number of premium payments the larger each payment will be. Thus at age 20 a whole-life policy with premiums payable until the policy becomes a claim will cost $16.60 in this company. If the insured, however, prefers to pay for the policy in twenty installments, each premium will amount to $24.16; while if paid in fifteen or ten installments, the premium will increase, respectively, to $28.96 and $38.30, the last figure, it will be noted, being more than double the premium charged at this age under the continuous-payment plan.

Owing to the heavier premiums the limited-payment plan is not well adapted to those whose income is small and whose need for insurance protection is so great as to require emphasis on the amount of protection rather than the accumulation of a fund with the company, especially when there is reason to believe that the income out of which premiums may conveniently be paid will be much greater in the future than it is at present. Furthermore, many policyholders, amply able to pay premiums, may feel that a policy requiring continuous payments will fit their needs better than a limited-payment contract, since it enables them to use the difference in the premiums to better advantage perhaps than if allowed to accumulate with an insurance company.

Nor is the use of the limited-payment principle advantageous under the circumstances described in the chapter on "Term Insurance." Here we saw that situations may frequently arise which require the subordination of the investment feature in life insurance to its protective function to such an extent as to preclude or render disadvantageous the taking out of even whole-life insurance by continuous payments, much less the limited-payment plan. Especially is this true of young professional or business men who are just beginning their career and who, appreciating the necessity for adequate family protection, may feel that their special circumstances require the use of term insurance as a means of securing heavy protection at the least possible cost during the years when they are seeking to establish themselves in their calling. Such persons, as was stated, wanting heavy protection during early years, may feel that they can more advantageously use all available savings in their profession or business. Or, looking forward to a much larger income later in life, they may reason that they can then advantageously replace or supplement this type of contract with policies of other kinds which have permanent protection or saving as their primary purpose. It is also clear that the limited-payment plan will not appeal to those who desire protection against some temporary business or family hazard, the duration of which is definitely known.

**Advantages of the Limited-Payment Plan.**— Having referred to the shortcomings of limited-payment policies when viewed in the light of special circumstances, we may next note the conditions under which this method of paying premiums may prove desirable. Certainly, the willingness to pay a larger annual premium must be justified by advantages which will compensate for the sacrifice. Two important advantages present themselves and may be stated briefly as follows:

1. *Premium payments may be limited to the productive period of life.*— Instead of continuing for an indefinite period, the premium-paying years may be so limited in number as to correspond to the income-producing years. Not only is there satisfaction for many people in knowing the maximum amount which they can be asked to pay on a policy, but for the great majority of men between the ages of 25 and 40, engaged in the average walks of life, the next thirty, twenty, or fifteen years, depending upon the age under consideration, represent the really productive period of their working lives. As regards the great majority, these years, and not the years of old age, can through a little extra effort and economy be made the years of surplus. It is therefore argued that the average man should take advantage of that period in his working life when money comes in most freely, to pay a somewhat higher premium, in order to free himself in old age from any payment whatever. Using the rates

cited above, a person insuring at age 25 is given the option by the company of making his whole-life policy paid-up by the time he becomes forty-five years old by paying an extra annual sum of $7.75 per thousand dollars of insurance for twenty years. As previously stated, less than one in ten of our population succeeds in accumulating a reasonable competence by the time age 50 is reached, and through reverses in business or investments a great majority of this limited number lose the same before death. Now why not use the productive years, the supporters of the limited-payment plan argue, to protect one's insurance against such a contingency? As the management of one company admirably states in referring to a twenty-payment life policy:[2]

> The period of twenty years is not so short as to make the discount of future payments too heavy, nor so long as to extend these payments far into the future, thereby defeating the wise purpose of avoiding them late in life. . . . After twenty years the insured has completed his side of the agreement and reaps the reward of prudence and persistency. His estate, the value of the policy, *is an accomplished fact* — bought, paid for and standing to his credit. Nothing can take it from him, nothing can reopen the account — it is beyond peradventure. At his death the company instantly discharges its side of the contract by the simple transfer of the property. . . . Here then, is a present plan for future security. The ordinarily vigorous and most productive years of life pay toll for the fullness of years sometimes attained without fullness of pocket. Thus the burden is put where it can more easily be carried, and the relief in later life always abundantly justifies the earlier foresight.

2. *Combines saving with insurance.*— The limited-payment life policy affords the advantage of combining saving with insurance, assuming that the policyholder desires to accomplish this purpose, to an even greater degree than was noted in connection with whole-life insurance by continuous payments. The extent to which cash or loan values accumulate, for example, under a $10,000 twenty-payment

[2] New England Mutual Life Insurance Co.

life policy at age thirty-five is indicated for the first twenty-five years in the following table of values guaranteed by the same company whose cash and loan values were used for purposes of illustration in connection with an ordinary life policy:

GUARANTEED VALUES

*Age:* 35. *Amount:* $10,000. *Annual Premium:* $367.
*Plan: Life,* 20 *Payments.*

| NUMBER OF YEARS AFTER POLICY HAS BEEN IN FORCE | CASH OR LOAN VALUE | PARTICIPATING PAID-UP INSURANCE | PARTICIPATING EXTENSION | |
|---|---|---|---|---|
| | | | YEARS | DAYS |
| 3 | $ 682.00 | $1,540 | 7 | 334 |
| 4 | 924.60 | 2,050 | 10 | 212 |
| 5 | 1,175.20 | 2,560 | 13 | 14 |
| 6 | 1,434.00 | 3,060 | 15 | 75 |
| 7 | 1,701.40 | 3,570 | 17 | 28 |
| 8 | 1,977.70 | 4,070 | 18 | 246 |
| 9 | 2,263.10 | 4,570 | 20 | 16 |
| 10 | 2,557.80 | 5,070 | 21 | 81 |
| 11 | 2,862.40 | 5,570 | 22 | 93 |
| 12 | 3,176.80 | 6,060 | 23 | 64 |
| 13 | 3,501.60 | 6,550 | 24 | 8 |
| 14 | 3,837.00 | 7,040 | 24 | 307 |
| 15 | 4,183.30 | 7,530 | 25 | 249 |
| 16 | 4,541.10 | 8,020 | 26 | 220 |
| 17 | 4,910.70 | 8,520 | 27 | 247 |
| 18 | 5,293.10 | 9,010 | 29 | 9 |
| 19 | 5,688.90 | 9,500 | 31 | 25 |
| 20 | 6,099.20 | 10,000 | Paid up | |
| 21 | 6,211.80 | | | |
| 22 | 6,325.10 | | | |
| 23 | 6,438.90 | | | |
| 24 | 6,553.00 | | | |
| 25 | 6,667.20 | | | |

The values given above will be increased by any surplus or additions standing to the credit of the Policy.

Comparing the above table with the corresponding table for an ordinary life policy (see page 83) we find that the premium charged on the $10,000 twenty-payment life policy at age 35 is $367 in this company as compared with $270 for the same policy on the continuous-payment plan. But it will be noticed that the larger premium on the limited-payment contract results in a much more rapid yearly growth of values under the policy. Whereas the cash or loan value given under the ordinary life policy amounts to $397.60 after the policy has been in force three years, the corresponding value equals $682 under the twenty-payment policy. Similarly, the cash or loan values of $1,460.10 and $3,275.80 under the ordinary life policy after it has been in force ten and twenty years respectively contrasts with corresponding values of $2,557.80 and $6,099.20 under the twenty-payment contract. This larger accumulation under the limited-payment plan is the result of the sacrifice necessary to meet the larger premium. Those supporting the plan argue that it encourages thrift and that the extra sum accumulated would not otherwise have been saved in the great majority of instances. The increased premium can, it is asserted, easily be paid by many if they only resolve to do so, with the result that a little determination will lead to the accumulation of a fund of large dimensions.

**Paid-up and Extension Benefits Under the Limited-Payment Plan.**— As was explained in the previous chapter various contingencies may arise which may cause the insured to view a policy differently from the way he did when he purchased it and which may induce him either to surrender it or to discontinue the payment of premiums. This attitude may be caused by any one of several events, such as loss of earning capacity, death of one's dependents, or impairment of health to such an extent as to make death certain during the period for which extended insurance is granted. Under such circumstances the insured may realize the guaranteed values of his contract as they stand at the time. Either he may surrender the policy for its cash value or effect a loan against that value, and this cash or loan value we have seen is considerably larger under the limited-payment than under the continuous-payment plan. Or the insured may exercise the option of taking paid-up or extended insurance, and these benefits, since the larger cash value is used as a single premium to purchase paid-up or extended insurance at the then attained age, will be greater than under the ordinary life policy.

# CHAPTER VIII

## ENDOWMENT INSURANCE

**Definition and Types of Policies.**— All the policies discussed in the three preceding chapters provide for the payment of the full amount of the policy only in the event of death. Endowment policies, on the contrary, provide not only for the payment of the face of the policy upon the death of the insured during a fixed term of years, but also for the payment of the full amount at the end of said term if the insured be living. Whereas policies payable only in the event of death are essentially taken out for the benefit of others, endowment policies, although affording protection to others against the death of the insured during the fixed term, usually revert to the insured if he survives the endowment period. Such policies, therefore, have become popular in recent years as a convenient means of accumulating a fund which will afterwards become available for the use of the policyholder.

An examination of the contracts issued by different companies shows many variations in the use of the endowment-insurance principle. Such policies may be made payable in ten, fifteen, twenty, twenty-five, thirty or more years, or the length of the term may be so arranged as to cause the policy to mature at certain ages, such as 60, 65, 70, etc. When written for short terms the purpose of the policy usually is to combine immediate protection with saving; while if written for long terms or to mature at an advanced age the object is usually to combine protection with old-age provision. Usually the contracts are paid for by premiums (payable annually, semi-annually or quarterly) continuing throughout the term, but if desired the premiums may be paid on the limited-payment plan, as, for example, a thirty-year endowment paid-up in twenty years.

Other applications of the endowment principle have already been referred to in the chapter on " Classification of Policies," but may again briefly be recapitulated. Thus there may be "double endowments" or "semi-endowments," the first meaning that the amount payable upon survival is twice that paid in the event of death, and the last meaning that the sum payable upon survival is only half as large as the amount promised upon death. Various kinds of "child endowment policies" are also issued by certain companies. Sometimes these policies, besides guaranteeing the payment of a fixed amount upon the attainment by the child of a specified age, also provide for the return in full of the premiums paid in the event of the child's death before reaching the endowment age. Or, the policy may be issued without the return of premium privilege in the event of the child's death, the only benefit under the policy in this instance being the amount payable on survival. Sometimes it is provided that upon the death of the purchaser of the policy, usually the father, premium payments shall cease, the policy becoming full-paid and the principal becoming due when the child reaches the endowment age. In still other instances the policy may be issued on a child's life at an early age, say at age five, the understanding being that the policy will not come into full force until the insured reaches a specified age (say age 21) and will then mature as an endowment at, say, age 50. These policies, furthermore, may again be issued with or without the return-premium privilege.

**Analysis of an Endowment Policy.**— Two explanations have been offered as an analysis of the nature of endowment insurance. Under the first, and this is the usual analysis, the policy is explained as consisting of (1) "pure-endowment" insurance and (2) "term" insurance. This analysis looks upon the contract as a combination of a level term insurance, promising to pay $1,000 in case of death at any time during the term, and a pure endowment of the same amount payable only upon survival at the end of the term.

Several writers, however, while admitting that the above analysis is correct and convenient for purposes of mathematical computation, maintain that the pure endowment does not offer the correct economic explanation of an endowment-insurance contract; that there is another and more logical method of explanation and one agreeing more closely with insurance practice. This newer explanation likewise divides endowment policies into two parts. But the investment part of the contract, and this is the fundamental difference, is not considered a pure endowment, all of which is lost in case of death before the end of the term, but is strictly a savings-bank accumulation which is available at any time to the insured through surrender or maturity of the policy. This investment feature is supplemented by term insurance, which is, however, not a level term insurance of $1,000 in amount at any time, but an insurance of an amount which added to the investment accumulated at the date of death will make the amount of the policy payable equal to $1,000. The insurance portion of the contract therefore is for a decreasing amount, being nearly equal to $1,000 in the early years of the contract and gradually decreasing throughout the term. Thus, if at a particular time a $1,000 endowment policy has an investment accumulation of $150, the insured will be protected by $850 insurance against death, but when the accumulation reaches $900 there will be term insurance for but $100. The premium for the policy may be divided into two parts, one part for the investment and one for the decreasing term insurance.

**Premiums Charged for Endowment Policies.**— Since the company's liability under an endowment policy involves not only the payment of the insurance upon death but also the full amount of the policy upon survival of the term, it follows that the annual premium on such policies is necessarily much higher, except for very long endowment periods where the rate is only slightly higher, than that charged on an ordinary life policy. An examination of the following table of rates (charged by the same company whose rates were used for purposes of illustration in the preceding chapters) shows this to be especially true when the endowment period is a short one. The large difference here indicated, although accounted for in part by the heavier loading on endowment premiums, is due chiefly to the necessity of accumulating more rapidly the investment portion of the endowment policy in order to have it equal the full face value at the end of the term. Referring to previous chapters, we saw that the reserve value of the $10,000 ordinary life policy at age 35, used for illustrative purposes, was $3,275.80 after the policy has been in force twenty years, while for the same policy on the twenty-payment plan the corresponding reserve value was $6,099.20. The $10,000 twenty-year endowment policy, however, must, according to its definition, have a value of $10,000 at the end of the twenty-year period, and the difference between this value and the values noted for the other two policies must be obtained by the company through a higher premium.

Premium Rates for $1,000 Endowment Insurance

| Age | 10 yr. End | 15 yr. End | 20 yr. End | 25 yr. End | 30 yr. End | 35 yr. End | 40 yr. End | 45 yr. End | Whole Life Rate. |
|---|---|---|---|---|---|---|---|---|---|
| 20 | 99.27 | 62.34 | 44.10 | 33.84 | 27.44 | 23.23 | 20.52 | 18.60 | 16.60 |
| 25 | 99.90 | 62.70 | 44.82 | 34.67 | 28.38 | 24.35 | 21.80 | 20.20 | 19.00 |
| 30 | 100.30 | 63.34 | 45.63 | 35.74 | 29.58 | 25.87 | 23.60 | 22.40 | 21.80 |
| 35 | 100.90 | 64.20 | 46.70 | 37.0 | 31.44 | 28.15 | 26.30 | 25.55 | 25.45 |
| 40 | 102.14 | 65.67 | 48.64 | 39.46 | 34.47 | 31.70 | 30.40 | .... | 30.25 |
| 45 | 103.58 | 67.70 | 51.45 | 43.05 | 38.85 | 36.90 | .... | .... | 36.50 |
| 50 | 106.45 | 71.75 | 56.55 | 49.30 | 47.65 | .... | .... | .... | 45.10 |
| 55 | 111.58 | 78.26 | 64.65 | 60.05 | .... | .... | .... | .... | 56.50 |
| 60 | 120.20 | 89.10 | 77.60 | .... | .... | .... | .... | .... | 72.70 |

**Functions of Endowment Insurance.**— In the past endowment insurance was frequently advertised as "investment insurance" without making proper reference to the cost of the insurance protection. But as Mr. Dawson states in considering endowment and limited-payment policies as an investment, "a life-insurance policy, at the best, can be compared as an investment with other investments, not accompanied with life insurance, only when a proper allowance is made for the cost of the life insurance. . . . It behooves the company as a matter of fairness both to make it plain that at the best the investment is good, only in case the form of the protection is considered, and then to render the handicap as little as possible by loading endowment and limited-payment life premiums justly."[1] The real function of endowment insurance is not to yield a large investment return but rather to furnish a means of inculcating the saving instinct and to afford a sure method of providing against old age or some other specific contingency by accumulating a definite sum of money within a definite time. Briefly stated, endowment insurance may be defended under proper conditions because of its usefulness in four main ways, namely:

1. *As an incentive to save.*— The argument most generally advanced in favor of endowment insurance is that it constitutes a sure method for systematic saving in that it provides for the laying away of a moderate sum each year with a view to having all the accumulations returned in one sum at the end of a fixed period. This era is recognized as a particularly extravagant one, and vast numbers of young men, because of extravagant habits, never save a dollar although receiving good incomes. For such persons an endowment policy generally turns out to be a means of forcing thrift, since it compels them to do that which, if left entirely to their own option, would remain undone. By requiring the payment of specific sums at regular intervals during a period of years, endowment insurance enables many to save a sum worth while, without being conscious of the sacrifice, whereas haphazard methods of saving seldom achieve this result. "Such a policy," as has been said, "gives a person a definite aim — he must save just so much every year, and experience soon teaches that he can do it easily." It should also be emphasized that in ever so many instances the difference between the premium on an endowment policy and some

[1] Dawson, Miles M., The Business of Life Insurance, 231-234.

other kind of contract requiring a smaller payment would not be saved were it not for the voluntarily assumed sacrifice of paying the higher rate. Endowment insurance, therefore, as it concerns those who find it difficult to save, represents a means of utilizing the by-product of their earnings — the small sums otherwise wasted in needless expenditures — for the accumulation of a competence. And even assuming that these small sums are not wasted, it would still be true that in probably the majority of instances, they would be invested injudiciously and would be subject to the hazard of business, or even if carefully invested would be withdrawn under the temptation of speculation or luxury.

It is also contended by many that endowment policies maturing in, say, twenty years afford to many young men, especially if they labor under the difficulty of not being able to save or keep their savings, the advantage of yielding a cash capital "at the prime of life when, ripened by years of experience, they can use it to the best advantage." Strange as it may seem many of the nation's most prominent business men, who we would think could currently use all spare funds to the best advantage in their business, have publicly emphasized this feature of endowment insurance. Only a few years ago one of the leading merchants of this country in addressing a meeting of life-insurance agents related how he had been induced to take one endowment policy after another until he carried a huge amount of this type of insurance. He explained its advantages to him as a means of compulsory thrift, of accumulating sums little by little until a large fund existed, and expressed his belief that if it had not been for the sum realized upon the maturity of his endowments he might never have erected his splendid store.

2. *As a means of providing for old age.*— Endowment insurance, if the term is so selected as to make the policy mature at an age like 60, 65, or 70, may serve as an excellent method of accumulating a fund for support in old age. Many who oppose endowments maturing at earlier periods because of their greater cost are ardent supporters of long-

term endowments maturing at an age when a man's earning capacity usually ceases and when he naturally expects to retire from actual work. Statistics show that less than one man in ten succeeds in laying up a decent competence by the time this age is reached. Most men are therefore confronted with two contingencies: (1) an untimely death may leave their families unprotected, and (2) in case of survival until old age they may lack the means of proper support. Both of these contingencies may conveniently be provided against by a long-term endowment. If death should occur at any time during the term, the insurance proceeds revert to the family; but should the insured survive to old age, when the need of insurance for family protection has largely or altogether passed away, he will himself receive the proceeds of the fund which his prudence and foresight enabled him to accumulate, to be used for his own support and comfort.

In this connection it should be remembered that a whole-life policy, based on the American table of mortality, is an endowment at age 96, since this age according to that table is considered the extreme limit of life. At age 25 a whole-life policy is, therefore, an endowment policy for a term of seventy-one years. Now those upholding long-term endowments take the position that it is most illogical to choose age 96 as the age when the insured shall have completed his savings fund under the policy, and that it accords much more with the real needs of the average man to move the maturity of the contract from the ridiculous age of 96 to the more reasonable age of 60 or 65, when the need for insurance protection is usually small while the need of a fund for comfortable maintenance in old age is usually pressing. Especially, it is argued, should this change to an earlier date of maturity be provided when the difference between the premium on an ordinary life policy and that on an endowment maturing at, say, 65 is so small that its payment does not involve any appreciable sacrifice and would in all probability not have been saved except for the voluntary determination to pay the slightly higher premium. Thus at age 25, using the aforementioned rates, the premium on a forty-year endowment is $21.80 as compared with the premium of $19.00 for an ordinary life policy, or a difference of $2.80. As regards a forty-five-year endowment maturing at age 70 the difference between the two premiums charged by this company is only $1.20. In other words, the payment of this slight extra sum each year during the forty- or forty-five-year period insures the payment of the full amount of the policy in case of survival at age 60 or 70.

3. *As a means of hedging against the possibility of the saving period being cut short by death.*— Reference has been made several times to the fact that the saving of a competence involves the time necessary to save and that life insurance affords the only known method of protecting a person against the possibility, owing to an untimely death, of not being able to accumulate the desired amount. Were it not for the uncertainty of life and the inability of most people to carry out their resolution to adhere to a definite plan of saving the accumulation of an estate could readily be accomplished by the deposit of certain sums at regular intervals. But, as we have seen, the effort to save a fixed amount is confronted by two dangers: (1) death before there has been time to save the desired amount, and (2) failure of the individual to continue his plan of saving or to keep intact what may already have been accumulated.

Endowment insurance seeks to protect the individual from both of these dangers. Thus let us assume that it is the purpose of a person aged 25 to accumulate $20,000 during the next forty years. The accomplishment of this purpose might be attempted by saving a certain amount periodically for investment in business, securities, etc., and by securing protection against the possibility of the saving period being cut short by death, through the purchase of term or whole-life insurance. But it is also clear that the result can definitely be accomplished by the purchase of a $20,000 forty-year endowment maturing at age 65. On the one hand, this policy by requiring the payment of the premium at regular intervals will tend to enforce thrift on the part of the insured, and will place accumulations beyond the danger of loss to which private investments are usually subject. On the other hand, it hedges the insured's savings fund against premature death. In explaining the nature of an endowment policy we saw that it can be regarded as a combination of saving and decreasing term insurance. Thus in the first year of the contract when the investment portion of the contract is small the term insurance amounts to nearly $20,000, but if at a particular time the investment accumulation under this policy is $3,000 the insurance protection amounts to $17,000. When the investment portion equals $19,000 the insurance portion is for only $1,000; likewise when the accumulation of the $20,000 fund is completed and paid at age 65, the insurance portion is reduced to zero. It is thus seen that this policy assures an estate of $20,000 and protects the insured from the chief danger — death before the fund reaches the desired amount — attaching to any plan of saving which is not hedged with a life-insurance policy. This function of endowment insurance has recently been presented very clearly by Mr. Albert Linton,[2] and the following four paragraphs of his excellent address are herewith reproduced:

> For the purpose of illustration, consider a $1,000 "Endowment at 65," a Forty-year Endowment, taken on the life of a young man aged 25. The purpose of this contract is to provide insurance protection during the years of active manhood and to provide support for the insured during his old age. Under this contract the beneficiary receives the face of the policy upon the death of the insured, should death occur before age 65. If the insured lives to age 65 — the age when, according to statistics, more than 90 out of every 100 men are dependent — he himself receives the full amount of the policy. It may be mentioned in passing that according to the experience of The Provident Life and Trust Company, 66 out of every 100 men who insure at age 25 *do* live to the age of 65.

[2] LINTON, M. ALBERT, "The Endowment Policy." An address delivered at the Fourth Annual Convention of General Agents of the Provident Life and Trust Company of Philadelphia, January, 1915.

The first step in our analysis is to determine what sum, payable at the beginning of each year, will accumulate at compound interest to $1,000 in 40 years. As the contract is to extend over so long a period, we assume a conservative rate of interest, say 3½ per cent., and find that the required sum is $11.43. In other words $11.43 paid at the beginning of each year, together with 3½ per cent. interest upon accumulated funds, will produce $1,000 at the end of 40 years. At the end of 10 years the accumulation will be $139, at the end of 20 years, $334, and at the end of 30 years, $611. If, therefore, the contract were merely one of compound interest — an ordinary savings fund contract — the amount payable should death occur *within* the 40 years, would be simply the accumulation of principal and interest, of which the above three amounts are examples.

Suppose, however, we devise as an accompaniment to the above, an *insurance* policy under which, should death occur before age 65, the amount payable will be the amount by which the accumulation of the annual payments of $11.43 falls short of $1,000. For example, in the tenth year the accumulation is $139. In the tenth year, therefore, the amount of *insurance* will be the difference between $1,000 and $139, that is, $861. In the twentieth year it will be $666, in the thirtieth year $389, and in the fortieth year zero. Technically speaking, therefore, the policy that we are devising is one which provides for a decreasing term insurance covering a period of forty years. Performing the actuarial computation on the basis of the American Table of Mortality, with interest at 3½ per cent., we find that the uniform annual premium for this policy at age 25 is $6.97.

Therefore, if we weld this *insurance* contract to the *compound interest* contract we obtain the policy which we have taken as our illustration — the policy which pays the full $1,000 if the young man of 25 lives to the age of 65, or at his death, if it occurs before age 65. Adding the two premiums $11.43 and $6.97, we obtain $18.40, the exact American 3½ per cent. net premium at age 25 for a forty-year endowment. We have thus, by employing the simple conception of a savings fund and of an insurance policy which pays certain stipulated amounts should death occur within a given period of years, constructed the ordinary endowment policy and computed the premium therefor. We have learned that in paying an endowment premium, a part of that premium builds up a fund which will mature the policy at the expiration of the endowment period, and another portion of the premium provides for insurance sufficient to make up the amount by which the accumulated fund falls short of the full face of the policy, if death occurs before the fund is complete.

4. *As a means of accumulating a fund for specific purposes.*— The special purposes which endowment insurance may be made to serve are exceedingly numerous, as a few illustrations will indicate. Thus, the credit and successful operation of many business firms desiring to negotiate a bond issue may be dependent chiefly upon the life of one man whose unexpected death may so endanger the success of the business as to preclude the redemption of the bonds upon maturity. But this contingency we have seen [3] may be averted if the head of the business insures his life for an amount equal to the bond issue under an endowment policy which will become payable at the same time that the bonds mature. In the event of death the firm receives the face of the policy and may either redeem the bonds if that is possible and desirable, or may set aside such an amount of the policy proceeds as will, with interest, amount to the face of the bond issue at the time of maturity and use the balance for the development of the business. In case of survival the endowment policy will have resulted in the accumulation of a sinking fund year by year which will be just sufficient to redeem the bonds. The same principle might also be applied to the liquidation of a mortgage on a home. Furthermore, endowment insurance may be used in various ways by an employer as a means of binding his employees to himself and thus increasing the efficiency and loyalty of his working force.[4] We have also seen that endowment insurance lends itself admirably to the accumulation of a fund for the benefit of such institutions as colleges, churches, hospitals, etc.[5]

[3] Pages 44 to 45 of this volume.

[4] Page 44 of this volume.

[5] Pages 45 to 46 of this volume.

But in addition to such business uses, endowment policies may often serve some special family purpose, especially as regards the making of proper and certain provision for starting children in life. It is to accomplish this purpose in the most convenient manner for parents or guardians that companies issue the various forms of "children's endowments" already enumerated. By means of such policies small savings, which would otherwise probably be wasted, may be accumulated into a fund to be used for educational purposes, or to start a son in business, or to provide a daughter with a dowry in case of marriage.

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# CHAPTER IX

## INSTALLMENT POLICIES

Any of the usual plans of insurance may assume the form of a so-called installment policy, the installment feature merely providing that the proceeds of the policy at death or on maturity as an endowment shall be paid in a series of installments, annually, semi-annually, quarterly or monthly, instead of in one lump sum. To illustrate, a whole-life policy may stipulate that in the event of the insured's death its face value of $10,000 shall be payable in ten annual installments of $1,000 each, or the arrangement may be for fifteen payments of $666.67, twenty payments of $500, twenty-five payments of $400, etc. Or there may be a further stipulation to the effect that after the company has paid $1,000 at the beginning of each year for ten years then, if the beneficiary be still alive, the same annual payments shall be continued for that amount throughout the beneficiary's lifetime. Numerous special arrangements, however, can be made to suit almost any set of conditions which the insured may have in mind when considering the purchase of such a policy.

**The Fundamental Purpose of Installment Insurance.**—The primary object of making an insurance policy payable in installments is to safeguard the beneficiary against the loss of the proceeds. As has been said, the installment plan serves the purpose of " insuring one's insurance." Few beneficiaries under life-insurance policies, and this is especially true of women, possess the necessary business experience so to invest and manage a large sum of money as to yield a constant and adequate income. Very frequently, too, the sudden receipt of a large lump sum payment means little more to the beneficiary than abundance of money for unnecessary expenditures with the result that the present is thoughtlessly made the period of luxurious living at the risk of experiencing actual want in the future. For these reasons the payment of a policy in a single sum is apt to defeat the very purpose for which the insurance was originally taken, namely, the absolute protection of the beneficiary. Payment in installments, on the contrary, safeguards the beneficiary against the loss of insurance protection by extravagance, bad advice or poor investment.

The underlying purpose of life insurance is the protection of the family, and where a wife, children, or other dependents are named as beneficiaries, it is fundamentally important that the real purpose of the policy, namely, their protection, should be absolutely secured by properly safeguarding the proceeds of the policy upon its maturity. It is stated on good authority that about sixty per cent. of the insurance funds left to beneficiaries in a lump sum is lost by them through bad investment or needless expediture within six years following the death of the insured. This experience is also true of other funds left to the beneficiary. On every hand we can point to examples illustrating how easily and frequently the competence which a husband or father has provided through saving or insurance is lost or foolishly spent by the heir or beneficiary. Modern " income policies," especially where the circumstances justify the use of the continuous income feature, are a guarantee, as we shall see, against such a calamitous contingency.

**Ordinary Installment Policies.**— Having stated the general purpose of installment insurance, we may next examine the several methods of applying the principle in actual practice. One plan, as already noted, consists in paying the proceeds of a $1,000 policy in a definite number of installments, such as ten installments of $100 each, fifteen of $66.67, twenty of $50, etc. The advantage of this plan, as compared with an ordinary life policy payable in one sum, is twofold. Not only does the policy spread the payments over a number of years and thus protect the beneficiary against the loss of the principal, but its premium, in proportion to the face of the policy, is also smaller.

To understand the nature of this policy it is only necessary to ascertain the discounted value of the installments at an assumed rate of interest. If the rate of interest used by the company in its rate computations be 3½ per cent., it must have on hand at the death of the insured $860.77 in order to pay $1,000 in ten annual installments of $100 each, the first installment being paid at death. If the sum is to be paid in twenty installments of $50 each, the discounted value of the installments at 3½ per cent. is $735.49. It is only on this commuted value of the installments (the real amount of the insurance), and not on $1,000, that the company needs to charge premiums. In other words, the lower premium on this policy is accounted for by the fact that the interest accumulation at the assumed rate which the company makes on the proceeds of the policy which it holds following the death of the insured is made available during the insured's lifetime in the form of a reduced annual premium. The policy, however, may be written at the regular ordinary life rates, i. e. for insurance amounting to $1,000 at maturity. In that case the interest earned on the funds held by the company will be used to increase the size of the installments, which in the case of the ten-installment plan (assuming 3½ per cent. interest) will now amount to $116.18 instead of $100, and in case twenty installments are paid, to $67.98 instead of $50. But whatever the plan used, ordinary installment policies still have the objection that the beneficiary may outlive the installment period by many years and be without the steady income to which she has become accustomed. This situation is particularly serious when the age and physical condition of the beneficiary, at the time the installments cease, is such as to preclude the earning of a livelihood.

**Survivorship-Annuity Policies.**— Such policies provide that if the beneficiary should outlive the insured she will receive an annuity during her lifetime, the policy, however, expiring and the premiums being forfeited in case the insured should outlive the beneficiary. As compared with the ordinary installment policy, this contract does not promise the payment of a definite number of installments. Instead, it agrees to pay an annuity to the beneficiary only during the years that she may survive the insured. Yet in doing this the policy overcomes the objection, noted in connection with the ordinary installment plan, that the beneficiary may survive the installment period and thus be without an income.

Although popular among persons familiar with the mathematics of life insurance, this policy has never appealed to the public, partly because nothing is realized in case the beneficiary should die before the insured, and partly because the amount paid to the beneficiary in case she should outlive the insured is indefinite and may be very small. The first objection, however, may be eliminated by having the policy provide for the return of all premiums paid in case the insured shall survive the beneficiary.

**Continuous-Installment Policies.**— The shortcomings of both of the preceding plans are remedied by the continuous-installment policy, which promises a fixed number of installments certain, to be followed by the same installment for as many more years as the beneficiary may outlive the fixed installment period. To illustrate, the policy may provide for the payment of annual installments for twenty years, and if the beneficiary be still alive at the end of the twenty years, for the continuation of the payments during the whole of her subsequent lifetime. It is thus impossible for the beneficiary to be left without an income as may be the case under an ordinary installment policy. Furthermore, the policy overcomes the principal objection to the survivorship annuity because, should the beneficiary not survive the insured many years, the installments will nevertheless be paid after her death until twenty annual payments have been completed. Unless the insured has expressly extended the privilege to the beneficiary, the installments (and this is also true of the ordinary installment policy) cannot be commuted for a lump sum payment, since to do so would defeat the chief object of the policy, viz., the securing of a definite income to the beneficiary. Should the beneficiary die before the insured and while the policy is in force, future premiums will be reduced to the corresponding rate for an ordinary installment policy.

Various special applications of the continuous-installment principle are possible. Thus two or more persons may be named as beneficiaries under the same policy. Should one of them die after receiving the full number of installments certain, the installments relating to such beneficiary will then cease. But in case of death before the fixed number of installments certain have been paid, the remaining unpaid installments will pass as they come due to the surviving beneficiary or beneficiaries. Again, the insured may feel that it would be financially imprudent to have his beneficiary receive at one time as much as is involved in a full annual installment. If desired, therefore, the companies will make the payments in proportionate semi-annual, quarterly or monthly installments. The continuous-installment feature may also be applied to an endowment policy. In the event of death during the endowment period, the insurance is payable in equal annual installments for a stipulated period like twenty years and as long thereafter as the beneficiary may survive. Likewise, in the event of the insured's survival of the endowment period, the amount of the policy will be payable in twenty annual installments certain to himself or a designated beneficiary, to be followed by similar installments throughout the subsequent lifetime of either the insured or the beneficiary nominated at the time the endowment matures. Under this plan the amount of the installment will depend upon the ages of the insured and beneficiary at the maturity of the endowment.

**Advantages of the Continuous-Installment Plan.**— Careful consideration of the continuous-installment feature in life insurance will convince one of its advantages as compared with other forms of settlement and with other methods of investment as regards reliability, economy and convenience. In view of the financial stability of our well-established companies, the plan furnishes an absolutely certain income for dependents. Not only does it guarantee an income to the beneficiary throughout life, but, owing to the installments certain, the income continues sufficiently long to secure the proper education and maintenance of the children. To quote an excellent statement of its functions:

> This policy may be made to provide support for the widow during the remainder of her days; to educate the children; to give independence and protection to the unmarried daughters. In a word it may be made to provide unfailing support for any or every dependent. This policy appeals to men in every rank of life; to the man of limited means who is unable to purchase a home, because a minimum policy may pay the widow's rent for life; to the man of moderate means whose family is accustomed to use a larger income and to the man of affluence whose family is trained to spend a munificent allowance because by means of an adequate policy each may solve the problem of how to guarantee the continuance of the accustomed family income after his death.

Life income policies on the monthly payment plan, besides furnishing a regular income at convenient intervals, also eliminate the details and heavy expense usually connected with the administration of an estate. The trust is administered by the insurance company, and the charge for the service is almost negligible as compared with other methods. The income commences almost immediately upon the death of the insured, whereas under other types of segregated trusts usually six months or more must elapse before payment of any income commences. With respect to the beneficiary, there is no expense of reinvestment and no necessity for the exercise of judgment in placing investments or for their supervision after they have been placed. There are no legal expenses or contests between heirs, no fluctuations in the value of the estate or the income derived therefrom, and no income tax on the installments since they are considered a part of the policy proceeds and, therefore, are exempt in accordance with income tax rulings. It is also highly important to bear in mind that the insurance trust is free from the contingency of possible loss. Other fiduciary institutions cannot be held accountable

Office Premiums on a Whole-Life Policy Payable
(1) In One Sum, and (2) On the Continuous-Installment Plan

| Age of Insured | (1)<br>$1,000 at Maturity | (2)<br>$50 Per Year<br>For 20 Years Certain and the Afterlifetime of the Beneficiary | | | | | | | | | | Premium Reduced in Case Beneficiary Dies Before Insured, to |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Age of Beneficiary | | | | | | | | | | |
| | | 20 | 25 | 30 | 35 | 40 | 45 | 50 | 55 | 60 | 65 and Over | |
| 20 | $16.60 | 15.51 | 15.04 | 14.62 | 14.26 | 13.87 | 13.51 | 13.24 | 13.04 | 12.89 | 12.83 | 12.72 |
| 25 | 19.00 | 17.64 | 17.07 | 16.63 | 16.21 | 15.82 | 15.44 | 15.12 | 14.92 | 14.78 | 14.71 | 14.55 |
| 30 | 21.80 | 20.29 | 19.59 | 19.04 | 18.60 | 18.09 | 17.70 | 17.37 | 17.12 | 16.99 | 16.93 | 16.70 |
| 35 | 25.45 | 23.81 | 22.97 | 22.27 | 21.70 | 21.12 | 20.60 | 20.27 | 20.00 | 19.83 | 19.77 | 19.49 |
| 40 | 30.25 | 28.69 | 27.54 | 26.68 | 25.90 | 25.13 | 24.54 | 24.05 | 23.77 | 23.58 | 23.50 | 23.17 |
| 45 | 36.50 | 35.29 | 33.81 | 32.56 | 31.54 | 30.47 | 29.65 | 29.07 | 28.65 | 28.45 | 28.34 | 27.96 |
| 50 | 45.10 | 44.63 | 42.66 | 40.97 | 39.43 | 38.00 | 36.80 | 35.95 | 35.42 | 35.11 | 34.99 | 34.55 |
| 55 | 56.50 | 57.39 | 54.88 | 52.50 | 50.32 | 48.17 | 46.50 | 45.22 | 44.39 | 43.97 | 43.78 | 43.28 |
| 60 | 72.70 | 75.66 | 72.43 | 69.29 | 66.13 | 63.03 | 60.43 | 58.53 | 57.23 | 56.55 | 56.27 | 55.69 |

for the loss of a segregated trust, if due care and diligence has been exercised. Under life-income policies, however, there is no segregation of the fund, and the insurance company as a whole guarantees the payments. Any loss resulting through unfortunate investment must be assumed by the entire company and does not fall upon the individual beneficiary. Moreover, most companies operate on the mutual plan, and beneficiaries, therefore, receive their proportionate share of whatever profit the company may make on its business.

**Main Plans of Issuing Continuous Installment Policies.**—According to one method the amount of the installment is definitely fixed when the insurance is effected, and in accordance with the ages of the insured and beneficiary at that time. An examination of the rates furnished on the preceding page (being those charged by the company used for illustrative purposes in preceding chapters) will show, for example, that when the ages of the insured and beneficiary are respectively 25 and 20 the annual premium on a whole-life policy payable in installments of $50 for twenty years certain and thereafter during the lifetime of the beneficiary is only $17.64 as compared with a premium of $19.00 for a $1,000 ordinary life policy at age 25 payable in one sum. As the age of the beneficiary increases, as compared with that of the insured, it will be observed that the premium on the continuous-installment policy decreases, the rate, for example, being only $15.44, when the ages of the insured and beneficiary are respectively 25 and 45, as compared with the $19.00 rate of an ordinary life policy. The reason for this difference in the rates has already been explained as far as the installments certain are concerned. The continuous-installment feature is an addition to the ordinary installment part of the contract and must, of course, be charged for in order to enable the company to meet its liability for those installments which it may have to pay to the beneficiary in case she should outlive the insured by more than twenty years. But this extra cost is slight because it is apparent that where the ages of the insured and beneficiary are about the same, and especially where the beneficiary is much older than the insured, there will not be on the average many instances where the beneficiary will outlive the insured by more than twenty years; furthermore, as regards the limited number of cases where the continuous feature goes into operation, the number of installments payable will not average high.

As contrasted with the above plan, there is the very common method of making the amount of the continuous installment depend upon the age of the beneficiary at the time of the death of the insured. The Government insurance, issued by the Bureau of War Risk Insurance, will serve to illustrate the plan. Thus an ordinary life policy for $1,000, under the Government's plan, will mature for that amount upon the death of the insured, and the premium is charged upon that basis. The insured, however, is privileged to select during his lifetime for the designated beneficiary the optional settlement of a monthly life income, depending upon the age of the beneficiary at the time of the insured's death. Thus if the beneficiary is 10 years old when the insured dies the installment will be $3.67 per month for life, whereas if the beneficiary's age is 50 at the time of the insured's death the monthly installment amounts to $5.07. In other words, upon the maturity of the contract through death the insurance proceeds of $1,000 are used as a single premium (assuming 3½ per cent. interest) to purchase a life annuity on the monthly payment plan for the designated beneficiary at her then attained age. It should be added that, in the event that the insured has not prescribed the continuous-installment method of settlement, the designated beneficiary is privileged to select the same at the maturity of the policy by death.

**Guaranteed Interest Bonds.**—Another method of providing a permanent and certain income to the beneficiary or the insured consists in the issue of "income" or "guaranteed interest bonds" upon the death of the insured or the completion of the endowment period. If the rate of interest assumed for the mathematical computation of rates is 3 per cent., the company can, if it is willing to guarantee this rate, allow the proceeds of the policy to be left with it during the lifetime of one or more beneficiaries, and in the meantime pay annually the agreed rate of interest. The plan simply amounts to allowing the proceeds of the policy to stand out at interest, the principal to be paid by the company upon the death of the beneficiary or beneficiaries. Sometimes the policies provide that the annual return will be increased by the annual dividends apportioned by the company, and that, in the absence of restrictions by the insured, the beneficiary, at any time an interest payment is due, may withdraw the amount so left with the company. Another variation of the plan consists in making the rate of interest on the bond considerably higher than the company assumes it can earn. To pay the higher rate, however, the company charges a premium for an additional amount of insurance sufficiently large to furnish the extra return.

# CHAPTER X

## OTHER LEADING TYPES OF CONTRACTS

### Joint-Life Policies

Under an ordinary joint-life policy two or more persons are insured in favor of each other, the policy terminating and being payable when the first death amongst them occurs. Such a policy may be issued in connection with any of the forms of insurance previously discussed, viz, term insurance, whole-life insurance, endowment insurance, etc., and the premium may be paid on either the continuous-payment or limited-payment plan. If issued on the endowment plan, the company agrees not only to pay the policy in the event of the death of one of the parties to the contract during the endowment period, but also at the end of the period if all the parties to the contract are then alive.

**Premiums on Joint-Life Policies.**— The principles underlying the computation of rates on joint-life policies are the same as those used in computing the rates on policies covering single lives, with the exception that the theory of probability of death must be applied with reference to two or more lives, instead of one, in order to determine the liability of the company. Manifestly, since the company agrees to pay the policy as soon as one of two (or more) persons dies, the premium on a joint-life policy is higher per $1,000 of insurance than the rate on a policy on either life alone. On the other hand, it is apparent, that the premium on a joint-life policy covering two persons is less than the sum of the premiums on the policies insuring the two lives separately. On the two separate policies the company's liability is greater because each will involve the payment of its face value upon the death of the insured, while under the joint-life policy only one claim will be paid — i.e. upon the happening of

JOINT-LIFE OFFICE PREMIUMS PER $1,000 OF INSURANCE
WHEN THE AGES OF THE TWO PARTIES ARE:

| AGE OF ONE PARTY | AGE OF OTHER PARTY | | | | | | | | | ORDINARY WHOLE-LIFE RATE PER $1,000 OF INSURANCE | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | 20 | 25 | 30 | 35 | 40 | 45 | 50 | 55 | 60 | AGE | RATE |
| 20 | 27.54 | 28.97 | 31.10 | 34.06 | 38.19 | 43.97 | 51.87 | 63.18 | 78.94 | 20 | 16.60 |
| 25 | 28.97 | 30.27 | 32.16 | 35.01 | 38.97 | 44.56 | 52.47 | 63.45 | 79.32 | 25 | 19.00 |
| 30 | 31.10 | 32.16 | 33.89 | 36.43 | 40.26 | 45.62 | 53.30 | 64.27 | 79.69 | 30 | 21.80 |
| 35 | 34.06 | 35.01 | 36.43 | 38.74 | 42.17 | 47.39 | 54.76 | 65.42 | 80.85 | 35 | 25.45 |
| 40 | 38.19 | 38.97 | 40.26 | 42.17 | 45.31 | 49.99 | 57.20 | 67.45 | 82.47 | 40 | 30.25 |
| 45 | 43.97 | 44.57 | 45.62 | 47.39 | 49.64 | 54.32 | 60.82 | 70.87 | 85.37 | 45 | 36.50 |
| 50 | 51.88 | 52.47 | 53.30 | 54.76 | 57.20 | 60.82 | 66.84 | 75.98 | 90.25 | 50 | 45.10 |
| 55 | 63.18 | 63.45 | 64.27 | 65.42 | 67.45 | 70.87 | 75.97 | 84.50 | 97.54 | 55 | 56.50 |
| 60 | 78.94 | 79.31 | 79.69 | 80.85 | 82.47 | 85.36 | 90.24 | 97.34 | 109.83 | 60 | 72.70 |

the first death — and the policy will terminate at that time.

An examination of the rates on the preceding page (being those charged by a certain company) shows, for example, that where the ages of the two persons insured are 25 and 30 respectively, the rate for the joint whole-life policy is $32.16, while the sum of the rates on two whole-life policies insuring the two lives separately, viz, $19.00 at age 25 and $21.80 at age 30, is $40.80. It will also be noted that the inclusion of an older person in the insured group will materially increase the premium on a joint-life policy. Where the two persons insured, for example, are aged 25 and 60 respectively, the joint-life premium will have increased to $79.32, yet this rate is $12.38 less than the sum of the rates ($19.00 at age 25 plus $72.70 at age 60) on two policies taken out separately on these lives.

**The Use of a Joint-Life Policy Compared with the Use of Separate Policies on the Same Lives.**— Joint-life policies may be taken by husband and wife in favor of each other or for the protection of their children. Should the husband die first, his wife and children will be properly provided for, while if the wife dies first the proceeds of the policy will also prove a substantial help to the family. Again, such policies may appeal to husband and wife who are receiving a joint income. The most frequent use of such policies, however, is for the protection of a firm against the death of one of its partners. For this reason joint-life insurance is frequently referred to as "partnership insurance," although that term, it should be noted, has a broader meaning since it may also refer to the insurance of the several partners under separate policies for the benefit of each other or of the firm. Either plan, it is clear, serves as a means of protecting the business against the withdrawal of capital and the loss of valuable experience that usually results from the death of a partner, of strengthening the credit of the firm at a time when lack of capital is most likely to prove disastrous, and of making possible the retention of the control and management of the business by the surviving partner or partners.

Where the firm consists of only two partners the joint-life policy may appeal as a means of protecting one partner against the death of the other, especially since the premium is lower than the sum of the two premiums required if both insured themselves under separate policies for the benefit of the other. The general tendency, however, seems to be towards the use of individual policies rather than joint-life contracts. This is especially true where the partnership consists of more than two partners, because under such circumstances there is a much greater possibility of some one of the members desiring to withdraw from the firm, thus frequently necessitating an intricate settlement as regards the joint-life policy. Such complications, it is argued, can best be avoided by issuing individual policies on the lives of the members of a firm at the regular rates. Under this plan the death of any partner will cause his insurance to be paid to the other members of the firm, the other policies continuing in force as before for the benefit of the business. But in the event of the dissolution of the partnership, or in case the need for insurance ends, the policy may either be surrendered for its cash value, or be transferred, upon the payment of a proper consideration, to the insured who may then continue it as his own insurance for the protection of his family or estate.

## Annuities

In character the annuity is the opposite of insurance against death, and may be defined as a contract whereby for a cash consideration one party (the insurer) agrees to pay the other (the annuitant) a stipulated sum (the annuity) throughout life, or during life within a fixed term, either annually, semi-annually, quarterly, or monthly. Its purpose is to protect against a hazard—the outliving of one's income—which is just the opposite of that confronting a person who desires life insurance as protection against the loss of income through premature death. Technically, however, the two types of contracts are closely related to each other, since the cost of both is computed on the basis of similar data and principles.

**Immediate Annuities and Their Advantages.**—The form of annuity most commonly used is the so-called "ordinary life" or "immediate" annuity. This is purchased with a single cash sum in advance and guarantees the payment of a stipulated sum, annually, semi-annually, quarterly or monthly during the lifetime of the annuitant, with the understanding that upon his death such payments shall cease and the consideration paid for the annuity be regarded as fully earned. Owing to the greater longevity of female annuitants the cost of annuities for women is somewhat higher than for men. Annuities of this kind prove serviceable to that considerable class of men and women whose only means of support is an estate so small as to yield an altogether inadequate income, and who have no one to whom they care to transfer this estate in the event of death. For purposes of illustration let us assume that a man aged 65 possesses $15,000 and that this fund constitutes his sole means of support. If invested in the most careful manner, let us say in gilt-edged bonds, so as to avoid any danger of loss, the current rate of return will probably not exceed four per cent., thus limiting the owner's income to $600 a year. This amount may prove woefully inadequate for proper support during old age; yet the owner, not knowing how long he may live, does not feel that he can afford to take a portion of his principal each year for living expenses, because impairment of the principal means a corresponding reduction in the income. As previously stated, "The danger confronting this man is just the opposite of that facing the man who wants insurance against death. The latter wants insurance because he does not know how long he may live, while the former is confronted with the danger of living too long, i.e. of outliving his income."

The difficulty referred to can, however, be remedied by reinvesting the $15,000 in a life annuity. By doing this a definite and much larger income, guaranteed for the whole of life, can be obtained. In the event of early death, it is true, the purchase price of the annuity will not be returned, but the necessity for an income will have ceased. On the contrary, in case of long life the return will not only be absolutely certain and regular from year to year but also very remunerative. To quote the rates of a certain company, our owner of the $15,000 fund may use the same as a cash payment for an annuity at age 65 which will yield him an income throughout life of $1,538.10, instead of $600, per annum, or 10¼ per cent. as compared with the current rate of 4 per cent. As the age of the annuitant when purchasing the annuity increases, the greater will be the return, amounting in this company to nearly 12½ per cent. at age 70 and to nearly 15½ per cent. at age 75, the last return being nearly four times that secured at the current rate of 4 per cent. At the same ages the corresponding returns of an annuity in this company on the life of a woman will be 9½ per cent., 11½ per cent., and 13¾ per cent. Should the annuitant desire a definite income such as $100, $500, $1,000, or any other round amount, the companies will issue the annuity on that basis. Thus if a man aged 65 desires an annuity of $1,500, he is permitted to deposit the necessary capital with the company whose rates are being used for illustrative purposes, viz., $14,628. These large returns on annuities issued at the later years of life are possible (1) because the death rate following ages 65, 70, or 75 is very high and (2) because, in accordance with meaning of an annuity, all payments will cease upon death and the unused portion of the purchase price of the annuity will redound to the benefit of those annuitants still living. As will be explained later, the rates for annuities are computed in the same manner as are those for insurance policies, and annuity benefits may, therefore, be granted by the company with equal certainty.

If life insurance is recognized as highly desirable, why should not a similarly favorable view be taken of annuities, which have for their purpose protection against the hazard of an inadequate income during old age. It is important to remember the following four truths: (1) that according to the American Experience Table out of every 10 persons at age

30, nearly 7 reach age 60, nearly 6 age 65, over 4 age 70, over 3 age 75, and nearly 2 the very old age of 80; (2) that comparatively few persons succeed in accumulating a decent competency for old age support, probably not more than about one in ten; (3) that even where a competency has been accumulated it is of such modest size that the enjoyment of the fruits of a life's toil for the period of retirement is spoiled by the scraping that one must resort to in order to make ends meet, by the limited character of the comforts that one can obtain with the fund available in view of the high cost of living, if the principal is not to be touched, and by the prospect of possibly losing the source of the income itself; and (4) that the prospect, amounting almost to a terror, of living too long, makes necessary the keeping of the entire principal intact to the very end, so that as a final wind-up the savings for old age, which one did not dare to enjoy, may possibly pass as an inheritance to distant relatives. In view of these facts it is surprising that so few have been willing to enjoy without fear the competency they have succeeded in accumulating. This can only be done through annuities. Why scrape along on $600 a year (assuming 4 per cent. on $15,000) and then live in fear, when one can obtain annually about $1,500 at age 65 as long as life lasts and minus all the fear.

Nor need one feel that the purchasing of an annuity is not as proper as the purchasing of insurance because the loss of a substantial principal through early death may be regarded as a selfish act and as a wrongful use of the fund. This is not at all the case, although many view it in that way. One is no more guilty of dissipating a fund when purchasing an annuity than when buying insurance. As previously stated: "He who buys life insurance makes contributions for the benefit of widows and orphans more truly than he who dispenses charity. He who buys an annuity makes contributions for the dependent aged quite as much as he who contributes to charity. Indeed, if all adequately insured against death, disability and dependent old age, there would be no need for charity along the lines indicated. By adequately taking care of yourself you are also enabling others, who joined the pool, to do likewise."[1]

**Persons to Whom Annuities Should Appeal.**—With reference to the classes of persons to whom an annuity may appeal should be mentioned unmarried men and women who will leave no dependents and who desire to make the best provision for their own comfort during life, widows or widowers without children, parents whose children are comfortably provided for, and employers who may wish to provide adequately for old and deserving servants. For persons in these classes an annuity furnishes a definite life income which is free from the care and danger of loss attaching to the ordinary methods of investing money. The arrangement, however, does not as a rule appeal to those who have children, especially if they are in need of support or if it is desired to leave them an inheritance, because the only benefit derived from an annuity is the income return during life.

The question may be asked: Suppose both husband and wife are living, how can the annuity be applied, assuming that there are no children? In that event, half of the principal may be devoted to the purchase of an annuity on the life of the wife, and the other half to an annuity on the life of the husband. During their joint lifetime the annual income from both annuities, assuming that they are placed at age 65 and that they represent a principal of $15,000, will be about $1,500 or twice the ordinary yield obtainable in other investment channels. When one dies the survivor will continue to receive an annuity of about $750, or an amount approximately equal to the income that could have been obtained on the entire $15,000 of principal if invested conservatively elsewhere. The situation might also be met through the use of a so-called "last survivorship annuity," referred to at the end of this chapter.

Even where there are children to whom one feels should be left an inheritance, it might be well to consider whether the

[1] S. S. Huebner: "Life Insurance Viewpoints," an address delivered before the Tenth Annual Convention of The Field Representatives of the Midland Mutual Life Insurance Company.

parents are not entitled to devote at least a part of their accumulation to the purchase of an annuity. Or it may be that a father with a competency of, let us say, $15,000 desires to aid his son by starting him in some business or vocation. The father may reason as follows: "I will devote half of my savings to the purchase of an annuity for myself yielding (assuming age 65) an annual income of $750; I will give the other $7,500 of principle to my son for immediate use in getting him started in his work." The thought may well be ventured that a son, about to start in a profession and offered one-half of his father's competency now as compared with the option of obtaining twice that amount by way of inheritance at some unknown future time, will prefer taking the amount offered for immediate use. Yet the father, after giving half of his savings, obtains the same income, in the form of an annuity, that could have been obtained on the entire $15,000 through other conservative investment channels.

**Other Types of Annuities.**—Just as life insurance may be offered under various types of contracts, so annuities may assume a variety of forms to cover the needs of different persons. Special attention should be called to the following:

*Annuity contract guaranteeing a minimum number of annuity payments.*—Such contracts may provide, for example, that in return for a given cash payment an annuity of say $100 shall be paid during the lifetime of a designated person, but that irrespective of the death or survival of said person, at least ten payments must be made. It should also be noted that an immediate annuity may be made to provide that in the event of death the company shall pay "a proportion of the annual sum, based upon the number of months which have elapsed since the last annuity was paid." Thus, if the annual annuity payment is $1,200 and if death should occur ten months following the last payment, the company will pay $1,000 or ten-twelfths of the annual payment. This arrangement, it is argued, "allows the annuitant to live up to his income, for should his death occur shortly after the regular annuity payment he would have on hand the expended balance of his annuity, while, should his death occur ten or eleven months after the regular annuity payment, the pro rata paid by the company would aid in extinguishing such debts as would otherwise remain unpaid."

*Deferred annuities.*—As the name suggests, a deferred annuity is not payable to the purchaser immediately, but only upon his surviving a stipulated period. To illustrate, a man 35 years old may decide to save a portion of his earnings each year with a view to providing for himself twenty years from date an annual income of $1,000 payable in semi-annual installments of $500 each, the first installment of $500 to be paid when he becomes 55½ years old. This he can do by paying to the company, whose rates were previously quoted, $429 a year for twenty years.

Such an annuity may be paid for in a single sum, on the limited payment plan, or by yearly premiums throughout the period of deferment. It may appeal to persons who wish to utilize their productive years to accumulate a fund for the purchase of an annuity at an age when their income-earning capacity will have declined or ceased. There is usually no refund of the premiums that may have been paid in case the annuitant should die before the first installment of the deferred annuity becomes payable. Occasionally, however, deferred annuities are made to provide for a return to the annuitant's executors, administrators, or assigns of all premiums in the event of his death before the annuity payments begin.

*Last-survivor annuities.*—Annuities may also be issued upon the lives of two persons, the payments to be made to them jointly while they are both alive, and to continue for the full amount during the lifetime of the survivor. While this plan may be applied to three or more lives, such instances are very few as compared with two-life annuities. This plan may prove very advantageous to two sisters, or to a husband and wife who have no children or whose children are financially prosperous, as a means of providing an adequate and regular income not only during their joint lifetime but also during the lifetime of the survivor of the two. Thus a husband aged 55 and his wife aged 50 may have an annual income of $1,000, for as long as either may live, guaranteed to them by the aforementioned company upon the payment of $18,337.

# PART II

# THE SCIENCE OF LIFE INSURANCE

# CHAPTER XI

## THE MEASUREMENT OF RISK IN LIFE INSURANCE

By

BRUCE D. MUDGETT

### THE THEORY OF PROBABILITY

Insurance has been defined as the institution which eliminates risk or which substitutes certainty for uncertainty. The occurrence of events insured against cannot wholly be prevented, but the uncertainty of financial loss through such occurrences can be eliminated by distributing the loss over a group. Thus a man cannot be sure whether or not his house will burn even if he use all the preventive measures known. If the house burns the property is lost and gone forever — that much material value has been actually destroyed. But it is not necessary that the owner should stand the entire loss. Before the fire occurred it was not known whether his house would burn or some one's else and he could agree with other owners of houses that they would all contribute to a common fund from which any unfortunate owner who lost his house by fire should be recompensed. Thus instead of the loss falling on one it can be divided equally among all. This is the essence of insurance and it illustrates the meaning of the statement that insurance is the elimination of uncertainty or the replacement of uncertainty by certainty. The common contribution to the fund above referred to constitutes the certain loss and is measured by the premium; the uncertain loss refers to the uncertainty that a particular house will burn. The same situation exists with respect to life insurance. It is not death itself that can be distributed, i.e. parcelled out among a number of insurers, but the financial consequences of death. Man has an earning power during a certain period of his life which is lost to his business or his family by premature death, but it is not known in advance upon whom death will fall prematurely, hence all men can contribute to a fund which will be used to satisfy the business and family needs of those who die early.

These two illustrations suggest the possibilities that exist for the application of the insurance principle. In whatever field risk is found to exist, there the principle can be applied. The complete working out of a scientific insurance plan necessitates some method of measuring this risk in order to determine the amount of each individual's contribution to the common fund. The correct measurement of risk, therefore, lies at the foundation of any system of insurance. This accomplishment is rendered possible through the application to statistical data, covering the phenomenon in question, of certain laws developed in the field of mathematics known as the laws of probability, and it will be necessary to state and explain them before proceeding further.

**The Laws of Probability.**— The science of probabilities furnishes three principles of which practical use is made in life insurance. They may be called respectively (1) the law of certainty, (2) the law of simple probability, and (3) the law of compound probability. Their use makes possible the description of risk in terms of mathematical values, and the statement of the three laws is as follows: (1) certainty may be expressed by unity, or one; (2) simple probability, or the probability or chance that an event will happen or that it will not happen may be expressed by a fraction; and (3) compound probability, or the chance that two mutually independent events will happen [1] is the product of the separate probabilities that the events, taken separately, will happen.

An illustration will serve to make these statements clear. If a box contains twenty marbles and it is known that five of

[1] There are laws of compound probabilities, for instance, where the separate events are *dependent*, but they do not enter into the present discussion.

the marbles are black and the remainder white, let us suppose it is desired to know the probability that a marble drawn at random from the box will be black. If any marble has equal chances with any other of being drawn, then there are twenty different draws that might be made and if five of the marbles are black then it can be said that there are five chances out of twenty of drawing a black marble, or the chance is in the ratio of five to twenty, or is $\frac{5}{20}$. This fraction is obtained in the following manner: The denominator equals the total number of marbles in the box; the numerator equals the number that satisfies the condition stated, namely, the quality of being black. In like manner it might be desired to know the chance that the marble will not be black, and by a like method of reasoning it is found that this probability equals $\frac{15}{20}$. From these facts it is possible to formulate a general statement of the method of determining simple probabilities as follows: The denominator will equal the total number of possible trials or chances that a thing may happen or may not happen or the total number of instances dealt with — in the example above, total marbles. The numerator will be composed of those instances only which satisfy the conditions imposed — in the same example, black marbles.

In the illustration here used there are marbles of two kinds only, black and white, and any marble withdrawn from the box must be one or the other color. The total existing probabilities are therefore two, the probability of drawing a black marble and the probability of drawing a white one. If certainty is represented by unity, then unity, or the value "one," will represent the fact of drawing any marble. But any marble drawn at random may be either black or white and since the probability of drawing the former is $\frac{5}{20}$, and of the latter $\frac{15}{20}$, and since certainty must equal the *sum* of all equals 1, therefore certainty must equal the *sum* of all separate probabilities, in this case

$$\tfrac{5}{20}+\tfrac{15}{20}=1.$$

This corollary that certainty equals the sum of all separate probabilities may be further illustrated by the familiar example of the coin. It is certainty that a coin tossed into the air will come to rest on one side and this fact is represented by the value "one." Now, since it has but two sides, the sum of the separate probabilities that it will alight heads up or tails up must equal one. The probability of falling heads up, determined by the above rule for valuing simple probabilities, is ½, since there are two possible sides and one is heads; likewise the probability of falling tails up is ½, and the sum of these two fractions equals one.

The probability that both of two mutually independent events will happen is equal to the product of the simple probabilities that the events taken separately will happen. Suppose that two coins are tossed up and it is desired to know the chance that they will both fall heads up. By the statement of the law above it will be ½ × ½ or ¼, since it is known that the chance is ½ that each separate coin will fall heads up. That this is the correct result may easily be demonstrated. Suppose the two coins are a nickel and a dime. Then the different ways in which they may fall are:

| *Nickel* | *Dime* |
|---|---|
| Heads up | Heads up |
| Heads up | Tails up |
| Tails up | Heads up |
| Tails up | Tails up |

These four combinations comprise the only possible ones that can be made with the two coins and the first combination is the only one of the four that satisfies the stipulated conditions, namely, both coins heads up. Hence there is one chance in four for this combination to appear, or the probability of its occurrence is ¼.

According to the law of compound probabilities, as stated herewith, the product of simple probabilities equals the probability that two events will happen at the same time, only when the two events are mutually independent. The happening of the one must have no effect upon the occurrence or non-occurrence of the other, that is, must neither make it necessary for the second to occur nor make it impossible. If the law were valid irrespective of this qualification, such absurd results as the following might be obtained. The chance that the coin will fall heads up is $\frac{1}{2}$ and the chance that it will fall tails up is likewise $\frac{1}{2}$. Therefore the chance that it will fall both heads up and tails up is $\frac{1}{2} \times \frac{1}{2}$ or $\frac{1}{4}$. The absurdity results from the fact that the occurrence of the first named event makes it impossible for the second to occur simultaneously.

**The Use of This Theory to Forecast Future Events.** — The value of these three laws of probability lies in the fact that they can be used to forecast future events. Future events can be foretold in one of two ways: (1) by a priori or deductive reasoning, and (2) from knowledge of what has happened in the past under similar conditions. The validity of a priori reasoning depends on the completeness with which all the causes at work in the determination of any phenomenon are known; and the limitations of the human mind are such that a priori reasoning does not furnish a safe basis upon which to develop a superstructure guaranteeing that degree of certainty which is required in insurance. Reasoning inductively, or on the assumption that what has happened in the past will happen again in the future if the same conditions are present, does not require an analysis of the causes of phenomena in order to predict future events. There lies behind this statement the assumption that all things are governed by law. In the cases here used to illustrate the principles of probability this is the law of pure chance. It is an even chance one with another that any marble may be drawn from the box or that either side of the coin may be "up." Then if in a great number of trials it has been found that the coin falls "heads up" one-half of the time the conclusion follows that this result will follow approximately if the same number of trials is taken again.

This fact has important bearings upon life insurance. From data showing the length of life and ages at death in the past it is possible to predict probabilities of death and of survival in the future. This prediction is based on the assumption that, like the law of chance, there is a *law of mortality* by which human beings die; that certain causes are in operation which determine that out of a large group of persons at birth a definite number of lives will fail each year until all have died; and that the *force of mortality* could be measured if only the causes at work were known. But it is not necessary to analyze this law of mortality completely and to know all the operating causes in order to predict the possible rate of mortality in a group of persons. By studying the rate of death among any group and noting all the circumstances that might, according to our best knowledge, affect that rate, it is possible to surround any future group of persons with approximately the same set of circumstances and expect approximately the same rate of death. Thus without complete knowledge of the law of mortality a working basis is found for predicting future rates of death. It is necessary then to have mortality statistics in order to develop a scientific plan of life insurance.

**Accuracy of the Theory of Probabilities — The Law of Average.**— The accuracy of the theory of probabilities, on which future deaths will be estimated, or the closeness with which the theoretical approximates actual experience has important bearings on the success of any method of insuring lives. This accuracy depends on two factors: (1) the accuracy of the data, and (2) the number of units or trials taken. For instance, suppose that probabilities of death were computed on the basis of population statistics and death registration returns. Population censuses are taken by the Federal Government only once in ten years and these are supplemented in some states by a state enumeration in the year midway between two federal census years. Thus if death rates were to be computed for the year 1914 the last actual count of population would be for the year 1910, and the population for

1914 would have to be estimated. This estimate is certain to contain an element of error. Furthermore, the deaths among the estimated population would be determined from the *registered* deaths within the given area, but in no section of the United States are all deaths recorded. Indeed the qualification for admission into the "registration area" is the registration of only ninety per cent. of the probable deaths. Therefore death rates based on population and death registration returns may contain two large elements of error and for this reason may fail to measure approximately the law of mortality. Mortality statistics, from whatever source, should be scrutinized searchingly in order to detect inaccuracies in the original data.

The second factor which determines the accuracy of the laws of probability is the number of units or trials taken. This may be illustrated by the coin example heretofore used. It was stated that the probability of falling heads up is ½. There is no inaccuracy in the data on which this fraction is based, for there are two sides only to the coin and one is heads. To illustrate the inaccuracy dependent on the number of trials, the following experiment was undertaken by the writer. An ordinary copper cent was flipped three hundred times and the results, whether heads or tails up, were recorded for each ten throws. If the probable experience had agreed absolutely with the actual, the results would have shown five throws heads and five throws tails for each ten trials. The actual results are recorded herewith:

Results of Each 100 Trials in Groups of Ten

| | | |
|---|---|---|
| First 100 trials | Heads | 8 — 2 — 6 — 4 — 3 — 4 — 3 — 5 — 6 — 4 = 45 |
| | Tails | 2 — 8 — 4 — 6 — 7 — 6 — 7 — 5 — 4 — 6 = 55 |
| Second 100 trials | Heads | 5 — 6 — 5 — 5 — 8 — 5 — 6 — 6 — 2 — 5 = 53 |
| | Tails | 5 — 4 — 5 — 5 — 2 — 5 — 4 — 4 — 8 — 5 = 47 |
| Third 100 trials | Heads | 7 — 5 — 1 — 5 — 5 — 6 — 7 — 5 — 5 — 6 = 52 |
| | Tails | 3 — 5 — 9 — 5 — 5 — 4 — 3 — 5 — 5 — 4 = 48 |

RESULTS OF 300 THROWS BY SPECIFIED GROUPINGS

| NUMBER OF THROWS IN EACH GROUP | NUMBER OF TIMES HEADS OR TAILS | | NUMBER OF GROUPS |
|---|---|---|---|
| 20 | Heads | 10—10—7—8—10—11—10—13—12—7—12—6—11—12—11 | 15 |
| | Tails | 10—10—13—12—10—9—10—7—8—13—8—14—9—8—9 | |
| 30 | Heads | 16—11—14—15—18—17—14—11—18—16 | 10 |
| | Tails | 14—19—16—15—12—13—16—19—12—14 | |
| 50 | Heads | 23—22—29—24—23—29 | 6 |
| | Tails | 27—28—21—26—27—21 | |
| 100 | Heads | 45—53—52 | 3 |
| | Tails | 55—47—48 | |
| 300 | Heads | 150 | 1 |
| | Tails | 150 | |

The table shows that in thirty trials of ten throws each the actual experience coincided with the probable in eleven cases, that in two instances heads appeared eight times out of ten, and in one case only once. These results in groups of ten may be combined into groups of twenty, thirty, fifty, one hundred, or in a single group of three hundred, and comparisons may then be made of the fluctuations in those respective groups. By this arrangement the original data assumes the form shown on page 138.

In the above table the data are arranged in fifteen groups of twenty throws each, ten groups of thirty, six of fifty, three of one hundred, and a single group of the three hundred throws and the number of times the coin fell heads or tails is shown for each group. The important fact to be considered is the relation between the probable and the actual experience in each grouping of the data. For instance, in twenty throws the probability is that heads will appear ten times, but the figures show that in one case this result occurred thirteen times and once only six; in thirty throws heads appeared as many as eighteen times in two instances and as few as eleven the same number of times. The following brief table shows the maximum and the minimum number of times the coin turned heads up in any single trial of the specified number of throws:

Fluctuations in Number of Times Heads

| In Groups of | Number of Times Tried | Maximum Number Times Heads Appeared | Minimum Number Times Heads Appeared |
|---|---|---|---|
| 10 throws | 30 | 8 | 1 |
| 20 " | 15 | 13 | 6 |
| 30 " | 10 | 18 | 11 |
| 50 " | 6 | 29 | 22 |
| 100 " | 3 | 53 | 45 |
| 300 " | 1 | 150 | 150 |

If this data are now reduced to the form of percentage the results can be more readily compared, for the amount of the fluctuations will then have a common basis. It is understood that the probability of the coin falling heads up is $\frac{1}{2}$ and this will be represented by fifty per cent. The variation of the actual percentage from fifty per cent. will therefore be the measure of the variation. The table presented herewith gives the results obtained:

PERCENTAGE OF TIMES HEADS UP

| IN GROUPS OF | MAXIMUM PER CENT. | MINIMUM PER CENT. |
|---|---|---|
| 10 | 80 | 10 |
| 20 | 65 | 30 |
| 30 | 60 | 36.7 |
| 50 | 58 | 44 |
| 100 | 53 | 45 |
| 300 | 50 | 50 |

This table furnishes the basis for an important generalization with reference to the accuracy of the theory of probability. It shows that where the coin was thrown ten times the results varied from a minimum of ten per cent. to a maximum of eighty per cent.; where twenty throws were made the variation was less, viz, from thirty to sixty-five per cent.; and that as the number of throws increased the variation became smaller and smaller and the percentage of times heads appeared approached fifty, the true probable percentage. That the three hundred throws resulted in exactly one hundred and fifty heads must be regarded as an accident; but it can be said with equal certainty that it would be impossible out of *any* three hundred purely chance throws to get as many as eighty per cent. or as few as ten per cent. to fall heads up. The generalization referred to above is as follows: Actual experience may show a variation from the true "probable" experience but as the number of trials is increased this variation decreases; and if a very great number of trials were taken the actual and the probable experience would coincide. Concretely, if the coin were flipped ten million times and it were a pure chance which way it would fall, the actual results would be so near five million times heads that the difference would be negligible. This generalization is called the law of average. This law is fundamental to all insurance. Premium rates are based on probable losses and will not accurately measure the risk unless the actual experience approximates the probable. That this approximation shall be realized it is at all times necessary to deal with a sufficiently large number of cases to guarantee that great fluctuations in results will be eliminated, i.e. to insure the operation of the law of average. In other words prediction of the future in life insurance based on what has happened in the past can be made for a large group of persons; it cannot be made for a single individual. When a mortality table shows that persons of a certain age die at the rate of seven per thousand per year that does not mean that out of a group of one thousand exactly seven will die within a year, but that out of a large group, maybe containing many thousands, the deaths will occur at the rate of seven per thousand.

With reference to the prediction of future mortality rates the law of average has a double application. Future mortality will be measured on the basis of past mortality data. These data of the past will supposedly be an approximate measure of the law of mortality heretofore referred to. But the statistics used for this purpose must be of sufficiently general application and must include a sufficiently large group of individuals to insure the operation of the law of average. Only in case this is so will the data in question be a fair measure of the true law of mortality. Granted then that the collected data are approximately correct, they become a measure of future mortality, only in case the group among whom the probable deaths are to be estimated is large enough to guarantee an *average death rate* or the operation of the law of average within the group.

## The Measurement of Mortality — Mortality Tables

The establishment of any plan of insuring against premature death requires some means of giving mathematical values to the chances of death, and the considerations advanced in the first division of this chapter show that the laws of probability can be used for this purpose as soon as trustworthy data are secured showing the course of past mortality. Mortality tables, as such data are called, are records of past mortality put into such form as can be used in estimating the course of future deaths.

**Sources of Mortality Tables.**— There are two sources from which the best-known mortality tables in existence to-day have been obtained: (1) population statistics obtained from census enumerations, and the returns of deaths from registration offices, and (2) the mortality statistics of insured lives. Well-known examples of the former are the English life tables of Drs. Farr, Ogle, and Tatham, successively in charge of the General Registry Office of England and Wales. Dr. Farr's life table, for instance, was based on the registered deaths in England and Wales during the years 1838–54, and on the two census enumerations of population for 1841 and 1851.

**Objection to Tables Based on Population Data.**— For the purposes of measuring the mortality of insured lives, however, it is questionable whether statistics of a general population can be used. Such data, to be sure, would represent the average mortality of a population group and to that extent would approximate the true law of mortality. But for purposes of insurance this may or may not be the mortality rate desired. An insurance company wants a measure of the mortality occurring among insured lives and it is probable that this may differ from that of a specific population group. Insured lives are subject to special influences affecting mortality and these factors must be taken into consideration. The statement has been made that if an insurance company could insure every person who passed a certain corner in a large city until it had a large enough group to guarantee the operation of the law of average, the company could dispense with its medical examination. This is probably true, but the trouble is, when the matter of insurance is left to the choice of the individual, not every one who passed the corner in question would insure; and if this group could be divided into two parts, those who insure and those who do not, the former would show a much higher rate of mortality than the latter. Statistics of insurance companies bear out this statement. Mortality tables based on population statistics formed the first scientific basis for insurance rates, but their approximation to true insurance mortality was not close and they were supplanted by tables based on insured lives as soon as the experience was forthcoming on which to base the latter. The present tables in use by American life-insurance companies and required by most state insurance departments as a basis for the valuation of policy liabilities have been constructed from data of insured lives.

**Description of a Mortality Table.**— A mortality table has been described as the picture of "a generation of individuals passing through time."[2] It shows a group of individuals entering upon a certain age and traces the history of the entire group year by year until all have died. Since any description will best be understood by reference to an actual table, the American Experience table, used almost exclusively for the computation of premium rates by old line companies in the United States, is presented on pages 144–145.

The essential features of the table are the two columns of the number living and the number dying at designated ages. It is assumed that a group of 100,000 persons comes under ɔbservation at exactly the same moment as they enter upon the tenth year of life. Of this group 749 die during the year, leaving 99,251 to begin the eleventh year. The table proceeds in this manner to record the number of the original 100,000 dying during each year of life and the number living at the beginning of each succeeding year until but three persons of the original group are found to enter upon the ninety-fifth year of life, these three dying during that year.

[2] NEWSHOLME, Vital Statistics, ed. 3, 255.

American Experience Table of Mortality

| Age | Number Living at Beginning of Designated Year | Number Dying During Designated Year | Yearly Probability of Dying | Yearly Probability of Surviving |
|---|---|---|---|---|
| 10 | 100,000 | 749 | .007490 | .992510 |
| 11 | 99,251 | 746 | .007516 | .992484 |
| 12 | 98,505 | 743 | .007543 | .992457 |
| 13 | 97,762 | 740 | .007569 | .992421 |
| 14 | 97,022 | 737 | .007596 | .992404 |
| 15 | 96,285 | 735 | .007634 | .992366 |
| 16 | 95,550 | 732 | .007661 | .992339 |
| 17 | 94,818 | 729 | .007688 | .992312 |
| 18 | 94,089 | 727 | .007727 | .992273 |
| 19 | 93,362 | 725 | .007765 | .992235 |
| 20 | 92,637 | 723 | .007805 | .992195 |
| 21 | 91,914 | 722 | .007855 | .992145 |
| 22 | 91,192 | 721 | .007906 | .992094 |
| 23 | 90,471 | 720 | .007958 | .992042 |
| 24 | 89,751 | 719 | .008011 | .991989 |
| 25 | 89,032 | 718 | .008065 | .991935 |
| 26 | 88,314 | 718 | .008130 | .991870 |
| 27 | 87,596 | 718 | .008197 | .991803 |
| 28 | 86,878 | 718 | .008264 | .991736 |
| 29 | 86,160 | 719 | .008345 | .991655 |
| 30 | 85,441 | 720 | .008427 | .991573 |
| 31 | 84,721 | 721 | .008510 | .991490 |
| 32 | 84,000 | 723 | .008607 | .991393 |
| 33 | 83,277 | 726 | .008718 | .991282 |
| 34 | 82,551 | 729 | .008831 | .991169 |
| 35 | 81,822 | 732 | .008946 | .991054 |
| 36 | 81,090 | 737 | .009089 | .990911 |
| 37 | 80,353 | 742 | .009234 | .990766 |
| 38 | 79,611 | 749 | .009408 | .990592 |
| 39 | 78,862 | 756 | .009586 | .990414 |
| 40 | 78,106 | 765 | .009794 | .990206 |
| 41 | 77,341 | 774 | .010008 | .989992 |
| 42 | 76,567 | 785 | .010252 | .989748 |
| 43 | 75,782 | 797 | .010517 | .989483 |
| 44 | 74,985 | 812 | .010829 | .989171 |
| 45 | 74,173 | 828 | .011163 | .988837 |
| 46 | 73,345 | 848 | .011562 | .988438 |
| 47 | 72,497 | 870 | .012000 | .988000 |
| 48 | 71,627 | 896 | .012509 | .987491 |
| 49 | 70,731 | 927 | .013106 | .986894 |
| 50 | 69,804 | 962 | .013781 | .986219 |
| 51 | 68,842 | 1,001 | .014541 | .985459 |
| 52 | 67,841 | 1,044 | .015389 | .984611 |

American Experience Table of Mortality — (*Continued*)

| Age | Number Living at Beginning of Designated Year | Number Dying During Designated Year | Yearly Probability of Dying | Yearly Probability of Surviving |
|---|---|---|---|---|
| 53 | 66,797 | 1,091 | .016333 | .983667 |
| 54 | 65,706 | 1,143 | .017396 | .982604 |
| 55 | 64,563 | 1,199 | .018571 | .981429 |
| 56 | 63,364 | 1,260 | .019885 | .980115 |
| 57 | 62,104 | 1,325 | .021335 | .978665 |
| 58 | 60,779 | 1,394 | .022936 | .977064 |
| 59 | 59,385 | 1,468 | .024720 | .975280 |
| 60 | 57,917 | 1,546 | .026693 | .973307 |
| 61 | 56,371 | 1,628 | .028880 | .971120 |
| 62 | 54,743 | 1,713 | .031292 | .968708 |
| 63 | 53,030 | 1,800 | .033943 | .966057 |
| 64 | 51,230 | 1,889 | .036873 | .963127 |
| 65 | 49,341 | 1,980 | .040129 | .959871 |
| 66 | 47,361 | 2,070 | .043707 | .956293 |
| 67 | 45,291 | 2,158 | .047647 | .952353 |
| 68 | 43,133 | 2,243 | .052002 | .947998 |
| 69 | 40,890 | 2,321 | .056762 | .943238 |
| 70 | 38,569 | 2,391 | .061993 | .938007 |
| 71 | 36,178 | 2,448 | .067665 | .932335 |
| 72 | 33,730 | 2,487 | .073733 | .926267 |
| 73 | 31,243 | 2,505 | .080178 | .919822 |
| 74 | 28,738 | 2,501 | .087028 | .912972 |
| 75 | 26,237 | 2,476 | .094371 | .905629 |
| 76 | 23,761 | 2,431 | .102311 | .897689 |
| 77 | 21,330 | 2,369 | .111064 | .888936 |
| 78 | 18,961 | 2,291 | .120827 | .879173 |
| 79 | 16,670 | 2,196 | .131734 | .868266 |
| 80 | 14,474 | 2,091 | .144466 | .855534 |
| 81 | 12,383 | 1,964 | .158605 | .841395 |
| 82 | 10,419 | 1,816 | .174297 | .825703 |
| 83 | 8,603 | 1,648 | .191561 | .808439 |
| 84 | 6,955 | 1,470 | .211359 | .788641 |
| 85 | 5.485 | 1,292 | .235552 | .764448 |
| 86 | 4,193 | 1.114 | .265681 | .734319 |
| 87 | 3,079 | 933 | .303020 | .696980 |
| 88 | 2,146 | 744 | .346692 | .653308 |
| 89 | 1,402 | 555 | .395863 | .604137 |
| 90 | 847 | 385 | .454545 | .545455 |
| 91 | 462 | 246 | .532466 | .467534 |
| 92 | 216 | 137 | .634259 | .365741 |
| 93 | 79 | 58 | .734177 | .265823 |
| 94 | 21 | 18 | .857143 | .142857 |
| 95 | 3 | 3 | 1.000000 | .000000 |

**Construction of the Mortality Table.**—The table as given above represents the mortality data in its final form for use in expressing probabilities of death and of survival. It is manifestly impossible for any insurance company to insure a group of 100,000 persons of exactly the same age and at exactly the same time, and it is equally impossible to keep any such group under observation until all have died. Insurance policies are written at all times of the year and on lives at various ages. It is entirely practicable that a record be kept of all insured lives, showing at each age the number of persons under observation, and of those observed for one year at least the number who have died. If data are collected, therefore, showing (1) the age at which persons come under observation, (2) the duration of the period of observation, and (3) the number dying during one year, for each age, the materials will be furnished, out of which a mortality table may be constructed. Suppose, for illustration, that statistics have been collected as follows:

| Age | Number Under Observation | Number Dying Before End of Year |
|---|---|---|
| 10 | 30,000 | 210 |
| 11 | 150,000 | 1200 |
| 12, etc. | 80,000 | 720 |

From these figures *death rates* may be computed for the respective ages in the following manner:

| Age | Rate of Death Expressed as a Fraction | | Rate of Death Expressed as a Decimal |
|---|---|---|---|
| 10 | $\frac{210}{30,000}$ | = | .007 |
| 11 | $\frac{1,200}{150,000}$ | = | .008 |
| 12 | $\frac{720}{80,000}$ | = | .009 |

Death rates may be so computed for each separate age to the maximum limit of life, if only the data are collected as required above. If these figures can be considered as representing the yearly probabilities of dying [3] for persons of each given age, a mortality table may be constructed from them by assuming a group of say 100,000 persons at the youngest age for which it is desirable to compute the table and then reducing the group by reducing the number yearly according to the given figures of the probabilities of death. The following simple table will illustrate this method:

| 1 | 2 | | 3 | | 4 | 5 |
|---|---|---|---|---|---|---|
| Age | Assumed Number Living (Radix) | | Multiply by Probability of Dying | | Result: Number of Deaths at Given Age | Subtract (4) from (2) for New Radix at Next Age, Equals: |
| 10 | 100,000 | × | .007 | = | 700 | 99,300 |
| 11 | 99,300 | × | .008 | = | 794 | 98,506 |
| 12 | 98,506 | × | .009 | = | 887 | 97,619 |
| 13 | 97,619, etc. | | | | | |

Since the probability of dying at age 10 is .007, there will occur 700 deaths during the year among the 100,000 starting at age 10, this leaves 99,300 of the group to begin age 11 and this latter number dies at the rate of eight per thousand (.008), making 794 deaths during the year. In this way the original 100,000 are reduced by deaths year after year until all have died. Thus is the statement true that the mortality table represents "a generation of individuals passing through time." In the mortality table shown on page 132 the two columns denoting yearly probabilities of death and of survival represent the final form of the actual statistics of dying among insured lives. These probabilities were then

[3] The distinction between "central death rates," as the above rates are called by actuaries, and "probabilities of death," and the method of obtaining the latter from the former cannot be explained in the space available here. For purposes of simplification, death-rates and probabilities of death are therefore assumed to be identical. For the construction of a mortality table, *probabilities of death* are necessary and they have reference to rates of dying among a group of persons *beginning* a certain age of life.

applied to the assumed population of 100,000 at age 10, in the manner herewith explained, and the result was the American Experience table of mortality.

**Kinds of Tables and Important Tables Used in the United States.**— There is an important classification of tables of three kinds dependent on the data used in their calculation. They are known as select, ultimate, and aggregate tables. These terms have reference to the question whether the data used have been affected by medical selection. It is a well-known fact that lives which have been newly examined by an insurance company and have passed the medical tests required before becoming policyholders show a much lower rate of mortality than lives not so examined. The number of deaths occurring, for example, among 10,000 policyholders aged 40 who have just passed the medical examination will be fewer than among 10,000 aged 40 who were insured at age 30, and have been policyholders for ten years. So it is important for a company in estimating the probable mortality to know whether it has a large number of newly selected lives. An unusually low mortality is to be expected among the risks of a new company, but such a record in the first few years furnishes no basis for assuming that the low mortality will continue.

Since newly selected lives, therefore, furnish a lower mor‧tality it is generally considered the safer plan for a company to compute premium rates on the basis of the mortality among risks with whom the benefits of fresh medical selection have passed. A *select* mortality table is based on data of freshly selected lives only; an *ultimate* table excludes this early data, usually the first five years following entry, and is based on the *ultimate* mortality of insured lives. *Aggregate* tables include all the mortality data, the early years following entry as well as the later.

The tables most used in the United States to-day by insurance companies are three. The Actuaries', or Seventeen Offices table, was calculated from the experience of seventeen British life-insurance companies and was introduced into the

United States by Elizur Wright as the standard for the valuation of policies in Massachusetts. This table has at the present time been largely supplanted by the American Experience table, the one found on page 144. The latter table was published in 1868 by Sheppard Homans and was calculated from the mortality experience of the Mutual Life Insurance Company of New York. Most premium rates for American companies are to-day computed with this table as the basis. It is what was described heretofore as an ultimate table.

The National Fraternal Congress table was derived from the experience of two American fraternal orders and was first published in 1898. It has been adopted by the National Fraternal Congress and by a number of states as a standard for the computation of premiums and the valuation of policies among the fraternal societies.

**Application of the Theory of Probabilities to the Mortality Table.**— The statement was made earlier in this chapter that risk in life insurance is measured by the application of the laws of probability to the mortality table. Now that these laws are understood and the mortality table has been explained, a few simple illustrations may be used to show this application. Suppose it is desired to insure a man aged 35 against death within one year, within two years, or within five years. It is necessary to know the probability of death within one, two, or five years from age 35. This probability, according to the laws heretofore explained, will be determined according to the mortality table and will be a fraction of which the denominator equals the number living at age 35 and the numerator will be the number who have died during the one, two, or five years, respectively, following that age. According to the table, 81,822 persons are living at age 35, and 732 die before the end of the year. Hence the probability of death in one year is $\frac{732}{81822}$. During the two years following the stated age there are 732 + 737 deaths, or a total of 1,469. The probability of dying within two years is therefore $\frac{1469}{81822}$. Likewise the total number of deaths within five years is $732 + 737 + 742 + 749 + 756$ or 3,716, and the probability of dying within five years is thus $\frac{3716}{81822}$.

Probabilities of survival can also be expressed by the table. The chance of living one year following age 35 will be a fraction of which the denominator is 81,822 and the numerator will be the number who have lived one .year following the specified age. This is the number who are living beginning age 36, or 81,090, and the probability of survival for one year is therefore $\frac{81090}{81822}$. These illustrations furnish an opportunity for a proof of the law of certainty. The chance of living one year following age 35 is $\frac{81090}{81822}$ and the chance of dying within the same period is $\frac{732}{81822}$. The sum of these two fractions equals $\frac{81822}{81822}$ or 1, which is certainty, and certainty represents the sum of all separate probabilities, in this case two, the probability of death and the probability of survival. In like manner many more instructive examples of the application of these laws to the mortality table could be made, but they need not be carried further at this point, for the subject will be fully covered in the chapters on "Net Premiums."

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# CHAPTER XII

## FUNDAMENTAL PRINCIPLES UNDERLYING RATE-MAKING

By

BRUCE D. MUDGETT

To compute premium rates in life insurance the following facts must be known: (1) the age of the insured; (2) the kind of policy to be issued and its face value; (3) the mortality table to be used in measuring the incurred risk; and (4) the maximum rate of interest which the company is willing to guarantee on funds in its possession. For example, if a contract is issued promising to pay the holder $1,000 should death occur within the following twelve months, and if the chance of death within one year is measured by the American Experience table of mortality and it is further known that the person to be insured is forty years of age, all the facts are at hand for determining the amount of money to be contributed by him in order to cover the risk. At age 40 the table shows that his chances of dying are 9,794 in 1,000,000, or, expressed as a decimal, .009794. This decimal multiplied by 1,000 represents the amount of money the insured must pay to receive the protection promised, if it is assumed that the money is put away and no use made of it until needed to pay losses. While the illustration is exceedingly simple and makes no attempt to bring out many of the complicated factors found in a more complete analysis of rate-making, it contains the essential features of any rate computation, viz, the determination of the risk covered and the amount payable in case the risk occurs. But before a fuller analysis can be undertaken it is necessary to explain certain peculiarities of life insurance which differentiate it from insurance of other hazards and which are fundamental to any discussion of rate-making.

Certain arbitrary rules used in rate computations must also be stated. To this twofold task the present chapter is devoted.

**Features Peculiar to Life Insurance.**— *Protection and investment.*— While most kinds of insurance contracts have a single purpose, namely, the assumption of a particular risk, the great majority of life-insurance policies embody a twofold purpose by combining insurance with investment. Every policy which contains an endowment feature, i.e. which creates a fund available upon survival for a stated period, is to that extent an investment, and the increase of this investment fund constantly minimizes the insurance element. For instance, a policy issued ten years ago and having an endowment fund to its credit at the time of the insured's death equal to $500 will pay this $500 and in addition $500 more out of the "insurance fund." In other words, by the growth of the "investment fund" the insurance element of the policy is constantly decreased. While this fact is clearly apparent in the case of an endowment policy, it is not so evident in the so-called "ordinary life" policy. But there is no difference in principle, for the ordinary life policy accumulates a reserve which eventually wipes out the insurance. As is often stated, an ordinary life policy based on the American Experience table of mortality matures as an endowment at age 96. This difference between life insurance and fire insurance, for instance, is fundamental, for the loss in fire insurance is measured by the total risk of burning, whereas in life insurance it is always equal to the total risk involved less the reserve fund.

*The hazard of death.*— Closely associated with this reserve factor in the life-insurance contract is the nature of the hazard or risk insured against. Fire insurance may again be called upon for a contrast. In fire insurance, the risk is loss by fire; and fire *may* or *may not* occur. The premium therefore need only provide against the possibility that fire occur within the term of the policy, and there is always the chance that the property may never burn. But not so with life insurance. While property may never burn, death is sure to occur eventually and death, therefore, *as such,* cannot be insured against. It can be provided for. That is, the risk *insured* against is the possibility of death *at some particular time.* A company can insure against the chance of dying within one year, for instance, but if it agrees to pay $1,000 at death *whenever* it may occur, it really must provide two funds, one against *premature death* and one to provide for the *certainty of death* at an advanced age. Since the American Experience table assumes that all lives have failed by age 96, the company basing premiums on this table must have a reserve fund equal to the face of the policy by the time the insured has reached that age. This furnishes another reason why the ordinary life policy is sometimes called an endowment at age 96.

*A long-term unilateral contract with a fixed and unchangeable premium.*— A third peculiarity of life-insurance policies lies in the fact that they are usually issued for long terms at a premium fixed in advance and that the company does not retain the right of cancellation. It has been variously estimated that from eighty per cent. to eighty-five per cent. of all insurance in force in the United States is composed of whole-life policies and twenty-year endowments and the most recent statistics show that about two-thirds of the insurance in force is insurance for the whole of life; hence it follows that a company in computing premiums must estimate its experience for at least twenty years and in the vast majority of cases for much longer, since the company must continue the contract in force for so long as the insured pays premiums. Furthermore, the company cannot change the premium on any policies in force, and if policies have been issued at inadequate premiums, these contracts must be carried at a loss. If the deficit cannot be made up out of surplus, of course, the company will become bankrupt.

This necessity of issuing a long-term contract, without the right of cancellation, and at a premium that cannot be changed, compels the company to exercise great care in determining the premium to be charged for the risk. The mortality tables used to measure life risks represent one of the highest developments in the application of past experience to the determination of future events. In fire, marine, casualty, and in fact in most other kinds of insurance the contract is usually for one year or for a short term at most, and the company withholds the right in most cases to cancel the policy at will. In a contract covering one of the last-named risks the company needs only to collect a premium adequate to cover the risk for one year or for a few years at the most. If this should turn out to be insufficient, the company can cancel the policy and thus prevent insolvency, or it can avail itself of the opportunity on renewing the contract to increase the premium.

*Application of the principle of indemnity in life insurance.*— Life insurance differs again from other forms of insurance with respect to the part played by the principle of indemnity in determining the amount of insurance which can be carried. In fire underwriting it is a fundamental principle, admitting of no exceptions, unless state statutes stipulate to the contrary, that the insured shall not collect more than the actual cash value of the property destroyed. But who will determine what is the financial worth of a human life? To be sure a rough estimate may be arrived at, based on a man's income-producing power, but so long as the amount of insurance applied for is such as could be reasonably needed by a man in any occupation or profession the right of the insured to decide for himself how much insurance he will carry is not questioned.

**Assumptions Underlying Rate Computations.**— When the problem of rate computation is approached it will be found that several questions at once present themselves, the answers to which will exercise much influence upon the results to be obtained. For instance, how is the premium to be paid? Is it to be paid in a single sum which will cover the risk for the entire period, as is the case with most kinds of insurance contracts, or will periodic payments be made annually, semi-annually, or otherwise? Again, when is it to be paid? In case of annual premiums, will they be paid at the inception of the risk and annually thereafter, or will some other time be found? Further questions are: What will be done with the money between the time it is received and the time it is paid out? How will mortality rates be determined for periods of less than one year duration in case, for instance, monthly premiums are decided upon, since the standard mortality tables give nothing less than yearly rates of mortality? And, finally, when will death claims be paid? Clearly these questions must be answered before beginning the computation of rates; and their answer will furnish a method of procedure in rate-making.

Premiums may be paid in a single cash sum, called the "single premium," which pays for the entire risk incurred during the life of the policy, or they may be paid in periods ranging from one week to one year. Most policies are purchased by an annual premium. When actuaries first set themselves to the task of computing premium rates they laid down the following working rules: (1) premiums will be paid in advance; and (2) matured claims will be paid at the end of the policy year in which the policy matures. Accordingly, if a policy is purchased by a single premium this sum is to be paid at the inception of the risk; in the case of annual premiums the first payment is to be made on the date of issue of the policy and equal amounts annually thereafter on the anniversary of this date. This assumption squares with the actual practice of insurance companies for it is an invariable rule to require the payment of the first premium at the time the policy is issued. In fact the law of contracts makes the payment of a consideration a prerequisite to the beginning of the risk.

It is clearly evident in the case of single premiums, and it is true only in lesser degree with annual premiums, that the company will have the money on hand for some time before being called upon to pay it out again in satisfaction of matured claims. The question of the use of the money in the meantime therefore arises. This money is invested and made to earn interest while in the company's possession, and it is proper that regard be had to these interest earnings as one source of the fund available to pay claims. But since the company does not know in advance what rate of interest will be earned it is necessary to assume a rate which is reasonably certain of being earned each year throughout the long life of the policy. And since much of the premium money received by the company is held for a number of years before being paid out in the form of matured claims it will be possible to earn interest on interest. The importance of compound interest accumulations to an insurance company is evident from the following figures showing first the amount of money obtained from investing $1,000 at different rates of interest for fifty years; and second, the amount of money which must be invested in the beginning to equal $1,000 in fifty years, at different rates of interest:

| | | | |
|---|---|---|---|
| Amount of $1,000 in 50 years | at 2% | = | $ 2,692 |
| | " 3% | = | 4,384 |
| | " 3½% | = | 5,585 |
| | " 4% | = | 7,107 |
| | " 5% | = | 11,467 |
| | " 6% | = | 18,420 |

| | | | |
|---|---|---|---|
| Present worth of $1,000 due 50 years hence | at 2% | = | $371.50 |
| | " 3% | = | 328.10 |
| | " 3½% | = | 179.10 |
| | " 4% | = | 140.70 |
| | " 5% | = | 87.20 |
| | " 6% | = | 54.30 |

In other words, if six-per-cent. interest can be guaranteed on an investment, $1,000 may be put away now and at the end of fifty years it will have accumulated to $18,420; or in order to pay a debt of $1,000 fifty years hence it is necessary to put away only $54.30 and earn compound interest on it at the rate of six per cent. These facts are highly important to the insurance company, which is often called upon to keep policies in force for fifty years.

In determining the interest rate to be assumed in computing premiums it is necessary to select a rate which the company is *sure* of earning *every year* over a long period of years. The assumption that 6 per cent. could be earned would most surely be disastrous, for while the company might earn that rate in a prosperous year, this period might be succeeded by a business depression and through decreases in earnings and in the market value of securities or real estate the company would fail to earn the assumed 6-per-cent. rate and it would be called upon to replenish its inadequate earnings from surplus or, in the absence of the latter, might be forced into bankruptcy. This makes it necessary for the company to assume a rate of interest which can be earned even in times of business depression. The first premium rates used in the United States were based on a 4-per-cent. interest assumption and this rate has been very generally employed in cases where the Actuaries' table of mortality was used to compute premiums. With the American Experience table a rate of 3½ per cent. has generally been used until recent years. Since about the year 1900 a number of companies have been using a 3-per-cent. interest assumption. Where policies are made participating it makes little difference what rate is used so long as it is not too large, since all money earned above the rate assumed is returned to the policyholder in the form of dividends; and the lower the rate used the better will a company be able to weather a period of financial depression.

The second rule referred to above stated that matured claims would be paid at the end of the policy year. Some time must clearly be determined upon in order to know how long the money will draw interest before being paid. If it can be assumed that there will be a fairly even distribution of deaths throughout the year then on the average deaths will occur at the middle of the year. The payment of claims, then, based on this assumption, would occur six months after death. In the early experience of life-insurance companies this was not far from the truth, for it took about three months to make proof of death, and old policies allowed the company three months after proof before the claim was payable. At the present time, however, due largely to the factor of competition, claims are paid promptly, one prominent company, for instance, advertising that over ninety-five per cent. of its claims are paid within one day of receipt of proofs of death. The importance of this consideration lies in the fact that the company loses nearly six months' interest on the sum paid. For, if deaths occur on the average at the middle of the year and proof of death requires one week, as is likely to be the case nowadays, the claim is paid on the average at nearly the middle of the year. But by the assumption used in computing the premium the money is supposedly held until the end of the policy year. Computing premium rates at 4 per cent., this would mean a loss of $20 on a $1,000 policy. The assumption that claims are paid at the end of the year, however, is maintained in the face of this fact for two reasons: (1) because of the great amount of labor and expense involved in computing new tables based on the more correct assumption; and (2) because the mortality table, as explained in the preceding chapter, allows sufficient margin to cover this deficiency and make the position of the company perfectly safe.

Another assumption made by the companies in their rate computations is that the death rate is uniform throughout the year. Thus, if out of 100,000 persons of a certain age 600 die within one year, the assumption is that fifty die the first month, fifty the second month, and so on during the year. The fact is that the death rate is constantly decreasing up to about age 10 when it begins gradually to increase, and this increase continues at a constantly accelerating rate to the end of life. This assumption is of financial importance to the company only in case of policies paid for by premiums at intervals more frequent than one year. In the case of annual premiums, since all premiums are paid in advance, the money is on hand at any time during the year to pay insurance costs. In the case of monthly premiums, however, if only one-twelfth of the annual premium is collected in advance, but one-sixth of the total year's mortality should occur during the first month, the company will not have the funds on hand to pay losses. This situation can occur only during the first ten years of life when the mortality rate is constantly decreasing and it necessitates special treatment in case of insurance of children under age 10. But after age 10 the mortality rate is increasing and the discrepancy between the assumption of uniform deaths and the actual situation is favorable to the company and therefore presents no dangers, for the company will now collect one-twelfth of the premium, but will experience less than one-twelfth of the year's losses during the first month.

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# CHAPTER XIII

## THE NET SINGLE PREMIUM

By
Bruce D. Mudgett

**Classification of Premiums as Single and Periodic.**— Life-insurance policies may be purchased by a single premium, an annual premium, or a premium paid weekly, monthly, quarterly, or semi-annually. Of these the annual premium is by far the most important and may continue until the death of the policyholder or the maturity of the policy or may be limited to a definite number of years as in a twenty-payment life policy and a twenty-payment thirty-year endowment. In the twenty-payment life policy, for instance, the premiums continue for twenty years provided death does not intervene before this period has elapsed and after the twenty payments have been made the policy requires no further payments and matures whenever death occurs. Few insurance contracts, with the exception of annuities, are purchased by single premiums, although they may be so purchased and the companies will quote single premium rates for any kind of policy. Nevertheless, in taking up the subject of rate computation in life insurance it is necessary to begin with a thorough study of the *single* premium, inasmuch as it furnishes the method of approach in determining annual premiums.

**Classification of Premiums as Net and Gross.**— The premium charged for a life-insurance contract is supposed to cover all contingencies the company is likely to meet, and these may be conveniently grouped into two classes, viz, mortality and expenses. Mortality has reference to that part of the premium which provides for the occurrence of the event or risk insured against, while the second element covers the costs incident to the management of a company, such as salaries, rents, commissions, etc., which may be fairly charged against a particular policy. In computing premiums mortality costs are always determined first and to this mortality element is added an amount, determined by a more or less scientific method, called loading, which provides for expenses, and from these calculations is determined the premium charged the policyholder. According, therefore, as to whether the "premium" in question is "loaded" or not, it may be classed as *net* or *gross*. The net premium makes provision for mortality losses only, while the gross or "office" premium contains this element plus an addition, or a "loading," for expenses. The gross premium is the only one known to the policyholder, but before it is obtained an actuary must have ascertained the *net* premium. If, therefore, the gross annual premium is the ultimate object of the study of rate computation this study must begin by first determining the *net single premium.* From the latter, as will be shown later, the net annual premium can be found. Following this it will be possible to study the various methods of loading in order to ascertain the gross annual premium.

In the preceding chapter it was shown that the computation of premium rates on any kind of policy required information as to (1) the amount of the policy, (2) the age of the insured, (3) the mortality table to be used in measuring the risk incurred, and (4) the rate of interest assumed on funds possessed by the insurance company. In the computations that follow, risks will always be measured according to the American Experience table of mortality; the rate of interest assumed will be 3 per cent. and the face value of the policy will be $1,000 unless otherwise stated. The age of the insured will be stated in each instance.

**Term Insurance.**— Term insurance is the simplest type of contract issued insuring against premature death. Term policies usually run for five, ten, fifteen, or twenty years, and promise to pay the sum insured if the policyholder should die within this period, nothing being paid if death does not occur during the designated term. Term policies are therefore a distinct type of temporary insurance. Attempts have been made to popularize a one-year term policy which is renewable from year to year at the option of the insured, thereby granting current cost insurance which is paid for at the beginning of each year, the premium furnishing protection for that year only, and a different rate being chargeable for the following year's insurance. This type of policy offers an excellent opportunity to explain the simple elements of rate-making. Suppose, therefore, that the net single premium is to be ascertained on a renewable one-year term insurance of $1,000 on a life aged 45. Immediate use will now be found for two of the assumptions used in rate-making which were mentioned in the preceding chapter, viz, that premiums are paid in advance and that matured claims are paid at the close of the policy year. Accordingly, it is required to find the amount of money which must be paid in at the beginning of the year by a policyholder in order to enable the company to return $1,000 at the close of the year in case the policy has matured. The question must now be asked: What is the risk insured against? It follows from the definition of term insurance that it is the chance of dying during the year. This will be determined by means of the mortality table. This shows that, of 74,173 persons living at age 45, 828 die during the year. Suppose now that an insurance company should issue 74,173 one-year term policies to persons aged 45. If the mortality experienced among this group coincides with the experience indicated in the mortality table there will be 828 deaths during the year. Since each of these deaths represents a liability of $1,000 to the company, and since the claims are payable at the close of the year, the company must have on hand at that time $828,000 to pay claims. But this entire amount need not have been collected from the policyholders since they were required to pay their premiums at the beginning of the year and the company was able to invest the money at interest for one year and earn 3 per cent. thereon. For every $1 collected, therefore, the company will have on hand $1.03 when the claims mature. Eight hundred and twenty-eight thousand dollars, therefore, bears the same ratio to the amount of money which must be collected from the group of 74,173 persons as $1.03 bears to $1. Put in the form of a proportion this may be stated as follows:

$$\frac{828000}{x}=\frac{1.03}{1.00}$$
$$1.03\,x=1.00\times 828000$$
$$x=\frac{828000}{1.03}=803883.50$$

*X* may here be defined as the present value of $828,000 discounted for one year at 3 per cent. This amount of money ($803,883.50) therefore must be paid at the beginning of the year by the group of 74,173 persons in order that there may be on hand at the end of the year sufficient funds to pay $1,000 for each of the 828 deaths. To obtain the premium which each individual should pay, it is only necessary to divide the total fund by the number contributing, viz:

$$803{,}883.50 \div 74{,}173 = \$10.84$$

The "net single premium" for a one-year term insurance at age 45, or the amount of money that must be paid at the beginning of the year to supply each individual's contributions to the death losses of the group for the year is, therefore, $10.84.

This same problem may be approached in a different way and a formula stated for determining costs. The original assumption required the insurance of a group of 74,173 persons of identical age. But this is impossible to obtain in practice. Suppose now that it is desired to insure a single individual aged 45 against death during the year and that the net single premium for this insurance is to be ascertained. Clearly, if the event occurs against which protection is desired, it will cost the insurance company $1,000. But what is the probability of death occurring during the year? It has been shown that 828 persons aged 45 die out of a group of 74,173. Reference to the discussion of the theory of probabilities in Chapter XI will show that this is equivalent to saying that the probability of death during the forty-fifth year is $\frac{828}{74173}$. The cost to a single person, therefore, will be $\frac{828}{74173}$ of \$1,000. But since this value needs to be on hand at the end of the year and money earns 3 per cent. interest, the amount to be paid in by the insured will be the value of the above amount discounted for one year at 3 per cent. This result is found as follows:

$$\frac{828}{74173} \times 1000 \div 1.03 = \$10.84$$

It must not be assumed from this that an insurance company can insure a single person; instead, it must always deal with a group sufficiently large to guarantee a close approximation of its actual mortality experience with the table mortality. It must, as was explained earlier, be sure of the operation of the law of average. But it does not need to insure this entire group with the same kind of policy or at the same age. The law will operate if only the entire group of policyholders including all ages and all kinds of policies be sufficiently large.

If the method here used in determining the cost of this insurance is carefully studied it will be found to embody the following process: Multiply the probability insured against by the amount of the policy and divide by the amount of \$1 at the assumed rate of interest for one year; and from this formula it is possible to construct a general formula to apply in computing all net single premiums, viz, *the probability insured against multiplied by the amount of the policy multiplied by the value of \$1 discounted for the period the money is held.* One dollar discounted for one year at 3 per cent. equals $\frac{1.00}{1.03} = .970874$. Multiplying by this factor gives the same result as dividing by 1.03. This formula will be used hereafter in computing net single premiums. It would be possible now to compute the net single premium paid at the beginning of the second year for the second year's insurance under our renewable one-year term policy issued at age 45. The probability of death during this year is the yearly probability of death at age 46, or $\frac{848}{73345}$ and the cost of the year's insurance would be:

$$\tfrac{848}{73345} \times 1000 \times .970874$$

In like manner, the yearly cost of insurance can be computed for any age from 10 to 95, inclusive, the years covered by the American Experience table.

While much emphasis has here been placed upon the one-year term policy because of its appropriateness in developing the elementary principles of rate computation, the fact must not be lost sight of that one-year term policies are rarely sold. The usual term policies extend for five years or longer, and this fact brings complications into the matter of rate-making. Suppose it is desired to compute the net single premium for a five-year-term insurance issued at age 45, i.e. the amount of money which, paid in a single sum at age 45, will purchase insurance against death at any time within the next five years. Two facts are apparent upon a moment's reflection: (1) the premium is paid only once, in a single sum at the inception of the risk; (2) death claims will be paid at the end of the year in which they occur, and not at the end of the five-year period. This latter fact has an important bearing on the interest which will be earned and therefore on the method of computing the five years' cost. Manifestly, the cost cannot be correctly determined by multiplying the total probability of dying during the five years by the face value of the policy and discounting this amount in one operation since some of the money collected will draw interest for only one year while another part will be earning interest for five years. It is necessary to compute the cost of each year's mortality separately. The probabilities insured against in this case are the chances that a person *aged 45* will die during the first year following, during the second year, the third year, etc. These probabilities are respectively $\tfrac{828}{74173}$, $\tfrac{848}{74173}$, $\tfrac{870}{74173}$, $\tfrac{896}{74173}$ and $\tfrac{927}{74173}$. Each of these figures must be multiplied by the amount insured and by the present value of $1.00 discounted in each instance by the length of time the money is held. The money available for the first year's death claims will be held one year; for the second year's claims, two years, etc., the funds for the last year's claims being held five years. The discounted values of one dollar for one, two, three, four and five years at 3 per cent. interest are respectively \$.970874, \$.942596, \$.915142, \$.888487 and \$.862609. The cost of the five years' insurance, therefore, can be shown as follows:

$\frac{828}{74{,}173}\times 1{,}000\times .970874=\$10.838+=$cost of 1st. year's insurance.

$\frac{848}{74{,}173}\times 1{,}000\times .942596=\$10.776+=$ " " 2d. " "

$\frac{870}{74{,}173}\times 1{,}000\times .915142=\$10.734+=$ " " 3d. " "

$\frac{896}{74{,}173}\times 1{,}000\times .888487=\$10.733-=$ " " 4th. " "

$\frac{927}{74{,}173}\times 1{,}000\times .862609=\$10.780+=$ " " 5th. " "

Net single premium=$\overline{\$53.861}$ cost of 5 years' insurance.

This computation shows that \$53.86 deposited with the company and placed at 3 per cent. interest will furnish enough money to pay all the death claims on this five-year term policy.

**Whole-Life Insurance.**— A whole-life policy continues for the whole of life and promises to pay its face value upon the death of the insured to his estate or his beneficiary. There is a possibility that the insured may live to an advanced age and this must be taken into consideration in computing the premium. This policy is like the term contracts just considered with the exception that, instead of being limited to a definite number of years, it continues for the largest possible length of life and will certainly be paid at some time. Since the American Experience table of mortality assumes that all persons die by the end of the 95th year, the maximum possible age for which insurance against death needs to provide in this case will be 95. The net single premium on a whole-life policy issued at age 45 must, therefore, provide against the possibility that the insured will die during his 45th year, his 46th year and so during every year up to and including his 95th. The separate probabilities insured against will be fifty-one in number, i.e. for the years 45 to 95 inclusive.

The chance of dying in each separate year will be multiplied by the face value of the policy ($1,000) and this amount discounted for the number of years between the issue of the policy (i.e. the payment of the single premium) and the payment of death losses, thus:

$\frac{828}{74,173}\times 1,000\times .970874=10.837955=$cost of mortality during age 45

$\frac{848}{74.173}\times 1,000\times .942596=10.776447=$ " " " " " 46

$\frac{870}{74,173}\times 1,000\times .915142=10.734007=$ " " " " " 47

$\frac{896}{74.173}\times 1,000\times .888487=10.732805=$ " " " " " 48

$\frac{927}{74,173}\times 1,000\times .862609=10.780723=$ " " " " " 49

$\frac{962}{74,173}\times 1,000\times .837484=10.861899=$ " " " " " 50

$\frac{1,001}{74.173}\times 1,000\times .813092=10.973064=$ " " " " " 51

$\frac{1,044}{74,173}\times 1,000\times .789409=11.111092=$ " " " " " 52

$\frac{1,091}{74,173}\times 1,000\times .766417=11.273118=$ " " " " " 53

$\frac{1,143}{74.173}\times 1,000\times .744094=11.466429=$ " " " " " 54

$\frac{1,199}{74,173}\times 1,000\times .722421=11.677872=$ " " " " " 55

$\frac{1,260}{74.173}\times 1,000\times .701380=11.914562=$ " " " " " 56

$\frac{1,325}{74,173}\times 1,000\times .680951=12.164266=$ " " " " " 57

$\frac{1,394}{74,173}\times 1,000\times .661118=12.424986=$ " " " " " 58

$\frac{1,468}{74,173}\times 1,000\times .641862=12.703456=$ " " " " " 59

$\frac{1,546}{74,173}\times 1,000\times .623167=12.988772=$ " " " " " 60

$\frac{1,628}{74,173}\times 1,000\times .605016=13.279307=$ " " " " " 61

$\frac{1,713}{74,173}\times 1,000\times .587395=13.565686=$ cost of mortality during age 62

$\frac{1,800}{74,173}\times 1,000\times .570286=13.839467=$ “ “ “ “ “ 63

$\frac{1,889}{74,173}\times 1,000\times .553676=14.100737=$ “ “ “ “ “ 64

$\frac{1,980}{74,173}\times 1,000\times .537549=14.349521=$ “ “ “ “ “ 65

$\frac{2,070}{74,173}\times 1,000\times .521893=14.564849=$ “ “ “ “ “ 66

$\frac{2,158}{74,173}\times 1,000\times .506692=14.741770=$ “ “ “ “ “ 67

$\frac{2,243}{74,173}\times 1,000\times .491934=14.876140=$ “ “ “ “ “ 68

$\frac{2,321}{74,173}\times 1,000\times .477606=14.945108=$ “ “ “ “ “ 69

$\frac{2,391}{74,173}\times 1,000\times .463695=14.947417=$ “ “ “ “ “ 70

$\frac{2,448}{74,173}\times 1,000\times .450189=14.858003=$ “ “ “ “ “ 71

$\frac{2,487}{74,173}\times 1,000\times .437077=14.655070=$ “ “ “ “ “ 72

$\frac{2,505}{74,173}\times 1,000\times .424346=14.331181=$ “ “ “ “ “ 73

$\frac{2,501}{74,173}\times 1,000\times .411987=13.891571=$ “ “ “ “ “ 74

$\frac{2,476}{74,173}\times 1,000\times .399987=13.352134=$ “ “ “ “ “ 75

$\frac{2,431}{74,173}\times 1,000\times .388337=12.727640=$ “ “ “ “ “ 76

$\frac{2,369}{74,173}\times 1,000\times .377026=12.041775=$ “ “ “ “ “ 77

$\frac{2,291}{74,173}\times 1,000\times .366045=11.306123=$ “ “ “ “ “ 78

$\frac{2,196}{74,173}\times 1,000\times .355383=10.521633=$ “ “ “ “ “ 79

$\frac{2,091}{74,173}\times 1,000\times .345032=\ 9.726746=$ “ “ “ “ “ 80

$\frac{1,964}{74,173}\times 1,000\times .334983=\ 8.869894=$ “ “ “ “ “ 81

$\frac{1,816}{74,173}\times 1,000\times .325226=\ 7.962607=$ “ “ “ “ “ 82

$\frac{1,648}{74,173}\times 1,000\times .315754=$ 7.015526=cost of mortality during age 83

$\frac{1,470}{74,173}\times 1,000\times .306557=$ 6.075510= " " " " " 84

$\frac{1,292}{74,173}\times 1,000\times .297628=$ 5.184304= " " " " " 85

$\frac{1,114}{74,173}\times 1,000\times .288959=$ 4.339859= " " " " " 86

$\frac{933}{74,173}\times 1,000\times .280543=$ 3.528867= " " " " " 87

$\frac{744}{74,173}\times 1,000\times .272372=$ 2.732056= " " " " " 88

$\frac{555}{74,173}\times 1,000\times .264439=$ 1.978667= " " " " " 89

$\frac{385}{74,173}\times 1,000\times .256737=$ 1.332611= " " " " " 90

$\frac{246}{74,173}\times 1,000\times .249259=$ .826685= " " " " " 91

$\frac{137}{74,173}\times 1,000\times .241999=$ .446980= " " " " " 92

$\frac{58}{74,173}\times 1,000\times .234950=$ .183721= " " " " " 93

$\frac{18}{74,173}\times 1,000\times .228107=$ .055356= " " " " " 94

$\frac{3}{74,173}\times 1,000\times .221463=$ .008957= " " " " " 95

Net single premium=$504.584931.

This amount, $504.59, is the discounted value of all the death claims payable from age 45 until the mortality table assumes that all persons will have died and is, therefore, the net single premium which will purchase a whole-life policy issued at age 45. It is a matter of common observation that there are men who outlive their ninety-fifth year, but since the computations assume that the insured will not have survived this age and since sufficient money will have been accumulated to pay the claim at the close of the ninety-fifth year of life, it is the general practice to consider the policy matured at this time and to pay the claim whether the insured be dead or alive.

**Pure Endowments.**— A pure-endowment contract promises to pay the insured value in case the holder survives a certain fixed period. Thus, a ten-year pure endowment issued at age 45 will pay the holder the amount named in the contract if he be living ten years from the date of issue. The mortality table shows that 74,173 persons are living at age 45, and that 64,563 are still living at age 55, leaving 9,610 as the number dying during the ten years. A policy thus insuring against survival during this period must itself provide $\frac{64563}{74173}$ of the amount of the contract at the end of the period. Or it may be stated in this way: the probability insured against is $\frac{64563}{74163}$ and since the money paid as a single premium will be held ten years before the policy matures the formula for determining the net single premium is:

$$\frac{64563}{74173} \times 1000 \times .744094 = \$647.69$$

The decimal, .744094, is the present value of one dollar discounted for ten years at 3 per cent.

A clear distinction must be made between a pure endowment and a savings-bank account which is left to accumulate at an agreed rate of interest. The insured cannot get possession of the money invested in a pure endowment before the expiration of the endowment period. If he should die during this period all the money paid is lost, i.e. it goes to swell the fund which will be paid to the survivors. A savings-bank account on the other hand is not lost through death of the investor. This fact makes it possible to divide the $1,000 which will be paid *in case of survival through the endowment period* into two funds, one of which might be called the investment fund, and the other the speculative fund. The investment fund in a ten-year pure endowment, issued at age 45, will equal $647.69 plus interest compounded for the ten years at 3 per cent. thus:

$$647.69 \times 1.3439 = \$870.43$$

This $870.43 is the amount which would be obtained by investing the net single premium of this pure endowment policy at 3 per cent. interest for ten years. The remainder of the $1,000, or $129.57, comprises the survivor's share of the amounts forfeited by those policyholders who died before their policies matured. The latter amount is here called the speculative fund. The possibility of thus losing the entire amount of one's investment by death before the endowment period has expired, makes the pure endowment a policy that finds little favor with the insuring public. For this reason it is usually combined with, or constitutes a feature of some other kind of policy.

**Endowment Insurance.**— The most usual combination in which pure endowments figure is technically known as endowment insurance. This policy is popularly referred to as an *endowment*. It promises to pay a certain sum to the insured in case he should die within the term of the policy or a like sum at the end of the term in case of survival. Analysis of this contract shows that it includes the pure-endowment feature just discussed and, in addition, insurance against death during the term of the endowment. For illustration, a five-year endowment-insurance policy issued at age 45 will pay the sum insured if the policyholder die during the first, the second, the third, the fourth, or the fifth years, and it will pay the same sum if he survive the fifth year. The cost of this insurance, therefore, will equal the following:

$\frac{828}{74,173}\times 1,000\times .970874=$ 10.837955, cost of 1st. year's insurance.
$\frac{848}{74,173}\times 1,000\times .942596=$ 10.776447 " " 2d. " "
$\frac{870}{74,173}\times 1,000\times .915142=$ 10.734007 " " 3d. " "
$\frac{896}{74,173}\times 1,000\times .888487=$ 10.732805 " " 4th. " "
$\frac{927}{74,173}\times 1,000\times .862609=$ 10.780723 " " 5th. " "
$\frac{69,804}{74,173}\times 1,000\times .862609=$811.798884 " of 5-year pure endowment.
Net single premium=$865.660821 for 5-year endowment insurance.

Contracts known as "semi-endowments" or "double endowments" are sometimes issued. They differ from the policy just explained only in the fact that the amount due in case the insured should survive the term of the policy (i.e. the endowment element) is one-half, or is double, the amount paid in event of maturity by death. The cost of a five-year semi-endowment insurance of $1,000 at age 45, therefore, would differ from the cost of the policy just computed only by the cost of the pure endowment, which in this case would be as follows:

$$\tfrac{69804}{74173} \times 500 \times .862609 = \$405.899442$$

This amount, added to the cost of the five-years' term insurance, would give the net single premium for the semi-endowment.

## BIBLIOGRAPHY

The bibliography on Premium Computation is deferred to the end of the chapter on The Net Level Premium inasmuch as the bibliography quoted does not analyze separately the net single from the net level premium.

# CHAPTER XIV

## THE NET SINGLE PREMIUM (CONTINUED)

By
Bruce D. Mudgett

The premiums computed thus far relate to contracts which embody only two kinds of risks, the risk of death and the risk of survival. These two types are sometimes referred to as insurance and endowments, since insurance as such is generally needed against premature death while endowments have the character of investments accumulated for the future. Every life-insurance contract covers one or both of these features, viz, protection against death or accumulation in case of survival.

**Installment Insurance.**— In the policies studied thus far it has also been assumed that the face value of the policy (generally $1,000 or multiples of that amount) is payable at maturity in a single sum. But it has become a common practice to make provision for the payment of policies in periodic installments. Thus there are policies paid in monthly installments extending over a period of years, or in ten, fifteen or twenty yearly installments. These contracts differ in cost from those paid in a single cash sum and it is necessary to determine wherein this difference lies. Such installment contracts are of two kinds; one stating that the face value, $1,000, will be paid in a definite number of installments, and the other maturing regularly as a single-payment policy but giving the insured or his beneficiary the option of choosing the installment-payment plan. A policy which promises payment of $100 on the death of the insured and $100 per year thereafter until ten payments have been made is an example of the first; the contract in the second case would mature for $1,000 payable at once, but would allow the beneficiary to receive in lieu thereof a certain sum annually for ten years, this sum not being $100 but rather the amount which can be purchased by $1,000 in hand at maturity.

In the case of the first contract it is evident that the company is going to pay out a total of only $1,000, but during the ten years given the company in which to pay this sum, it will be earning interest on the funds in its possession. It must have on hand, therefore, at the time of maturity, only such funds as, *with interest added,* will yield $100 at each of the ten annual periods. The payments are made as follows: $100 immediately, $100 at the end of one year, $100 at the end of two years, etc., the tenth payment being made at the end of nine years. The first $100 will be paid at once upon the maturity of the contract and therefore earns no interest. A part of the funds will draw interest for one year, another part for two years, etc., the last portion drawing interest for nine years. Consequently the funds which must be available at the maturity of the contract will equal $100 plus such amounts as with interest for one year, two years, three years, etc., will respectively equal sums of $100. These amounts are the discounted values of $100 for one, two, three years, etc. The present value of these ten payments is found as follows:

| | | | | | | Present Value |
|---|---|---|---|---|---|---|
| $100 paid immediately | | | | | = | 100.00 |
| 100 one year hence | = | 100 | × | .970874 | = | 97.0874 |
| 100 two years hence | = | 100 | × | .942596 | = | 94.2596 |
| 100 three years hence | = | 100 | × | .915142 | = | 91.5142 |
| 100 four years hence | = | 100 | × | .888487 | = | 88.8487 |
| 100 five years hence | = | 100 | × | .862609 | = | 86.2609 |
| 100 six years hence | = | 100 | × | .837484 | = | 83.7484 |
| 100 seven years hence | = | 100 | × | .813092 | = | 81.3092 |
| 100 eight years hence | = | 100 | × | .789409 | = | 78.9409 |
| 100 nine years hence | = | 100 | × | .766417 | = | 76.6417 |
| Present value of $1,000 in ten installments | | | | | = | $878.6120 |

If the company therefore has $878.61 on hand at the time the policy matures and continues to earn 3 per cent. interest on all funds in its possession it will be able to pay the ten installments of $100 each as they come due. To determine the net single premium for a policy so paid, it is necessary to regard the policy as having a face value of $878.61, instead of $1,000. Thus, a term policy, a whole-life policy, a pure-endowment or an endowment insurance might be paid in ten installments, and the only change from the computations already made would consist in the substitution of $878.61 for $1,000 as the amount of insurance.

Where the policy matures for $1,000 but gives the further option of receiving payment in installments, it is clear that the premium must provide for $1,000 payable in a single cash sum at maturity since the insured or beneficiary may choose this option. There will be no difference therefore in the computation of the net single premium for this policy from the usual $1,000 policy. But since $878.61 only is necessary at maturity to provide ten installments of $100 each, $1,000 in hand at maturity will enable the company to pay ten installments, each greater than $100. A single proportion will show how the amount of these payments may be determined. Since $878.61 will provide installments of $100 each, $1,000 will provide installments greater than $100 in the same proportion that $1,000 is greater than $878.61. Thus, letting $x$ equal the amount of the installment to be found, we have:

$$\$1{,}000 : 878.61 :: x : 100$$

$$\text{or } \frac{1000}{878.61} = \frac{x}{100}$$

$$x = \frac{100000}{878.61}$$

$$x = 113.81$$

A policy maturing for $1,000 and giving the option of receiving it in ten annual installments could therefore pay $113.81 in each installment. By the principles here laid down the cost can likewise be determined for a contract paid in any number of installments, such as five, fifteen or twenty.

The contracts explained thus far have invariably involved but one life. Life-insurance companies, however, will issue policies covering risks on two or more lives, or joint-life policies as they are called. Especially in the field of partnership or corporation insurance has the joint-life policy been used in recent years. But the computation of costs on joint-life risks will carry us more deeply into actuarial science than it is desired here to enter, since the purpose of our premium analyses is merely to give an adequate idea of the risk involved in the most usual types of policies. Premium computations therefore will not be made for ordinary joint-life, last-survivor and contingent or survivorship insurances.[1]

**Annuities.**— The remaining class of contracts to be analyzed are known as annuities. Annuities promise to pay the possessor a stated income, usually at intervals of one year during the lifetime of said person. It will be seen, therefore, that they furnish a type of investment whereby the recipient whose sole dependence is upon invested capital, can be assured of an income for life. And since the income is payable only during the life of the one person, the annuitant, a single annuity on one life does not furnish group protection, but each life must necessarily be covered by a separate contract.

Annuities covering a single life are of two kinds, immediate and deferred. Immediate annuities, sometimes referred to as the ordinary life form, may be temporary, i.e. limited to a term of years, may continue for the whole of life, or may promise a certain number of payments irrespective of the question whether the recipient be living or not. The latter contracts are sometimes spoken of as guaranteed annuities or annuities with a guaranteed minimum number of payments. The cost of each of these contracts will be considered in turn.

An immediate temporary annuity of $100 purchased, say, at age 70 and continuing for a period of ten years, will promise to pay the annuitant one hundred dollars one year from date

[1] The computation of costs for joint-life contracts is effected by the application to the mortality table of the law of compound probabilities in determining the probability that joint-lives will fail, that they will survive, etc. The results are equally scientific with those obtained in dealing with single lives, but the development of joint-life formulæ cannot be undertaken within the scope of this book.

of purchase if then living, and one hundred dollars at each anniversary of that date if still living until ten payments have been made. The cost of this contract will be the sum of money paid at the time of purchase, namely age 70, which will furnish these annual payments, and the net cost, which it is proposed here to determine, will be the amount necessary to provide merely for the payments of the sums promised to the annuitant without assessing against the contract anything for expenses. The formula used in computing net single premiums on insurances can again be used here, namely, net cost will equal the risk or probability insured against multiplied by the sum insured (the amount of the annuity) multiplied by the value of $1.00 discounted for the time the money is held. Since therefore a payment is made to the annuitant, if surviving, at the end of each year, the cost for each year must be determined separately and these sums added to obtain the total cost. The probability insured against is the probability that the annuitant will survive through the first year, through the second year, the third year, etc. It will be seen therefore that the annuity under consideration is equivalent to a series of ten pure endowments, one maturing in one year from date of purchase, one in two years, one in three years, etc., until ten have been paid. The probability that the first annuity payment will be made, if determined from the American Experience table, will equal the probability that a man aged 70 will survive one year, or expressed in the form of a fraction, $\frac{36178}{38569}$. The $100 paid in case of survival is paid one year from the date of purchase of the annuity and therefore the net cost of the first payment will be the value of this sum discounted for one year at 3 per cent. and multiplied by the probability of survival. Thus the total operation for the first year is as follows:

$\frac{36178}{38569} \times 100 \times .970874 = \$91.07 =$ net cost of first annuity payment.

In like manner the net cost for the remaining nine payments will be found by multiplying the probability of surviving through two, three, four years, etc., by the amount of the annuity of $100, discounted respectively, two, three, four years, etc. The entire computation for the ten years is as follows:

$\frac{36{,}178}{38{,}569}\times 100\times .970874=\$91.068681=$net cost of 1st. annuity payment.

$\frac{33{,}730}{38{,}569}\times 100\times .942596=$ 82.433465= “ “ “ 2d. “ “

$\frac{31{,}243}{38{,}569}\times 100\times .915142=$ 74.131508= “ “ “ 3d. “ “

$\frac{28{,}738}{38{,}569}\times 100\times .888487=$ 66.201715= “ “ “ 4th. “ “

$\frac{26{,}237}{38{,}569}\times 100\times .862609=$ 58.679956= “ “ “ 5th. “ “

$\frac{23{,}761}{38{,}569}\times 100\times .837484=$ 51.594434= “ “ “ 6th. “ “

$\frac{21{,}330}{38{,}569}\times 100\times .813092=$ 44.966819= “ “ “ 7th. “ “

$\frac{18{,}961}{38{,}569}\times 100\times .789409=$ 38.808328= “ “ “ 8th. “ “

$\frac{16{,}670}{38{,}569}\times 100\times .766417=$ 33.125493= “ “ “ 9th. “ “

$\frac{14{,}474}{38{,}569}\times 100\times .744094=$ 27.924023= “ “ “ 10th. “ “

Net cost=$\overline{\$568.934422}$ for a 10-year term annuity.

The temporary annuity at age 70, therefore, will cost net, $568.94, which sum is composed of the net costs of each of the separate yearly payments.

If the contract issued at age 70 promises to pay an annuity for the whole of life the computations must continue until the life surely fails and this occurs, according to the American Experience table, during the ninety-fifth year. The net cost of a whole-life annuity, or an ordinary life annuity as it is usually called, will, therefore, equal the net cost of a series of pure endowments, the first maturing at age 71 and the last at age 95, since all lives are assumed by the table to have surely failed before the beginning of the ninety-sixth year. The computation of the cost of this annuity is as follows, the first ten years being the same as for the term annuity just computed:

$\frac{36,178}{38,569}\times 100\times .970874=\$91.068681$=net cost of 1st. year's annuity.

$\frac{33,730}{38,569}\times 100\times .942596=82.433465=$ " " " 2d. " "

$\frac{31,243}{38,569}\times 100\times .915142=74.131508=$ " " " 3d. " "

$\frac{28,738}{38,569}\times 100\times .888487=66.201715=$ " " " 4th. " "

$\frac{26,237}{38,569}\times 100\times .862609=58.679956=$ " " " 5th. " "

$\frac{23,761}{38,569}\times 100\times .837484=51.594434=$ " " " 6th. " "

$\frac{21,330}{38,569}\times 100\times .813092=44.966819=$ " " " 7th. " "

$\frac{18,961}{38,569}\times 100\times .789409=38.808328=$ " " " 8th. " "

$\frac{16,670}{38,569}\times 100\times .766417=33.125493=$ " " " 9th. " "

$\frac{14,474}{38,569}\times 100\times .744094=27.924023=$ " " " 10th. " "

$\frac{12,383}{38,569}\times 100\times .722421=23.194118=$ " " " 11th. " "

$\frac{10,419}{38,569}\times 100\times .701380=18.947025=$ " " " 12th. " "

$\frac{8,603}{38,569}\times 100\times .680951=15.188938=$ " " " 13th. " "

$\frac{6,955}{38,569}\times 100\times .661118=11.921688=$ " " " 14th. " "

$\frac{5,485}{38,569}\times 100\times .641862=9.128090=$ " " " 15th. " "

$\frac{4,193}{38,569}\times 100\times .623167=6.774713=$ " " " 16th. " "

$\frac{3,079}{38,569}\times 100\times .605016=4.822900=$ " " " 17th. " "

$\frac{2,146}{38,569}\times 100\times .587395=3.268298=$ " " " 18th. " "

$\frac{1,402}{38,569}\times 100\times .570286=2.073015=$ " " " 19th. " "

$\frac{847}{38,569}\times 100\times .553676=1.215908=$ " " " 20th. " "

$\frac{462}{38,569}\times 100\times .537549=.643905=$ " " " 21st. " "

$\frac{216}{38,569}\times 100\times .521893=$ .292279=net cost of 22d. year's annuity.

$\frac{79}{38,569}\times 100\times .506692=$ .103785= " " " 23d. " "

$\frac{21}{38,569}\times 100\times .491934=$ .026785= " " " 24th. " "

$\frac{3}{38,569}\times 100\times .477606=$ .003715= " " " 25th. " "

Net cost=$666.546584 for a life annuity at age 70.

This sum of $666.55 therefore represents the net amount which, paid at age 70, will enable the insurance company to pay $100 per year to the annuitant *during life.*

If this same annuity guaranteed that the first five payments were to be certain, i.e. not affected by the death of the beneficiary before their completion, this fact would have to be taken into consideration in computing the net cost. The distinction would lie in the fact that these five payments would not be affected by death, or to put it in actuarial terms, the risk would equal *certainty* or *one.* The net cost of the first five payments would therefore be:

1×100×.970874=$97.0874=net cost of 1st. year's annuity.
1×100×.942596= 94.2596= " " " 2d. " "
1×100×.915142= 91.5142= " " " 3d. " "
1×100×.888487= 88.8487= " " " 4th. " "
1×100×.862609= 86.2609= " " " 5th. " "

Total cost of annuity certain=$457.9708.

All payments following and including the sixth would be dependent on the probability of survival and their net cost would therefore be computed in the same manner as in the previous problem.

**Deferred Annuities.**— Immediate life annuities are purchased by persons of advanced age, and contemplate the payment of benefits at periodic intervals following the date of issue. It is necessary, therefore, that the person considering investment in such a contract shall have accumulated the fund with which to make such purchase. This fund is presumably created from savings over the productive period of a man's lifetime. The experience of probate courts leads to the conclusion, however, that most men dying after age 60 leave little or no capital accumulated. Realizing this and knowing how easy it is to forget the future some men are interested in an annuity contract that will furnish an income during old age, as do the contracts just described, but which can be purchased by annual sums laid aside during their productive years; in other words a contract that will enable them to create this fund by annual payments, say, between ages 40 and 70, which fund can then be returned to them as an annuity after age 70. The deferred annuity offers this opportunity. It bears a close resemblance to the old-age pensions now operated by a number of governments and private corporations under which plans money is accumulated year by year in small amounts either from the wages of the pensioners, or is donated by the employer or the state and is paid periodically during the lifetime of the pensioner after he attains a stated age.

The deferred annuity is the only type of single-life annuity sold by insurance companies which can be purchased by an annual premium. In theory, of course, it is possible to pay for such a contract by a single premium paid at the date of purchase of the contract but in practice such is not ordinarily done. It is necessary, however, in this instance, as in the computations previously made, to compute the net single premium before determining the net annual premium.

If, therefore, it is desired to find the net single premium payable at age 40 which will purchase the right to receive a life annuity of $100 beginning at age 70, there are two possible ways of approaching the problem. In the first place it may be asked, what is the amount of money that must have been accumulated by the company by the time the annuity begins? This is equivalent to asking how much money must be on hand at age 70 to furnish $100 annually during life, the first payment to be made when the annuitant reaches age 70. The problem at this point is, therefore, identical with that of the immediate life annuity just discussed, with the single exception that here the first \$100 payment is made at age 70 while in the former case the first payment was made at age 71. If therefore the insurance company has on hand at the time the annuitant becomes 70 years of age the amount of money necessary to purchase an immediate life annuity the first payment being at age 71 plus an additional \$100 for the payment made on arriving at age 70, or, taking the figures from our previous computations, \$666.55 + \$100.00 or \$766.55, this amount may be considered as the net cost *at age 70* of a life annuity the first payment of which is made at that age.

It is now necessary to determine how much must be paid to the insurance company by the purchaser who takes such a contract when 40 years of age. The cost of this contract is ordinarily computed on the assumption that the single premium paid at age 40, or the annual premium paid from ages 40 to 70 is a sum laid aside for use after age 70, the purchaser relinquishing any right to his contributions in case he fails to survive to that age. By this means he is able in case of survival to share proportionately in all funds relinquished by other annuitants who failed to live to age 70. Clearly the chance that a man aged 40 will collect any portion of his annuity is the chance that he will survive this period. In other words it may be stated that the period of deferment is a pure-endowment period.

It is now possible to state the problem in actuarial terms. In case of survival from age 40 to age 70 the annuitant must have standing to his credit the *then present value* of the whole-life annuity payments beginning at age 70. This amount was found to be \$766.55. The amount payable at age 40 which will furnish this sum if living at age 70 will be the present value of this sum discounted for thirty years at the assumed interest rate and multiplied by the probability of surviving the thirty-year period of deferment, viz:

$$\tfrac{38569}{78106} \times 766.55 \times .411987 = \$155.94734$$

The problem of computing the net single premium for the deferred annuity in question can be approached in a different way. It consists of dealing with each separate annual income payment by itself instead of obtaining the *combined* value at age 70 of all these payments and then discounting this value in one operation to its value at age 40. By considering each annuity payment separately it is possible to find the amount of money to be paid as a single premium at age 40 which will furnish a payment at age 70 *if living,* another at age 71 if living and so on until according to the mortality table the annuitant will have surely died.

Thus if $100 is to be paid at age 70, if surviving, its cost or present value at age 40 will be equal to the present value of $100 discounted for thirty years and multiplied by the probability of surviving to age 70. In like manner the present value at age 40 of the second annuity of $100 will equal $100 discounted for thirty-one years and multiplied by the probability of surviving from age 40 to age 71. This process will be continued to the end of the mortality table and the net single premium for the deferred annuity will be equal to the total sum of these present values. The computations are shown herewith:

$$\frac{38{,}569}{78{,}106}\times 100\times .411987=\$20.344054$$

$$\frac{36{,}178}{78{,}106}\times 100\times .399987=18.527040$$

$$\frac{33{,}730}{78{,}106}\times 100\times .388337=16.770296$$

$$\frac{31{,}243}{78{,}106}\times 100\times .377026=15.081330$$

$$\frac{28{,}738}{78{,}106}\times 100\times .366045=13.468109$$

$$\frac{26{,}237}{78{,}106}\times 100\times .355383=11.937859$$

$$\frac{23{,}761}{78{,}106}\times 100\times .345032=10.496384$$

$$\frac{21{,}330}{78{,}106}\times 100\times .334583=9.137141$$

$$\frac{18{,}961}{78{,}106}\times 100\times .325226=7.895181$$

$$\frac{16{,}670}{78{,}106}\times100\times.315754=\quad 6.739071$$

$$\frac{14{,}474}{78{,}106}\times100\times.306557=\quad 5.680877$$

$$\frac{12{,}383}{78{,}106}\times100\times.297628=\quad 4.718623$$

$$\frac{10{,}419}{78{,}106}\times100\times.288959=\quad 3.854587$$

$$\frac{8{,}603}{78{,}106}\times100\times.280543=\quad 3.090046$$

$$\frac{6{,}955}{78{,}106}\times100\times.272372=\quad 2.425354$$

$$\frac{5{,}485}{78{,}106}\times100\times.264439=\quad 1.857025$$

$$\frac{4{,}193}{78{,}106}\times100\times.256737=\quad 1.378253$$

$$\frac{3{,}079}{78{,}106}\times100\times.249259=\quad .982599$$

$$\frac{2{,}146}{78{,}106}\times100\times.241999=\quad .664904$$

$$\frac{1{,}402}{78{,}106}\times100\times.234950=\quad .421734$$

$$\frac{847}{78{,}106}\times100\times.228107=\quad .247365$$

$$\frac{462}{78{,}106}\times100\times.221463=\quad .130996$$

$$\frac{216}{78{,}106}\times100\times.215013=\quad .059461$$

$$\frac{79}{78{,}106}\times100\times.208750=\quad .021114$$

$$\frac{21}{78{,}106}\times100\times.202670=\quad .005449$$

$$\frac{3}{78{,}106}\times100\times.196767=\quad .000756$$

**Total \$155.935608=Net Single Premium.**

The total obtained equals the net single premium for the annuity purchased at age 40 with benefits deferred until age 70. Comparison of this result with that found by the first method used will show that they are identical. For analytical purposes the former method has an advantage over the latter in bringing out in a more striking manner the pure-endowment nature of the period of deferment from age 45 to age 70 wherein the insured loses all in case of death before age 70.

Of course, a deferred annuity can be computed on a different basis to eliminate the speculative element whereby all accumulations are lost through death before age 70. The old-age pensions issued by governments and private corporations sometimes include a proviso that in case of death or withdrawal before the first annuity is paid, the insured may receive a return of all his individual contributions with interest compounded at a nominal rate. Likewise the old line companies arrive at a somewhat similar result by attaching a provision that in case of prior death the insured shall have returned to him all the premiums paid in, without interest. Thus, if a particular annuity such as is here considered were costing $15 a year between ages 40 and 70 and the insured died after having paid fifteen premiums his estate would receive fifteen times $15 or $225. This return premium feature would, of course, cost an extra premium beyond what was necessary to purchase the deferred annuity by itself.

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The bibliography on Premium Computation is deferred to the end of the chapter on The Net Level Premium inasmuch as the bibliography quoted does not analyze separately the net single from the net level premium.

# CHAPTER XV

## THE NET LEVEL PREMIUM

By

BRUCE D. MUDGETT

**The Level, or Periodic, Premium System.**— Insurance policies may be purchased by a single cash sum or by periodic payments made weekly, monthly, quarterly, semi-annually, or annually. The method of computing the net single premium has been described in Chapters XIII and XIV. Therein it was explained that policies are ordinarily purchased by annual or periodic premiums but that the determination of the latter is possible only after the single premium has been ascertained. It requires but a brief comparison to show why most insured persons choose the annual- rather than the single-premium method of paying for insurance. The net single premium on a $1,000 whole-life policy issued at age 35 (American Experience 3 per cent. basis) is $419.88 while the net annual level premium is only $21.08. Two reasons favor the choice of the latter method of payment. In the first place most persons insure to protect an income the continuation of which during their lifetime enables them to assume certain definite family or business responsibilities, the cessation of which income by death would leave these obligations unfulfilled. It is a man's earning power which enables him safely to marry or to engage in business, for the majority of people do not obtain their capital by inheritance. It is from current income, therefore, that insurance premiums must ordinarily be paid. If the protection of a $4,000 income requires $10,000 of insurance, this amount on the single-premium plan for whole-life insurance at age 35 would cost $4,198.80 while on the annual-premium plan it would mean an outlay of $210.80 per year. The former sum is clearly impossible of payment from a single year's income, while the latter would occasion no special hardship.

A second reason for the choice of annual- rather than single-premium payments for life insurance lies in the reduced cost of a policy purchased by the former in case of early death. If the insured in the above illustration should die within one year after the issue of his policy this insurance would cost him $4,198.80 under the one plan and but $210.80 under the other. This difference cannot be lightly overlooked. It will require the payment of twenty annual premiums before the amount paid in will equal the single premium and therefore the annual plan of premium payments is the cheaper to the policyholder whenever death occurs before the twentieth year of insurance is begun. There is a corresponding disadvantage in the annual-premium plan if the insured lives beyond the payment of his twentieth premium for he will then pay more than would have been the case with the single premium. In other words among the policyholders of an insurance company for everyone who pays in less than the amount of the single premium there must be someone who pays correspondingly more than that amount.

**Analogy Between Periodic Premiums and Annuities.**—If a policyholder is given the choice of paying for his insurance by a single or an annual premium the amount of the latter must be determined on such a basis that in a large group of policyholders the company will receive the same amount of money under the one plan as under the other. Since, therefore, the manner of computing the net single premium is known, the problem in hand at this point will be solved by finding a net annual premium mathematically *equivalent* to the net single premium. In order to do this it is necessary to inquire into the circumstances affecting the payment of annual premiums. They are paid regularly during the life of some person, generally the insured, or for a limited number of years, but always *cease upon his or her death.* This is the definition of an annuity, as stated in the previous chapter.

Annual premiums, therefore, are annuities but they differ in three important respects from the annuities thus far considered. (1) In the first place they are annuities paid by the insured to the company, while regular annuities are paid by the company to the insured. To be sure both annual premiums and annuities are based on the life of the same person, viz, the insured, but this does not affect the principle involved. (2) Annuities, moreover, were found to be purchased, ordinarily, by a single premium, i.e. a single cash sum. If annual premiums are analogous to annuities, how, then, are annual premiums purchased? Or, to state the proposition directly, in what way does the company return value received for the annual premiums it collects? Obviously, not by a cash sum to the insured upon the issue of the policy. Rather it pays for them *with the policy* which promises cash upon the happening of some future event and this future promise of money has a *present value* which can be expressed in money. This "present value" is comparable to the cash payment for annuities.

(3) A third and fundamental difference between annual premiums and annuities exists with reference to the time when they respectively begin. It will be remembered that the cost of an immediate life annuity is computed on the assumption that the first payment of annual income is received one year from the date of issue of the contract. But it is impossible to issue a life-insurance policy, allowing the premium to be paid on any such basis. The law of contracts requires the payment of a consideration as a necessary preliminary to the creation of the contract and the policy states that it is issued "in consideration of the payment of $——— and a like amount annually thereafter." Hence the first annual premium is always payable *when the policy is issued,* and not one year later, as is the case with annuities. The series of annual premiums is, therefore, equal to the usual annuity plus one payment made immediately. The distinction between the two is expressed by calling the annual premium a *life annuity due.* Life annuities due are not sold as annuity contracts and the

sole purpose of this term is to have a convenient expression to describe an annual premium in terms of an annuity. The problem stated on page 187 may now be restated in the following terms: The net annual level premium will be a life annuity due equivalent to the net single premium.

**Continuous and Limited Premiums.**— It was found in the discussion of life annuities on page 178 that the cost of a whole-life annuity based on the American Experience table provides for the payment of annuities in some cases as late as age 95, for according to the table there will be three of the assumed group alive at that age. Are we to assume therefore, since annual premiums are life annuities due, that they are *invariably* paid to age 95 if the insured lives to that age? Of course this is not the case. Annual premiums are never paid after the termination of a contract, whether it terminates by expiry or by maturity; and a large majority of insurance contracts are certain to be closed before the holder reaches age 95. The whole-life policy is the sole contract insuring against death which may continue until the insured is age 95. Term and endowment contracts usually do not extend beyond age 65 or 75 of the insured. Therefore the majority of annual premiums will be life annuities due, not for the whole of life but for a temporary period, the maximum length of which will be the maximum length of the insurance contract.

With respect to the period during which premiums are paid insurance policies are of two kinds: policies with continuous premiums payable throughout the life of the contract; and so-called *limited-payment policies,* where the premiums are limited to a term shorter than the maximum life of the contract. For instance, a whole-life policy with continuous premiums, technically known as an ordinary life policy, will require payment of premiums until the contract matures by death or until the insured reaches age 96, at which time the policy matures irrespective of death. A thirty-year endowment-insurance policy with continuous premiums will necessitate their payment for thirty years only or for a shorter time in case the contract matures by death in less than thirty years. But a policy such as the following is often sold — for example, a twenty-payment life or a twenty-payment thirty-year endowment insurance. A twenty-payment life policy will mature and its face value be paid only upon death or at age 96 but premiums will continue for a maximum of twenty years and fewer than twenty will be paid in case of death within this limit. In the two illustrations here cited annual premiums will be life annuities due, not for the term of the insurance contract, but limited in each case to twenty years. It is possible, therefore, in view of these facts again to modify the definition given for the net annual premium. The new statement will be: The net annual level premium is a life annuity due *for the premium-paying period* which is equivalent to the net single premium on the particular policy.

**Computation of the Net Annual Level Premium.**— 1. *Term Insurance.*— In computing net annual level premiums it is first necessary to ascertain the net single premium. This has been done in Chapters XIII and XIV for the more usual types of policies. The second step will be to define carefully the *premium-paying period* over which the annual premium is to be paid and for which the *life annuity due* is to be ascertained. Suppose it is desired, therefore, to compute the net annual level premium which will purchase a five-year term insurance of $1,000 at age 45, American Experience 3 per cent. basis. It was found on page 166 that the net single premium on this policy was $53.86. Beginning at date of issue the annual premium will be paid over a five-year period, or until prior death, and is therefore a five-year term annuity due.

Since the amount of the annual premium is the unknown quantity it will be impossible to proceed directly to the computation of its present value, but it is feasible to take any assumed premium, such as $1.00, and compute the present value of an annuity due for this amount. An annuity due of $1.00 on the policy in question will be equal to a term annuity for four years plus $1.00 paid immediately and its present value is computed in the following manner:

$$
\begin{aligned}
\$1 \text{ due immediately} &= \$1.000000\\
\frac{73{,}345}{74{,}173}\times 1\times .970874 &= \phantom{\$}.960036\\
\frac{72{,}497}{74{,}173}\times 1\times .942596 &= \phantom{\$}.921297\\
\frac{71{,}627}{74{,}173}\times 1\times .915142 &= \phantom{\$}.883811\\
\frac{70{,}731}{74{,}173}\times 1\times .888487 &= \phantom{\$}.847256\\
\text{Present value} &= \$4.612400
\end{aligned}
$$

The present value of a five-year term annuity due of \$1.00 at age 45 is, therefore, equal to \$4.6124 and the annuity due, or annual premium, of \$1.00 for this period will purchase any policy the present value, or net single premium, of which is equal to \$4.6124. But the net single premium on the policy in question was found to be \$53.86. If now the present value of the \$1.00 annuity due be divided into the net single premium on this policy the resultant factor will show how many times the annual premium of \$1.00 must be taken to obtain an annual premium the present value of which will equal the net single premium, or \$53.86. Stated in other words, the annual premium desired is as many times \$1.00 as the net single premium on the policy is times the present value of a \$1.00 annuity due for the premium-paying period. From this analysis it is possible to state a general rule for ascertaining the net annual level premium on any policy as follows: Divide the net single premium by the present value of a life annuity due of \$1.00 for the premium-paying period. Performing this computation, it is found that the net annual level premium on a five-year term insurance of \$1,000 issued at age 45 is \$11.68, thus:

$$\frac{53.8600}{4.6124} = \$11.68$$

2. *Ordinary life insurance.*— The net single premium for a whole-life policy of \$1,000 issued at age 45 is \$504.59 according to the figures on page 169. To find the net annual level premium this sum must be divided by the present value of a life annuity due for the whole of life, since premiums

are paid continuously through the life of this policy. The method of ascertaining the present value of the life annuity due of $1.00 follows herewith:

$$\begin{aligned}
&\$1 \text{ due immediately} = && 1.00000000\\
&\frac{73{,}345}{74{,}173}\times 1\times .970874 = && .96003604\\
&\frac{72{,}497}{74{,}173}\times 1\times .942596 = && .92129727\\
&\frac{71{,}627}{74{,}173}\times 1\times .915142 = && .88372961\\
&\frac{70{,}731}{74{,}173}\times 1\times .888487 = && .84725674\\
&\frac{69{,}804}{74{,}173}\times 1\times .862609 = && .81179888\\
&\frac{68{,}842}{74{,}173}\times 1\times .837484 = && .77729192\\
&\frac{67{,}841}{74{,}173}\times 1\times .813092 = && .74367997\\
&\frac{66{,}797}{74{,}173}\times 1\times .789409 = && .71090765\\
&\frac{65{,}706}{74{,}173}\times 1\times .766417 = && .67892893\\
&\frac{64{,}563}{74{,}173}\times 1\times .744094 = && .64768771\\
&\frac{63{,}364}{74{,}173}\times 1\times .722421 = && .61714484\\
&\frac{62{,}104}{74{,}173}\times 1\times .701380 = && .58725552\\
&\frac{60{,}779}{74{,}173}\times 1\times .680951 = && .55798634\\
&\frac{59{,}385}{74{,}173}\times 1\times .661118 = && .52930975\\
&\frac{57{,}917}{74{,}173}\times 1\times .641862 = && .50118940\\
&\frac{56{,}371}{74{,}173}\times 1\times .623167 = && .47360288\\
&\frac{54{,}743}{74{,}173}\times 1\times .605016 = && .44652894\\
&\frac{53{,}030}{74{,}173}\times 1\times .587395 = && .41995816\\
&\frac{51{,}230}{74{,}173}\times 1\times .570286 = && .39388661
\end{aligned}$$

$$\frac{49{,}341}{74{,}173}\times 1\times .553676= \quad .36831364$$

$$\frac{47{,}361}{74{,}173}\times 1\times .537549= \quad .34323619$$

$$\frac{45{,}291}{74{,}173}\times 1\times .521893= \quad .31867466$$

$$\frac{43{,}133}{74{,}173}\times 1\times .506692= \quad .29465097$$

$$\frac{40{,}890}{74{,}173}\times 1\times .491934= \quad .27119277$$

$$\frac{38{,}569}{74{,}173}\times 1\times .477606= \quad .24834894$$

$$\frac{36{,}178}{74{,}173}\times 1\times .463695= \quad .22616798$$

$$\frac{33{,}730}{74{,}173}\times 1\times .450189= \quad .20472240$$

$$\frac{31{,}243}{74{,}173}\times 1\times .437077= \quad .18410468$$

$$\frac{28{,}738}{74{,}173}\times 1\times .424346= \quad .16441098$$

$$\frac{26{,}237}{74{,}173}\times 1\times .411987= \quad .14573097$$

$$\frac{23{,}761}{74{,}173}\times 1\times .399987= \quad .12813411$$

$$\frac{21{,}330}{74{,}173}\times 1\times .388337= \quad .11167444$$

$$\frac{18{,}961}{74{,}173}\times 1\times .377026= \quad .09637995$$

$$\frac{16{,}670}{74{,}173}\times 1\times .366045= \quad .08226673$$

$$\frac{14{,}474}{74{,}173}\times 1\times .355383= \quad .06934887$$

$$\frac{12{,}383}{74{,}173}\times 1\times .345032= \quad .05760224$$

$$\frac{10{,}419}{74{,}173}\times 1\times .334983= \quad .04705469$$

$$\frac{8{,}603}{74{,}173}\times 1\times .325226= \quad .03772153$$

$$\frac{6{,}955}{74{,}173}\times 1\times .315754= \quad .02960739$$

$$\frac{5{,}485}{74{,}173}\times 1\times .306557= \quad .02266950$$

$$\frac{4,193}{74,173}\times 1\times .297628= \quad .01682491$$

$$\frac{3,079}{74,173}\times 1\times .288959= \quad .01199499$$

$$\frac{2,146}{74,173}\times 1\times .280543= \quad .00811677$$

$$\frac{1,402}{74,173}\times 1\times .272372= \quad .00514831$$

$$\frac{847}{74,173}\times 1\times .264439= \quad .00301969$$

$$\frac{462}{74,173}\times 1\times .256737= \quad .00159913$$

$$\frac{216}{74,173}\times 1\times .249259= \quad .00072587$$

$$\frac{79}{74,173}\times 1\times .241999= \quad .00025775$$

$$\frac{21}{74,173}\times 1\times .234950= \quad .00006652$$

$$\frac{3}{74,173}\times 1\times .228107= \quad .00000923$$

Present value=$17.00925376.

If, therefore, $17.0093 is the present value of a life annuity due of $1.00, it is possible for an annual premium of $1.00 paid continuously throughout life to purchase any whole-life policy the present value, or net single premium of which is $17.0093; and the net annual level premium necessary to purchase a life policy for $1,000 will be found, according to our formula, by dividing this sum into $504.59, the net single premium, as shown herewith:

$\frac{504.5900}{17.0093}=$ $29.67 net annual level premium.

The net annual level premium for an ordinary life policy of $1,000 issued at age 45, American Experience, 3 per cent. basis, is therefore $29.67.

3. *Limited-payment life policy.*— If it is desired to pay for the above whole-life policy in twenty annual payments instead of allowing them to continue throughout life, it is required to compute the annual premium, which, continued for twenty years, or ceasing upon prior death, will purchase this

policy. In accordance with our formula the annual premium in this case will be found by dividing into the net single premium the present value of a temporary life annuity due for a term of twenty years following age 45. If from the life annuity due computed on page 192 heretofore, the sum of the first twenty terms be taken, this amount will equal the present value of a twenty-year term annuity due. This is found to be \$13.5095. The net annual premium therefore for a twenty-payment life policy at age 45 is $\frac{504.59}{13.5095}$ or \$37.35.

4. *Deferred annuity.*— Deferred annuities are ordinarily paid for by means of annual rather than single premiums, and the premium may continue through the entire period of deferment or, as in the case of the whole-life policy above, may be limited to a stated number of years. As with premiums on insurances, the annual premium on these contracts is paid only during survival. If, therefore, the deferred annuity issued at age 40 begins the payment of an annual income of \$100 at age 70 if living, and if the net single preminum for it is \$155.947[1] as determined on page 182, the continuous annual premium on this policy may be paid until one year prior to the beginning of the annuity, or until the holder of the contract is aged 69. In this case the annual premium becomes a temporary annuity due for a term of thirty years, ages 40 to 69 inclusive. The amount of this net annual premium will be found therefore by dividing the net single premium by the present value of an annuity due of \$1.00 computed for the term stated. This annuity value is computed as follows:

$$\$1.00 \text{ due immediately}=\$1.000000$$

$$\frac{77,341}{78,106}\times 1\times .970874= \quad .96136489$$

$$\frac{76,567}{78,106}\times 1\times .942596= \quad .92402309$$

$$\frac{75,782}{78,106}\times 1\times .915142= \quad .88791246$$

[1] The result obtained on page 184 was \$155.936. The difference of approximately one cent is due to the failure to carry decimals sufficiently far in the two separate methods of ascertaining this result.

$$\frac{74{,}985}{78{,}106}\times 1\times .888487= \quad .85298438$$

$$\frac{74{,}173}{78{,}106}\times 1\times .862609= \quad .81917263$$

$$\frac{73{,}345}{78{,}106}\times 1\times .837484= \quad .78643464$$

$$\frac{72{,}497}{78{,}106}\times 1\times .789409= \quad .72392644$$

$$\frac{70{,}731}{78{,}106}\times 1\times .766417= \quad .69404963$$

$$\frac{69{,}804}{78{,}106}\times 1\times .744094= \quad .66500317$$

$$\frac{68{,}842}{78{,}106}\times 1\times .722421= \quad .63673606$$

$$\frac{67{,}841}{78{,}106}\times 1\times .701380= \quad .60920186$$

$$\frac{66{,}797}{78{,}106}\times 1\times .680951= \quad .58235582$$

$$\frac{65{,}706}{78{,}106}\times 1\times .661118= \quad .55615982$$

$$\frac{64{,}563}{78{,}106}\times 1\times .641862= \quad .53056788$$

$$\frac{63{,}364}{78{,}106}\times 1\times .623167= \quad .50554828$$

$$\frac{62{,}104}{78{,}106}\times 1\times .605016= \quad .48106309$$

$$\frac{60{,}779}{78{,}106}\times 1\times .587395= \quad .45708756$$

$$\frac{59{,}385}{78{,}106}\times 1\times .570286= \quad .43359581$$

$$\frac{57{,}917}{78{,}106}\times 1\times .553676= \quad .41056068$$

$$\frac{56{,}371}{78{,}106}\times 1\times .537549= \quad .38796219$$

$$\frac{54{,}743}{78{,}106}\times 1\times .521893= \quad .36578481$$

$$\frac{53{,}030}{78{,}106}\times 1\times .506692= \quad .34401809$$

$$\frac{51{,}230}{78{,}106}\times 1\times .491934= \quad .32266124$$

$$\frac{49{,}341}{78{,}106}\times 1\times .477606= \quad .30171251$$

$$\frac{47{,}361}{78{,}106}\times 1\times .463695= \quad .28116993$$

$$\frac{45{,}291}{78{,}106}\times 1\times .450189= \quad .26104922$$

$$\frac{43{,}133}{78{,}106}\times 1\times .437077= \quad .24136996$$

$$\frac{40{,}890}{78{,}106}\times 1\times .424346= \quad .22215333$$

Present value=$17.00033116.

The result obtained represents the present value of an annual premium of $1.00 paid over the same term as the premiums on the deferred annuity and this figure divided into the net single premium for the deferred annuity will give a net annual level premium of $9.173 +, as follows:

$$\frac{155.947}{17.0003}=9.173+$$

The annual level premiums computed to this point should afford a sufficiently clear analysis of the subject of the level premium. The principles thus developed can be applied in ascertaining annual premiums on all policies involving risks on a single life. There remain still to be considered two special instances of the periodic premium, or two modifications of the annual premium, namely, premiums paid at intervals of less than one year, and premiums on policies which promise in the event of certain contingencies to return to the purchaser the premiums paid in without interest.

**Premiums Paid at Intervals of Less than One Year.**— By an extension of the principles laid down heretofore in computing single and annual premiums, it would now be possible to ascertain weekly, monthly, quarterly, and semi-annual premiums. It would be necessary to make the time unit the proper fractional part of a year instead of one year. The difficulty with this method lies in the fact that none of the mortality tables in existence are graded for periods of less than one year. To illustrate, it is impossible to determine from any of the tables in use the probability that a man arriving at age 25 will die within one week, one month, or six months. We can only say that the chance that he will die *within one* *year* equals $\frac{718}{89032}$. Because of this fact the true weekly, monthly, or quarterly premium cannot be ascertained, and some method of approximation to the correct result must be used. The usual method is to make a percentage addition to the annual premium, more or less arbitrary in amount, and then divide this result into the requisite number of parts. By this plan the premium is looked upon as an annual premium paid in installments. That is, at the beginning of any policy year the entire premium for the policy is considered to be due and payable, but the insured is given the privilege of paying it in installments; then if the contract should mature by death before the total installments for the year are paid, those remaining still due will be deducted from the matured value of the policy and the balance only will be paid to the policyholder. Thus, a policy for $1,000, being paid for by quarterly premiums of $10.00, might mature by death shortly after the payment of the first $10.00 installment of the year's premium. The beneficiary under the policy would, therefore, be required to pay the three remaining installments of $10.00 each before receiving the proceeds of the policy, or this would be equivalent to the settlement of the claim in force by the payment to the beneficiary of $970.00.

The percentage added to the annual premium to obtain the semi-annual premium varies with different companies. Some add 2 per cent., some 2½ per cent., 3 per cent. or even 4 per cent. Thus one company quotes a gross annual [2] premium on an ordinary life policy, age 45, of $37.08. Adding 2 per cent. of this amount, or $.74, gives $37.82, and this result divided by two equals $18.91, the semi-annual premium quoted in this company's rate book. Another company quotes an annual premium of $37.57 for the same policy and a semi-annual premium of $19.54. This latter figure is obtained by

[2] It will be noted that the premiums here quoted are *gross* or office premiums. The methods of loading for expenses to obtain the gross premium are taken up in Chapter xvii, but these methods in no way affect the problem here discussed and therefore a knowledge of them is not necessary to an analysis of the principle here involved.

adding 4 per cent. and dividing by two. The same method is used likewise on twenty-payment life policies. At age 45, the annual premiums of the two companies referred to are respectively $45.73 and $45.30. If 2 per cent. be added to the first and 4 per cent. to the latter and these results be divided by two, the amounts obtained for the semi-annual premium will be respectively $23.32 and $23.56. These are the quotations found in the rate books.

The same method is used in computing quarterly, bi-monthly, or monthly rates, of course varying the percentage added in each case. The rate books do not ordinarily quote bi-monthly or monthly rates. From 4 to 6 per cent. is usually added to the annual premium and this result divided by four to obtain the quarterly premium. Thus to the annual rate of $37.08 quoted above for an ordinary life policy is added 4 per cent., or $1.48, making a total of $38.56 and this sum divided by four gives $9.64, the quoted rate for quarterly payments.

The increase in the rate on premiums paid more frequently than annually is justified on three grounds: (1) the greater expense of collection, where collection must be made two, four, or more times yearly instead of only once; (2) the loss of interest, due to the assumption made in computing annual premiums that the premium is paid in at the beginning of the year and draws interest until paid out at the end of the year. On the basis of a 3 per cent. interest assumption in computing premiums the interest lost in case of semi-annual premiums will be 3 per cent. on one-half of the annual premium for a period of six months. (3) Some of the companies justify this increased rate because of the greater tendency to lapse policies where premiums are paid twice or four times yearly instead of only once. The temptation to lapse comes twice or four times a year likewise, and thus results in a greater lapse ratio among these policyholders than in the case of those who pay annually.

**Return-Premium Policies.**— Policies sometimes will include a provision whereby on the occurrence of certain specified contingencies the premiums paid in will be returned to the payer. This privilege is usually added to policies to balance some objectionable feature in the contract that militates against its ready sale. For instance, much objection is found to the pure-endowment policy because of the possibility of losing one's entire investment in case of death before the maturity of the endowment. By means of this new feature the company can say: "We will give you your endowment in case you outlive the period and if you are willing to pay a slightly larger premium we can promise that in case of your death before the endowment period is completed, all the premiums paid in will be returned to your estate or to any specified beneficiary." These policies sometimes promise the return of the exact premium paid and sometimes a specified amount slightly less than the premium. For instance, if a certain pure endowment costs $50 per year, the company might promise a return of $40 for every premium paid to date of death. Suppose now a company issues a ten-year pure endowment for $1,000 to a person aged 45. It was found on page 170 that the net single premium for this policy is $647.69. The net annual premium for the same policy will be found by dividing the above sum by the present value of a temporary life annuity due of $1.00 limited to a term of ten years, beginning at age 45, and this latter value can be found by adding the first ten terms of the whole-life annuity due as computed on page 192. This value is $8.33492701. If, therefore, the following computation is made, neglecting unimportant decimals,

$$\frac{647.69}{8.3349} = 77.71,$$

it is found that the net annual level premium for the ten-year pure endowment is $77.71. Suppose furthermore that the company promises in event of the death of the policyholder before the ten-year period has elapsed to return to his estate $70 for every premium paid. It is desired to find the extra premium that must be paid to obtain this benefit. The benefit consists in the return of a single $70 if the insured should die during the first year after the contract is issued; if he should die during the second year he gets twice $70; in the third year three times $70 and so on, his death between the payment of his tenth premium and the time when the endowment would have matured entitling his estate to a return of ten times $70 or $700. The chances that any of these payments will be made therefore consist in the separate chances or probabilities that he will die the first year, the second year or the tenth year. It is equivalent to the addition to the pure endowment of an increasing insurance of $70, i.e. an insurance of $70 the first year, $140 the second year, etc. The method of computing the cost of this increasing insurance is, therefore, as follows: The net single premium for an increasing insurance of $70, American Experience 3 per cent., age 45:

$$
\begin{array}{lr}
\frac{828}{74,173}\times 1\times 70\times .970874= & \$\ .7586569 \\
\frac{848}{74,173}\times 2\times 70\times .942596= & 1.5087026 \\
\frac{870}{74,173}\times 3\times 70\times .915142= & 2.2541416 \\
\frac{896}{74,173}\times 4\times 70\times .888487= & 3.0051854 \\
\frac{927}{74,173}\times 5\times 70\times .862609= & 3.7732529 \\
\frac{962}{74,173}\times 6\times 70\times .837484= & 4.5619974 \\
\frac{1,001}{74,173}\times 7\times 70\times .813092= & 5.3768015 \\
\frac{1,044}{74,173}\times 8\times 70\times .789409= & 6.2222113 \\
\frac{1,091}{74,173}\times 9\times 70\times .766417= & 7.1020640 \\
\frac{1,143}{74,173}\times 10\times 70\times .744094= & 8.0265003 \\
\hline
 & \$42.5895139
\end{array}
$$

The net single premium for the return-premium feature, namely, $42.59, will be divided by $8.3349 to ascertain the net annual level premium, as follows:

$$\frac{42.59}{8.3349}=\$5.1097$$

This result, $5.11, is therefore the amount to be added to the net annual level premium for the pure endowment, or \$77.71, giving \$82.82 as the net premium for the pure endowment with the return premium feature included.

It would be possible now to compute the net annual premium which would return the total or gross premium paid by the insured instead of some arbitrary sum, as was used above, but this would involve processes more complicated than it is desired here to discuss. The principles here developed are applicable to any kind of policy, but the return-premium feature is ordinarily added to policies only in cases where it may be balanced against some seemingly objectionable characteristic whereby the insured apparently loses. Thus any policy containing the pure-endowment provision and not having a corresponding insurance element offers a good opportunity for the return-premium privilege. Policies involving survivorship likewise make use of it. Cases in point are the deferred annuity and the reversionary annuity.

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# CHAPTER XVI

## THE RESERVE

By

BRUCE D. MUDGETT

One of the most difficult subjects for the layman to understand in connection with the administration of a life-insurance company is the existence of the enormous assets possessed by the different companies and the reasons why these funds must be held. That a single company should hold over half a billion dollars strikes many persons as unnecessary and as an opening to the possible misuse of such funds. The fact is not generally known, or clearly understood, that a major portion of these assets represents liabilities held by the company for its policyholders and subject to call by them at any time upon the surrender of their policies. This portion of the funds is held in trust by the company and is known as the reserve.

**Financial Importance of the Reserve.**— The *Insurance Year Book* for 1922 shows that 288 companies doing business in the United States in 1921 held on December 31 of that year total admitted assets amounting to $7,936,496,844 and of this sum $6,203,378,729, or nearly 80 per cent., was held as reserve. A comparison of the total admitted assets and the reserves of five of the largest life-insurance companies in the United States is also furnished in the following table:

| | ADMITTED ASSETS DEC. 31, 1921 | RESERVES DEC. 31, 1921 | PER CENT. OF RESERVE TO ADMITTED ASSETS |
|---|---|---|---|
| New York Life....... | $ 952,632,139 | $ 787,157,463 | 82 |
| Mutual Life.......... | 677,505,499 | 569,330,333 | 84 |
| Equitable of New York. | 655,301,018 | 530,140,853 | 83 |
| Metropolitan Life..... | 1,115,583,024 | 1,027,519,515 | 92 |
| Northwestern Mutual.. | 507,085,694 | 445,192,157 | 88 |

These figures likewise show that 80 to 90 per cent. of the total funds held by these companies is included in the reserve. The possession of these vast resources justifies a careful analysis of the sources and purposes of the reserve.

**The Origin of the Reserve.**— The life-insurance reserve arises as a result of the method of paying premiums. In the three chapters immediately preceding, an analysis of net or mortality premiums has been undertaken and the statement is there made that life-insurance policies may be purchased by a single cash payment or by annual premiums paid during life. The fact was demonstrated furthermore that mortality rates increase with increasing age and that the annual cost of insurance therefore augments rapidly with advancing age. This results in the creation of a surplus from the annual level premiums paid in the early policy years when mortality costs are low, and this surplus is available in the later years of high mortality when premiums are inadequate. The purpose of this fund is to average the varying yearly costs so that the burden of insurance premiums can be carried at all times. These level premiums thus bring into the possession of the company, funds which are not used immediately to pay policy claims but which must be accounted for by the company and placed to the credit of the policyholder until needed at some future date. In like manner when a policy is purchased by a single premium this premium becomes the total contribution of the insured toward claims paid under contracts of this class, and in the early years of the policy contract a large share of this single premium must still be in the possession of the company.

**Definition and Purpose of the Reserve.**—In Chapters XIII to XV, premium rates were computed on the assumptions that a specified rate of interest would be earned on funds in the possession of the company and that the mortality experienced among policyholders would be at the rate shown in the American Experience table. If these assumptions are realized in practice the premiums will be adequate. From the standpoint of premiums there are two ways of viewing the reserve. It may be considered as the difference between the premiums collected in the past and the policy claims paid — that is, the surplus premiums on hand at any given time; or it may be looked upon as that fund which together with future premiums to be collected, if any, will enable the company to pay future estimated claims. The former is called the unearned premium reserve, or the reserve is said to be valued retrospectively, that is, looking backward to past accumulations; the latter is the reinsurance reserve, or the reserve is valued prospectively — looking forward to future requirements. The word "reserve," however, has come to have a technical meaning in life insurance, due to the fact that most of the states have passed laws requiring some definite method of valuing this fund, and when the term is now used this technical or legal reserve is ordinarily meant.

The legal reserve required by state laws to be held is invariably the prospective reserve, or the fund which with future premiums, if any, based on assumed rates of interest and mortality will pay estimated future claims. If the actual experience of a company as regards interest and mortality exactly coincides with the expected or assumed experience the reserve fund will always be the same whether valued as unearned premium or as a reinsurance fund, but such coincidences do not occur in practice. If premiums are redundant the unearned premiums will be greater than the legal reserve; if they are inadequate the surplus left from them after payment of claims accrued will be less than the legal requirement.

That the legal reserve shall be determined on the basis of future requirements is necessary because of the fact that the life-insurance contract is written for a long term and cannot be cancelled by the company and the premium rates can never be changed. Therefore, the assumptions as to future interest earnings and mortality must be made on a safe basis, and the reserve must be valued with one object in mind, viz, the continued solvency of the company. The state, in establishing a method of valuing life-insurance contracts, sets certain standards of interest and mortality that can safely be realized and then says, in effect, that any company is solvent if on the basis of estimates made with these standards its future premiums plus its reserve fund will enable it to pay all claims. The standards set by state law in most instances are a 3½ per cent. interest rate and mortality according to the American Experience table. This fixes the minimum reserve required, but a company may usually value its liabilities by a higher standard if it so chooses. Many companies to-day value their reserves on new policies on a 3 per cent. interest basis and thus hold a larger reserve than required by law. The solvency of a company is thus guaranteed if the assumptions made are adequate, and years of experience with insurance under American conditions have shown that they are.

**Method of Calculating the Reserve.**— Inasmuch as the legal reserve looks to future requirements, and is based on the assumption that a certain interest rate will be earned and must provide for mortality equal to that of the American Experience table, these factors must form the basis for calculating reserves on any policy. Likewise since insurance may be purchased by a single or by an annual level premium, reserves will differ according to the method of paying premiums, for in the latter case credit may be taken for premiums still due. Suppose therefore it is desired to calculate the reserves on a whole-life policy for $1,000 issued at age 45, based on the American Experience table and 3 per cent. interest and paid for by a single premium. The net single premium for this policy was found in Chapter XIII to be $504.58493. The simplest method of showing the operation of the reserve on this policy will be to make the assumption that a company insures a group of 74,173 persons, the number living at age 45 according to the mortality table, and trace the disposition of the entire fund contributed by them, showing how the total fund paid at the start is increased year by year through interest accretions and decreased at the same time by payment of death losses occurring within the group.

According to the table, therefore, 74,173 persons will insure at age 45 and each will pay to the company $504.58493, giving the company a fund of $37,426,578.013 at the beginning of the first year of insurance. This sum is paid at the beginning of the year and, since death claims are assumed to be paid at the end of the year, will earn interest for one year before any claims for death payments will be made upon it. Three per cent. of the above sum is $1,122,797.340 and this added to the original sum gives a fund of $38,549,375.343 at the close of the year. Death claims for $828,000 are now due and when paid leave a net surplus of $37,721,375.34. This latter sum represents the funds belonging to policyholders still living from among the original group, or 73,345, and if the insurance were cancelled at this time and the share of each returned to him there would be available $514.30 for each policyholder. In continuing the insurance, however, this $37,721,375.343 again earns interest and the process here described is repeated for the second year. The accompanying table, showing the net reserves on a single premium policy at age 45, traces the operation of the fund for the group until at age 96 they will all have died according to the mortality table, and in the last column shows the reserve standing to the credit of the individual policyholder for each of the fifty-one years of insurance. The table shows the total sum on hand at the beginning of each year of insurance, the amount of interest earned during the year, the total of these two amounts, the death claims paid during the year and the reserve fund remaining at the close of the year for the group as a whole and the pro-rata share belonging to each survivor. Since this policy is paid for by a single premium, this individual reserve constitutes the total sum available per policyholder for the payment of future claims and therefore must equal the net single premium at each age later than forty-five for a whole-life policy at that age. If these figures are correct the terminal reserve at age 94 (i.e. the reserve at the end of the year) will be the net single premium at age 95 and this sum increased at 3 per cent. interest for one year will just equal the amount payable at the close of age 95, for the mortality table shows that the last person of the group insured will certainly

TABLE 1 *

*American Experience 3 Per Cent. Reserves. Whole Life. Age:* 45.
$1,000 *Insurance. Net Single Premium:* $504.58493

| (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) |
|---|---|---|---|---|---|---|---|---|---|
| Year of Insurance | Age Attained at Beginning of Insurance Year | Tabular Number Living at Beginning of Year. Equals Number Insured | Sum on Hand at Beginning of Year. For Original Group and for Survivors at Each Year Following | Three Per Cent. Interest for One Year on Sum in Column (4) | Sum of Principal and Interest 4 + 5 | Death Claims by Mortality Table Due at End of Year Deduct | Remainder: Amount on Hand at End of Year After Payment of Death Claims. [Equals Aggregate Reserve] | Age Attained at End of Year | Amount Held for Each Survivor at End of Year. [(8) ÷ by Number Surviving at Beginning of Following Year. (3)] Individual Reserve per $1,000 Insurance |
| 1 | 45 | 74,173 | $37,426,578.013 | $1,122,797.340 | $38,549,375.343 | $ 828,000 | $37,721,375.343 | 46 | $514.300 |
| 2 | 46 | 73,345 | 37,721,375.343 | 1,131,641.260 | 38,853,016.603 | 848,000 | 38,005,016.603 | 47 | 524.228 |
| 3 | 47 | 72,497 | 38,005,016.603 | 1,140,150.498 | 39,145,167.101 | 870,000 | 38,275,167.101 | 48 | 534.368 |
| 4 | 48 | 71,627 | 38,275,167.101 | 1,148,255.013 | 39,423,422.114 | 896,000 | 38,527,422.114 | 49 | 544.703 |
| 5 | 49 | 70,731 | 38,527,422.114 | 1,155,822.663 | 39,683,244.777 | 927,000 | 38,756,244.777 | 50 | 555.215 |
| 6 | 50 | 69,804 | 38,756,244.777 | 1,162,687.343 | 39,918,932.120 | 962,000 | 38,956,932.120 | 51 | 565.889 |
| 7 | 51 | 68,842 | 38,956,932.120 | 1,168,707.964 | 40,125,640.084 | 1,001,000 | 39,124,640.084 | 52 | 576.711 |
| 8 | 52 | 67,841 | 39,124,640.084 | 1,173,739.203 | 40,298,379.287 | 1,044,000 | 39,254,379.287 | 53 | 587.667 |
| 9 | 53 | 66,797 | 39,254,379.287 | 1,177,631.379 | 40,432,010.666 | 1,091,000 | 39,341,010.666 | 54 | 598.743 |
| 10 | 54 | 65,706 | 39,341,010.666 | 1,180,230.320 | 40,521,240.986 | 1,143,000 | 39,378,240.986 | 55 | 609.919 |
| 11 | 55 | 64,563 | 39,378,240.986 | 1,181,347.230 | 40,559,588.216 | 1,199,000 | 39,360,588.216 | 56 | 621.182 |
| 12 | 56 | 63,364 | 39,360,588.216 | 1,180,817.646 | 40,541,405.862 | 1,260,000 | 39,281,405.862 | 57 | 632.510 |
| 13 | 57 | 62,104 | 39,281,405.862 | 1,178,442.176 | 40,459,847.938 | 1,325,000 | 39,134,847.938 | 58 | 643.888 |
| 14 | 58 | 60,779 | 39,134,847.938 | 1,174,045.438 | 40,308,893.376 | 1,394,000 | 38,914,893.376 | 59 | 655.298 |
| 15 | 59 | 59,385 | 38,914,893.376 | 1,167,446.801 | 40,082,340.177 | 1,468,000 | 38,614,340.177 | 60 | 666.719 |
| 16 | 60 | 57,917 | 38,614,340.177 | 1,158,430.205 | 39,772,770.382 | 1,546,000 | 38,226,770.382 | 61 | 678.128 |
| 17 | 61 | 56,371 | 38,226,770.382 | 1,146,803.111 | 39,373,573.493 | 1,628,000 | 37,745,573.493 | 62 | 689.505 |
| 18 | 62 | 54,743 | 37,745,573.493 | 1,132,367.205 | 38,877,940.698 | 1,713,000 | 37,164,940.698 | 63 | 700.829 |
| 19 | 63 | 53,030 | 37,164,940.698 | 1,114,948.221 | 38,279,888.919 | 1,800,000 | 36,479,888.919 | 64 | 712.081 |
| 20 | 64 | 51,230 | 36,479,888.919 | 1,094,396.668 | 37,574,285.587 | 1,889,000 | 35 685,285.587 | 65 | 723.238 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 21 | 65 | 49,341 | 35,685,285.587 | 1,070,558.568 | 36,755,844.155 | 1,980,000 | 34,775,844.155 | 66 | 734.272 |
| 22 | 66 | 47,361 | 34,775,844.155 | 1,043,275.325 | 35,819,119.480 | 2,070,000 | 33,749,119.480 | 67 | 745.162 |
| 23 | 67 | 45,291 | 33,749,119.480 | 1,012,473.584 | 34,761,593.064 | 2,158,000 | 32,603,593.064 | 68 | 755.885 |
| 24 | 68 | 43,133 | 32,603,593.064 | 978,107.792 | 33,581,700.856 | 2,243,000 | 31,338,700.856 | 69 | 766.415 |
| 25 | 69 | 40,890 | 31,338,700.856 | 940,161.026 | 32,278,861.882 | 2,321,000 | 29,957,861.882 | 70 | 776.734 |
| 26 | 70 | 38,569 | 29,957,861.882 | 898,735.856 | 30,856,597.738 | 2,391,000 | 28,465,597.738 | 71 | 786.821 |
| 27 | 71 | 36,178 | 28,465,597.738 | 853,967.932 | 29,319,565.670 | 2,448,000 | 26,871,565.670 | 72 | 796.667 |
| 28 | 72 | 33,730 | 26,871,565.670 | 806,146.970 | 27,677,712.640 | 2,487,000 | 25,190,712.640 | 73 | 806.283 |
| 29 | 73 | 31,243 | 25,190,712.640 | 755,721.379 | 25,946,434.019 | 2,505,000 | 23,441,434.019 | 74 | 815.695 |
| 30 | 74 | 28,738 | 23,441,434.019 | 703,243.021 | 24,144,677.040 | 2,501,000 | 21,643,677.040 | 75 | 824.929 |
| 31 | 75 | 26,237 | 21,643,677.040 | 649,310.311 | 22,292,987.351 | 2,476,000 | 19,816,987.351 | 76 | 834.013 |
| 32 | 76 | 23,761 | 19,816,987.351 | 594,509.621 | 20,411,496.972 | 2,431,000 | 17,980,496.972 | 77 | 842.968 |
| 33 | 77 | 21,330 | 17,980,496.972 | 539,414.909 | 18,519,911.881 | 2,369,000 | 16,150,911.881 | 78 | 851.796 |
| 34 | 78 | 18,961 | 16,150,911.881 | 484,527.356 | 16,635,439.237 | 2,291,000 | 14,344,439.237 | 79 | 860.494 |
| 35 | 79 | 16,670 | 14,344,439.237 | 430,333.177 | 14,774,772.414 | 2,196,000 | 12,578,772.414 | 80 | 869.060 |
| 36 | 80 | 14,474 | 12,578,772.414 | 377,363.172 | 12,956,135.586 | 2,091,000 | 10,865,135.586 | 81 | 877.424 |
| 37 | 81 | 12,383 | 10,865,135.586 | 325,954.068 | 11,191,089.654 | 1,964,000 | 9,227,089.654 | 82 | 885.602 |
| 38 | 82 | 10,419 | 9,227,089.654 | 276,812.690 | 9,503,902.544 | 1,816,000 | 7,687,902.344 | 83 | 893.630 |
| 39 | 83 | 8,603 | 7,687,902.344 | 230,637.070 | 7,918,539.414 | 1,648,000 | 6,270,539.414 | 84 | 901.587 |
| 40 | 84 | 6,955 | 6,270,539.414 | 188,116.182 | 6,458,655.596 | 1,470,000 | 4,988,655.596 | 85 | 909.509 |
| 41 | 85 | 5,485 | 4,988,655.596 | 149,659.668 | 5,138,315.264 | 1,292,000 | 3,846,315.264 | 86 | 917.318 |
| 42 | 86 | 4,193 | 3,846,315.264 | 115,389.458 | 3,961,704.722 | 1,114,000 | 2,847,704.722 | 87 | 924.880 |
| 43 | 87 | 3,079 | 2,847,704.722 | 85,431.142 | 2,933,135.864 | 933,000 | 2,000,135.864 | 88 | 932.030 |
| 44 | 88 | 2,146 | 2,000,135.864 | 60,004.076 | 2,060,139.940 | 744,000 | 1,316,139.940 | 89 | 938.759 |
| 45 | 89 | 1,402 | 1,316,139.940 | 39,484.198 | 1,355,624.138 | 555,000 | 800,624.138 | 90 | 945.247 |
| 46 | 90 | 847 | 800,624.138 | 24,018.724 | 824,642.862 | 385,000 | 439,642.862 | 91 | 951.608 |
| 47 | 91 | 462 | 439,642.862 | 13,189.286 | 452,832.148 | 246,000 | 206,832.148 | 92 | 957.556 |
| 48 | 92 | 216 | 206,832.148 | 6,204.964 | 213,037.112 | 137,000 | 76,037.112 | 93 | 962.495 |
| 49 | 93 | 79 | 76,037.112 | 2,281.113 | 78,318.225 | 58,000 | 20,318.225 | 94 | 967.534 |
| 50 | 94 | 21 | 20,318.225 | 609.547 | 20,927.772 | 18,000 | 2,927.772 | 95 | 975.924 |
| 51 | 95 | 3 | 2,927.772 | 87.833 | 3,015.605 | 3,000 | +15.605 | | |

*The form of this table is adapted from a similar one used by Edward B. Fackler in his *Notes on Life Insurance*, chapter 4 of which gives an excellent exposition of net reserves for the beginner.

have died by this time. The fact that the fund payable for the last three deaths equals $3,015.61 (see column 6) or a surplus of $15.61 above the amount of the claims accruing is due to failure to carry results to a sufficient number of decimal places in the computations for earlier years. The true terminal reserve at age 94 is $970.87 instead of $975.92 as shown in the table. This slight inaccuracy in no way affects the principle involved and does not appear in the figures for the individual reserve until age 87, in which instance a discrepancy of one cent is found.

This table shows that the reserve at the close of each year of insurance is adequate for the payment of all future claims against such a policy if the assumptions as to mortality and interest are realized. The company, therefore, which holds this reserve against a single-premium whole-life policy issued at age 45 is solvent. It is not necessary, of course, to insure 74,173 persons under this identical policy to guarantee the adequacy of this reserve. But if a sufficient number of persons are insured under all policies and at all different ages to insure the operation of the law of average, the reserves so determined will be adequate for any policy.

The above policy may be issued as an ordinary life policy, payable by annual level premiums of $29.665318. The table on page 212 shows the operation of the reserve under this policy in a manner similar to the case where the premium was paid in a single sum. The assumption is made, viz, that a group of 74,173 persons is insured at the moment they enter upon their forty-fifth year of age. The main difference between the two tables arises from the methods of paying premiums. Whereas the entire contributions of the policyholders are paid at the beginning in the first case, in the latter instance the first annual installment only is paid and the company therefore does not hold so large a fund. Tracing the method of the second table more in detail, it shows the total premiums paid in at the start, interest earned during the year, the total sum on hand at the end of the year, before deducting death claims, and after the latter have been paid, and finally the individual reserve or proportionate share of each survivor in the total reserve fund at the end of the year. In the second year the fund on hand, namely the total reserve fund at the close of the previous year, is increased by the premiums paid at the beginning of the second year. This fund is then increased by interest accruing during the year and reduced by death payments at the end of the year in the same manner as in the previous instance. This process is repeated for each year of insurance until according to the mortality table all will have died, and in the last year, with three persons to pay premiums, their payments plus the total reserve fund on hand from the previous year increased during the year by interest should at the close of age 95 just equal $3,000. Again the figures in the table miss the correct figure by a small amount, $19.73, due to the failure to carry the results to a sufficient number of decimal places.

Disregarding the slight inaccuracy as explained, the table shows the adequacy of the net annual premiums to pay death losses according to the American Experience table, providing the surplus from early premiums is preserved until needed in the later years. This surplus is represented by the figures in column 12 of the second table and is called the reserve.

A comparison of the individual reserves for single-premium and for annual-premium policies will show a great difference between them. For instance, at the close of the fifth insurance year in the illustrations used, when the insured will have reached age 50, the single-premium reserve is $555.22 while the annual premium reserve is but $102.20, a difference of $453.02. Likewise after thirty years the two reserves are respectively $824.93 and $646.62, differing by $178.31. A simple test of the accuracy of the annual-premium reserve is possible from these figures. It was found on page 210 that a company is solvent and can pay future claims if it holds the single-premium reserve. The annual-premium reserve therefore being much smaller does not in itself assure solvency. But in the latter case the company will receive regular yearly premiums in the future and it is proper to take credit for these

## TABLE II *

*American Experience 3 Per Cent. Reserves. Ordinary Life. Age:* 45.
$1,000 *Insurance. Net Annual Level Premium:* $29.665318

| (1)<br>Year of Insurance | (2)<br>Age Attained at Beginning of Insurance Year | (3)<br>Tabular Number Living at Beginning of Year. Equals Number Insured | (4)<br>Sum on Hand at End of Previous Year. Equals Aggregate Reserve. [See (10)]. | (5)<br>Annual Premiums Paid at the Beginning of the Year (3) x $29.665318 | (6)<br>Total Sum on hand at Beginning of Year | (7)<br>Three per cent. Interest for One Year on Sum in Column (6) | (8)<br>Sum of Principal and Interest (6)+(7) | (9)<br>Death Claims by Mortality Table Due at end of Year. (Deduct) | (10)<br>Remainder: Amount on hand at end of Year After Payment of Death Claims [Equals Aggregate Reserve] | (11)<br>Divide by Tabular Number Living at end of Year. Namely: | (12)<br>Result: Amount held for each Survivor at end of Year. Individual Reserve Per $1,000 Insurance |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 45 | 74,173 | $—— | $2,200,365.632014 | $2,200,365.632014 | $ 66,010.968960 | $2,266,376.600974 | $ 828,000 | $1,438,376.600974 | 73,345 | $ 19.6111 |
| 2 | 46 | 73,345 | 1,438,376.600974 | 2,175,802.748710 | 3,614,179.349684 | 108,425.380491 | 3,722,604.730175 | 848,000 | 2,874,604.730175 | 72,497 | 39.6513 |
| 3 | 47 | 72,497 | 2,874,604.730175 | 2,150,646.559046 | 5,025,251.289221 | 150,757.538677 | 5,176,008.827898 | 870,000 | 4,306,008.827898 | 71,627 | 60.1171 |
| 4 | 48 | 71,627 | 4,306,008.827898 | 2,124,837.732386 | 6,430,846.560284 | 192,925.396809 | 6,623,771.957093 | 896,000 | 5,727,771.957093 | 70,731 | 80.9796 |
| 5 | 49 | 70,731 | 5,727,771.957093 | 2,098,257.607458 | 7,826,029.564551 | 234,780.886937 | 8,060,810.451488 | 927,000 | 7,133,810.451488 | 69,804 | 102.1977 |
| 6 | 50 | 69,804 | 7,133,810.451488 | 2,070,757.857672 | 9,204,568.309160 | 276,137.049275 | 9,480,705.358435 | 962,000 | 8,518,705.358435 | 68,842 | 123.7428 |
| 7 | 51 | 68,842 | 8,518,705.358435 | 2,042,219.821756 | 10,560,925.180191 | 316,827.755406 | 10,877,752.935597 | 1,001,000 | 9,876,752.935597 | 67,841 | 145.5867 |
| 8 | 52 | 67,841 | 9,876,752.935597 | 2,012,524.838438 | 11,889,277.774035 | 356,678.333221 | 12,245,956.107256 | 1,044,000 | 11,201 956.107256 | 66,797 | 167.7014 |
| 9 | 53 | 66,797 | 11,201,956.107256 | 1,981,554.246446 | 13,183,510.353702 | 395,505.310611 | 13,579,015.664313 | 1,091,000 | 12,488.015.664313 | 65,706 | 190.0589 |
| 10 | 54 | 65,706 | 12,488,015.664313 | 1,949,189.384508 | 14,437,205.048821 | 433,116.151465 | 14,870,321.200286 | 1,143,000 | 13,727.321.200286 | 64,563 | 212.6190 |
| 11 | 55 | 64,563 | 13,727,321.200286 | 1,915,281.926034 | 15,642,603.126320 | 469,278.093790 | 16,111,881.220110 | 1,199,000 | 14,912,881.220110 | 63,364 | 235.3525 |
| 12 | 56 | 63,364 | 14,912,881.220110 | 1,879,713.209752 | 16,792,594.429862 | 503,777.832896 | 17,296,372.262758 | 1,260,000 | 16,036,372.262758 | 62,104 | 258.2180 |
| 13 | 57 | 62,104 | 16,036,372.262758 | 1,842,334.909072 | 17,878,707.171830 | 536,361.215155 | 18,415,068.386985 | 1,325,000 | 17,090,068.386985 | 60,779 | 281.1837 |
| 14 | 58 | 60,779 | 17,090,068.386985 | 1,803,028.362722 | 18,893,096.749707 | 566,792.902491 | 19,459,889.652198 | 1,394,000 | 18,065,889.652198 | 59,385 | 304.2163 |
| 15 | 59 | 59,385 | 18,065,889.652198 | 1,761,674.909430 | 19,827,564.561628 | 594,826.936849 | 20,422,391.498477 | 1,468,000 | 18,954,391.498477 | 57,917 | 327.2681 |
| 16 | 60 | 57,917 | 18,954,391.498477 | 1,718,126.222606 | 20,672,517.721083 | 620,175.531632 | 21,292,693.252715 | 1,546,000 | 19,746,693.252715 | 56,371 | 350.2987 |
| 17 | 61 | 56,371 | 19,746,693.252715 | 1,672,263.640978 | 21,418,956.893693 | 642,568.706811 | 22,061,525.600504 | 1,628,000 | 20,433,525.600504 | 54,743 | 373.2628 |
| 18 | 62 | 54,743 | 20,433,525.600504 | 1,623,968.503274 | 22,057,494.103778 | 661,724.823113 | 22,719,218.926891 | 1,713,000 | 21,006,218.926891 | 53,030 | 396.1195 |
| 19 | 63 | 53,030 | 21,006,218.926891 | 1,573,151.813540 | 22,579,370.740431 | 677,381.122213 | 23,256,751.862644 | 1,800,000 | 21,456,751.862644 | 51,230 | 418.8317 |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 20 | 64 | 51,230 | 21,456,751,862644 | 1,519,754.241140 | 22,976,506.103784 | 689,295.183114 | 23,665,801,286898 | 1,889,000 | 21,776,801.286898 | 49,341 | 441.3530 |
| 21 | 65 | 49,341 | 21,776,801,286898 | 1,463,716.455438 | 23,240,517.742336 | 697,215.532270 | 23,937,733.274606 | 1,980,000 | 21,957,733.274606 | 47,361 | 463.6247 |
| 22 | 66 | 47,361 | 21,957,733,274606 | 1,404,979.125798 | 23,362,712.400404 | 700,881.372012 | 24,063,593.772416 | 2,070,000 | 21,993,593.772416 | 45,291 | 485.6062 |
| 23 | 67 | 45,291 | 21,993,593.772416 | 1,343,571.917538 | 23,337,165.689954 | 700,114.970699 | 24,037,280.660653 | 2,158,000 | 21,879,280.660653 | 43,133 | 507.2515 |
| 24 | 68 | 43,133 | 21,879 280.660653 | 1,279,554.161294 | 23,158,834.821947 | 694,765.044658 | 23,853,599.866605 | 2,243,000 | 21,610,599.866605 | 40,890 | 528.5057 |
| 25 | 69 | 40,890 | 21,610,599.866605 | 1,213,014.853020 | 22,823,614.719625 | 684,708.441589 | 23,508,323.161214 | 2,321,000 | 21,187,323.161214 | 38,569 | 549.3355 |
| 26 | 70 | 38,569 | 21,187,323.161214 | 1,144,161.649942 | 22,331,484.811156 | 669,944.544335 | 23,001,429.355491 | 2,391,000 | 20,610,429.355491 | 36,178 | 569.6951 |
| 27 | 71 | 36,178 | 20,610,429.355491 | 1,073,231.874604 | 21,683,661.230095 | 650,509.836903 | 22,334,171.066998 | 2,448,000 | 19,886,171.066998 | 33,730 | 589.5692 |
| 28 | 72 | 33,730 | 19,886,171.066998 | 1,000,611.176140 | 20,886,792.243138 | 626,603.767294 | 21,513,396.010432 | 2,487,000 | 19,026,396.010432 | 31,243 | 608.9810 |
| 29 | 73 | 31,243 | 19,026,396.010432 | 926,833.530274 | 19,953,229.540706 | 598,596.886221 | 20,551,826.426927 | 2,505,000 | 18,046,826.426927 | 28,738 | 627.9777 |
| 30 | 74 | 28,738 | 18,046,826.426927 | 852,521.908684 | 18,899,348.335611 | 566,980.450068 | 19,466,328.785679 | 2,501,000 | 16,965,328.785679 | 26,237 | 646.6184 |
| 31 | 75 | 26,237 | 16,965,328.785679 | 778,328.948366 | 17,743,657.734045 | 532,309.732021 | 18,275,967.466066 | 2,476,000 | 15,799,967.466066 | 23,761 | 664.9538 |
| 32 | 76 | 23,761 | 15,799,967.466066 | 704,877.620998 | 16,504,845.087064 | 495,145.352612 | 16,999,990.439676 | 2,431,000 | 14.568,990.439676 | 21,330 | 683.0281 |
| 33 | 77 | 21,330 | 14,568,990.439676 | 632,761.232940 | 15,201,751.672616 | 456,052.550178 | 15,657,804.222794 | 2,369,000 | 13,288,804.222794 | 18,961 | 700.8493 |
| 34 | 78 | 18,961 | 13,288,804.222794 | 562,484.094598 | 13,851,288.317392 | 415,538.649522 | 14,266,826.966914 | 2,291,000 | 11,975,826.966914 | 16,670 | 718.4059 |
| 35 | 79 | 16,670 | 11,975,826.966914 | 494,520.851060 | 12,470,347.817974 | 374,110.434539 | 12,844,458.252513 | 2,196,000 | 10,648,458.252513 | 14,474 | 735.6956 |
| 36 | 80 | 14,474 | 10,648,458.252513 | 429,375.812732 | 11,077,834.065245 | 332,335.021957 | 11,410,169.087202 | 2,091,000 | 9,319,169.087202 | 12,383 | 752.5776 |
| 37 | 81 | 12,383 | 9,319,169.087202 | 367,345.632794 | 9,686,514.719996 | 290,595.441600 | 9,977,110.161596 | 1,964,000 | 8,013,110.161596 | 10,419 | 769.0863 |
| 38 | 82 | 10,419 | 8,013,110.161596 | 309,082.948242 | 8,322,193.109838 | 249,665.793295 | 8,571,858.903133 | 1,816,000 | 6,755,858.903133 | 8,603 | 785.2910 |
| 39 | 83 | 8,603 | 6,755,858.903133 | 255,210.730754 | 7,011,069.633887 | 210,332.089017 | 7,221,401.722904 | 1,648,000 | 5,573,401.722904 | 6,955 | 801.3517 |
| 40 | 84 | 6,955 | 5,573,401.722904 | 206,322.286690 | 5,779,724.009594 | 173,391.720288 | 5,953,115.729882 | 1,470,000 | 4,483,115.729882 | 5,485 | 817.3410 |
| 41 | 85 | 5,485 | 4,483,115.729882 | 162,714.269230 | 4,645,829.999112 | 139,374.899973 | 4,785,204.899085 | 1,292,000 | 3,493,204.899085 | 4,193 | 833.1039 |
| 42 | 86 | 4,193 | 3,493,204.899085 | 124,386.678374 | 3,617,591.577459 | 108,527.747324 | 3,726,119.324783 | 1,114,000 | 2,612,119.324783 | 3,079 | 848.3661 |
| 43 | 87 | 3,079 | 2,612,119.324783 | 91,339.514122 | 2,703,458.838905 | 81,103.765167 | 2,784,562.604072 | 933,000 | 1,851,562.604072 | 2,146 | 862.7971 |
| 44 | 88 | 2,146 | 1,851,562.604072 | 63,661.772428 | 1,915,224.376500 | 57,456.731295 | 1,972,681.107795 | 744,000 | 1,228,681.107795 | 1,402 | 876.3773 |
| 45 | 89 | 1,402 | 1,228,681.107795 | 41,590.775836 | 1,270,271.883631 | 38,108.156509 | 1,308,380.040140 | 555,000 | 753,380.040140 | 847 | 889.4687 |
| 46 | 90 | 847 | 753,380.040140 | 25,126.524346 | 778,506.564486 | 23,355.196935 | 801,861.761421 | 385,000 | 416,861.761421 | 462 | 902.2981 |
| 47 | 91 | 462 | 416,861.761421 | 13,705.376916 | 430,567.138337 | 12,917.014150 | 443,484.152487 | 246,000 | 197,484.152487 | 216 | 914.2784 |
| 48 | 92 | 216 | 197,484.152487 | 6,407.708688 | 203,891.861175 | 6,116.755835 | 210,008.617010 | 137,000 | 73,008.617010 | 79 | 924.1597 |
| 49 | 93 | 79 | 73,008.617010 | 2,343.560122 | 75,352.177132 | 2,260.565314 | 77,612.742446 | 58,000 | 19,612.742446 | 21 | 933.9401 |
| 50 | 94 | 21 | 19,612.742446 | 622.971678 | 20,235.714124 | 607.071424 | 20,842.785548 | 18,000 | 2,842.785548 | 3 | 947.5951 |
| 51 | 95 | 3 | 2,842.785548 | 88.995954 | 2,931.781502 | 87.953445 | 3,019.734947 | 3,000 | *+19.734947 | —— | —— |

*The form of this table is adapted from a similar one use d by Edward B. Fackler in his *Notes on Life Insurance*, chapter 4 of which gives an excellent exposition of net reserves for the beginner.

premiums in ascertaining its solvency. If, therefore, the annual premium reserve is $453.02 short of the amount necessary at the close of the fifth year of insurance to guarantee solvency, this figure must represent the present value of future premiums to be collected if $102.20 is the correct reserve. By the method of computing the present value of a life annuity due of $1.00 as shown on page 192 such values can be computed for any age such as 50, 55, 60, etc. The present value of a one-dollar annuity due at age 50, so determined, is $15.2710. If the net annual premium on the ordinary life policy at age 45 is $29.665 then the present value of future premiums receivable on this policy after age 50, or of an annuity due of $29.665, is $29.665 × 15.2710 or $453.02. This is the exact amount by which the annual-premium reserve fell short of the single-premium reserve and $102.20 is therefore correct. This justifies the definition of the legal reserve previously given, as that sum of money which with future premiums, if any, will enable the company to pay future claims.

The following table has been arranged to make comparisons similar to the one described above for different years during the term of the ordinary life policy issued at age 45 and shows the difference between the single- and the annual-premium reserves for every fifth year until age 80 as well as the present value at each selected age of the future net annual premiums still to be collected on the policy issued at age 45. Comparison of columns 4 and 7 will show that the present value of future premiums in each instance just equals the difference between the two specified reserves.

## TABLE III

### Comparison of Single- and Annual-Premium Reserves

*On a Whole-Life Policy, Age: 45, American Experience 3 Per Cent.*

Showing that the difference between them equals the present value of future net premiums to be collected under the annual-payment plan.

| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|
| Year of Insurance | Single-Premium Terminal Reserve | Annual-Premium Terminal Reserve (Deduct) | Remainder. cf. with Present Value of Future Premiums (Column 7) | Age Attained | Present Value Life Annuity Due of $1.00 | Present Value of Future Annual Premiums of $29.665318 |
| 5th. | 555.22 | 102.20 | 453.02 | 50 | 15.2710 | 453.02 |
| 10th. | 609.92 | 212.62 | 397.30 | 55 | 13.3928 | 397.30 |
| 15th. | 666.72 | 327.27 | 339.45 | 60 | 11.4427 | 339.45 |
| 20th. | 723.24 | 441.35 | 281.89 | 65 | 9.5022 | 281.89 |
| 25th. | 776.73 | 549.34 | 227.39 | 70 | 7.6655 | 227.40 |
| 30th. | 824.93 | 646.62 | 178.31 | 75 | 6.0108 | 178.31 |
| 35th. | 869.06 | 735.70 | 133.36 | 80 | 4.4956 | 133.36 |

**Comparison of Reserves on Different Interest Bases and on Different Policies.**— Instructive comparisons may be made of reserves computed on different interest bases to show the importance of the interest rate used and its effect on the size of the reserve.

TABLE IV

COMPARISON OF TERMINAL RESERVES ON ORDINARY LIFE POLICIES, $1,000,

*American Experience, Age: 45. At Different Interest Rates.*

| YEAR OF INSURANCE | 3 PER CENT. | 3½ PER CENT. | 4 PER CENT. | 4½ PER CENT. |
|---|---|---|---|---|
| 1 | 19.61 | 18.38 | 17.24 | 16.17 |
| 2 | 39.65 | 37.23 | 34.98 | 32.87 |
| 3 | 60.12 | 56.55 | 53.22 | 50.11 |
| 4 | 80.98 | 76.32 | 71.95 | 67.86 |
| 5 | 102.20 | 96.48 | 91.12 | 86.09 |
| 6 | 123.74 | 117.03 | 110.72 | 104.78 |
| 7 | 145.59 | 137.93 | 130.71 | 123.92 |
| 8 | 167.70 | 159.16 | 151.08 | 143.47 |
| 9 | 190.06 | 180.68 | 171.81 | 163.41 |
| 10 | 212.62 | 202.47 | 192.85 | 183.72 |
| 11 | 235.35 | 224.50 | 214.17 | 204.37 |
| 12 | 258.22 | 246.71 | 235.75 | 225.32 |
| 13 | 281.18 | 269.09 | 257.55 | 246.54 |
| 14 | 304.22 | 291.60 | 279.53 | 268.00 |
| 15 | 327.27 | 314.19 | 301.66 | 289.65 |
| 16 | 350.30 | 336.83 | 323.88 | 511.46 |
| 17 | 373.26 | 359.46 | 346.16 | 333.38 |
| 18 | 396.12 | 382.04 | 368.45 | 355.37 |
| 19 | 418.83 | 404.54 | 390.72 | 377.38 |
| 20 | 441.35 | 426.90 | 412.91 | 399.37 |
| 21 | 463.62 | 449.07 | 434.95 | 421.28 |
| 22 | 485.61 | 471.01 | 456.82 | 443.05 |
| 23 | 507.25 | 492.66 | 478.45 | 464.63 |
| 24 | 528.51 | 513.97 | 499.78 | 485.96 |
| 25 | 549.34 | 534.89 | 520.78 | 507.00 |
| 26 | 569.69 | 555.39 | 541.38 | 527.69 |
| 27 | 589.57 | 575.44 | 561.58 | 548.01 |
| 28 | 608.98 | 595.06 | 581.39 | 567.97 |
| 29 | 627.98 | 614.30 | 600.85 | 587.62 |
| 30 | 646.62 | 633.22 | 620.02 | 607.02 |
| 31 | 664.95 | 651.87 | 638.95 | 626.22 |
| 32 | 683.03 | 670.29 | 657.70 | 645.26 |
| 33 | 700.85 | 688.50 | 676.26 | 664.15 |
| 34 | 718.41 | 706.47 | 694.62 | 682.88 |
| 35 | 735.70 | 724.20 | 712.77 | 701.42 |
| 36 | 752.58 | 741.55 | 730.56 | 719.65 |

TABLE IV.— *Continued*

| Year of Insurance | 3 Per Cent. | 3½ Per Cent. | 4 Per Cent. | 4½ Per Cent. |
|---|---|---|---|---|
| 37 | 769.08 | 758.54 | 748.03 | 737.56 |
| 38 | 785.29 | 775.26 | 765.24 | 755.25 |
| 39 | 801.35 | 791.86 | 782.37 | 772.89 |
| 40 | 817.34 | 808.42 | 799.49 | 790.55 |
| 41 | 833.10 | 824.78 | 816.43 | 808.07 |
| 42 | 848.36 | 840.65 | 832.91 | 825.13 |
| 43 | 862.79 | 855.68 | 848.53 | 841.35 |
| 44 | 876.37 | 869.85 | 863.28 | 856.12 |
| 45 | 889.45 | 883.52 | 877.54 | 871.51 |
| 46 | 902.26 | 896.93 | 891.55 | 886.12 |
| 47 | 914.20 | 909.45 | 904.65 | 899.80 |
| 48 | 923.93 | 919.67 | 915.35 | 910.99 |
| 49 | 933.05 | 929.26 | 925.41 | 921.51 |
| 50 | 941.21 | 937.84 | 934.42 | 930.95 |
| 51 | 1000.00 | 1000.00 | 1000.00 | 1000.00 |

Table IV shows the reserves on an ordinary life policy for \$1,000 issued at age 45 and paid for by annual premiums, when computed on four different interest bases, viz, 3, 3½, 4, and 4½ per cent. The table shows that the lower interest rate invariably requires a higher reserve and this is true for every year during the life of the policy. The difference for instance between the 3 per cent. and the 4½ per cent. reserve is \$28.90 in the tenth year of insurance and reaches the maximum figure, viz, \$42.62, in the twenty-third year. After the latter date the larger interest earnings credited to the policy gradually bring the two reserves nearer together and they finally equal each other at the end of age 95 when all reserves on whatever interest basis determined equal the face value of the policy. The history of the rate of interest used by life-insurance companies in the United States for the calculation of premiums and reserves is interesting. In the early days of life insurance a 4 per cent. rate was commonly used. This was later changed and 3½ per cent. became the standard. This standard is required to-day by most state laws for determining minimum reserve requirements, but a great number of companies have changed to a 3 per cent. basis since about 1900. This means that these companies are carrying a larger reserve than required by law but it means also that they are operating on a very safe basis and an unusual reduction in their interest earnings must occur before the failure of actual interest earned to equal expected interest income would render such companies insolvent.

### TABLE V

COMPARISON OF TERMINAL RESERVES ON DIFFERENT POLICIES

*American Experience* 3 *Per Cent.*, $1,000 *Insurance. Age:* 45.

| | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|
| YEAR OF INSURANCE | WHOLE-LIFE [SINGLE PREMIUM] | WHOLE-LIFE [CONTINUOUS PREMIUMS] | WHOLE-LIFE [TWENTY PREMIUMS] | TWENTY-YEAR ENDOWMENT INSURANCE [CONTINUOUS PREMIUMS] | TWENTY-YEAR TERM [CONTINUOUS PREMIUMS] |
| 1 | 514.30 | 19.61 | 27.62 | 35.48 | 7.08 |
| 2 | 524.23 | 39.65 | 56.00 | 72.05 | 14.05 |
| 3 | 534.37 | 60.12 | 85.17 | 109.78 | 20.89 |
| 4 | 544.70 | 80.98 | 115.13 | 148.66 | 27.51 |
| 5 | 555.22 | 102.20 | 145.86 | 188.73 | 33.83 |
| 6 | 565.89 | 123.74 | 177.37 | 230.02 | 39.78 |
| 7 | 576.71 | 145.59 | 209.67 | 272.59 | 45.25 |
| 8 | 587.67 | 167.70 | 242.78 | 316.50 | 50.15 |
| 9 | 598.74 | 190.06 | 276.72 | 361.81 | 54.38 |
| 10 | 609.92 | 212.62 | 311.52 | 408.62 | 57.78 |
| 11 | 621.18 | 235.35 | 347.21 | 457.04 | 60.22 |
| 12 | 632.51 | 258.22 | 383.84 | 507.19 | 61.53 |
| 13 | 643.89 | 281.18 | 421.49 | 559.24 | 61.51 |
| 14 | 655.30 | 304.22 | 460.22 | 613.40 | 59.96 |
| 15 | 666.72 | 327.27 | 500.15 | 669.88 | 56.60 |
| 16 | 678.13 | 350.30 | 541.38 | 728.99 | 51.13 |
| 17 | 689.50 | 373.26 | 584.08 | 791.06 | 43.19 |
| 18 | 700.83 | 396.12 | 628.45 | 856.55 | 32.37 |
| 19 | 712.08 | 418.83 | 674.73 | 925.98 | 18.18 |
| 20 | 723.24 | 441.35 | 723.24 | 1000.00 | 00.00 |
| 21 | 734.27 | 463.62 | 734.27 | | |
| 22 | 745.16 | 485.61 | 745.16 | | |
| 23 | 755.88 | 507.25 | 755.88 | | |
| 24 | 766.41 | 528.51 | 766.41 | | |
| 25 | 776.73 | 549.34 | 776.73 | | |
| 26 | 786.82 | 569.69 | 786.82 | | |
| 27 | 796.67 | 589.57 | 796.67 | | |
| 28 | 806.28 | 608.98 | 806.28 | | |
| 29 | 815.69 | 627.98 | 815.69 | | |
| 30 | 824.93 | 646.62 | 824.93 | | |
| 31 | 834.01 | 664.95 | 834.01 | | |

TABLE V.— *Continued*

| Year of Insurance | 1<br>Whole-Life [Single Premium] | 2<br>Whole-Life [Continuous Premiums] | 3<br>Whole-Life [Twenty Premiums] | 4<br>Twenty-Year Endowment Insurance [Continuous Premiums] | 5<br>Twenty-Year Term [Continuous Premiums] |
|---|---|---|---|---|---|
| 32 | 842.97 | 683.03 | 842.97 | | |
| 33 | 851.80 | 700.85 | 851.80 | | |
| 34 | 860.49 | 718.41 | 860.49 | | |
| 35 | 869.06 | 735.70 | 869.06 | | |
| 36 | 877.42 | 752.58 | 877.42 | | |
| 37 | 885.60 | 769.08 | 885.60 | | |
| 38 | 893.63 | 785.29 | 893.63 | | |
| 39 | 901.59 | 801.35 | 901.59 | | |
| 40 | 909.51 | 817.34 | 909.51 | | |
| 41 | 917.32 | 833.10 | 917.32 | | |
| 42 | 924.88 | 848.36 | 924.88 | | |
| 43 | 932.02 | 862.79 | 932.02 | | |
| 44 | 938.75 | 876.37 | 938.75 | | |
| 45 | 945.23 | 889.45 | 945.23 | | |
| 46 | 951.58 | 902.26 | 951.58 | | |
| 47 | 957.49 | 914.20 | 957.49 | | |
| 48 | 962.31 | 923.93 | 962.31 | | |
| 49 | 966.83 | 933.05 | 966.83 | | |
| 50 | 970.87 | 941.21 | 970.87 | | |
| 51 | 1000.00 | 1000.00 | 1000.00 | | |

Table V affords comparisons of the reserves on different kinds of policies issued at the same age. Single- and annual-premium reserves have already been compared[1] but no reference has been made to reserves on limited-payment life, endowment or term policies. Column 3 of the table shows that the reserves on a life policy paid for by twenty annual premiums increase much more rapidly than in case of premiums paid continuously throughout life, and in the twentieth year of insurance the reserve on the limited-premium policy is identical with the single-premium reserve. This is necessary, of course, since the insured cannot be required to make further premium advances after this date, and to guarantee solvency

[1] Page 215.

the reserve must, therefore, be of an amount sufficient in itself to pay all future claims accruing against the policy. The reserve on the twenty-year endowment insurance is largest of all and becomes $1,000 at the end of the twenty years.

This shows how it is possible under such a policy to guarantee to pay the face value whether the insured be living or dead, for at the expiration of the designated endowment period an amount equal to the face value of the policy stands to the credit of the insured. The reserve on the twenty-year term policy is at all times small, and reaches its maximum at the end of the twelfth year; thereafter it decreases until at the end of the twentieth year it is entirely exhausted. An interesting contrast is thus afforded between the term and the endowment policies. The latter guarantees to pay the face value of the policy at some time and therefore, in case death does not occur before the twenty years have elapsed, accumulates the amount payable. The term policy on the other hand promises the face value only in case of death within the twenty-year term and at the close of this period the policy value is entirely exhausted and nothing will be paid to the policyholder.

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(Probably the best adequate presentation of the subject for the beginner.)

# CHAPTER XVII

## THE GROSS PREMIUM — LOADING

By

BRUCE D. MUDGETT

In Chapter XV premiums were classified in one case as net or gross. The net premium, or that portion which cares for policy claims was analyzed at length. The gross, or office, premium includes the above plus an amount called loading, the purpose of which is to pay for expenses incurred in writing and caring for insurance policies and to provide a margin for possible contingencies. Chief among the latter are errors in the net premium, due to failure to realize expected mortality or interest, losses arising from forfeitures, and the creation of a fund from which dividends may be paid. The practice of paying dividends has become so firmly established that the loadings on participating policies are almost invariably made with the further idea of creating a surplus for future dividends.

The subject of loading shares with that of distribution of surplus the distinction of furnishing insurance actuaries some of the most difficult problems with which they must contend. This is due to the complexity of the expense item and the difficulty of charging it proportionately against any policyholder in such a way as to obtain substantial equity. With the enormous size attained by many of our largest life-insurance companies, with the various activities carried on by them, with agency organizations covering the entire United States and in many cases European countries as well, the aggregate of expenses incurred within a single year totals to a vast sum. This money, of course, must come from the policyholders through their yearly contributions of premiums. The problems arise in large part through the difficulty of determining what portion of particular items of expense shall be charged against one policyholder as compared with another.

**Classification of Expenses.**— Many classifications of life-insurance expenses have been made, often in a more or less formal way or with no other purpose than to abbreviate a long and complex list of items. But classifications of any sort can be justified only on the ground that they serve to clear up points at issue, and the purpose of a classification of life-insurance expenses should be a clear statement of the problems of loading. The following division of expenses into five groups was made by an actuary[1] and based on a scrutiny of companies' statements:

| | |
|---|---|
| 1. New business expenses<br>Examination fees, medical expenses<br>Agents' first year commissions<br>Advertising, printing and salaries incurred in getting new business | 80 per cent. of first year's premiums. |
| 2. Collection expenses<br>Agents' renewal commissions<br>Collection fees<br>Exchange<br>Taxes on premiums | 10 per cent. of renewal premiums. |
| 3. Settlement of claims<br>Investigation of death claims<br>Resisting unjust claims | 1½ per cent. of face value of death claims. |
| 4. Investment expenses<br>Cost of making, handling and protecting investments<br>Bad debts<br>Losses over gains<br>Taxes and repairs on assets | ½ per cent. per annum on assets. |
| 5. General expenses<br>General supervision<br>Actuarial<br>Clerical<br>Salaries | $1.00 per $1,000 insurance per year. |

[1] WHITING, WM. D., "Provision for Expenses," *Yale Readings in Insurance, Life,* 176–177.

The estimated amounts of each group of expenses, as shown at the right-hand side of the page, is intended to be approximate only and will vary with different companies. The value of these estimates lies in the fact that each group of expenditures is thus related to, and its amount dependent upon, some other factor, such as premium, assets, etc. New business expenses fall heavily on the first premium and vary in direct ratio to the amount of the premium, due largely to the necessity of paying agents' commissions as a percentage of the premium. Collection expenses likewise vary with the amount of the premium but are incurred in approximately equal amounts over a series of years. The cost of settling claims falls at the close of the policy term, and bears a close relation to the amount of the claim. Investment expenses vary with the amount of the total assets and can with fairness be deducted from the gross income on investments. General expenditures are for the benefit of all and probably bear as close a relation to the amount of insurance as to any other single item.

In summarizing these different factors of expense it is found that some vary with the size of the premium charged, some with the amount of insurance carried, some have no relation to either. One group of expenses is incurred wholly within the first year of insurance, other groups annually during the policy term and still others only at the time when the claim is finally satisfied. This statement sets in relief the factors that determine expenses attributable to any policy and makes possible a statement of the two great problems of loading, aside from the mere matter of collecting sufficient money to pay all expenses. These problems are respectively (1) the equitable distribution of expenses between different classes of policies and between policyholders at different ages — the problem of making each policy pay its own cost; and (2) the incidence of expense, or the problem of meeting the expense when it is incurred. The solution of these problems is complicated by the necessity of maintaining a level office premium, of living up to statutory requirements as to reserves, of maintaining a consistent policy regarding surrender values and dividends, and finally of meeting the competition of other companies.

**The Problem of Equitable Distribution of Expenses.**— The above method of establishing a relationship between each group of expenses and some other factor, such as premiums, face of policy or total assets, furnishes a means of estimating the effect of age or kind of policy on the actual cost of writing and caring for any policy; for with two groups of expenses dependent on the size of the premium and two on the face amount of the policy, it is necessary only to know the premium charged and the face amount of the policy in order to ascertain approximately the expenses incurred in handling any particular contract.

The two tables shown on the following page are based on policies for $1,000, the premiums used being the office premiums charged by a well-known company. As the premiums increase with age and for the more expensive policies, it will be noticed that the expense of writing the policy becomes greater (column 1 either table) since this expense varies with the amount of the premium; on the ordinary life policy this cost is $14.72 at age 21 as compared with $76.11 at age 65. The same variations are found by comparing ten-year term and twenty-year endowment policies. Collection costs likewise vary with the increase in premium due to advancing age or kind of policy. Settlement expenses and general expenses, however, remain the same on every policy and for every age irrespective of changes in premiums. Since investment expenses are incidental to the handling of investments they are usually deducted from the gross earnings on total assets and no attempt is made to charge them in any way against particular policies. They do not, therefore, enter into the problem of loading. The four groups of expenses that must be provided for by loading the net premium may thus be combined into two classes: those which vary with the amount of the premium and those which remain constant for each $1,000 of insurance, or vary with the face value of the policy.

Effect of Age on Various Expenses

*Illustrating with an Ordinary Life Policy*

| Age | Office Premium | (1) New Business 80 Per Cent. of First Year's Premiums | (2) Collections 10 Per Cent. of Renewal Premiums | (3) Settlements 1½ Per Cent. of Face Value of Death Claims | (4) Investments ½ Per Cent. Yearly on Assets | (5) General Expenses $1.00 per $1,000 Insurance Annually |
|---|---|---|---|---|---|---|
| 21 | $18.40 | $14.72 | $1.84 | $15.00 | Cared for by surplus interest earnings. | $1.00 |
| 30 | 22.85 | 18.28 | 2.28 | 15.00 | | 1.00 |
| 40 | 30.94 | 24.75 | 3.09 | 15.00 | | 1.00 |
| 50 | 45.45 | 36.36 | 4.55 | 15.00 | | 1.00 |
| 60 | 72.83 | 58.26 | 7.28 | 15.00 | | 1.00 |
| 65 | 95.14 | 76.11 | 9.51 | 15.00 | | 1.00 |

Effect of Various Types of Policies on Expenses

*Illustrating with a Constant Age*

| Age 35 | | (1) | (2) | (3) | (4) | (5) |
|---|---|---|---|---|---|---|
| Kind of Policy | Office Premium | New Business 80 Per Cent. of First Year's Premium | Collections 10 Per Cent. of Renewal Premiums | Settlements 1½ Per Cent. of Face Value of Claims | Investments ½ Per Cent. Yearly on Assets | General Expenses $1.00 per $1,000 Insurance Annually |
| 10-Year Term .. | $13.19 | $10.55 | $1.32 | $15.00 | Cared for by surplus interest earnings. | $1.00 |
| 20-Year Term .. | 15.27 | 12.21 | 1.53 | 15.00 | | 1.00 |
| Ordinary Life.. | 26.35 | 21.08 | 2.64 | 15.00 | | 1.00 |
| 20-Payment Life. | 36.22 | 28.97 | 3.62 | 15.00 | | 1.00 |
| 20-Year Endowment ....... | 50.11 | 40.08 | 5.01 | 15.00 | | 1.00 |

**Methods of Loading.**— An equitable system of loading must, as stated, require every policyholder to pay the expenses which his policy costs the company, as nearly as this amount can approximately be determined. Since, therefore, certain expenses vary with the amount of the premium, they can be assessed equitably by making the loading a percentage of the net premium, this percentage to be of such size that the company will collect in the aggregate sufficient loading to pay all expenses of new business and collections. General expenses and settlement costs, since they do not vary with the amount of the premium, but are a proper charge against the face value of the policy, can be provided for by adding to the net premium a constant sum per $1,000 insurance. This constant must likewise be so fixed that the aggregate collected from all policies will pay all general and settlement costs.

The two methods of loading here described are known respectively as the percentage and the constant methods. They have both been used in the past, sometimes separately, sometimes in combination. Nowadays the loading systems commonly used are modeled closely on one of the following: (1) a straight percentage addition to the net premium, often varying the per cent. for the higher premium policies; (2) a modified percentage loading, the usual method of which is the addition of a certain percentage of the given net premium and the same, or sometimes a different, percentage of the net ordinary life premium at the same age; and (3) a constant and percentage loading, whereby the net premium will be increased by a constant amount per $1,000 insurance on all policies and at all ages plus a percentage of the given net premium, or of the net premium and the constant.

The conclusions to be drawn from the analysis of expenses made at the beginning of this chapter are that loadings should increase as the amount of the premium increases, since some expenses are dependent on the size of the premium; but they should not increase in the same ratio, since there are some expenses which do not vary with the size of the premiums. The following tables show the effect of loading on the different bases named. In each case the American Experience 3 per cent. net premium has been used, and the loading of gross premiums has been computed for specimen ages on an identical policy and for different kinds of policies at an identical age, the last column in each case showing the percentage of the loading charge to the gross premium.

CONSTANT LOADING

*American Experience* 3 *Per Cent. Net Premium Loaded* $5.00 *per* $1,000 *Insurance*

(1) Illustrating with ordinary life policy at different ages

| AGE | NET ANNUAL PREMIUM | LOADING | GROSS PREMIUM | PERCENTAGE OF LOADING TO GROSS PREMIUM |
|---|---|---|---|---|
| 25 | $16.11 | $5.00 | $21.11 | 23.7 |
| 35 | 21.08 | 5.00 | 26.08 | 19.1 |
| 45 | 29.67 | 5.00 | 34.67 | 14.4 |
| 55 | 45.54 | 5.00 | 50.54 | 9.9 |
| 65 | 76.11 | 5.00 | 81.11 | 6.2 |

(2) Illustrating with different policies, at age 35

| POLICY | NET ANNUAL PREMIUM | LOADING | GROSS PREMIUM | PERCENTAGE OF LOADING TO GROSS PREMIUM |
|---|---|---|---|---|
| 20-year term .... | $10.91 | $5.00 | $15.91 | 31.4 |
| Ordinary Life ... | 21.08 | 5.00 | 26.08 | 19.1 |
| 20-payment Life.. | 29.85 | 5.00 | 34.85 | 14.3 |
| 20-payment 30-year endowment | 34.74 | 5.00 | 39.74 | 12.6 |
| 20-year endowment | 41.97 | 5.00 | 46.97 | 10.6 |

The amount of the total loading on the different policies and at the several ages at once reveals the defect of this plan. The more expensive policies should stand a greater share of the loading charges but do not. The older ages and the more expensive policies are, therefore, favored at the expense of the younger policyholders and cheaper contracts.

The simplest form of percentage loading is to add the same percentage of the net premium to itself for all policies and all ages. In the illustration 33⅓ per cent. is used.

PERCENTAGE LOADING

*American Experience 3 Per Cent. Net Premium Loaded 33⅓ Per Cent. of Itself*

(1) Illustrating with ordinary life policy at different ages

| AGE | NET ANNUAL PREMIUM | LOADING | GROSS PREMIUM | PERCENTAGE OF LOADING TO GROSS PREMIUM |
|---|---|---|---|---|
| 25 | $16.11 | $ 5.37 | $ 21.48 | 25 |
| 35 | 21.08 | 7.03 | 28.11 | 25 |
| 45 | 29.67 | 9.89 | 39.56 | 25 |
| 55 | 45.54 | 15.18 | 60.72 | 25 |
| 65 | 76.11 | 25.37 | 101.48 | 25 |

(2) Illustrating with different policies at age 35

| POLICY | NET ANNUAL PREMIUM | LOADING | GROSS PREMIUM | PERCENTAGE OF LOADING TO GROSS PREMIUM |
|---|---|---|---|---|
| 20-year Term .... | $10.91 | $ 3.64 | $14.55 | 25 |
| Ordinary Life .... | 21.08 | 7.03 | 28.11 | 25 |
| 20-payment Life.. | 29.85 | 9.95 | 39.80 | 25 |
| 20-payment 30-year Endowment .... | 34.74 | 11.58 | 46.32 | 25 |
| 20-year Endowment | 41.97 | 13.99 | 55.96 | 25 |

By this method the total loadings increase for the higher-priced policies, but a glance at the last column, showing the percentage of loadings to gross premiums shows that the ratio of loadings to premiums remains constant. This is unfair to the older ages and higher-priced policies since, with certain expenses remaining constant, the ratio of loadings to total premiums should decrease as rates go up. Some companies attempt to make an adjustment between different policies by varying the percentage loading as, for instance, 30 per cent. on term, 25 per cent. on ordinary life, 20 per cent. on limited-payment life and on endowments, and 16⅔ per cent. on limited-payment endowments. The following table shows the results of this method on the five policies used:

PERCENTAGE LOADING

*American Experience* 3 *Per Cent. Net Premium, Age:* 35, *Varying the Percentage on Different Policies*

| Policy | Net Annual Premium | Loading | | Gross Premium | Percentage of Loading to Gross Premium |
|---|---|---|---|---|---|
| | | Per Cent. of Net Premium | Amount | | |
| 20-year Term....... | $10.91 | 30 | $3.27 | $14.18 | 23 |
| Ordinary Life...... | 21.08 | 25 | 5.27 | 26.35 | 20 |
| 20-payment Life.... | 29.85 | 20 | 5.97 | 35.82 | 16⅔ |
| 20-payment 30-year Endowment ..... | 34.74 | 16⅔ | 5.79 | 40.53 | 14 |
| 20-year Endowment. | 41.97 | 20 | 8.39 | 50.36 | 16⅔ |

A comparison of total loadings and of the ratio of loadings to premiums here shows a progressive increase in the amount of loading as premiums increase, combined with a decrease in the ratio of loading to premiums. The exception is the limited-payment endowment. This plan is flexible, since by varying the percentage in any case further adjustment is possible.

Below, the net premium is loaded 12½ per cent. plus 12½ per cent. of the net ordinary life premiums at the same age.

MODIFIED PERCENTAGE LOADING

*American Experience* 3 *Per Cent. Net Premium Loaded* 12½ *Per Cent. plus* 12½ *Per Cent. of Ordinary Life Net Premium*
(1) *Illustrating with ordinary life policy at different ages*

| Age | Net Annual Premium | Loading | | Total | Gross Premium | Percentage of Loading to Gross Premium |
|---|---|---|---|---|---|---|
| | | 12½ Per Cent. of Net Premium | 12½ Per Cent. of Net Ordinary Life Premium | | | |
| 25 | $16.11 | $2.01 | $2.02* | $ 4.03 | $20.14 | 20 |
| 35 | 21.08 | 2.63 | 2.64* | 5.27 | 26.35 | 20 |
| 45 | 29.67 | 3.71 | 3.71 | 7.42 | 37.09 | 20 |
| 55 | 45.54 | 5.69 | 5.69 | 11.38 | 56.92 | 20 |
| 65 | 76.11 | 9.51 | 9.52* | 19.03 | 95.14 | 20 |

* The difference of one cent from the figure in the previous column results because the fractional part of a cent was dropped in the first case and when included with the same fraction in the second case equalled more than one-half cent.

(2) *Illustrating with different policies at age 35*

| Policy | Net Annual Premium | Loading | | | Gross Premium | Percentage of Loading to Gross Premium |
|---|---|---|---|---|---|---|
| | | 12½ Per Cent. of Net Premium | 12½ Per Cent. of Net Ordinary Life Premium | Total | | |
| 20-year Term. . | $10.91 | $1.36 | $2.64 | $4.00 | $14.91 | 26.6 |
| Ordinary Life. | 21.08 | 2.63 | 2.64 | 5.27 | 26.35 | 20 |
| 20 - payment Life . . . . . . . | 29.85 | 3.73 | 2.64 | 6.37 | 36.22 | 17.6 |
| 20-payment 30-year Endowment . . . . . . | 34.74 | 4.34 | 2.64 | 6.98 | 41.72 | 16.7 |
| 20-year Endowment . . . . . . | 41.97 | 5.25 | 2.64 | 7.89 | 49.86 | 15.8 |

Total loadings here increase with increase in age and with the more expensive kinds of policies; but a glance at the last column of the first table shows that the ratio of loadings to premiums does not decrease as desired with the advance in age. Were the results computed for limited-payment life or endowment policies at different ages these ratios would actually increase with age. This plan, therefore, while making possible approximate adjustments between policies, does not adjust loadings equitably between young and old entrants. In spite of its defect, there is probably no other method of loading so generally used at the present time as this.

The constant and percentage method, as stated, adds a constant plus a per cent. of the net premium, in the illustration a $2.00 constant plus 20 per cent.

This method seems more nearly to approach the result desired than any other. Total loadings increase with premiums but the ratio of loadings to premiums decreases and equity is thus preserved between different ages and different policies.

It will be understood of course that the additions made in each case above are merely illustrative of the methods used and that the percentage or the constant actually added by a

CONSTANT AND PERCENTAGE LOADING

*American Experience* 3 *Per Cent. Net Premium Loaded* 20 *Per Cent. Plus* $2.00 *Constant*

(1) *Illustrating with ordinary life policy at different ages*

| Age | Net Annual Premium | Loading | | | Gross Premium | Percentage of Loading to Gross Premium |
|---|---|---|---|---|---|---|
| | | 20 Per Cent. of Net Premium | Constant | Total | | |
| 25 | $16.11 | $ 3.22 | $2.00 | $ 5.22 | $21.33 | 24.5 |
| 35 | 21.08 | 4.22 | 2.00 | 6.22 | 27.30 | 22.8 |
| 45 | 29.67 | 5.93 | 2.00 | 7.93 | 37.60 | 21.1 |
| 55 | 45.54 | 9.11 | 2.00 | 11.11 | 56.65 | 19.6 |
| 65 | 76.11 | 15.22 | 2.00 | 17.22 | 93.33 | 18.5 |

(2) *Illustrating with different policies at age* 35

| Policy | Net Annual Premium | Loading | | | Gross Premium | Percentage of Loading to Gross Premium |
|---|---|---|---|---|---|---|
| | | 20 Per Cent. of Net Premium | Constant | Total | | |
| 20-year Term...... | $10.91 | $2.18 | $2.00 | $ 4.18 | $15.09 | 27.7 |
| Ordinary Life ..... | 21.08 | 4.22 | 2.00 | 6.22 | 27.30 | 22.8 |
| 20-payment Life.... | 29.85 | 5.97 | 2.00 | 7.97 | 37.82 | 21.0 |
| 20-payment 30-year Endowment ..... | 34.74 | 6.95 | 2.00 | 8.95 | 43.69 | 20.5 |
| 20-year Endowment. | 41.97 | 8.39 | 2.00 | 10.39 | 52.36 | 19.8 |

company to its net premiums must be made with reference to the actual expenses of the company.

**Loading and the Incidence of Expense.**— The problem of making each policy pay its own cost, as just discussed, is a matter of doing justice to each insured person. From the standpoint of the company, however, this factor is not of the same immediate importance as that of the incidence of expense, or the problem of meeting the expense when it occurs. If the office premiums charged for an ordinary life and a twenty-year endowment policy, each issued at age 35, are respectively $27.00 and $50.00 and if expenses are incurred on these policies in the proportion shown in the classified list of expenses on page 222 the following brief table will show the amount of expense and the time when it is incurred:

Amount and Incidence of Expense on Two Policies

*Ordinary Life. Age:* 35. *Office Premium:* $27.00
*Twenty-year Endowment. Age:* 35. *Office Premium:* $50.00

| | Class of Expense | Amount of Expense | | When Incurred |
|---|---|---|---|---|
| | | On Ordinary Life (Premium $27.00) | On 20-Year Endowment (Premium $50.00) | |
| 1 | General — $1.00 per $1,000 insurance. | $1.00 | $1.00 | Yearly |
| 2 | Investment — ½ per cent. of assets... | ... | ... | Yearly |
| 3 | Collections — 10 per cent. of renewals ......... | 2.70 | 5.00 | Yearly after first year |
| 4 | Settlements — 1½ per cent. of amount of insurance ........... | 15.00 | 15.00 | Last year only |
| 5 | New business — 80 per cent. of first premium ....... | 21.60 | 40.00 | First year only |

The net premiums on these two policies are $21.08 and $41.97, making the loading, or the amount available annually for expenses, respectively $5.92 and $8.03. These sums will easily provide for the annual charge of $1.00 for general expenses, for the cost of collections and will leave a surplus at the maturity of the policy to pay $15.00 for settlement of the claim. The investment costs, as already explained, are deducted from gross interest earnings and do not therefore affect the problem of loading. The last item, or cost of new business, that is the cost of writing the policy, paying the agent's commission, medical examination fees, etc., incurs a total charge at the time of issuing the policy of $21.60 in one case and $40.00 in the other. Herein lies the great problem of the incidence of expense, for these policies cannot pay their first-year costs from the loading available from the first premium. These expenses must be met when incurred and yet the company faces the necessity of maintaining the regular level office premium, of paying death claims at the close of the first year and of holding in reserve the remainder of the net premium. The net premium of $21.08 on the ordinary life policy at age 35 increased at 3 per cent. interest accumulates to $21.71 at the close of the year. Of this amount $8.83 is necessary to pay the estimated costs of insurance for the year and $12.88 constitutes the reserve that should be held in anticipation of future claims against the policy. The loading is the only portion of the first premium that is available therefore to pay first year's expenses. For this reason a company cannot maintain its level office premium and hold the full net premium reserve from the start, and at the same time make every policy pay its own way. The first year's requirements are greater than the funds on hand. These first-year costs must be provided from some outside source, or some modification of the system of legal reserve valuations must be made whereby the reserve of the first year, or a portion thereof, can be used to pay them. For an old and well established company with a large surplus accrued the solution of the problem is comparatively simple, for it can pay expenses of new business from surplus and depend on replacing the amount from margins in the loadings of the later premiums. This, however, is not possible for new companies, for they have no surplus from which to borrow; and it results in slow growth of small companies, whose surplus is insufficient to supply the demands of a rapidly increasing business.

One proposed method of meeting new business expenses as incurred and thereby making every policy self-sustaining has been to charge a cash initiation fee, or issue an interest-bearing note or lien against the policy to be paid by the application of dividends or in some similar way. But this plan has many practical objections, chief among which is the departure from the level-premium idea, and has never been favored by the companies.

There exists the further possibility of dealing with this problem through some modification of the system of valuing reserves, whereby the reserve of the first year or of the first few years can be used to pay new business expenses. Three methods of modifying the full net premium reserves are used in the United States to-day, known respectively as preliminary-term, modified preliminary-term, and select and ultimate valuation. The germ of the preliminary-term idea was introduced into the United States from Europe, the product of a great German actuary, Dr. Zillmer. It provides that the first year's premium under any form of policy shall pay for term insurance for one year, and that the regular policy is to come into operation one year later than the date of issue, and will be for a term one year shorter. By this means the company is relieved of the necessity of establishing a reserve against the policy for the first year, and the entire premium becomes available for payment of current claims and expenses. This, of course, releases the first year's reserve for the payment of new business expenses. It becomes in effect a borrowing of the reserve for this purpose. On the ordinary life policy at age 35 the reserve thus released would be $12.88; on the twenty-year endowment at the same age, $34.59. The *net* premium for the later years of the policy is then increased. It becomes the net premium for an insurance issued at an age one year higher, at a date one year later and for a term one year shorter; and the reserves held on the policy for the second and later years are the reserves based on this new net premium. Thus an ordinary life policy at age 35 becomes a one-year term insurance plus an ordinary life at age 36; a twenty-payment life policy becomes a one-year term plus a nineteen-payment life at age 36; and a twenty-year endowment becomes a one-year term and a nineteen-year endowment at age 36.

While very helpful to new companies in getting started, two objections to preliminary-term insurance as a method of meeting new business expenses may be mentioned. In the first place no distinction is made between ordinary life policies and limited-payment life or endowment contracts, and the company is permitted to spend the entire first-year reserve on the more expensive contracts for soliciting new business in the same way as the comparatively small reserve on the ordinary life policy. Thus, on a ten-year endowment at age 35 a reserve of $83.78 is released. This offers great temptation to company officials desiring to extend their business and in some cases in the past has led to gross extravagance. If $12.88 in addition to the first year's loading is sufficient to pay new business expenses on an ordinary life policy it should not require a great deal more than this amount on any other kind of policy.

The second objection to preliminary-term insurance is that the company is given the entire premium-paying period of the policy to pay back this borrowed reserve. By considering the ordinary life policy in question as beginning only after the one year's term insurance expires and holding reserves on the policy as though issued at age 36, the reserves throughout the life of the policy are smaller than the full net premium reserves and, though the difference between them becomes smaller each additional year, they do not coincide until the insured reaches age 96, when all reserves equal the face of the policy. In other words, should the holder of an ordinary life policy valued on the preliminary-term plan die at any time before age 96 the company will not have entirely replenished the reserve borrowed for the purpose of writing its policy and the deficiency must be made up from other funds. In the same manner with a twenty-year endowment the entire twenty years is given to replenish the depleted reserves; with a limited-premium policy the reserves will be brought up to the full net premium standard only upon the completion of premium payments. A comparison of the full net premium and preliminary-term reserves on a twenty-year endowment, as shown in the table on page 239, will reveal this defect very clearly.

The first objection to preliminary-term valuation is corrected by the plan known as modified preliminary-term. It consists in making the ordinary life policy the basis on which borrowing from the reserve is permitted. But one rate is allowed for the term insurance at each age and this is the rate on the ordinary life policy at the next age, thereby permitting the net premium to remain level. For instance at age 35 the net premium for the one-year term insurance is equal to $21.74, or the net annual premium on a whole-life policy issued at age 36, and this entire amount is available for payment of expenses and death claims for the first year. The life policy begins the year following and the same premium of $21.74, being the correct net premium, payable from age 36, is paid thereafter and the regular reserve established for a policy issued at age 36. For contracts requiring higher premiums than the ordinary life the net premiums are determined as follows. On limited-premium policies they are equal to the net premium for the ordinary life preliminary-term rates at the same age plus a net premium sufficient to purchase a pure endowment maturing at the end of the premium-paying period for an amount equal to the difference between the preliminary-term reserve on the ordinary life policy at that time and the reserve on a paid-up policy. In other words the added net premium purchases a pure endowment sufficient to make the policy paid-up at the end of the premium-payment period. For endowment policies the net premium added above the ordinary life net premium is for a pure endowment sufficient to mature the policy, or a pure endowment for the difference between the face of the policy, $1,000, and the ordinary life preliminary-term reserve at the date when the endowment would mature. The table on page 239 shows that the preliminary-term reserve at the end of the twentieth year on the ordinary life policy issued at age 35 is $318.81. The reserve on the twenty-year endowment must, of course, be $1,000 at this time or $681.19 more than the above reserve. The net premium on the twenty-year endowment will, therefore, be equal to the net premium on the ordinary life plus a net premium sufficient to purchase a pure endowment of $681.19. A comparison of columns 4 and 6 of the table in question shows that modified preliminary-term valuation does not remove the second objection to preliminary-term insurance. A reserve is established the first year to be sure and it is higher throughout the life of the policy than on the full preliminary-term standard but it is consistently lower than the full net-premium reserve shown in column 4.

The third method of valuation referred to, known as select and ultimate, takes advantage of a factor unheard of in any of the previous standards. This is the fact that net premiums are calculated on the basis of an ultimate table of mortality while the insured is subject to a select rate of mortality during the years immediately following the issue of his policy. Select mortality, as defined in Chapter XI, is the mortality resulting among risks that have recently passed a medical examination. The effect of medical selection was found to last for about five years and mortality rates based on the experience of these first five years after medical examination are known as select rates. The experience of the later years is known as ultimate mortality, and it was on these latter data that the American Experience table was constructed. Therefore, a company basing its rates on the American Experience table will find that it has an excess of premiums during the first five years of insurance because the risk has been newly examined and is in the "select" class. A benefit naturally accrues to any company from the acceptance of risks thus subject to a lower mortality. But the first year of insurance is the year of high expenses. It is proper therefore to balance this select mortality against the high expenses and to allow the company the right to use the savings due to lower mortality in paying the necessarily high costs of writing the insurance. In this way every policyholder will be required to pay his own way in the company. The present valuation standards of the state of New York permit any company to use the benefits of fresh selection in addition to the loading on the first year's premium to pay new business expenses. The method of computing the present value of the assumed savings due to medical selection is too complex to consider here.[2]

The table on page 239 shows select and ultimate reserves on an ordinary life and a twenty-year endowment policy. The difference from the full net premium standard is marked the first year, of course, but is very small thereafter and the two standards coincide for the fifth terminal reserve. In other words, the select and ultimate method permits the company to borrow from the full net premium reserve a sum of money which will never have to be repaid because the mortality which would require it will never occur. But at the end of five years the company must hold the full net premium reserve on the policy. Herein lies the great difference between the select and ultimate method and the two preliminary-term standards; for with the latter the reserve never reaches the full standard until the policy matures other than by death, or until all premiums have been paid. The select and ultimate standard recognizes the benefits to the company of getting new policyholders and permits the spending of the amount necessary to get them, but it does not allow this necessary expense to be spread over a long period of time.

The following table shows the actual reserves required to be held for twenty years according to the different standards herein explained, on an ordinary life policy and a twenty-year endowment insurance issued at age 35.

[2] HUDNUT, JAMES M., Practical Studies in Life Insurance, 51–54. An excellent description of the method of computing these savings, in simple mathematical language. This book has much to commend it for the untechnical way in which it explains many of the complex problems of insurance mathematics.

TERMINAL RESERVES ON DIFFERENT VALUATION STANDARDS
*American Experience 3 Per Cent., Age: 35*

| | ORDINARY LIFE | | | TWENTY-YEAR ENDOWMENT | | | |
|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| YEAR OF INSURANCE | FULL NET PREMIUM STANDARD | PRELIMINARY-TERM STANDARD | SELECT AND ULTIMATE STANDARD | FULL NET PREMIUM STANDARD | PRELIMINARY-TERM STANDARD | MODIFIED PRELIMINARY-TERM STANDARD | SELECT AND ULTIMATE STANDARD |
| 1 | 12.88 | .... | 6.19 | 34.59 | .... | 21.99 | 28.35 |
| 2 | 26.13 | 13.42 | 22.32 | 70.40 | 37.10 | 58.27 | 66.92 |
| 3 | 39.76 | 27.23 | 38.04 | 107.50 | 75.53 | 95.85 | 105.93 |
| 4 | 53.77 | 41.42 | 53.33 | 145.91 | 115.32 | 134.77 | 145.50 |
| 5 | 68.16 | 56.00 | 68.16 | 185.71 | 156.53 | 175.08 | 185.71 |
| 6 | 82.94 | 70.97 | Same as full net premium standard hereafter | 226.93 | 199.24 | 216.84 | Same as full net premium standard hereafter |
| 7 | 98.11 | 86.34 | | 269.66 | 243.49 | 260.12 | |
| 8 | 113.68 | 102.12 | | 313.94 | 289.36 | 304.99 | |
| 9 | 129.65 | 118.29 | | 359.85 | 336.91 | 351.49 | |
| 10 | 146.01 | 134.86 | | 407.45 | 386.22 | 399.71 | |
| 11 | 162.76 | 151.83 | | 456.84 | 437.38 | 449.71 | |
| 12 | 179.87 | 169.17 | | 508.08 | 490.46 | 501.66 | |
| 13 | 197.35 | 186.87 | | 561.28 | 545.57 | 555.55 | |
| 14 | 215.16 | 204.92 | | 616.55 | 602.81 | 611.54 | |
| 15 | 233.28 | 223.28 | | 674.00 | 662.32 | 669.73 | |
| 16 | 251.68 | 241.92 | | 733.77 | 724.24 | 730.29 | |
| 17 | 274.34 | 260.82 | | 796.05 | 788.74 | 793.37 | |
| 18 | 289.22 | 279.95 | | 861.01 | 856.03 | 859.18 | |
| 19 | 308.32 | 299.29 | | 928.91 | 926.36 | 927.96 | |
| 20 | 327.58 | 318.81 | | 1,000.00 | 1,000.00 | 1,000.00 | |

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# CHAPTER XVIII

## SURRENDER VALUES AND POLICY LOANS

### Surrender Values

**Meaning of the Term " Surrender Value."**— It was explained in Chapter XVI that the level-premium plan involves the charging during the early years of the policy of a net premium which is larger than necessary to pay for the insurance in those years, with a view to accumulating a fund sufficiently large to enable the company to meet the cost of insurance in the later years of the life of the insured when the net premium is insufficient to pay for the current cost of protection. These overcharges, we saw, are credited to the policy from year to year at an assumed rate of interest and constitute the reserve. The manner in which this reserve accumulates was illustrated (page 212) in connection with a $1,000 ordinary life policy at age 45, issued on the basis of the American Experience table and 3 per cent. interest. It was seen that the net annual premium of $29.67 on this policy results in a reserve of $19.61, at the end of the first year, and that thereafter the accumulation to the credit of the policy continues to increase until, at the end of the fifty-first year of the contract, or the extreme limit of the insured's life according to the mortality table, it equals the face value of the policy.

Now what shall be done with this fund in case the insured wishes to surrender his policy or fails to pay his premium when due? It is clear that under such circumstances the company, since its future liability under the policy ceases, no longer requires the reserve — the accumulated overcharges in the net premium — for the purpose originally intended. Experience has shown that it is not necessary for the protection of the company or the other policyholders to insist that the insured upon failing to continue his premium payments shall forfeit the entire reserve value of his policy. It has therefore become a universal practice of the companies to permit the insured, in case he surrenders or lapses his policy after it has been in force for several years, to receive all or a designated percentage of its reserve value. This allowance constitutes the so-called " surrender value " of the policy; while the portion of the reserve which the policyholder forfeits is known as the " surrender charge."

**Extent to Which Policies Are Lapsed and Surrendered.** — The importance of allowing surrender values and retaining surrender charges becomes clear when we observe the great extent to which life-insurance policies are terminated by lapse or surrender. Thus, during the year 1921, a typical year for illustrative purposes, the total number of policies issued by all the companies reporting to the Insurance Department of the State of New York amounted to 2,011,757 with an aggregate face value of $4,774,773,426, while the number of policies terminated during the year totaled 1,178,208 with a face value of $2,414,112,210. The various ways in which these policies were terminated are indicated in the following table:

| Terminated by | No. of Policies | Amount of Insurance |
|---|---|---|
| Death | 100,829 | $ 229,687,289 |
| Maturity | 77,056 | 107,933,385 |
| Expiry | 119,205 | 217,778,009 |
| Surrender | 191,138 | 439,351,051 |
| Lapse | 675,573 | 1,324,999,452 |
| Change or decrease | 14,407 | 94,363,024 |
| | 1,178,208 | $2,414,112,210 |

An examination of the table shows that of the 1,178,208 policies terminated during 1921, 866,701 were lapsed or surrendered, and that the amount of insurance thus terminated equaled $1,764,350,503. In other words, the number of lapsed and surrendered policies during 1921 was equivalent to over

43 per cent. of the total number of policies written and over 73 per cent. of the total number of policies terminated during the year. Over twice as much insurance was terminated by lapse and surrender as in the regular ways, i.e. by death, maturity, expiry or change. As regards twenty-nine of the largest companies reported in the *Insurance Year Book*, termination by lapse and surrender during the two decades from 1902 to 1921, inclusive, averaged annually 4.62 per cent. of the mean policies in force, while during the five years 1917–1921 the percentage averaged annually 5.04 per cent.

**Non-Forfeiture Laws.**— Although the practice of allowing a surrender value in some form is an old one, it should be noted that for many years the matter was entirely optional with the companies. But while a few companies exercised their discretionary powers in a liberal manner, practically all the companies doing a general business pursued a policy so illiberal, in nearly all instances allowing no value whatever upon surrender, that there developed on the part of the public a demand for legislative control of the matter, and as a result the several states have enacted so-called "non-forfeiture laws."[1] Mr. Elizur Wright is given credit for having started the first important campaign for such legislation in the United States. As a result of his efforts the state of Massachusetts enacted a law on May 10, 1861, which required the companies of that state upon the surrender of a policy to apply the terminal reserve by the Actuaries' table and 4 per cent. interest, less a surrender charge, as a net single premium to purchase extended insurance for the original amount, such extensions to attach automatically upon the failure of the insured to pay his premium when due. Following the enactment of this law other states soon followed suit, and at present such legislation is general.[2]

[1] For a treatment of the historical development of non-forfeiture legislation and policy provisions see Miles M. Dawson's Elements of Life Insurance, chapter on "Surrender Values."

[2] The general nature of non-forfeiture legislation is indicated by

All the laws now in force base the surrender value upon the amount of the reserve at the time of lapse or surrender, and all allow the companies to retain a surrender charge. In most instances this charge takes the form of a stipulated percentage of the amount of insurance; but sometimes it consists of a percentage of the reserve, or a percentage of the reserve or of the insurance, whichever is greater, or, as in Massachusetts, a percentage of the present value of the future net premiums to be paid under the terms of the policy if continued. As summarized by Mr. James M. Hudnut:

> No law has ever required a surrender value of any kind unless at least two years' premiums have been paid. No state now requires non-forfeiture provisions until three years' premiums have been paid, but all allow companies to pay surrender

the terms of the New York law applicable to policies issued after January 1, 1907. The law reads as follows:

"If any policy of life insurance (other than a term policy for twenty years or less), issued on or after January first, nineteen hundred and seven, by any domestic life insurance corporation, after being in force three full years shall by its terms lapse or become forfeited by the nonpayment of any premiums or any note therefor or any loan on such policy or of any interest on such note or loan, the reserve on such policy computed according to the standard adopted by said company in accordance with section eighty-four of this chapter, together with the value of any dividend additions upon said policy, after deducting any indebtedness to the company and one-fifth of the said entire reserve, or the sum of two and fifty one-hundredths dollars for each one hundred dollars of the face of said policy if said sum shall be more than the said one-fifth, shall upon demand not later than three months after the date of lapse with surrender of the policy be applied as a surrender value as agreed upon in the policy, provided that if no other option expressed in the policy be availed of by the owner thereof, and if the policy itself does not direct what option shall become operative in default of selection by the owner, the same shall be applied to continue the insurance in force at its full amount including any outstanding dividend additions less any outstanding indebtedness on the policy but without future participation and without the right to loans, so long as such surrender value will purchase nonparticipating temporary insurance at net single premium rates by the standard adopted by the company, at the age of the insured at the time of lapse or forfeiture, provided in case of any endowment policy if the sur values earlier at their option. Canada, on the other hand, requires policies to be non-forfeiting after three years and does not allow the issue of policies guaranteeing surrender values until three years' premiums have been paid. The laws of every state base the surrender value upon the reserve, either by a specified standard or by the standard upon which the policy is issued, and all allow a surrender charge — that is to say, a deduction is allowed to be made from the reserve and the balance is the cash value which may either be received in cash or used to purchase paid-up or temporary insurance. The surrender charge allowed under most state laws is 2½ per cent. of the amount insured. In one state it is 3 per cent. of the insurance. Sometimes it is 20 per cent. of the reserve; and in Massachusetts it is "5 per cent. of the present value of the future net premiums which by its terms the policy is exposed to pay in case of its continuance."[3]

**Liberality of Companies in the Granting of Surrender Values.**— While the foregoing non-forfeiture laws define the

applicable to the purchase of temporary insurance shall be more than sufficient to continue the insurance to the end of the endowment term named in the policy, the excess shall be used to purchase in the same manner pure endowment insurance payable at the end of the endowment term named in the policy on the conditions on which the original policy was issued, and provided further that any attempted waiver of the provisions of this paragraph in any application, policy or otherwise, shall be void, and provided further that any value allowed in lieu thereof shall be at least equal to the net value of the temporary insurance or of the temporary and pure endowment insurance herein provided for. The term of temporary insurance herein provided for shall include the period of grace, if any. In every case where a contract provides for both insurance and annuities, the foregoing provisions shall apply only to that part of the contract which provides for insurance, but every such contract containing a provision for a deferred annuity on the life of the insured only (unless paid for by a single premium) shall provide that in the event of the nonpayment of any premium after three full years' premiums shall have been paid, the annuity shall automatically become converted into a paid-up annuity for such a proportion of the original annuity as the number of completed years' premiums paid bears to the total number of premiums required under the contract."

[3] HUDNUT, JAMES M., Studies in Practical Life Insurance, 20. New York, 1911.

amount that must be returned upon the surrender of a policy, it should be noted that many of the companies grant surrender values greater than those required by statute. The chief factor in bringing about this situation was competition between the companies. "The agents of the various companies, in the heat of competition," as explained by Mr. William Alexander, "have stimulated the public to demand large surrender values, and the companies are vying with one another in the liberality of their offers."[4] In fact, some companies allow cash values equal to the full reserve at the end of the second or third year, although the loading on the premium is only for the usual amount. With the great majority of companies, however, the non-forfeiture provisions of the policy become operative only after the payment of premiums for two or three years, and then provide for a surrender charge which is greater during the early years of the policy and which diminishes year by year until the tenth, fifteenth or twentieth policy year, the surrender value thereafter being equal to the full reserve on the policy.

**Reasons Justifying a Surrender Charge.**— Three prominent reasons have been advanced why the company during the earlier years of the policy should make the surrender allowance less than the full reserve. The most important of these relates to the initial expense incurred by the company in securing and issuing a policy. This expense to-day considerably exceeds the amount allowed for expenses in the first year's premium, and the company expects to reimburse itself out of the margin for expenses in the future premiums which the insured is expected to pay in accordance with the terms of his contract. Unless the policy therefore remains in force for several years it will actually prove a source of expense, instead of advantage, to the company. To allow the return of the full reserve to a policyholder who lapses or surrenders his policy in the early years would be an injustice to remaining policyholders since they would be obliged to reimburse the

[4] ALEXANDER, WILLIAM, The Life Insurance Company, 214.

company for the amount it expended in securing the policy in question and which it failed to get from the insured because of his early withdrawal. Justice to remaining policyholders, it is argued, requires the application of some form of penalty for early withdrawal, and this penalty we have seen assumes the form of a complete forfeiture of the reserve in case of lapse or surrender before the payment of the first two or three premiums, and as regards the great majority of companies, the retention, following the payment of the second or third premium, of a decreasing surrender charge during the next ten, fifteen or twenty policy years. Obviously, as the policy grows older more liberal surrender values may be granted. Not only has the company had time to reimburse itself for the original cost of obtaining the policy, but the contract is now self-supporting. Furthermore, the policyholder has become sufficiently accustomed to paying his premiums to warrant the belief that he will continue the policy to its maturity. It should here be stated that by far the greatest number of lapses and surrenders take place during the first and second policy years.

Another reason advanced in favor of not allowing the insured to obtain the full reserve on the policy at pleasure is the possibility that during periods of financial stringency or business depression so many policyholders may avail themselves of the privilege of surrendering their policies as to greatly weaken the financial standing of the company to the detriment of remaining policyholders. In commenting on this phase of the subject, Mr. Edward B. Fackler states:

> In times of business depression, such as this country has seen more than once, even the best securities will suffer serious depreciation though their certainty of payment remains unquestioned. Such a financial crisis is just the time when policyholders, in need of cash, are most likely to demand surrender values from the company, thus not only reducing its premium income, but also forcing the sale of securities at less than their true value, and perhaps crippling the company. In such a case the persons exercising these options should pur-

posely not be allowed a greater proportion of the reserves on their policies than the company is able to realize on the true value of its securities sold to provide cash for retiring policyholders. This matter, however, cannot be regulated by any set of rules, but depends on the amount of the company's assets, the character of its business and investments, and the form of its organization.[5]

Such statements have in view the fact that, unlike the restrictions imposed by savings banks on the withdrawal of deposits, most life-insurance policies now outstanding do not provide for the right on the part of the company to defer payment in time of financial stringency. Within recent years, however, many companies have reserved the right in their contracts to defer payment of the cash value, or the making of a loan except for the purpose of paying renewal premiums, for a period not exceeding sixty or ninety days.

Still another argument in favor of a surrender charge, although some writers question its correctness or importance, refers to the "adverse mortality selection" which it is assumed will be brought about by the allowance of very liberal surrender values. The position taken by the supporters of this view is as follows: A life-insurance policy is a unilateral contract to which the company must always adhere but which the insured may cancel at any time by simply discontinuing his premium payments. Whenever, therefore, the payment of premiums seems a hardship, the healthy policyholder, not feeling the immediate need for insurance, will have no hesitancy in lapsing his policy. Policyholders in poor health, on the contrary, will appreciate fully the value of their insurance and will exert themselves to the utmost to pay the premium. Hence, according to this view, the good risks are likely to lapse on a large scale if surrender values are liberal, while impaired risks will stay with the company. The result is a great reduction in the average vitality of the policyholders remaining with the company. It is therefore argued that retiring policyholders should forfeit a portion of the reserve value of

[5] FACKLER, EDWARD B., Notes on Life Insurance, 97–98.

their policies in order to provide a fund to meet the higher death rate among the poorer risks that remain.

**Various Optional Forms in Which Surrender Values Are Granted.**— Life-insurance policies almost invariably give the insured the option of taking the surrender value guaranteed to him in his contract in one of three forms. The values under each form, and the conditions under which they are granted, are stated fully in the contract. Moreover, the values allowed under the several options are usually equivalent to one another as measured by some standard. Briefly outlined, the options referred to are the following:

1. *Settlement by receiving cash payment.*— Upon request, accompanied by a full surrender of the policy, the company will pay the then cash surrender value thereof, less any indebtedness to the company. By accepting this option the insured terminates all connection with the company as regards the policy in question.

2. *Settlement by accepting paid-up extended term insurance.*— Under this option the face amount of the policy and any existing dividend additions, less any indebtedness to the company on account of the policy, will be extended as paid-up term insurance for such length of time from the date of default in the premium payment as the then surrender value will provide at the net single premium rate for the attained age of the insured according to a certain mortality table with interest at a stipulated rate. It is usually this value which is extended automatically upon the failure to pay a premium; while the other options are usually granted only upon request. At the expiration of the term, the policy, like any other ordinary term contract, will have no further value.

3. *Settlement by accepting paid-up fractional insurance of the same kind as the original policy.*— Under this option such an amount of the original policy will be continued as paid-up insurance as the cash surrender value will provide at the net single premium rate for the attained age of the insured according to a given mortality table and an assumed rate of interest.

In addition to the above customary options there are occasional instances where the policy offers the privilege of using the surrender value for the purchase of a life annuity, a temporary life annuity, or a temporary annuity certain. Many policies also provide that upon the request of the insured, made prior to default in premium payment, the premium or premiums thereafter falling due during the time such request shall remain unrevoked, will be advanced as a loan against the policy at a stipulated rate of interest, provided the then cash surrender value shall be sufficient to cover the loan. Under this plan any premium loan may be repaid at any time.

## Policy Loans

**Development of Such Loans.**— The so-called "premium-note" plan constituted the first important form of loan which participating companies made upon the security of a life-insurance policy. According to this plan, used quite generally as far back as 1845, the company required the insured to pay only one-third or one-half of the premium in cash, and accepted his note for the balance. The notes, which bore interest, were considered a lien against the policy, and it was expected that the annual dividends upon the policy would prove sufficient to extinguish both interest and principal of the notes at the end of a certain time. Although issued usually in the form of a personal obligation, attempts were rarely made to enforce payment of the notes, the same being considered as cancelled when the policy became void upon the insured's failure to pay a premium. For all practical purposes, therefore, this plan was equivalent to granting a surrender value, because the sole security back of the loan was the reserve value of the policy. The dividends actually realized, however, failed to take care of the notes as expected with the result that, since the notes were deducted from the face of the policy at death and the interest on the indebtedness was added to the cash part of the premium, the insured was really carrying decreasing insurance at an increasing cost. As a consequence much dissatisfaction resulted among policyholders, and the entire plan was generally abandoned during the decade following 1870.

Although some companies granted individual loans to policyholders during the period just referred to by accepting an assignment of the policy as collateral, this practice did not become general until after 1890. In 1884 one of the leading American companies issued a contract in which it guaranteed loan values up to 50 per cent. of the reserve. At first, also, a considerable number of companies sought to limit their policy loans to such advances as would enable the insured to pay his premiums. But this plan proved unsatisfactory, partly because of the public's demand for larger loans to meet personal as well as business requirements and partly because of the willingness of many companies, in the race for business, to meet the desire of the public in the matter. Following 1890 the loan privilege manifested the same rapid development towards liberality on the part of the companies that was noted in connection with the granting of surrender values. "Companies, in their struggle for size and in their desire to issue policies that could be readily sold by the agents," to quote Mr. A. E. Childs, "became more and more liberal in their offers, and even went so far as to instruct their agents to use these liberal policy conditions as the principal talking-points in their efforts to sell insurance." [6]

**Nature of Policy Loans as Now Granted.**—Although the loan privilege is granted to-day by all companies, a considerable variance exists as regards the size of the loan. Some companies limit the loan at all times to a stated percentage of the reserve, while others lend the full terminal reserve less the interest on the loan. Still other companies lend the full terminal reserve of the policy at the end of the next year less interest in advance and the premiums payable before the expiration of the next policy year. Nearly all policies also make provision, as already indicated, for the advancement to

[6] CHILDS, A. E., "The Ultimate Effect of an Unrestricted Right to Borrow on Life Insurance Policies," *Proceedings of the Seventh Annual Meeting of Life Insurance Presidents.*

the insured, upon request, of any premium or premiums falling due, provided the cash surrender value is sufficient to cover such loans. If the cash value allowed under the policy is less than the reserve, such value is almost invariably made the basis of the loan, the insured being allowed to borrow all or a designated percentage thereof. Under such conditions the policy provision guaranteeing the loan usually reads to the following effect:

> Upon request and the sole security of this policy properly assigned, the company, unless extended term insurance be in force, will advance at a rate of interest not exceeding 6 per cent. per annum, an amount which with the interest, and any unpaid premium or premiums, for the then current policy year shall equal, or at the option of the insured be less than, the cash value of the policy and of any existing dividend additions at the end of such year. Failure to pay either loan or interest shall not avoid the policy unless the total indebtedness to the company on account thereof shall equal or exceed the cash surrender value of the policy and any existing dividend additions, nor until thirty-one days after notice shall have been mailed to the last known address of the insured and of any assignee.

**Advantages Resulting from the Loan Privilege.**— While the granting of a policy loan is frequently the equivalent of giving to the insured the surrender value of his policy, there is nevertheless a vital difference between the underlying purposes of the two. Policy loans were originally granted by many of the leading companies with a view to enabling the insured to obtain the necessary funds in time of financial need to pay his premiums, and thus avoid the necessity of surrendering his policy for its cash value. In this connection, reference may again be made to those provisions in modern policies which allow, either automatically or upon the request of the insured, for the advancing of premiums as a loan against the policy as long as the surrender value is sufficiently large to protect the advances. In fact, some of the largest companies first adopted the loan feature in their contracts during periods of crises, such as in 1893, with the result that much of their insurance in force was maintained by thus temporarily assisting their policy holders.

Not to grant loans in times of financial distress, and at the same time offer cash surrender values, may cause the surrender of many policies in order to realize much needed cash. For many persons, therefore, the policy loan is the means not only of preventing the loss of their insurance but also of temporarily protecting the family from want. Furthermore, the loan privilege has frequently served a very useful purpose in enabling business men to realize additional cash at a time, especially in the midst of a panic, when it is impossible for bankers to meet their requirements. It is at such times, as we have seen, that the loan value of life-insurance policies is a real asset which enhances the credit of the business man because it is available on demand, or at short notice, irrespective of the conditions which may prevail, and usually at the fixed rate of 5 or 6 per cent.[7] In fact, the extent to which policy loans were obtained during the panic of 1907 demonstrated their usefulness as a means of helping in time of need to such an extent as to raise prominently the question whether it is not advisable for life-insurance companies to follow the practice of savings banks in protecting themselves against a possible run at a time when interest rates are excessive and when it is impossible, except at a great sacrifice in values, to realize upon their securities. It is for this reason that many companies have in recent years reserved the right to defer the making of policy loans, except for the purpose of paying renewal premiums, for a period of from sixty to ninety days.

**Extent of Policy Loans and the Relation of Such Loans to Lapses and Surrenders.**—While the loan privilege frequently serves as a means of maintaining policies which would otherwise be surrendered, or at times fulfils a real business need, it is also true that the privilege is grossly abused by many for purposes that should never be allowed to endanger the protection which it is the function of life insurance to af-

[7] See pages 47 to 49 of this volume.

ford. Owing largely to the emphasis placed by companies and their agents upon liberal loan values as an inducement to sell insurance, a large element in the insuring public has come to regard the value of policies as little more than an accumulation of deposits to be obtained by way of surrender or a loan upon the slightest provocation. With many, borrowing on policies has become a habit. This conclusion seems warranted by a consideration of the enormous increase of such loans in recent years. Whereas the percentage of policy loans and premium notes amounted to 3.32 per cent. of the total reserves of the various companies reported in the *Insurance Year Book* for the year 1888, that percentage had increased to 16.9 per cent. during the year 1913, when policy loans for 260 companies aggregated $657,994,947 as compared with a total reserve value of policies in these companies of $3,903,-615,175. Between 1903-1913 the policy loans of these companies increased 313 per cent. as compared with an increase of only 106 per cent. in total admitted assets and 73 per cent. in total insurance in force, i.e. policy loans increased nearly three times as fast as assets and about four and one-half times as fast as the volume of insurance. During 1914–1921 the increase in policy loans continued absolutely, namely, from 735 to 1,058 millions or 44 per cent. Relatively, however, the situation greatly improved, since during the same period admitted assets increased 61 per cent, and insurance in force 48 per cent.

The large increase in the volume of policy loans furnishes ample evidence of the careless manner in which many mortgage the monetary value of their policies for purposes of speculation or needless expenditures. To again quote Mr. A. E. Childs: "The very people who are living up to and even beyond their incomes, depending upon their insurance for the future protection of their families, are the very people who are mortgaging their insurance just as soon as the deposits are large enough to satisfy some of their more expensive desires. They either forget the original purpose for which they took the insurance or they allow their selfish desires for temporary enjoyment to outweigh their appreciation of the necessity for providing for the future."[8] Too frequently policyholders effect loans on their policies simply because they are so easily obtained, never appreciating at the time the vital relation of life insurance to the beneficiary and often neglecting some other available asset which should have been selected in preference to the cash value of the policy. It should again be stated that the fundamental purpose of life insurance is protection to the family. When once acquired, therefore, it is essential that life insurance be conserved, and in this connection it is highly important to bear in mind that the great majority of such loans are never repaid and that the policy lapses upon failure to make such repayment. As previously stated, "Life insurance should be regarded as a sacred possession to be mortgaged only in case of extreme necessity. Borrowing on the policy depreciates its value and defeats the original purpose it was intended to serve. If not actually necessary, borrowing on a policy is an act of flagrant injustice to the beneficiary."

Much has been written of late to stem the tide against increasing policy loans, and man,· companies have attempted in recent years to check the abuse by raising the interest rate from 5 to 6 per cent. and by reserving the right to defer such loans for sixty or ninety days. The difficulty involved, however, is a deeper one, namely, the failure on the part of the insuring public to understand the fundamental purpose of life insurance. It is therefore highly essential to impress upon the insured as well as the beneficiary the necessity of not allowing unnecessary loans to defeat the sacred purpose of life insurance in protecting the home or in providing for old age. If women — the beneficiaries in the great majority of instances — understood that a policy loan usually means a lapse, that replacement becomes possible only upon a satisfactory medical examination, and that in any case the loan for the time being impairs the amount of protection, and if they

[8] CHILDS, A. E., "The Ultimate Effect of an Unrestricted Right to Borrow on Life Insurance Policies," *Proceedings of the Seventh Annual Meeting of Association of Life Insurance Presidents,* 29.

were shown their right to keep themselves posted as to what the insured is doing with his policies, there is reason to believe that the number of policy loans would be greatly reduced and limited in the main to cases clearly justifiable. In this connection, also, the agent who originally negotiated the contract could, if again placed in touch with his client at the time a loan is contemplated, render a distinct service by emphasizing to him the reasons against needless policy loans. Such efforts are apt to prevail, especially if the agent renders the further service of helping to suggest the use of some other assets which the insured may possibly have available to meet his pressing financial needs.

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# CHAPTER XIX

## SURPLUS

**Meaning of Surplus and Sources from Which Derived.** — Life-insurance policies may be classified either as "non-participating" or "participating." Non-participating policies are those which definitely guarantee the premium and the sum insured and do not entitle the insured to receive any other benefits than those expressly set forth in the contract. Participating policies, on the contrary, usually require the payment of a premium considerably larger than necessary to meet the company's liability under the contract, and as a consequence the insured is allowed from time to time to "participate," i.e. to receive a portion of the surplus earnings of the company. This surplus may be defined as that sum which the company has on hand after deducting the reserve value of its policies and after paying its current expenses and annual death claims.

To understand the sources from which a company derives its surplus, it is necessary to recall the nature of life-insurance premiums. Net premiums, we saw, are calculated on the assumption that a certain rate of interest can be earned and that death claims will occur as indicated by a given mortality table. If, therefore, the rate of interest actually earned and the mortality actually experienced are just equal to the assumptions, and if all policies remain in force until maturity, net premiums will prove just sufficient to enable a company to meet the benefits guaranteed under its contracts. But to the net premiums the companies must add a loading to cover expenses and contingencies. It is thus clear that in the regular conduct of its business a life-insurance company might derive a surplus from three principal sources: (1) a higher return on investments than the rate assumed for premium and reserve computations, (2) a lower death rate than that indicated by the mortality table employed, and (3) a saving in the loading because total expenses are less than the total loadings. Although the sums derived from all three sources are usually called surplus earnings, it should be noted that the last two are really in the nature of a salvage and that only the first — interest earnings on investments in excess of the assumed rate — may be truly characterized as a profit. A few minor sources of surplus, such as gains from the surrender or lapse of policies and from non-participating business, should also be mentioned, but these sources are usually of much less importance than the other three.

**Gain from Investment Earnings.**— Since life-insurance policies are written for a long term of years it is essential that the companies assume a rate of interest for their net premium and reserve computations so conservative as to preclude any likelihood of failure to realize the same at any time throughout the life of the contract. At present the assumed rate is usually 3 or 3½ per cent., although many of the old policies still in force were issued on the assumption that a 4 per cent. rate would be realized on investments. If a company has based its net premiums and reserves on the assumption that it will earn 3 per cent. but actually earns 4½ or 5 per cent., as is now generally the case, that 1½ or 2 per cent. (minus the expenses connected with the making and maintenance of investments) represents the excess of investment earnings over and above the return necessary to the solvency of the company, and may, if considered advisable, be returned to the policyholders who contributed the same. Frequently a company may gain large profits from appreciation in the value of its investments, and this item is usually included under the general heading of interest earnings.

**Saving from Mortality.**—This saving arises from the fact that life-insurance companies in the United States do not experience on the average as heavy a mortality as is indicated by the mortality table employed and which has therefore been provided for in the premiums. At the end of any given year the saving in mortality represents the difference between the face value of the policies to be paid according to the mortality table used and the face value of the policies actually paid minus the reserve on the policies thus not paid. The reserve, it will be recalled, was defined as that sum which, together with future premiums, will enable the company to pay future death claims. In calling saving from mortality a surplus it is assumed, as Mr. Miles M. Dawson well explains, that "the lives which complete the year, no matter if there have been fewer losses than as per the table during the year, have as good vitality and as good chances of life as the persons at their attained ages, from whose lives the experience was taken which made up the mortality table. Therefore, their future premiums, with their present reserves, assure the payment of their claims; and the premiums which have been received in excess of the needs of the past and of the reserve, may therefore be considered a true surplus."[1] Most writers in discussing this source of surplus emphasize the importance of not placing too much reliance on the showing for any one year since mortality may fluctuate from year to year, and maintain that safety requires the finding of the company's experience in this respect for a number of years. It is therefore asserted that it is unwise for a company to distribute in dividends all of a large saving from mortality in one year, and that, if it is not desired to decrease dividends in later years, prudence requires the retention of a portion of such saving to balance a possible smaller saving in a later year.

**Saving from Loading.**— Prudent management in life insurance dictates that the gross premium should be more than sufficient to just meet normal requirements so that the company may be protected against exceptional conditions. In fact, one of the avowed purposes in loading is the provision of a definite dividend to be returned to the policyholder at the end of the year together with the gains from other sources. Competitive conditions, however, especially in the matter of agents' commissions, brought about a situation

[1] Dawson, Miles M., Elements of Life Insurance, ed. 3d, 102–103.

which until recently meant that the average company was just about able to keep its aggregate expenses within the aggregate loading on its premiums. Within recent years there has been a marked tendency towards economical management in life insurance and at present a large number of companies manage, by exercising rigid economy, to make their annual expenses much less than their allowance (the loading in the gross premium) for expenses and contingencies. Hence they are able to credit a very considerable saving to surplus, and this saving renders the twofold purpose of protecting the company against financial disturbances and of furnishing a substantial fund out of which to pay dividends.

**Gains from Forfeitures.**— The great majority of companies, as previously explained, retain all or a portion of the reserves of those policies which are surrendered or lapsed within a designated number of years. The sums thus retained have sometimes been regarded as constituting another source of surplus, although, as has been well said, "it seems to be an anomaly that any business should really be the gainer by losing custom." Owing to the large surrender values prevailing at present, however, and the high expense of securing new business, this factor can scarcely be regarded as yielding a profit; furthermore, if any gain should be derived from this source, it is treated usually as an offset to expenses.

Two reasons have been advanced to show that the so-called "gain from forfeitures" is only an apparent and not a real gain. In the first place it is believed that where illiberal surrender values are allowed the apparent gain to the company is offset in part by an unfavorable mortality experience, which is attributed to the adverse selection which it is believed will result from the fact that healthy policyholders will show a greater disposition to discontinue illiberal contracts while those who are failing will remain in the company irrespective of the harshness of policy provisions. But of much greater importance, it is argued, is the expense of replacing the old risk with a new one. Not only did the company incur the heavy initial expense of securing the discontinued policy but in replacing it with a new policy it incurred this initial expense a second time, i.e. it is obliged to make two subtractions from its insurance fund in order to secure one policyholder. Moreover, certain investigations also show that companies with a reputation for liberal surrender values not only secure business at lower rates of commission than those paid by companies pursuing a different course, but also pay the highest dividends to policyholders.

**Methods of Apportioning the Surplus.**— Having outlined the sources from which the surplus is derived we may next pass to its apportionment among policyholders. The plan now generally used in the United States is known as the "contribution plan," or some modified form of that system. As its name implies, this plan aims to credit to each policy that proportion of the company's total surplus which the policy in question has "contributed." According to the plan "the surplus is rebated back to the insured precisely as it is considered that his policy has contributed it. Thus if the mortality has not been so high as was assumed, there is put into his dividend the proportionate saving on his own tabular cost of insurance. In like manner, if the expenses and contingencies have not absorbed all the aggregate loading on the premiums, there is given him in his dividend the proportionate part of his loading that has not been required for expenses and contingencies. If the average interest returns upon the mean assets have exceeded the rate assumed, he receives in his dividend interest at the additional rate upon the funds belonging to his policy."[2] Stated in the form of a debit and credit account, the policy is credited under this plan with (1) the terminal reserve at the end of the previous year, (2) the premium paid under the policy, and (3) the interest actually earned on these two items minus investment expenses; and is debited with (1) actual expense of conducting the business, (2) cost of insurance as shown from the actual experience of the company, and (3) the terminal reserve of the policy at the end of the year. The difference between the two sides of

[2] Dawson, Miles M., The Business of Life Insurance, 70.

the account is regarded as the surplus contributed by the policy under consideration.

Although regarded as theoretically sound in principle, numerous difficulties arise in the application of the plan and many modifications of the system are therefore found in actual practice. In applying the system some companies employ the "two-factor method," some use three factors, and a few even four. Under the two-factor method the surplus is usually divided into the following two parts: (1) that derived from surplus interest and (2) that derived from all other sources combined, the gain from interest being distributed in proportion to the reserves and the balance of the surplus in proportion to the loadings. Where three factors are used, the elements referred to are saving from loading, saving from mortality and gain from excess interest. In the case of deferred dividend policies (those which defer the distribution of surplus to the policyholder until the end of a stipulated number of years) the dividends are usually computed in the following way: (1) the actual dividends which the policy would have received had it been on the annual dividend plan are ascertained; (2) these annual dividends are accumulated at compound interest up to the end of the dividend period; and (3) the accumulated amount of these annual dividends is then increased by a percentage in order to recompense the policyholder for the risk which he assumes under the deferred dividend system, and which is not assumed under an annual dividend plan, of losing the accumulated surplus through death, surrender or lapse during the distribution period.

The assessment of expenses probably presents the greatest difficulty connected with the distribution of surplus. By far the greatest part of the expenses of a life-insurance company is the initial expenditure incurred for the procurement of new business. With respect to this large initial expense some hold that it should be assessed against the new business, while others maintain that the new business is for the benefit of the company as a whole and that the initial expense should therefore be assessed against the company's entire business. Furthermore, many expenses, such as rent, office supplies, salaries, office expense, advertising, postage, etc., are of a joint nature and it is difficult to identify the same for the purpose of assessing them upon the numerous individual policies and groups of policies carried by an insurance company. This difficulty of properly assigning expenses to individual policies has been the subject of much discussion in recent years. Mr. Daniel H. Wells, for example, has suggested the following plan as the best method of most nearly attaining the equity which it is the aim of the contribution method to give: "Assess upon the investment income all investment expenses, upon premiums such expenses as are determined by the premiums, and upon the death cost, or what is technically called the cost of insurance, all other expenses."[3] Yet this rule, as is probably also true of any other general rule that can be devised, still leaves the difficulty of identifying each of the numerous expenses of a company with reference to each individual policy. In his discussion of this complex question Professor Gephart is forced to the conclusion that "absolute definiteness cannot be secured, for the best devised principles for assessing insurance expense will meet many difficulties when the attempt is made to apply them."[4]

**Meaning of the Terms "Divisible Surplus" and "Dividends."**— Having ascertained the amount of surplus for all policies, the company may next set aside out of this amount a so-called "contingent reserve." The balance of the surplus fund may be considered as "dividend" or "divisible" surplus, the terms having reference to that part of the surplus which the management of the company decides may be returned with safety to its policyholders. The sums thus returned are commonly designated as "dividends" or "profits," although these terms as used in life insurance should not, as is the case in business generally, convey the idea that the amounts returned represent the "chance element in produc-

[3] WELLS, DANIEL H., "Distribution of Surplus," *Yale Readings in Life Insurance*, chap. 19, 264.

[4] GEPHART, W. F., Principles of Insurance, 201.

tion." Instead, we have already seen that, with the possible exception of excess interest earnings, surplus in life insurance consists of salvages, and dividends to policyholders therefore represent essentially the return of that portion of their premium payments which the experience of the company shows to be unnecessary for the payment of claims and the maintenance of reserves.

While the companies may, in the absence of legislation, use their discretion in determining the amount of surplus to be distributed there is a tendency to regulate this matter by statute. Thus, as a result of the New York insurance investigation of 1906, that state limited the amount of surplus which a company may withhold from policyholders, the limit varying from 20 per cent. of the reserve liability in the case of smaller companies to 5 per cent. of the reserve where the same exceeds seventy-five millions of dollars. The purpose of this legislation was to prevent the company from retaining more surplus than is necessary to offset the factors, such as fluctuations in the mortality rate and in interest earnings, which are apt to interfere with the payment of uniform dividends. It was felt not only that life insurance is not subject to unusual losses such as are experienced in fire insurance, and that the aforementioned limits are therefore conservative, but that a large surplus furnishes a constant temptation for the misuse of funds and for extravagance in the conduct of business.

**Methods of Distributing the Surplus According to the Time of Distribution.**— Dividends may be paid either annually or on the deferred-dividend plan. The annual-dividend plan is now most generally used by companies issuing participating policies, and in certain states is required by statute. The dividends, as will be shown later, may be used to reduce premiums, to purchase paid-up additions, etc. In nearly all the well established companies these dividends gradually increase from year to year because the increasing reserve value of the policy results in an increasing surplus through the operation of the excess interest factor, Deferred dividends, as distinguished from annual dividends, refer to those which, according to the terms of the policy, are not payable until the close of a stipulated number of years, such as five, ten, fifteen or twenty years. Policies providing for payment of dividends in this manner are commonly called "deferred-dividend," "accumulation," "distribution," or "semi-tontine" policies. The underlying principle of the plan is that those policyholders who fail to continue premium payments to the end of the designated period because of death, surrender or lapse, lose the dividends which they would have received under the annual-dividend plan, and that the dividends thus lost revert to those policyholders who continue their premium payments throughout the deferred-dividend period. The system as used at present must not be confused with the so-called "tontine" plan, which was at one time used in the United States and which provided for a forfeiture of both dividends and policy value upon failure to pay a premium, the entire forfeiture accumulations being divided among the persisting policyholders at the close of the designated dividend period. As distinguished from this plan, the deferred-dividend system applies the forfeiture idea to dividends only, and thus reduces the chance of large gains being derived from the surrender or lapse of policies.

But even in its present form the deferred-dividend plan seems to be losing favor with the public and is being superseded by the annual distribution system. The latter plan, it is argued, is not only well adapted to the policyholder who wishes to keep his annual premiums to the lowest possible figures, but also serves the purpose of making the company economical in the management of its business since extravagance will at once be revealed by a reduction in the annual-dividend distribution. The deferred-dividend system, on the other hand, has met with much opposition in recent years, although the plan has also many able supporters. Briefly outlined, the arguments advanced against and in favor of the plan are the following:

Against the plan it is argued:

1. That it is the reverse of insurance, the fortunate survivors benefiting at the expense of those who die.

2. That the plan is frequently not understood by the insured at the time the contract is issued, or, if understood, its significance is not properly appreciated.

3. That the plan furnishes a temptation towards extravagance in that it gives the company possession of large unassigned surplus funds. This is especially true where an accounting to policyholders is deferred until the end of the dividend period, whereas under an annual distribution plan such extravagance would not be likely to occur since it would come to the immediate notice of policyholders. It is for this reason that some of the companies using the plan give an annual accounting to their policyholders of the amount of surplus standing to their credit, thus enabling them to judge whether the company is properly managed.

4. That the plan has been responsible in the past for extravagant estimates on the part of agents as to the amount of dividends that would be realized by policyholders who would continue premium payments to the end of the dividend period. In fact much of the opposition to the system was occasioned by the fact that the estimates made far exceeded the results obtained, thus causing many policyholders to labor under the impression that they had been deceived by the companies.

In favor of the plan it is argued:

1. That it represents an understanding between the insured and the company which is clearly set forth in the contract and which should be known to the insured at the time the contract is issued. It follows that the plan is not morally wrong and works no injustice to the policyholder since he has the right to have his dividend payments deferred and conditioned upon the payment of premiums during the whole of the stipulated dividend period.

2. That with reference to a company's solvency the plan is more advantageous than the annual distribution system in that it enables the company to retain control of a large fund

which is free from any definite liability and which will serve as a protection against the depreciation of the company's assets in time of financial panic or business depression. The shortcoming of the annual distribution system, it is argued, lies in the fact that the company, owing to the strenuous competition prevailing in the business, may possibly endanger its solvency by too liberal a distribution of its surplus funds.

**How Dividends May Be Used.**— Having explained the sources of the surplus, and the methods of ascertaining and apportioning it, we may next pass to a consideration of the various forms in which the insured may receive his allotment. Briefly stated, it is customary for American companies to allow the insured, at his option, to take his dividends in any one of the following five ways:

1. The current dividend each year as determined by the company may be withdrawn in cash or applied to the payment of premiums.

2. Instead of taking dividends in cash, the insured may have the same applied to the purchase of non-forfeitable paid-up additions to the policy. Such paid-up additions may be either participating or non-participating, depending upon the terms of the contract. Usually proof of good health is not required as a condition precedent to the exercising of the option, and if required, such evidence of good health need be furnished only once, namely, at the time when this form of dividend distribution is first applied for. Unless the owner of the policy elects some other plan, the companies usually reserve the right in their contracts either to pay dividends in cash or to apply the same to the purchase of paid-up additions.

3. Dividends may be allowed to accumulate to the credit of the policy either at a definite rate of interest or at such a rate as may be determined by the company, and are withdrawable on any anniversary of the policy.

4. Dividends may be used to make the policy a paid-up contract. This means that whenever the reserve on the policy and existing dividend additions at the end of any policy year shall equal or exceed the net single premium for the attained

age of the insured, according to a given mortality table and a stipulated rate of interest, for an amount of insurance equal to the face amount of the policy, the company, at the request of the insured, will indorse the policy as paid-up insurance for such an amount as the reserve will purchase at the premium named.

5. Dividends may be applied to convert the policy into an endowment, or in the case of endowment insurance to shorten the endowment term. Stated in another way, this plan provides that whenever the reserve on the policy and existing dividend additions at the end of any year shall equal the face amount of the policy, the company upon its surrender will pay the same as a matured endowment. The surplus is allowed to accumulate with the understanding that said accumulation is not paid in the event of death. In case of surrender or lapse, however, these accumulated dividends are not forfeited, since they are made to constitute a part of the policy's surrender value.

Various other ways of using the surplus on behalf of the insured may be mentioned, but their employment is only occasional. Under the deferred-dividend plan the insured may be given the option of having the surplus used for the purchase of a life annuity or temporary life annuity, thus resulting in a reduction of future premiums if the insured wishes to use the annuity in that way. At one time some companies also applied dividends for the purchase of an increased amount of insurance for a single year, but this plan is no longer used.

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# PART III

# SPECIAL FORMS OF LIFE INSURANCE

# CHAPTER XX

## FRATERNAL AND ASSESSMENT INSURANCE

**Extent of Fraternal Insurance.**— The preceding chapters are descriptive of "old-line" life insurance, i.e. life insurance based upon the maintenance of an adequate reserve. Yet a very considerable proportion of the total life insurance written in this country is carried by fraternal orders which for years have conducted their operations on the assessment plan. The 283 fraternal orders included in the statistics of the *Insurance Year Book* show insurance in force at the end of 1921 of $10,034,000,000, or an amount nearly equal to 22 per cent. of the $45,983,000,000 of insurance carried by the old-line companies. The number of fraternal benefit certificates in force exceeded 8,500,000, the amount of new business written during the year amounted to $785,000,000, the claims paid, $108,000,000, and the assessments, $171,000,000. As has been said, over one-fourth of the country's population is directly or indirectly interested in these societies. But while the regular life-insurance companies held reserves of $6,203,000,000 at the close of 1921 to guarantee the fulfillment of their obligations, the assets of fraternal orders, although the face value of their certificates amounts to nearly 22 per cent. of the total insurance in force with the regular companies, amounted to only $327,000,000.

**Organization, Government, and Legal Status of Fraternal Societies.**— The primary purpose of these societies is to enable their members, composed chiefly of persons with limited means whose aim it is to secure the protective benefits of insurance at the smallest possible cost, to unite in a fraternal way for mutual protection. In fact the strength of the system and the survival of many of the large societies for so many years, despite the inherently defective methods which have characterized their insurance business, are attributable chiefly to the fraternal tie which closely binds the members together.

Generally speaking, the organization and government of a fraternal society assumes the following form: A parent society (or grand lodge), governed according to the terms of its constitution and by-laws, creates numerous local subordinate lodges. These local bodies, while usually allowed to regulate their affairs to some extent, especially as regards their purely benevolent features, are nevertheless subject in all important matters to supervision by the parent society and are governed by the rules which it adopts. As a rule some ritual is also observed. Another feature of such societies is the purely democratic form of government that prevails, all the members having the right to vote in their respective lodges on matters that affect the society as a whole, such as the selection of officers and the adoption of laws. The grand lodge usually consists of the representatives elected by the members of the local lodges, although in some instances there is a supreme lodge, composed of representatives selected by the various grand lodges, each of which in turn is made up of representatives chosen by the members of its subordinate local lodges. Some of the societies are incorporated bodies, while others are voluntary associations.

From a legal point of view fraternal societies differ essentially from companies whose insurance operations are organized on a strictly business basis. Most of the states have enacted legislation regulating the organization and conduct of such societies, but in all instances their benevolent character is insisted upon. Unless illegal, their rules are generally enforced by the courts. The other important legal characteristics of fraternal orders have been concisely summarized by Mr. Walter S. Nichols as follows:[1]

[1] NICHOLS, WALTER S., "Fraternal Insurance." A lecture delivered at Yale University, published in *Yale Readings in Life Insurance*, i, 138–139.

Nearly all of the societies have their own adjudicators for determining the standing and rights of their members, by whose decision the members must abide. These the courts will refuse to interfere with so long as they act honestly and fairly within their legitimate province. They are mutual societies, in which, like churches, the members are expected to abide by the form of government to which they have subscribed. A local lodge may be cut off from affiliation with a parent society or may cut itself loose just as a church may cut loose from its denominational connection. In neither case is the society itself dissolved. It simply loses the rights which belong to it as a member of the parent society and must surrender whatever is in its possession and belonging to the parent. If it has a charter from the state, the state laws governing it as a corporation are superior to any rules of the association itself.

On one point, however, whether incorporated or not, the courts are insistent, that is, no rule or action of the society can deprive a local lodge or a member of insurance or other property interests which are already vested, that is, in which an unconditional ownership has been established. Where they are incorporated, like other corporations they are regarded by the law as artificial persons acting through their officers as their agents and with no personal liability on the part of the members except those imposed by the rules of the society itself. Where they are not incorporated their legal character is not so easily confined. They are often regarded as a peculiar kind of partnership qualified by the special purposes for which they were organized.

**Distinctive Characteristics of Fraternal Insurance.**— As insurance associations, fraternal societies issue to their members so-called "benefit certificates," according to which they promise, in return for "assessments" or "contributions" from the certificate holder, to pay certain stipulated "benefits" in the event of death or whatever other contingency may be covered. Yet it is apparent that "any organization which guarantees the payment of a definite sum of money, under certain circumstances, dependent upon the contingency of human life, in return for certain contributions, does an insurance business." The document containing the promise to pay may be called a "benefit certificate" instead of a policy, the term "contribution" or "assessment" may be used instead of premium, and the final payment in the event of death may be designated as a "benefit" instead of a claim, yet the whole transaction is essentially a form of insurance.

The ordinary life-insurance policy is simply a definite promise to pay, in return for a fixed consideration, a stipulated sum on the occurrence of the specified contingency, and contains all the conditions which govern the parties to the contract. In this respect fraternal societies follow a radically different plan. Although the certificate is issued on the basis of an application[2] which is similar to that required by regular old-line companies, the benefit certificate[3] differs from an ordinary policy in three important particulars:

1. The certificate is comparatively brief, usually stating that the holder thereof is a member of the society, that he is entitled to all its privileges and to a certain portion of the beneficiary fund, and that the society's promise in this respect is conditioned on the member's compliance with the constitution and laws of the society, which are declared to be a part of the contract. In other words the benefit certificate, unlike an ordinary life-insurance policy, does not specify in detail the conditions which govern the indemnity agreement; instead, these are found in the society's rules.

2. The certificate merely recognizes the holder's rights as a member in the society to share in the benefit for a specified amount. The certificate remains the property of the member, who is usually given the right under the rules to change the beneficiary at will, while the ordinary life-insurance policy is the property of the beneficiary designated therein unless the insured has expressly reserved the right in the contract to change such beneficiary at will. Usually the holder of a benefit certificate can only name as beneficiary some member of his family or other dependent.

3. The certificate, according to the laws of most states,

[2] For a specimen of such application, see page 481 of this volume.

[3] For a specimen copy of such benefit certificate, see page 480 of this volume.

cannot be an agreement promising the payment of a definite amount for a fixed premium as is the case with old-line contracts. From a practical point of view the most important difference between fraternal and old-line insurance has been the failure of the former to maintain a reserve sufficient to guarantee the payment of all obligations as they mature. In fact, until recently, the reserve idea was bitterly opposed by most fraternal orders as an unnecessary overcharge. Instead of accumulating adequate reserves, many of the societies proceeded on the plan of charging low premiums (which experience soon demonstrated to be woefully inadequate) and reserved to themselves the right, in case the funds on hand should prove insufficient to meet current claims, either to assess their members for an amount equal to the deficit or to scale down the amount of the benefit so as to make its payment possible with the funds on hand. In reality, therefore, the benefit certificate does not constitute a promise to pay a definite amount for a definite consideration. Since they have not promised to pay more than the funds on hand, together with the assessments which they are able to collect from their members, enable them to pay, fraternal societies, considering the matter from a purely theoretical standpoint, cannot become insolvent. Yet a very large number of such societies have passed out of existence as utter failures because they were unable to obtain sufficient funds through assessments upon their members to pay the benefits upon which members were relying for the protection of their families in case of death and for which they had been contributing for years.

The unfortunate experience of so many fraternal orders is primarily due to the failure to recognize, until too late, that the only practicable plan of life insurance, as already explained, is one involving the payment of a level premium and the accumulation of an overcharge in the early policy years with a view to meeting the deficit in the premium in the later policy years when it is insufficient to meet the cost of insurance. The societies operated on the plan of giving protection at the lowest possible cost. They went on the theory that, as benevolent organizations, they should not conduct an insurance business for profit, and placed their reliance upon the collection of assessments to meet any unforeseen contingencies that might arise. Unusual deficits were not expected because it was believed that the constant enrollment of young members would keep the average death rate about the same from year to year. But even assuming that deficiencies might occur, it was believed that the fraternal spirit would cause the membership to remain united and willing to pay the increased assessments which the society might see fit to levy.

**Various Assessment Plans that Have Been Used.**— One of the most interesting phases of fraternal insurance to study relates to the various assessment plans that have been employed. The first one to be generally adopted was the "flat assessment" plan, according to which the same assessments were charged regardless of age. Manifestly, this plan results in assessing the younger members much more than the actual cost of their insurance and the older members much less. The assessments charged under this plan also proved in nearly all instances to be woefully inadequate. In the course of time the defective character of this crude method became apparent. As the age of the members increased the death losses grew heavier with the result that assessments had to be increased. Younger members soon realized that they were paying much more than their just share to meet current claims, which, it was observed, were being paid to an increasing extent to the older members. The younger members would, therefore, escape paying heavy assessments by withdrawing from the society, usually to join some younger society where protection could be obtained at a lower cost, while the old and infirm members would remain. Because of this adverse selection the average age of the membership in the society, and consequently the assessments, would rapidly increase, thus further accelerating the rate of withdrawal on the part of young and healthy members. Under these conditions it would soon become impossible to secure any more new members. The proportion of the remaining members who were aged or infirm would now rapidly increase and death losses would also increase correspondingly. With the membership decreasing and death losses rapidly increasing, assessments would, in the course of time, reach prohibitive figures with the result that the society would dissolve, thus depriving a large number of old or sickly certificate holders of the protection for which they had contributed for years and which, under the circumstances, could not be replaced with insurance in a regular company. The influence exerted by this adverse selection is indicated by the two following actual examples.[4] The first column in each case represents the membership of the society and the second column the number of deaths per 1,000 during successive years. It will be noticed that in the case of the first society, for example, the membership decreased in eleven years from 62,457 to 16,894, or nearly 73 per cent., while the death rate increased from 12.5 per 1,000 to 33.9, or over 171 per cent.

| I | | II | |
|---|---|---|---|
| Members' | Death Rate | Members' | Death Rate |
| 62,457 | 12.5 | 126,128 | 13.7 |
| 62,574 | 13.0 | 131,031 | 13.2 |
| 61,355 | 15.4 | 135,368 | 14.8 |
| 60,554 | 16.4 | 132,674 | 16.1 |
| 60,076 | 16.5 | 127,073 | 16.1 |
| 56,060 | 16.1 | 123,380 | 16.4 |
| 53,210 | 18.4 | 119,785 | 16.6 |
| 36,028 | 21.8 | 115,212 | 17.7 |
| 21,316 | 26.8 | 96,633 | 19.0 |
| 19,119 | 30.1 | 89,679 | 22.3 |
| 16,894 | 33.9 | 82,256 | 22.2 |

The next assessment plan to be generally adopted was the so-called " graded assessment." Here assessments were graded according to the age of entry, varying, for example, from $.60 at age 20 to $2.50 at age 60. It was, however, again the purpose of the society to collect just enough to pay current

[4] These examples are cited in B. H. Meyer's " Fraternal Insurance in the United States," published in the *Annals of the American Academy of Political and Social Science,* March, 1901, 83.

losses, and the rates were intended to represent approximately the mortality at the several ages. Moreover, the rates were not changed and a member who entered the society at age 25 would continue to pay the rate for that age during subsequent years. This plan, it is clear, although not as crude as the preceding one, nevertheless becomes increasingly advantageous to the members as they grow older and therefore, like the preceding plan, also works a hardship upon the younger members.

A third plan had in view increasing the rate as the member grows older, but this plan it is apparent will prove unattractive if extended to very advanced ages. Consequently the rates under this plan were not increased after the member attained a stipulated age like sixty.

**Recent Tendency to Adopt the Protective Features of Old-Line Insurance.**— All the aforementioned assessment plans proved exceedingly unsatisfactory, despite the fact that fraternal societies have generally been exemplary in the matter of selecting risks and in keeping expenses down to a very low figure. Accordingly the societies have attempted in recent years to devise ways and means of strengthening their financial position, and many have secured the services of actuaries for the purpose. Many of the societies have accumulated some sort of reserve or emergency fund, but in the great majority of instances this fund falls far short of being an adequate reserve. It is encouraging to note, however, that those in charge of the leading societies now fully realize that there is only one correct plan of insurance, namely, that based on scientific principles, and that fraternal insurance, if it is to guarantee its benefits and be a permanent factor in the community, must be conducted on the same scientific basis that the old-line companies have wisely made the foundation of their enormous business. In fact, some of the societies have already adopted either level rates computed scientifically on the basis of the National Fraternal Congress table of mortality, or the so-called "step-rate" plan. This latter plan consists of level rates increasing for successive terms of five or ten years. The increasing term rates, however, apply only to the working period of life and, at about age 60, merge into a level rate for the rest of life.

In trying to reorganize their scale of rates many societies are encountering much opposition from their members and are experiencing much difficulty in educating them to an understanding of the situation. The problem involved is a serious one since many of the societies have been in existence for many years and, owing to their inadequate rates during the whole of their existence, are now obliged to increase their rates enormously in order to meet current claims. In other words, their problem is to find some way of meeting the situation which has grown out of the accumulating deficits of past years. And in trying to solve this problem the societies must contend with the conflicting interests of different classes of members. The older members naturally favor the retention of the old methods, since the raising of rates at the older ages to an adequate basis would, in many instances, mean an unbearable burden. The younger members, on the other hand, feel that they should not be asked to contribute for the benefit of the older members, and are therefore not so inclined to oppose a more equitable rate adjustment. In their attempts to reform their rating systems the societies have in most instances tried to compromise between these two classes of members, i.e. when deficiencies made it necessary rates were increased but the increase was greater at the older ages than at the younger ones. Many feel that the only solution available is, as Mr. Walter S. Nichols puts it, "to so regulate the inequality between the groups that additions to the young membership can be kept up until such time as the rates can step by step be finally raised to an adequate basis." [5]

**Recent Legislation Concerning Rate Adjustments.**—As indicating the present tendency to bring about a gradual adjustment of fraternal rates, mention should be made of the so-called "Mobile Bill" and the "New York Conference Bill."

[5] Nichols, Walter S., ''Fraternal Life Insurance,'' *Yale Readings in Life Insurance*, i, 149.

The latter is a modification of the Mobile Bill, and at a recent date had been enacted by at least 34 states. The main purpose of this state legislation is to gradually place fraternal societies upon a legal reserve standard, based upon some mortality table representing their own experience. The laws now being enforced in nearly all the states call for adequate rates, but prescribe the method of readjustment in such manner as to permit the societies to attain a condition of solvency by degrees. Societies are also enabled to group their membership. New members and such old members as care to enter the plan may be charged adequate rates with mathematical reserves, while the other members may be permitted to continue in what practically amounts to a separate order.

**Business-Assessment Associations.**—A discussion of assessment life insurance is not complete without reference to the numerous local societies which at one time granted insurance in the United States on the assessment plans already referred to, but which were neither fraternal in character nor organized on the lodge system. These societies were generally known as "business-assessment associations" to distinguish them from fraternal societies. Almost universally, however, these associations failed to follow sound business methods in writing insurance. In nearly all instances their managers ignored actuarial principles and, like the fraternal societies, took the position that the accumulation of reserves was an unnecessary practice which served only to increase the cost of insurance. They, therefore, employed various assessment plans and as a consequence encountered the same difficulties experienced by fraternal societies. The local and nonfraternal character of the societies, however, caused the consequences of defective rating systems to show themselves much more quickly and effectively, and, as a result, although fraternal insurance still ranks as a leading form of life insurance, practically all the important assessment societies have either passed out of existence or have been reorganized into old-line companies. As compared with fraternal orders, business assessment societies were greatly handicapped in overcoming the defects of their system in that they lacked the benefits of a lodge relationship and the strong fraternal tie that binds the members together and causes them to stand by each other in time of adversity. In other words, they lacked the fraternal feeling among their members and were really nothing more than ordinary companies organized solely for the purpose of giving insurance at rates much lower than those charged by old-line companies. As compared with the fraternal orders, business assessment associations were also operated at a much greater expense, and in many instances their medical selection of risks was decidedly inferior.

**Assessment Plans Used by Such Associations.**—The earliest associations were operated on the "flat assessment plan," i.e. upon the death of any member all the other members would be called upon to pay an assessment which was equal for all and just large enough to pay the claim. While mostly local in character certain of the associations were connected with some trade or profession, and, instead of limiting their membership to a particular locality, sought business wherever it could be found, and in certain instances even organized an agency system for the purpose. In the latter case the management was more apt to be such as would discern the shortcomings of the pure assessment plan. Accordingly, we find that this latter class of associations showed a greater vitality and was the first to require either the payment of the assessment in advance (instead of a post-mortem assessment) or, as was done later, to collect an extra sum to create an emergency fund which could be drawn upon when necessary and thus avoid the necessity of levying extra assessments. But those who adopted this plan still condemned the mathematical reserve idea, and usually explained their emergency fund collections as nothing more than a means of making extra assessments unnecessary in case the mortality should exceed "10 per 1,000" or "the losses according to the American Experience table of mortality." Some of the societies succeeded in this way in accumulating considerable assets, although in nearly all instances the fund was woefully inadequate to guarantee the payment of the association's obligations at the rates and assessments which were being collected.

Various societies also made use of the "graded assessment plan" at an early date, the rate being determined by the age at entry and remaining the same during the continuance of membership.

When it became apparent that the flat and graded assessment plans were grossly unsound, several of the associations adopted the "stipulated-premium" plan. This method involved not only the collection of the estimated cost of insurance in advance, but the accumulation of a reserve fund whose purpose, according to the managers of the association using the plan, was to "equalize the cost" of the insurance during the later policy years. Here we have a recognition of the mathematical reserve idea, but it should be noted that the reserve fund accumulated, usually being accomplished by adding a certain sum per $1,000 of insurance or a certain percentage of the rate of mortality at the age of entry, fell far short of equaling the reserve maintained by old-line companies. In the case of at least one important business assessment association, which has since been successfully reorganized into an old-line mutual company, the stipulated premium was so computed that, assuming a given lapse ratio, the rate it was felt could be kept level if no surrender values were allowed.

After the difficulties inherently connected with any assessment plan which does not involve the maintenance of an adequate reserve became more apparent, a considerable number of the important associations undertook to reorganize themselves into legal reserve companies.[6] In fact this move-

[6] In such reorganizations, as stated by Mr. Dawson, the associations "dealt with their assessment membership chiefly in the following manner, viz.: by carrying out their contracts with such of them as would not transfer to regular 'old-line' plans, abandoning their assessment policies. In such cases, the cost to those who persisted upon the assessment plan, has naturally been high; but they at least have had the advantage that the death claims were paid and that their insurance was good for its face, instead of being utterly wiped out by the failure of the institution. In one or two cases, this reorganization was attempted at too late a date, or was accompanied by such extravagance and mismanagement that the reorganized company was not successful." (Miles M. Dawson. "As-

ment considerably preceded the similar movement towards old-line methods which is now assuming such large proportions in the field of fraternal insurance.

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sessment Life Insurance,'' in H. P. Dunham's The Business of Life Insurance, i, 432.)

# CHAPTER XXI

## INDUSTRIAL INSURANCE

**The Purpose of Industrial Insurance.**— Industrial insurance, as the name implies, is a form of life insurance especially designed to meet the requirements of the wage-earning or industrial population. Its primary purpose is to provide for this large element in our population an absolutely certain method of acquiring the funds necessary to assure a decent burial and the payment of the expenses for medical attendance during the last illness. But while this special purpose has caused industrial insurance to become popular among wage-earners, its beneficent influence in other directions deserves special mention. Just as we found that ordinary life insurance constitutes a powerful factor for inculcating thrift, so the weekly premium plan used in industrial insurance has been one of the important means of educating a large class, which naturally finds it difficult to provide for contingencies, in systematic saving. Weekly premium payments — five, ten or twenty-five cents a week to meet the cost of insurance — soon develop a habit of saving which will have its wholesome effect in other directions. Industrial insurance also renders the further service of familiarizing the masses with the benefits of insurance, and has thus been responsible for greatly increasing the uses of other kinds of insurance. The wage-earner of to-day becomes the shopkeeper and salaried man of to-morrow and, having become acquainted with the beneficial results of industrial insurance, he will be in a much better position to appreciate the value of other forms of insurance, such as ordinary life, accident, health, fire, etc.

**Magnitude of the Business.**— The success which the industrial companies have achieved is clearly indicated by the remarkable growth of the business, especially since 1890.[1] Beginning in the United States as late as 1875, the business has grown by leaps and bounds until it has reached enormous proportions. On December 31, 1921, forty-six industrial companies were operating in the United States, and their industrial insurance at that time represented 54,096,515 policies with a face value of $8,006,119,747, or an amount nearly equal to 22 per cent. of the total ordinary life insurance in force in all American companies.

It is also worthy of note that by far the largest share of the business is controlled by three companies, and these it may be stated were the first to undertake this form of insurance in the United States. The combined industrial business of these three companies on December 1, 1921, represented 46,103,774 policies or over 85 per cent. of the total policies, with a face value of $6,977,756,830 or nearly 88 per cent. of the total insurance written. One of the companies carried over

[1] The growth of industrial insurance is indicated by the following table, compiled from the *Insurance Year Book:*

| Year | Number of Companies | Insurance Written During the Year | Number of Policies in Force at End of Year | Total Insurance in Force at End of Year |
|---|---|---|---|---|
| 1876 | 1 | 727,168 | 4,816 | 443,072 |
| 1880 | 3 | 34,768,035 | 228,357 | 19,590,780 |
| 1885 | 3 | 93,736,727 | 1,360,376 | 144,101,632 |
| 1890 | 9 | 242,250,959 | 3,875,102 | 428,037,245 |
| 1895 | 11 | 380,832,362 | 6,943,769 | 819,521,573 |
| 1900 | 18 | 566,037,936 | 11,215,531 | 1,468,474,534 |
| 1905 | 20 | 661,097,015 | 16,869,758 | 2,309,886,554 |
| 1910 | 22 | 749,717,264 | 23,044,162 | 3,179,489,541 |
| 1913 | 29 | 845,962,307 | 29,243,950 | 3,962,385,087 |
| 1921 | 46 | 1,942,821,308 | 54,096,515 | 8,006,119,747 |

22,000,000 industrial policies and another over 20,000,000, and their insurance in force amounted to $3,113,000,000 and $3,154,000,000, respectively.

**Comparison of Industrial with Other Forms of Life Insurance.**— Although industrial insurance is a modified form of ordinary level premium insurance, and is in most instances written by companies which also write life insurance on the ordinary plan, there are certain fundamental characteristics which distinguish it from all other forms of life insurance. Briefly stated these distinctive characteristics are:

1. The premiums are payable weekly whereas in ordinary life insurance they are payable annually, semi-annually or quarterly. This may be regarded as the most important difference since the feasibility of industrial insurance depends upon, and the organization of the company's agency system must be adapted to, this particular method of paying premiums. Experience has demonstrated the necessity of very frequent premium collections if life insurance is to be widely disseminated among the wage-earning class.

2. The premiums, instead of being payable at the office of the company as is usually the case in ordinary life insurance, are collected weekly by the companies' agents from the homes of the insured.

3. The amount of the insurance is "adjusted to the unit of premium," customarily five cents, or a multiple thereof, up to seventy cents. Thus in industrial insurance we speak of five-, ten- or fifteen-cent policies, and the amount of insurance obtainable for that weekly premium will vary according to age of entry and will represent odd figures. In ordinary life insurance, on the contrary, the unit is the amount of insurance. We thus refer to $1,000, $2,000, etc., policies, and the factor that varies with the age of entry is the premium.

4. The insurance is extended to every member of the family, and the companies therefore issue both adult and infantile

policies, while in ordinary life insurance the business is confined almost wholly to adult risks. In nearly all the companies industrial insurance is made to comprise all ages between one and seventy. Some of the smaller companies even insure children before they are one year old.

With the exception of the differences just noted and the resulting differences in field and office methods, industrial insurance is essentially the same as ordinary life insurance. Premiums for both children and adults are calculated upon an actuarial basis, although, owing to the heavier mortality experienced among industrial risks, a special mortality table is used for computation purposes. The system is also based upon the legal reserve plan, and as will be noted later the policies issued contain nearly all the essential conditions found in ordinary life contracts.

**Adjustment of the Amount of Insurance to the Unit of Premium.**— Since the death rate decreases from birth to about age 10, it follows that the amount of insurance that can be given for a unit of premium, like five cents, will increase as the age of the child increases. Thus, in one leading company, for example, the amount payable on a policy with a weekly premium of five cents "in the case of a child insured at age two next birthday is $12.50 when the duration of insurance has been less than six months, $25.00 when the duration is more than six months, but less than one year, $34.00 when the duration is one year, $40.00 at two years, $48.00 at three years, $58.00 at four years, $70.00 at five years, $110.00 at six years, $150.00 at seven years, and $190.00 at eight years."

In the case of adults, on the contrary, the amount of insurance that can be given for a unit of premium must decrease in accordance with the increasing death rate that occurs following about age 10. Thus in the aforementioned company, "for a premium of five cents at age 10 the amount payable in the event of death after the policy has been six months in force is $150.00, at age 20 the amount payable is $105.00, at age 30 it is $79.00, at age 40 it is $57.00, at age 50 it is $38.00, and at age 60 it is $22.00." Usually infantile premiums are limited to ages under 10 and adult premiums to ages 10 to 65 or 70, inclusive. It is also the practice to restrict the maximum amount of insurance that may be taken at certain ages under either infantile or adult policies.

**Organization and Management of the Field Force.**— Owing to the weekly collection of premiums at the homes of the insured, it is necessary to organize the agency system in industrial insurance with special reference to the needs of the business. To facilitate the efficient handling of the enormous volume of details necessarily connected with weekly collections, the company's territory is divided into districts which are usually made to coincide with the leading cities, although in the very large cities like New York, Philadelphia, etc., several districts exist. Each district is supervised by a superintendent who has a number of assistant superintendents and numerous agents under him. The agents are expected to collect all outstanding premiums, and, according to the system, each has assigned to him a " weekly debit " which represents the difference between " the premiums of the total number of policies issued to a particular agency and the premiums of the total number of policies lapsed by reason of death, transfer or other causes." [2]

Generally speaking an agent is expected to collect each week about $60 or $70, although in many instances the amount is considerably larger. In addition to this collection service, he is also required to solicit new business on both the industrial and ordinary plans. It is therefore essential, if agents are to be given sufficient time for the solicitation of new business, to restrict the amount that an agent is required to collect as well as to concentrate such collections as much as possible within a limited area. We are informed that " the collection system has been so completely developed that in the

[2] Hoffman, Frederick L., " Industrial Life Insurance," in H. P. Dunham's The Business of Insurance, i, 469.

case of well managed industrial companies the average collection percentage runs almost 100." [3]

All weekly collections are entered by the agents in a so-called "collection book," these entries corresponding to those made in the policyholder's receipt book. Once each week the agent must also render an account to the company which furnishes a complete statement of all payments and arrears. Moreover, to discourage lapses as much as possible through the efforts of agents, commissions on new business are allowed only on the net increases, i.e. if the new business obtained in any week should represent a weekly premium of $1.00 and the terminations of old policies for reasons other than death or transfer should represent a weekly premium of 25 cents, a commission will only be allowed on the difference, or 75 cents. It is also customary for the companies to require their agents to write a certain amount of new business.

**Distinctive Features of the Policy.**— In most respects the industrial policy is similar to that issued to ordinary life policyhoiders; [4] nor do the contracts of the various industrial companies differ much in their essential terms. A few provisions, however, are so peculiar to industrial policies and have such an important bearing upon the business as to merit special mention. These may briefly be referred to under the following heads:

1. *Benefits during the first year.*— It is customary for the company to pay only one-half of the insurance in the event of death before the policy has been in force six months, the full amount being paid if death occurs after six months from the date of the contract. In some instances the practice is followed of paying only one-third of the insurance if death occurs during the first six months following the issue of the policy, one-half if it occurs after six months and within one year, and the full amount if it occurs after one year.

[3] Ibid., p. 468.

[4] For a specimen industrial policy, see page 471 of this volume.

2. *Special provisions affecting the policyholder.* — Most of the privileges granted to industrial policyholders are also found, as regards the principles involved, in ordinary life contracts. Some of these provisions, however, must be adapted to conform to the special requirements of the business. Thus four weeks' grace is allowed the policyholders in the payment of premiums, and reinstatement is usually permitted within one year from the date of lapse provided all arrears are paid and the company is satisfied with the insured's physical condition. The "incontestible" and "misstatement of age" clauses are similar to those found in ordinary policies. It is also the general rule to provide that the insured may pay his premiums at the home office so that, in case the agent should fail for some reason to collect the premium at the home of the insured, he is obliged to pay the same at either the home or district office before the expiration of the four weeks' period of grace.

Some companies give the insured, in case he is dissatisfied with his contract, the privilege of surrendering the same within two weeks after its issue and receiving a refund of the premium. Other companies, again, give the insured the option of converting his industrial policy into one on the ordinary plan, provided that when application for such conversion is made the insured has attained a stated age (usually 18 or over), has paid all his premiums for ten or some other stipulated number of years, and can offer satisfactory evidence of insurability. In making such conversions it is customary to give the full legal reserve as a surrender value and to apply the same in payment of premiums on the ordinary policy. It is also interesting to note that some of the companies allow their policyholders to participate in the management by voting either in person or by proxy; but the exercise of this right to vote will necessarily be limited when it is realized that one company granting the privilege has millions of policies in force.

Like ordinary policies, industrial contracts contain cash, paid-up, and extension clauses to apply in the event of lapse, but cash surrender values are not paid, as a rule, until after the policy has been in force for a period of, say, ten years. Until recently most industrial policies were issued on the non-participating plan, yet the leading companies followed the practice for years of distributing large surplus accumulations to their policyholders in the form of voluntary dividends, which might otherwise have been paid to the stockholders.

3. *Provisions protecting the company.*— As previously stated both infantile and adult policies are limited to certain ages as regards their issue, and also contain restrictions as to the maximum amount of insurance that may be taken out at certain ages. Aside from these limitations, industrial policies are comparatively free from the restrictions frequently found in ordinary contracts, especially as regards occupation, residence, military service, suicide, etc. The companies, however, have found it desirable to limit the powers of their agents by incorporating a clause which, to use the wording adopted by one large company, provides that "no condition, provision or privilege of this policy can be waived or modified in any case except by an indorsement hereon signed by the president, one of the vice-presidents, the secretary, one of the assistant secretaries, the actuary, the associate actuary or one of the assistant actuaries. No modification or change shall be made in this policy except such as is in accordance with the law of the state in which the same is issued. No agent has power in behalf of the company to make or modify this or any other contract of insurance, to extend the time for paying a premium, to waive any forfeiture, or to bind the company by making any promise, or making or receiving any representation or information."

4. *Rules relating to the beneficiary.*— Except in the case of minors, it is the general practice to require the beneficiary's specific consent to the insurance before the same will be written. Likewise, policies will not as a rule be issued, except for a limited amount, to non-relatives or others who do not possess an insurable interest in the life which is to be insured. "This means," to quote the rule of a certain large

company, "that the beneficiary must be dependent upon the insured for support, or that the insured is indebted to the beneficiary in an amount sufficient to justify the sum insured, or that the beneficiary has some other substantial pecuniary interest in the life insured, or will be liable for the expenses of the sickness and burial of the insured." Importance should also be attached to the policy requirement that "the company may make payment either to the beneficiary above named, if living, or to such other living beneficiary as may be duly and finally designated, and recognized by indorsement hereon, or to the executor or administrator of said insured, or to any relative by blood or connection by marriage, or to any person appearing to the company to be equitably entitled thereto by reason of having incurred expense in any way on behalf of the insured for burial or for any other purpose; and the receipt of any such payee shall be conclusive evidence that payment has been made to the person or persons entitled thereto and that all claims under this policy have been fully satisfied."

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# CHAPTER XXII

## DISABILITY INSURANCE

By

BRUCE D. MUDGETT

### DEVELOPMENT OF DISABILITY INSURANCE

A new clause has appeared in life-insurance contracts in the United States in recent years, granting protection against the risk of total and permanent disability. The first known instance of its kind appeared on October 16, 1896, when an American company issued such a policy on the life of its president. Since then interest in the clause has grown so rapidly that the great majority of companies are now using it. Insurance against disability is not in itself new. Under the name of invalidity insurance it forms a prominent feature of the workmen's insurance laws of a number of European governments, where protection has long been granted against both temporary and permanent invalidity caused either by accident or disease. As early as the eighteenth century invalidity insurance was furnished to members of the mutual aid societies of Germany and Austria and it was extended rapidly in the nineteenth century to many classes of workers. The friendly societies of Great Britain and the fraternal orders and labor unions in the United States have likewise paid disability benefits. With the stock companies in the United States insuring accident and health risks this sort of protection has, of course, held first place, but the value of accident and health policies has been greatly restricted by the fact that these companies usually issue a one-year term contract and possess the option, therefore, of refusing to renew at the time when the insured may be most in need of the protection.

The incorporation of disability protection in a life-insurance contract is a recent innovation, as stated above, and marks the introduction of a new principle, namely, that of permanent protection against the risk in question. Furthermore, while the accident and health companies insure against disability of any duration, the clause used in life-insurance contracts in the United States covers only those cases which are both permanent and total. It is not, in itself, therefore, full and complete protection against disability, but a supplementary feature added to the life contract to cover contingencies not comprehended in insurance against death. Permanent and total disability may endanger the permanence of a man's insurance by cutting short his income and making it impossible for him to pay further premiums; or disability may have the same effect as old age—the man being no longer a producer should be cared for by his accumulated capital. While the occurrence of this risk, therefore, places a man or his dependents in the same position as old age or death, the regular life-insurance contract furnishes no protection against it.

German insurance companies were the first to incorporate a disability clause in their life contracts. It was used there as early as 1876, and following 1900 was adopted by most of the leading companies. Two forms of contract have been used, the first, issued in connection with regular term, life, or endowment policies, promising to waive payment of premiums after disability or to mature the policy and allow it to be paid in installments over a period of from ten to twenty years. The second form of contract is a life annuity payable from the time of disability until death, purchased independently of any insurance policy, and paid for by a single, or by annual premiums, each payment creating the right after three years to an annuity based on the age at which the payment is made. The disability insurance ceases in either form of contract at age 65. The Russian companies issued a clause with participating policies whereby, upon relinquishing the right of participation the insured received disability insurance in lieu thereof; and in case of disabilty premiums ceased and a cash payment of 50 to 75 per cent. of the amount insured was paid at once, the remainder at death or at the end of the endowment period.

**Reasons for the Disability Clause.**—The rapid extension in the use of the disability clause is due to two reasons. One lies with the agent; the other with the policyholder. The agent desires it because of its value as a factor in competition, while the insured finds it a valuable means of guaranteeing the permanence of his insurance because it covers a risk not contemplated by the usual life-insurance contract. The policyholder's reason is fundamental, of course, and the disability clause must be tested ultimately by its value as an insurance measure. This, however, was probably not the immediate cause of the phenomenal interest shown in the clause. The history of life insurance in the United States is written in the policy contract. Successive changes in this document are indicative of changing attitudes on important insurance questions. For instance, the payment of cash surrender values was radically opposed by some companies until competition or statute law required such values to be given; and when once it was found that these privileges had a competitive value, they were advertised to the limit. So it is with the disability clause. It has been bitterly opposed by some, but wide-awake agency managers have recognized it as a powerful competitive weapon. Many small companies have been organized in recent years in the South and West and for a time confined their efforts to their immediate localities. Here the appeal to patronize home companies has given them a great advantage; but with the normal growth of their business they found it necessary and desirable to solicit insurance beyond local surroundings and thus came into competition with the older and larger companies. This was their opportunity to exploit a selling feature and they found it in the disability clause. Of the companies using the clause on January 1, 1912, over 78 per cent. were organized since 1901 and 70 per cent. of them since 1905.

This motive of competition, however, is not sufficient to guarantee the permanence of the disability clause in the life-insurance contract. Before agents saw its business-getting possibilities it must have been recognized that the clause added a factor of real value to the insured. The question is: Is permanent and total disability a risk of any consequence to the average policyholder? It will readily be understood that the idea back of the clause is to prevent the lapsing of a policy and the loss of insurance by that *living death* which leaves a man helpless to continue insurance, if he is dependent on the income from his services, and in a condition which from his viewpoint justifies the *maturing* of his policy, or at least justifies freeing him from the burden of further premium payments.

This question can only be answered statistically, for it is necessary to know the magnitude of the risk of total and permanent disability. According to figures derived from data of disability among fraternal society risks [1] the probability of becoming disabled within one's life expectancy is as follows:

| Age | Probability of Disability Within Life Expectancy |
|---|---|
| 20 | .0460 |
| 25 | .0604 |
| 30 | .0803 |
| 35 | .1080 |
| 40 | .1466 |
| 45 | .1977 |
| 50 | .2652 |
| 55 | .3573 |
| 60 | .4758 |
| 65 | .6134 |
| 70 | .7477 |

In other words the chances that a person aged 20 will become disabled within his life expectancy are one in twenty-five; at age 35, one in ten; at age 45, one in five; at age 55, one in three; and at age 70, three in four. These figures are

[1] MUDGETT, BRUCE D., The Total Disability Provision in American Life Insurance Contracts, 8-10.

based on actual experience among fraternal society risks and lead to the conclusion that the risk of disability is a very considerable one indeed. The policyholder, therefore, has an adequate reason for wanting his life contract supplemented by the protection furnished by the disability clause.

**Objections Urged Against the Disability Clause.**—While the disability clause has been thus generally adopted as a part of the life contract it has been the object of much criticism. The following are among the more important of the objections advanced:

1. *It is not life insurance.*—The attitude is that this is a risk distinct and separate from life insurance and should be covered, if at all, by a company organized for this specific purpose. It is quite in line with the hazards undertaken by an accident or health company. This objection quite disregards the fact that the occurrence of permanent and total disability may necessitate the lapse of insurance that is badly needed, and that the protection usually offered by the accident and health companies is one-year insurance which the company may refuse to renew when the risk of disability becomes great by reason of old age or disease. Real disability insurance must comprise *permanent* protection against this risk.

2. *Risk is small and interval brief between disability and death.*—The data on page 298 show the magnitude of the risk. At the younger ages the chances of disability are small indeed, and the larger figures for ages 65 or 70 are due largely to disability occurring at an age covered by very few of the clauses in existence. Furthermore, on the basis of data compiled by Mr. Sidney H. Pipe,[2] the average interval between the time of disability and the time of death is found to be one year, four months, and twenty-eight days. This objection fails to recognize the true function of insurance which is the elimination of risk and not protection merely against a few well-known hazards. It is true that the figures quoted show the risk to be reasonably small, but the figures

[2] *The Transactions of the Actuarial Society of America*, ii, 178.

are true in the aggregate only and in individual cases the protection afforded may be very important. The size of the aggregate risk is, therefore, not a real criterion. There are many cases, for instance, where persons lose both legs or arms or become totally blind or totally paralyzed and live for years. It is for these individuals that the protection is important for there is no means in the ordinary policy contract whereby the insured is guaranteed protection under these circumstances.

3. *Misrepresentation by agents.*—A familiar objection is that agents are given an opportunity, knowingly or through ignorance, to misrepresent the facts and to claim more for the clause than it deserves; and that great dissatisfaction may result in later years when a company attempts to construe its clause strictly. This is to some extent justified, in view of the fact that a few clauses exist, the only apparent purpose of which is to furnish a talking point in competition. But nearly every important provision in the policy contract has undergone the same experience, and the success of the companies in avoiding dissatisfaction is due to carefully written clauses and liberal interpretation. There is no reason to believe that this objection is fundamental for it strikes at particular clauses rather than at disability insurance in general.

4. *Difficulty of defining disability.*—The difficulty of defining disability, like the last objection, is largely a question of wording and interpretation. The clause should be so worded as to include within the scope of its benefits every legitimate case of total and permanent disability. Dissatisfaction will doubtless arise with those clauses that have attempted to restrict the definition of disability in case the companies using them insist on strict construction, but the difficulties of the problem are at a minimum as compared with the situation facing accident and health companies insuring against both permanent and temporary disability. The problem of malingering in connection with the determination of temporary disability offers far greater difficulties than does the question affecting permanent disability, and

yet temporary disability is invariably covered by the companies in question.

5. *The lack of disability statistics.*—Probably the most serious objection advanced against the adoption of the disability clause is that there is no adequate scientific basis for ascertaining the risk involved. In the short time elapsed since this clause first appeared in an American life-insurance contract there has been no opportunity to collect sufficient data from the experience of these companies with which to measure the risk of permanent and total disability. But the subject has recently attracted the attention of American actuaries and several studies of the disability risk in other fields have been made and presented at meetings of the Actuarial Society of America. German tables of invalidity based on the experience among railway employees and data from the friendly societies of Great Britain have both been used in calculating disability premiums for American companies. No actual use has been made of these premiums, however, since it is felt that foreign experience may not be a fair measuse of the risk to which the old-line companies in the United States will be exposed. More reliable data for this purpose have been found in the experience of American fraternal societies. Tables of disability and of mortality among disabled lives have been constructed from the records of certain of the larger fraternal orders, and the cost of disability insurance in connection with the life contract computed from these rates combined with the American Experience table of mortality. These premiums have been generally accepted among American actuaries as safe, and as a fair measure of the risk involved until experience of the old-line companies themselves is available. Indeed, the state of New York has already adopted one set of these rates as a basis for the valuation of disability contracts there issued.[3]

[3] For a fuller discussion of the statistical data available for measuring the risk of disability see the author's The Total Disability Provision in American Life Insurance Contracts, chap. 3.

## The Disability Clause in Practice

In the brief space of time since the clause first appeared, or since it has come into general use, there has been slight opportunity for its provisions to become standardized by practice, or for any standards to be set by state laws. Under the pressure of competition, therefore, a great variety of clauses has resulted. They differ as regards the restrictions imposed on their use, benefits promised, and in other ways, and it is by a comparison of these differences that the relative merits of the several contracts may be established. The disability clause in practice may be studied from four angles, viz.: (1) risks not covered by the clause; (2) the definition of disability; (3) age and time limits to the application of the clause; (4) benefits granted.

**Risks Not Covered by the Disability Clause.**—Since the disability clause is in a more or less experimental stage, many companies have attempted to confine its use to those policies or those risks on which a normal mortality experience may be expected. Term insurance furnishes one of the mooted questions among insurance companies. Even among those companies which have sold a great number of term policies the fear has arisen that it may have been a mistake and that the company may suffer because of the large proportion of term insurance which it carries. As a probable result of these misgivings the disability clause is often refused on term policies. If the objection to term insurance is the fear of adverse selection or of a high mortality as compared with other policies, this objection is properly corrected in the premium charged; and if the disability clause is designed to guarantee the permanence of insurance in case of total and permanent disability, there is as much need for it with term policies as with any others.

There is, however, a more serious objection to the inclusion of the clause in term policies. Many of these policies to-day allow renewal at the expiration of the term at a higher premium, based on the age attained at the time of renewal, or allow conversion into some other kind of policy requiring a higher rate of premium, these privileges being granted without a new medical examination. The presence of a disability clause in a renewable-term policy may require the company to pay the higher premiums due after renewal, if disability occurs shortly before the end of the term, and the renewal privilege is exercised. This objection is likewise easily corrected in the premium charged for the disability clause. The insured should unquestionably pay the exact cost of the privilege of releasing him from premium payments. Convertible term policies offer greater difficulties. Such contracts might, after disability has occurred, be converted into short-term endowments and under the guise of relief from premium payments the insured might thus obtain an endowment at the expense of the company or of the other policyholders. In this way the insured might convert a term policy with a $10 premium into a ten-year endowment costing $100 per year, and by the terms of his agreement compel the company to pay the $100 premiums. This would be equivalent to obtaining a ten-year endowment without paying for it. The solution of this difficulty lies, not in refusing to issue the disability clause on term policies, but in refusing to extend the waiver of premium benefit after the conversion of the policy.

The main reason for disallowing disability benefits on joint-life policies as is done by some companies, seems to be the difficulty of determining when the premium will be waived or how much of it will be waived, for joint-life policies comprehend insurance against two or more lives. The question arises, therefore, whether the premium will be waived in case one insured person is disabled, or whether both must be disabled in order to obtain this relief. This problem should offer no difficulties to the actuary, for disability benefits can be made payable under like circumstances with death benefits. For instance, the ordinary joint-life policy matures *upon the death of either insured;* the disability benefit could be paid upon the *disability* of either insured. But even these actuarial refinements are unnecessary and it is equally satisfactory, as is done in some cases, to waive one-half the premium in case of disability of one, or the entire premium in case both persons are disabled.

Women without a regular occupation are usually excluded from the benefits of the disability clause. Disability is usually so defined as to mean inability to carry on any occupation for gain or profit, and since women frequently have no such occupation they are not considered as acceptable risks. Some companies exclude them without exception, and others make exception only in case of married women and women without an occupation.

Sub-standard lives are assumed to be subject to a higher rate of disability than normal lives and are therefore often denied the right to disability benefits. In the absence of any statistical basis to determine the truth of this assumption the restriction is probably desirable. Persons engaged in hazardous occupations are unquestionably in a select class that will show a high rate of disability and are, therefore, often refused the benefits of the disability clause. Cases of partial impairment sometimes exist, as, for instance, where a person has lost a hand, a foot, or an eye, and these are sometimes made reasons for refusing the clause. A better method would be to make exception of those cases of disability affected by the partial impairment and allow the clause to operate in all other cases. Few of the foregoing restrictions appear in the clauses, but the companies give their medical directors full discretion to exclude the clause from any policy submitted to them. A number of companies, however, have advertised that they will make no restrictions whatever and will include the clause in any policy accepted by them.

**The Definition of Disability.**—The difficulty of ascertaining what constitutes total and permanent disability is one of the main objections that has been advanced against this clause. Disability may be defined with reference to its effect upon the occupation or profession of the insured or it may be defined with reference to the causes of disability. In the first case the disability that is of consequence to the insured is that which renders him totally and permanently incapable of fulfilling the duties of *his own occupation*. The form of definition adopted by leading companies usually reads to the following effect: "Disability shall be deemed to be total whenever the insured becomes wholly disabled by bodily injury or disease so that he is prevented thereby from engaging in any occupation whatsoever for remuneration or profit, and under this contract, disability shall be presumed to be permanent after the insured has been continuously so disabled for not less than three months and during all of that period prevented from engaging in any occupation for remuneration or profit." Strict interpretation of such a clause may be regarded as overlooking the fact that transitions from one type of work to another are difficult and sometimes disastrous to the person concerned where the disability is such as still to make possible the earning of a mere pittance in some manner. In spite of the fact that clauses are stated in this way many companies no doubt will not interpret them with such severity as is suggested above. The practice of liberal interpretation is followed in connection with other features of the policy contract in cases where fraud and dishonesty are not present and such liberality will certainly be extended to the interpretation of the disability clause.

Disability may be further defined with reference to the causes of disability. From this viewpoint the clause quoted above has much to commend it. It promises benefits for disability due to *bodily injury or disease,* and that bodily injury and disease probably cover the majority of cases is evident from the data on page 306.[4] Bodily injury and disease, therefore, cover all cases with the possible exception of the last or miscellaneous group, the composition of which is unknown. Practically all the clauses of the leading companies also provide to the effect that "the permanent loss of the sight of both eyes or the severance of both hands or both feet, or of one entire hand and one entire foot, shall be considered total and permanent disability without prejudice to other causes of disability." A very few companies agree to pay benefits upon the occurrence of disability *from any cause*

[4] *The Transactions of the Actuarial Society of America,* ii, 179.

| Cause of Disability | Number of Cases per 1,000 Total Cases |
|---|---|
| 1. Consumption | 234.0 |
| 2. Paralysis | 127.8 |
| 3. Insanity | 120.0 |
| 4. Diseases of the circulatory system | 72.7 |
| 5. Diseases of the urinary system | 52.9 |
| 6. Cancer | 47.3 |
| 7. Injury | 44.0 |
| 8. Balance | 301.3 |

*whatsoever.* There is no doubt as to the scope of this definition. Most companies issue clauses that place limitations upon the causes which will be acceptable for the payment of benefits. Some of these restrictions are of slight consequence, as the following examples show: Disability must not be due (1) to willful or immoral acts on the part of the insured, (2) to intoxication, (3) to actual or attempted violation of law, or (4) to military or naval service in time of war.

**Age and Time Limits to the Application of the Clause.**—A necessary part of any disability clause is that which states the time when the risk begins, the circumstances under which it remains in force, and the time when it ceases to be effective, if at all. The clauses of leading companies usually follow some such wording as: "disability benefits shall be effective upon receipt at the company's home office, before default in the payment of premiums, of due proof that the insured became totally and permanently disabled after he received this policy and before its anniversary on which the insured's age at nearest birthday is sixty years." In the event that payment of disability payments has commenced the company reserves the right "from time to time to demand due proof of the continuance of such total disability, but not oftener than once a year after such disability has continued for two full years, and upon failure to furnish such proof, or if it shall appear to the company that the insured is able to engage in any occupation for remuneration or profit, income payments shall cease and the payment of any premium thereafter falling due shall not be waived."

In the clause quoted above benefits are paid only where disability occurs before the insured is sixty years of age. This, or an equivalent, age limitation is found in a large majority of these contracts. This appears at first glance to be objectionable. The man who wants disability insurance wants protection throughout the entire period of his life. The main reason why the limitation exists is probably the fact that our actuarial information regarding the chances of disability after age 60 is so imperfect that insurance of the risk is largely guesswork. But there is a more fundamental reason why protection is not needed after approximately this age. The clause stands as a guarantee that the permanence of a man's insurance will not be endangered by his becoming disabled. The "insurance" period of life, however, is the period of productivity, and it does not extend ordinarily beyond sixty or sixty-five years of age. In other words, by this time the average man retires from active business or professional life and his later years are, or should be, cared for by the accumulations previously made. There is no special reason, therefore, why disability insurance should cover this later period.

Many of the clauses which set an age limit have not, however, left the insured entirely without protection during the later years. Provision is made whereby, if disability occurs after the age limit has been reached, the premiums thereafter becoming due will be allowed to accumulate as a lien against the policy without interest. This is a highly commendable practice.

**Benefits Granted—Kinds and Amounts.**—Two classes of benefits are ordinarily given by these clauses, the one allowing the further payment of premiums to be waived without in any way affecting the values granted in the insurance contract; the other allowing the policy to mature and the value to be paid in some form to the insured. Payment of the policy may take one of three forms: a fixed number of installments, a single cash sum, or a life annuity. Some clauses give only one benefit, others allow a choice.

In case the waiver of premium benefit is given, its cost to the company will consist of the number of premiums that will fall due between the time of disability and the time of death. The magnitude of the benefit will, therefore, depend statistically on the average time elapsing between disability and death. From certain American data bearing on the subject it appears that this period is one year, four months, and twenty-eight days [5] among fraternal society risks. Accepting these data as being approximately true for the old-line companies, the benefit will therefore equal an average payment of two premiums, for at the time of death the face value of the policy will be payable in any case. This fact explains the small cost of the disability clause.

The above data likewise furnish a basis for estimating the proper value that should be given where maturity benefits are promised and for comparing this value with the values actually given. If the average period between disability and death is one year, four months, and twenty-eight days, then the value of a policy at the time of disability, scientifically determined, will be that sum of money approximately [6] which with interest for one year, four months, and twenty-eight days will equal the face value of the policy, say $1,000. If this amount were given as a maturity benefit it would be exactly equivalent to the waiver of premium benefit so generally available. The insured would hesitate to accept any smaller amount except under the pressure of urgent necessity if he realized this fact clearly. If the full face value of the policy were given at the time of disability its cost to the company would be only the difference between $1,000 due now and the value now (present value) of $1,000 due in one year, four months, and twenty-eight days, and no company would be increasing its liability to unwarrantable proportions by giving a value equivalent to $1,000 at the time of disability.

At one stage of the development of disability clauses, cer-

[5] *The Transactions of the Actuarial Society of America*, ii, 178.

[6] Precisely, it must be calculated on the basis of the *probability of death* among disabled persons. The difference is due to the effect of compounding interest.

tain companies matured the policy by the payment of specified amounts per year for a period of ten, fifteen, or twenty years. The amount was usually named as one-tenth, one-fifteenth, or one-twentieth of the face value of the policy. The discounted values of $1,000 paid in ten installments of $100 each, fifteen installments of $66.67, or twenty installments of $50 on a 3½ per cent. interest basis, are, respectively, $861, $795, and $736. Thus the policyholder surrendered for these amounts a policy that in less than one and one-half years would mature for $1,000. By giving a maturity benefit such as the above a company thereby actually decreased its liability.

The first instance in this country of a disability clause promising continuous installment payments appeared in 1915. Since that time there has been further development, so that the contracts of certain leading companies not only promise a life income to the disabled insured, but upon his death mature the policy for its full face value. This practice recognizes the fact that the disabled insured not only stands in need of an income while living, but that upon his death, his family should be given the protection originally contemplated under the policy. Thus to quote the contract of one large company: "The company agrees to pay to the beneficiary $......;. upon receipt of due proof of the death of the insured, ................ and the company agrees to pay the insured one per cent. of the face of this policy each month during the lifetime of the insured and also to waive the payments of premiums if the insured becomes wholly and permanently disabled before age 60, subject to all the terms and conditions contained in this contract." The policy then continues with this further provision: "The sum payable in any settlement of the policy shall not be reduced by income payments made or premiums waived under the above provisions."

**Payment of Dividends After Disability.**—Most life-insurance contracts to-day are participating and allow the insured to share at periodic intervals in any surplus that has accrued from excess interest earnings, or savings in mortality, loading, etc. Many policies with an initial annual premium of twenty or twenty-five dollars receive a return in dividends of six, eight, ten, or more dollars per year after the policies have been in force over twenty years. The question is, will the company continue to pay these dividends after the insured has become disabled? The tendency is distinctly toward the payment of such dividends. As a typical example the following provision of one leading company may be cited: "The loan and surrender values provided for in Sections 3 and 4 of this policy, shall be calculated on the basis employed in said Sections the same as if the waived premiums had been paid as they became due. The amount of the dividends provided for in Section 2 will be the same as if the waived premiums had been paid as they became due."

**Conclusion.**—The disability clause represents one of the most recent developments in the life-insurance contract. Appearing in the United States first in 1896 and being unknown in any general way before about 1906, the clause has developed without precedents to follow and the companies have necessarily faced two extremes in policy, that of giving the insured a feature worth while and that of giving him too much for the price paid and thereby perhaps endangering the future stability of the company. There has resulted a great variety of clauses, as the preceding pages have shown, and a lack of uniformity in the character of the disability contracts now in existence. Unlike in the extent to which they apply to all insured risks, unlike in their statement as to what constitutes disability, unlike as to the amount and nature of the benefits they grant, the clauses now in use do not enable one to state what a standard disability contract promises with the same definiteness that is possible with many other provisions of the life contract, such as surrender values, reserves, etc. A natural tendency, however, is already in evidence toward the standardization of these clauses, as is shown by the identical phrasing of certain parts of many clauses, and by the frequency with which many companies are revising their clauses. Some companies have already revised their disability contracts three or four times.

Each succeeding change in the clause marks an advance and furnishes the policyholder with a more desirable contract. An illustration is the number of cases where clauses were issued originally granting a waiver of premiums, but were soon revised to permit the payment of the policy after disability in a specified number of installments; the latter contracts in turn have been again remodeled by the inclusion of the continuous installment feature.

The rapidity with which the clause will develop in the future will probably depend on two factors, viz., the accumulation of experience by the life-insurance companies themselves by which they will be able to measure its cost with more scientific precision than at present; and, second, the education of both insurers and the insuring public as to the economic value of the clause. The first named factor is a matter of time, and the necessary experience is accumulating as more policyholders are being insured under the clause and as claims are accruing. The economic value of the clause arises from the fact, as previously explained, that circumstances may, and do, arise where a man's insurance will lapse through his inability to earn an income and therefore to pay the premiums and where therefore he will be in a condition which from his own viewpoint justifies the maturity of his policy and freedom from the burden of further premium payments. This viewpoint is fundamental and must be the basis of any development of the disability clause that is to be permanent.

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A study of the disability clause in actual operation in the United States. It analyzes over one hundred and twenty-five clauses now in use and finds them a complex of good and bad. This study is the only extended one of the subject that has thus far appeared.

# CHAPTER XXIII

## GROUP INSURANCE

**General Nature and Purpose.**—As its name implies, group insurance represents the insurance under one blanket policy of all the lives of an entire group of employees, without medical examination and at a premium lower than the aggregate of premiums involved in the purchase of separate insurances on the same lives. The unit of risk, in other words, is the group as a whole, whereas under ordinary life insurance the unit is an individual. Applicability of the group plan is by no means limited to life insurance but may be equally well extended to coverage against sickness, accident and old age dependency. Usually the employer pays the entire premium, since he purchases the policy for his employees. There is nothing, however, to prevent him from reimbursing himself, by assessment upon the employees, for all or a part of the outlay.

Whatever the form of insurance to which the plan is applied, it is highly important that the group under consideration should meet certain fundamental conditions. The group must be (1) sufficiently large, and (2) involuntary. The first factor is necessary in order to assure the maintenance of an average age with a view to preventing a rise in premium rates from year to year, while the second protects against the contingency of the group becoming sub-standard through adverse selection. Various state statutes prescribe a minimum number (ranging from 50 to 250) of employees that may be insured in a group without medical examination. Others require that when the employees contribute to the premium, at least a stipulated percentage, like 75 per cent. of all the employees in the business must consent to come under the insurance. To permit employees to accept or reject the insurance at will, would, in the absence of a medical examination, lead to an undue inclusion of impaired risks and an undue refusal of acceptance on the part of the healthy. For this reason the composition of the group must not depend upon the voluntary action of the employees. As has been well said:

> It is essential that the group should be in constant motion. It must be continually receiving new members and continually losing them from other causes than death. If a group should only lose members on account of death, then no matter how free the flow of new entrants, the premium will tend ultimately to rise from year to year. Such a group would in fact be no more than a fraternal society on a small scale, and would be subject to all the evils which have afflicted these institutions in the past. . . . In this connection it is important to lay stress on the nature of group selection. While this is generally nonmedical, yet the nonmedical feature is not essential to group selection. The fundamental principle of group selection is that the proportion of impaired lives shall on the whole be similar to the proportion of impaired lives in the whole body from which the group is picked out. To a certain extent this can be done by insisting on a minimum number, but it should be realized that there is a vast difference between a minimum number such as 50 in a group which remains unchanged from year to year, and the same number in a group whose composition alters rapidly from month to month.[1]

In practice the natural desire of workers to hold their positions has proved a greater force to keep them within the group than the desire to have insurance. Moreover, withdrawal of one worker, possibly an older one, from the group would simply mean the substitution of a new and possibly younger one. If the entire group of employees is therefore insured by the employer under a blanket policy, without regard to the individual wishes of the employees with respect to the insurance, the danger of adverse selection will essentially be eliminated. A comparatively low and fairly uniform average age

[1] Article on ''How the Employer Profits by Carrying Group Insurance,'' by C. I. Rutherford, contributed to the ''Canadian Insurance'' and republished in *The Economic World*, May 27, 1922.

will also be reasonably assured, with the result that the premium will also remain fairly low and uniform. As a precautionary measure, however, and with a view to a proper determination of the premium, insurance companies follow the practice of carefully inspecting the group with respect to such factors as the average age, sex, general health of employees, sanitary conditions prevailing in the plant, and other features that vitally influence health and longevity. Such inspections, applied to the entire group as such, correspond in their purpose to the medical examination as applied to individuals.

**Development and Present Extent.**—The origin of group insurance is very recent, the New York Insurance Department, for example, having approved the first policy of this character in 1911. Even as late as 1914, only six companies transacted this type of insurance. Thereafter, however, its growth has been so phenomenal as to warrant even greater expectations for the future. By the end of 1918 the volume of group insurance amounted to $600,000,000; one year later the total reached $1,100,000,000; while by the close of 1920 approximately 1,700,000 lives were covered by about $1,700,000,000 of group protection.

At the close of 1921, a year of business depression, the volume of group insurance on the books of American companies amounted to $1,598,767,752, as compared with $44,500,000,000 for all other types of insurance carried by the regular line companies. This business was transacted by 35 companies, and represented over 10 per cent. of their entire business. As yet, however, practically all of our group insurance is written by just a few of the largest companies. Thus during 1921 six companies wrote $1,527,000,000 of such insurance, or 95 per cent. of the total written by all companies. With respect to these six companies, including the two largest industrial companies, the group business amounted to over 12 per cent. of their aggregate insurance in force of all kinds. The showing for 1921, it should be noted, was slightly less than for the preceding year, due to a temporary situation. The volume of business written would probably have been much larger had it not been for the severe business depression that prevailed throughout the year, and that was responsible for considerable cancellation of existing policies on the part of crippled corporations as well as a distinct setback in the volume of new business.

**Determination and Payment of the Premium.**—With few exceptions, group policies are issued on the yearly renewable plan, and premiums are therefore based on the net annual premium rate. Sometimes, however, group insurance is issued on the ordinary life or endowment plan, to be paid for by level premiums involving the maintenance of proper reserves. Under the renewable term plan the premium charge must be adjusted each year in accordance with the ages of the employees constituting the group. Should the group increasingly consist of older employees, as sometimes results during business depressions, the premium charge will tend to rise, whereas the reverse is true if younger employees are taken on in greater numbers. In actual practice, however, there is comparatively little variation from year to year in the premium charge, thus giving the employer, who usually pays all the premium himself, the advantage of a known and approximately constant cost. For all practical purposes, the annual renewable plan results in the payment of a level premium, and in many instances the premium has even been a decreasing one. The plan, moreover, protects all employees during the period of their employment at the smallest annual outlay to the employer, a matter of importance when the employer does not wish to utilize group insurance on the higher premium legal reserve plan as a means of accumulating a superannuation fund.

Some companies write group insurance on a participating basis, while with others the insurance is nonparticipating. In either case, the company in determining the employer's premium charge adopts a table of basic gross rates. These rates are used when insuring groups of employees in banks, offices, and industries where the mortality experience is most favorable, but are loaded in the case of nonstandard groups or of groups where there is a likelihood of an abnormal age variation. The next step is to multiply the amount of insurance granted at each age by the rate for that age as found in the table of basic rates and to add the results. If it is desired to know the rate that the employer is paying per $1,000 of insurance, it is only necessary to divide this total by the volume of insurance granted under the policy.

Not only must the group qualify as an "insurable group" from the standpoint of size and the other general considerations already explained, but the company, in fixing the rate, must take into account various special factors that vitally influence the company's experience. Among these are the moral environment of the plant, the hygienic and sanitary conditions prevailing, the hazard of accident and occupational disease, the general grade of workers found in the particular industry, and the presence of a catastrophe hazard through fire, explosion or accident. It is also important to limit the amount of insurance per individual in the group to some general maximum in order to obtain for the company the benefit of a proper spread of risk.

Stipulated premiums from year to year over a long period of time are usually promised under participating policies, while under nonparticipating policies the employer is usually given the right of annual renewal during a forty to fifty-year period, the company agreeing not to change its published rates for a designated period of shorter duration. Participating companies follow the practice of collecting premiums monthly, and of recalculating the amount due each time after taking into account all terminations and additions to the policy. Nonparticipating companies usually quote only annual rates and collect the same in advance, although collection on the monthly basis is sometimes resorted to. Their customary practice is to make an adjustment with the employer at the end of the policy year, either making a refund or collecting a difference.

**Degree of Benefits Paid and Methods Employed.**—While the protection given under a group policy may be fixed at an arbitrary or fixed sum for all employees alike, without distinction as to salary or length of service, that method is not regarded with much favor by employers. It has the disadvantage of placing all employees on an equal level. If group insurance is to serve as a means of rewarding workers in the interest of stabilized labor, and this is one of the leading arguments, it seems neither wise nor fair that low paid or new employees should obtain the same benefits as those that are skilled or have served the employer for years.

The general tendency is to base the amount of the insurance in accordance with the employee's compensation or his length of service. According to the first standard, usually known as the "salary plan," one year's wage or salary with minimum and maximum limits of $500 and $5,000 and a six months' probationary period of employment before eligibility, is the usual basis. This plan places the deceased's family upon the same income basis for the period of one year (a year of transition and hardship for the average wage-earning family) as prevailed prior to the death of the breadwinner. Especially is this true, when the claim is paid in installments, usually not oftener than monthly, corresponding in amount to the wages paid. In the case of piecework an adjustment is made whereby the same is covered to an amount regarded as the equivalent of what the employee's annual compensation would likely have been.

Under the second method, the so-called "service plan," the amount of the benefit is increased in accordance with the length of time that the employee has been in the employer's service, credit usually being given for the period of service prior to the time that the group policy is effected. This plan is probably proving to be the most popular with employers. If it is desired to include the more highly paid personnel, such as officers and superintendents, a combination of the salary and service plans is sometimes arranged. In such cases the company will want to know the specific character of the position held by each member of the higher paid personnel. It will usually also limit the amount of protection with respect to any such individual to a stipulated maximum, such as 2½ times the average insurance per ordinary employee. It should be added that with respect to all of the aforementioned plans, it is the usual practice of insurance companies to place minimum and maximum limits upon the amount of insurance on any one life. The maximum limit usually does not exceed $5,000 and is graded according to the total insurance on the group, ranging, to use one company's schedule, from $1,500 when the total insurance on the group is $50,000 or under to $5,000 when the total is $400,000 or over.

As previously stated, the group plan is not necessarily confined to life insurance, but may be used to extend other types of protection to employees. Those most commonly extended, and with the exception of accident and health benefits usually in conjunction with the life insurance contract, are the following:

(1) Funeral benefits, usually limited to $150.

(2) Total and permanent disability benefits, if the disability occurs before age 60. In the event of such disability the insurance becomes payable at the end of a prescribed probationary period, and the employer may elect to have the proceeds paid either in a lump sum or in installments. Practically all group life policies to-day incorporate the total and permanent disability benefit feature, and usually on the above mentioned plan.

(3) Retirement pensions, or a retirement fund. In the latter case the fund may be paid to the employer for investment, or be deposited with some financial institution, or be left with the insurance company itself as payment for some type of annuity. With respect to pensions or a retirement fund, employers often arrange to have their employees contribute regularly a designated percentage of their wages.

(4) Accident and health insurance, usually to the extent of two-thirds of the employee's weekly wage, not however to exceed $40 a week in any case or to continue for more than 26 weeks with respect to any one accident or illness. Before payments begin, a waiting period of one week is usually required. Policies, however, vary greatly according to the waiting period required or the term of disability during which benefits are paid, ranging with respect to the first from three

to seven days, and in regard to the second from thirteen to fifty-two weeks.

**Leading Policy Conditions.**—Two application forms serve as the basis for the issuance of a group policy, one being signed by the employer and the other by the employee. The employer's application constitutes the request for insurance on all employees whose names are included in an attached schedule. This list of employees, as already indicated, is subject to future adjustments, in order to account for new employees as well as withdrawals. Upon issuance of the policy, it may be added, the employer is usually furnished a card index giving the names of all employees insured, together with the amount of insurance for each, the premium, and the name of the beneficiary. The employee's application gives information along various lines, such as age, compensation, nationality, height, weight, condition of health, amount of insurance, and name and relationship of the beneficiary.

The blanket policy, made in consideration of the application, is issued to the employer. Each employee, however, has also issued to him, in his name and designating the beneficiary, a so-called certificate of insurance. This serves as evidence of the insurance company's obligation to the beneficiary in the event of the insured's death. But the certificate expressly conditions this obligation upon the employer's maintenance of the group policy and the continuance of the employee under consideration in the service of the employer.

Various important features of group insurance that must necessarily be related in the policy have already been discussed, such as the term of the contract, renewal, the promised continuance of certain rates of premium by the company for successive terms, the option of the employer to have the proceeds of a claim paid in a fixed number of installments, the company's promise to insure, during the life of the policy, additional employees who may become eligible, etc., and need not be referred to again. Certain policy provisions, however, deserve special mention. Should the employee desire to increase the insurance of any employee, the company agrees to grant the request up to a stated amount, and subject to other policy conditions. Should an employee leave the service, the insurance on said employee will be immediately canceled, and the company agrees to return the unearned premium paid on that insurance. Upon such withdrawal the company usually agrees to allow the employee (if not above a stated insuring age), upon written application and without medical examination and within thirty-one days after the cessation of his insurance under the group policy, a level premium whole-life or endowment policy. The new contract thus promised will be issued for an amount not exceeding the insurance terminated under the group policy, and at the regular rate charged by the company for the attained age of the applicant. Should there be a default in premium payment, reinstatement of the group policy is promised upon satisfactory evidence of insurability. Group policies, it should be added, are usually incontestable after one year, except for failure to pay premium or because of military or naval service in time of war. Should the age of any employee have been misstated, a matter that is likely to happen frequently under the group plan, the company agrees to make an equitable adjustment.

**Services Performed.**—Group insurance is of great service to both employer and employee. It has been aptly described as "paycheck insurance." As such it constitutes an essential part of a modern welfare program that no employer of labor should neglect. While by no means constituting a substitute for individual insurance, it nevertheless affords substantial life insurance protection to wage-earning families, who need such protection more than any other class. For them group insurance assures an income, for the transitionary period of one year, to take the place of the lost earning capacity of the head of the household. Moreover, group insurance is obtained under conditions of remarkable convenience and exceptionally low cost. Briefly described the services rendered by group insurance are the following:

*Stabilizes labor.*—Besides rewarding faithful and efficient service, group insurance is a means of creating a bond of sympathy between employer and employee, and thus reducing the labor turnover. From the employer's standpoint, this is probably the greatest service rendered. Success in industry requires that employees be skilled and careful in their particular tasks, often involving a training extending over a considerable period. A change in the working personnel of from 25 to 35 per cent. annually is, therefore, not only expensive from the standpoint of the instruction of employees, but also costly because of the waste of materials, the underproduction, and the output of damaged goods. As explained by one employer, whose company is reputed to have been the first in the United States to have insured its employees under the group plan against death, disease and accident and at the sole cost of the employer: [2]

> It was too expensive training 35 per cent of the force to have them leave just as they were becoming useful. New and untrained men meant a larger proportion of damaged product. The constant changes meant loss of production and loss of production meant increased overhead, and heavy overhead often means the difference between a profitable or a losing ente prise. . . . I concluded that we must reach the home life and the families of the men, believing that through that influence a greater permanency in the employment could be secured. . . . The more I studied the plan of group insurance, the more I became convinced that for intrinsic value as compared to cost this was the very first step the manufacturer should take in any plan to stabilize and strengthen the relation between his employees and himself, for their mutual benefit and for the improvement of the business. The plan was finally concluded and the policies written in 1911. . . .
>
> After a couple of years our labor turnover had decreased to about 15 per cent., while our production increased, and the proportion of seconds or inferior product showed a distinct reduction. Group insurance, therefore, justified itself both in business results and in humane benefits, which the employee felt flowed from the particular business organization of which he formed a part and which he could accept without feeling himself an

[2] OUTERBRIDGE, E. H., address on "Group Insurance as an Influence in Promoting Stability in Labor Groups," delivered before the Twelfth Annual Convention of the Association of Life Insurance Presidents, Dec. 6, 1918.

object of charity. . . . Employers who have tried paying out of pocket to the needy families of workers dying in their service may spend as much as the premium costs for group insurance, but will not produce the same effect upon their remaining workers that would come from the group plan of giving each employee a life and casualty certificate in a good company. The group plan is given to all alike. Human instinct gives extra recognition to the employer whose insurance plan gives protection to all rather than merely the chance of a charity payment to the most needy. And it may be noted that there is vastly more self-respect in the process of collecting an insurance policy than there is in accepting the charitable gift of an employer—as the needy family is certain to feel.

*Extends insurance to the masses.*—Wage earners are particularly susceptible to the habit of living only in the present and of neglecting to make decent provision for the future. Life insurance makes little appeal to them, owing to their small income, thriftlessness, and lack of education. Moreover, as a rule the wage-earning class is not solicited for regular life insurance. These deficiencies are remedied at the very source by group insurance. Here the employer is solicited, all or most of the premium is paid by the employer, and all composing the group, irrespective of the wishes of the individual, are automatically brought under the coverage of one blanket policy. The result is that innumerable workers, wholly indifferent to insurance and usually spending every cent of their earnings, are given the benefit of family protection. On every hand we observe the indifference of the wage-earning class to insurance, other than that designed to meet the expenses of burial and last illness. Yet life insurance exists primarily for the benefit of surviving dependents, and in that respect group insurance goes beyond the function of ordinary industrial insurance. We are told that about 40 per cent. of all employees insured under the group plan carry no other protection. To quote again the employer to whom reference was made in the previous section: [3]

[3] OUTERBRIDGE, E. H., address on "Group Insurance as an Influence in Promoting Stability in Labor Groups."

A study of the death claims in the two groups with which I am connected as an employer developed the fact that 53 per cent. had no other insurance whatsoever, and that 47 per cent. had insurance averaging only about $150 each. As our groups were relatively small, I have had this checked against the entire experience of the company carrying the insurance, and learn that these proportions represent a fair average. . . . The whole progress of legislation for workmen's compensation has been developed on the theory that the industry should pay for the maiming or damage that is caused in its operation. Is it not only a step further that the industry should pay something to the surviving dependents at the death of the breadwinner, at least sufficient to maintain them until they can adjust themselves to such changed conditions? And if employers do not recognize and do this voluntarily, it is more than likely that ere long the State will compel them to do so by legislation, and the merit and value of a voluntary act will be lost.

*Extends insurance to sub-standard lives.*—In the absence of group insurance, many who are unable to pass the medical standard applied in individual insurance, or who are engaged in extra-hazardous occupations, would be unable to secure insurance in any other way. Under the group plan, as we have seen, the entire group is insured, without medical examination and without regard to the fact that one worker in the group is subject to greater hazard than another. As has been stated: "The stronger lives support the weaker in preserving the insurability of the whole."

*Encourages the use of other forms of insurance.*—Adoption of group life insurance frequently results in the same employers later extending the plan to health and accident insurance. Workmen's compensation laws, although serviceable as far as they apply, only protect employees in the event of injury or death from accident in the course of employment. Yet industrial accidents comprise much less than half of the total number occurring. The important consideration is the protection of the worker's family, and it makes no difference whether the accident occurs within the course of employment or otherwise. Group health and accident insurance grants protection against accident and disease, irrespective of the source or the place of occurrence. Moreover, the educational effect of group insurance should not be overlooked. The best teacher of the value of insurance is insurance itself, and one policy is very apt to beget another. Many become acquainted with the beneficent influence of life insurance for the first time under the group plan, and are thus induced later to purchase more on their own initiative.

*Furnishes insurance at remarkably low cost.*—Whether the insurance is paid for solely by the employer, or is contributed to in part by the employee, the cost is low as compared with individual insurance. Many factors contribute to this result. Among them there may be mentioned the following: The agent solicits one employer instead of many employees, with the result that commissions and renewals are only about one-third of those prevailing in regular insurance; only one policy, instead of hundreds or thousands, is issued, and substantial economies are thus effected along the lines of accounting, premium notices, postage, etc.; and all medical examinations, averaging usually from $3 to $5 per applicant, are eliminated. Group insurance is a "wholesale plan" of insurance, and wholesaling in general is transacted more cheaply than retailing.

*Gives employers the benefit of the insurer's administrative services.*—Even where employers agree to the above considerations, they often argue that a careful record shows the number of deaths within their insured groups over a period of years to have been such that the aggregate of claims, if paid on exactly the same basis by the business itself, amounts to considerably less than the premiums paid to the insurance company. This line of reasoning is fallacious in a number of ways. Premiums on the average must, of course, exceed the claims, or insurance companies would be without profit or funds to cover their administration costs. But group insurance as written by companies to-day renders certain distinct services to the employer, in addition to those already related, that compensate fully for any average difference between premiums and claims. These may be briefly explained as follows:

(1) Insurance companies serve the purpose of distributing current claims in any one group over numerous other groups, thus securing certainty through a spread of risks much wider than can be obtained in any single group. It has been stated that an employer with less than 3,000 employees would be subject to the risk of paying in some year a volume of claims considerably in excess of the average. Yet the overwhelming majority of employers possess groups very much smaller than 3,000 employees, and the smaller the group the greater the hazard of variation from year to year in the volume of claims paid. Just as the insurance of individuals requires the application of the law of average, so under the group plan there must also be an averaging of numerous groups.

(2) Even where the group is so large as to warrant a belief that average losses will prevail from year to year, insurance companies assume many administrative expenses by way of guaranteeing the plan for a stated period, keeping records, paying claims, getting employees interested, settling disputes, etc., that would otherwise have to be assumed by the employer if he intended to give group protection of the same kind under some self-insurance plan. The situation is well explained by the following:[4]

> So well has the work of the insurance company been organized that, as a general rule, even a large employer would pay more in administrative expenses were he to carry the scheme by himself than the company charges for its services. It must be remembered, also, that when a scheme is first initiated it is usual for the companies to supply important information by way of suggestions as to the type of scheme to be adopted, and information as to what similar firms have previously done. Any executive who has faced the problem of obtaining information on a matter that is completely new to him will appreciate the value of this service.

[4] RUTHERFORD, C. I.: article on "How the Employer Profits by Carrying Group Insurance."

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# PART IV

## ORGANIZATION, MANAGEMENT, AND SUPERVISION OF LEGAL-RESERVE COMPANIES

## CHAPTER XXIV

### TYPES OF LEGAL-RESERVE COMPANIES

**Distinctive Characteristics of Each Type.**—Life insurance on the legal-reserve plan is transacted by three types of companies, namely, mutual companies, stock companies, and mixed companies. Briefly outlined, the essential features characterizing each type of company are the following:

*Stock companies,* using the term in its strict sense, are those which have capital stock and which do not issue policies under which the insured is allowed to participate in the profits of the company. A stock company is controlled by those who own the stock, and the liability of both company and insured is fixed definitely in the contract. While the policyholders possess an interest in the reserve accumulated on their contracts, they are not interested in the surplus of the company, all profits derived from the business belonging to the stockholders.

*Mutual companies,* again using the strict meaning, are those which have no capital stock and therefore no stockholders. A mutual company is composed of the policyholders who own all its assets and who, theoretically at least, control its management through some system of voting. Although the well established mutuals now have no capital stock whatever, it is usual in organizing such companies to start them with a guaranty capital, providing for a fixed rate of return while the stock is outstanding and for its retirement when the assets of the company reach a certain prescribed standard. For competitive purposes mutual companies, until a few years ago, issued non-participating policies of all kinds at very low rates. In recent years, however, various states have undertaken to regulate this matter. Thus in the state of New York they are permitted by law to do a participating business only; while other companies organized in the state must elect to do all their business either on the participating or the non-participating plan. Outside companies doing business in the state are allowed to transact both classes of business, but are permitted to do so only if they file separate gain and loss exhibits for each class. Although non-participating policies may be issued by mutual companies, their business is almost entirely a participating one, the policyholders paying premiums considerably higher than necessary to meet the liability of the company and later receiving a refund (in the form of dividends) of such overcharges as the company may find it unnecessary to hold.

*Mixed companies* combine certain features of both of the other types. While organized as stock companies, they issue policies on the participating plan, usually limit the rate of dividend to stockholders to a definite amount, distribute all other surplus earnings to their policyholders, and also grant policyholders some voice in the management of the company. Sometimes no limitation is placed upon the amount that may be paid to stockholders, yet the issuance of participating contracts will call for some sort of distribution of surplus to policyholders. In most instances the existence of capital stock in these companies had its origin in the legal requirement for a guaranty capital in organizing the company, the law, however, not providing for the future retirement of the stock. In various states the law, besides fixing the maximum return that may be paid stockholders, also provides for the retirement of the stock when the company has become well established.

**Comparison of the Stock and Mutual Plans as Regards the Loading of Premiums.**— We may next pass to a discussion of the important differences between the stock and mutual plans as they manifest themselves in actual practice. In the first place it is to be noted that the gross premiums charged by mutual companies include a loading which not only amply covers all expenses, but also usually includes an additional amount to safeguard the company against any possible contingencies. Then, if the premium proves to be redundant, as is nearly always the case, the overcharge is returned to the policyholders in the form of dividends, thus giving them protection at actual cost. Stock companies, likewise, usually load their net premiums, but the amount added does not as a rule even cover expenses, the company relying upon excess interest earnings and saving in mortality to cover its requirements for expenses and contingencies. In actual practice, therefore, the stock company charges a lower rate of premium on non-participating policies than does the mutual company on participating policies. The stock company says in effect, to quote one description, "keep the dividend [of the mutual company] in your pocket." It follows the plan of discounting the future — i.e. of paying its dividends in advance — by charging a guaranteed low premium; while the mutual company asks a higher premium to start with and subsequently refunds the overcharges. In actual practice, therefore, a comparison of the showing which stock companies make from the standpoint of ultimate cost of insurance to the policyholder and the showing made by a mutual company requires a comparison of the net annual cost of the policy in the two companies over a series of years.

The practical difference in the matter of charging premiums by stock and mutual companies may be illustrated by the following example of a $10,000 policy issued by a certain company some twelve years ago on the participating plan at a premium of $281.10, as compared with a $10,000 non-participating policy issued at the same time and under the same conditions at an annual premium of $227. As regards the non-participating policy, the annual cost of the insurance remains a constant, namely, $227. As regards the participating policy, however, owing mainly to the accumulating value of the reserve and the excess interest earned on that increasing value, the net cost of the policy shows a steady decrease. Thus, at the end of the first year the participating policy paid a dividend of $43.40, which, when deducted from the premium of $281.10, leaves a net cost of $237.70, as compared with the non-participating rate of $227. At the end of the sixth year the annual dividend on the participating policy had increased to $54.30, thus giving a net cost of $226.80, or approximately the same as the premium of $227 charged for the non-participating policy. Thereafter the net cost of the participating policy grows less each year, while that of the non-participating policy remains the same.

The foregoing example is chosen merely to illustrate the manner in which stock companies discount the future by charging a reduced rate of premium as compared with that charged by mutual companies, with the result that the non-participating plan gives the lower cost if the policy continues in force for a considerable number of years. The period in the life of the policy at which the total net cost under the two plans will be equal differs greatly and naturally depends upon the companies used for purposes of comparison. Much has been written concerning the question as to which plan will give the cheaper protection to the insured, and innumerable examples are cited to illustrate one contention or the other. The showing made under the two plans will depend upon the companies under consideration, and the controversy concerning the subject has therefore consisted primarily of a discussion of companies and their managements. It should be recognized that a true comparison of the two plans as regards the cost of insurance — a comparison of systems and not of companies — requires that the companies used for illustrative purposes should operate under precisely the same conditions, that their managements should have equal ability and integrity, that they should do approximately the same amount of business yearly, and that their policies should be alike in their provisions. Having in mind a comparison of systems, as distinguished from companies, it may be said that in mutual insurance, if efficiently and honestly conducted, all of the overcharges are refunded to the policyholder and he receives his protection at actual cost, whereas under the stock plan an overcharge in the premium reverts to the benefit of the stockholders.

**Arguments Urged in Favor of Each of the Plans for Charging Premiums.**— The argument most frequently urged in favor of stock company rates is that they are low, definite in amount and time of payment, and eliminate all element of uncertainty, thus enabling the policyholder to know the exact future cost of his insurance and to make provision therefor in much the same way as he does for his rent, mortgage interest, or any other fixed obligation. In the words of one supporter of stock companies, insurance policies issued on the non-participating plan are "plain business contracts which tell their whole story upon their face; which leave nothing to the imagination; borrow nothing from hope; require definite conditions, and make definite promises in dollars and cents."[1] Another statement is to the effect that "the policyholder of a stock company knows just what his insurance will cost, now and in the future, everything being guaranteed — a thing impossible in a mutual company for the reason that one cannot know in advance what future dividends will be, or even that there will be any dividends at all."[2] It is further argued that under the stock plan the self-interest of the stockholders will secure, as well as any other system, a faithful management of the funds accumulated by the company for the benefit of its policyholders, and that the competition of other stock and mutual companies will keep down the cost of insurance to a fair basis. Stockholders, it is asserted, will be actuated by self-interest to select the ablest management, and in attempting to do this will not be interfered with by the policyholders.

In favor of the mutual plan it is argued that there are no dividends to be paid to stockholders, that insurance is given at actual cost by returning in dividends all unnecessary overcharges, and that the affairs of the company may be controlled by the policyholders in such manner as they deem best

[1] CRAIG, JAMES M., "Stock Life Insurance," in Howard B. Dunham's The Business of Insurance, i, 506.

[2] DEXTER, GEORGE T., "Mutual Life Insurance," in Dunham's The Business of Insurance, i, 501.

for their interests. It is also pointed out that by charging higher premiums the mutual company possesses an important source of strength against periods of financial stress or other unforeseen contingencies. Stock companies, on the contrary, are not in a position in case of reverses to call upon their policyholders for additional contributions to meet losses, since the stockholders, being alone entitled to profits, must also bear all losses. Strength and safety are regarded as first considerations in life insurance, and in this respect it is impossible to foretell the contingencies, such as wars, epidemics, greatly declining interest rates, oppressive legislation and taxation, inefficient management, etc., which may arise in the distant future; hence the danger of companies assuming fixed obligations which run for many years and must be fulfilled absolutely without the company possessing the right of withdrawal or modification. In practice, however, both types of companies usually retain a considerable fund for emergencies so that the argument is applicable only in the event of very unusual contingencies. Furthermore, the argument that certain stock companies possess a much greater accumulated surplus than certain mutuals is considered by the supporters of the mutual plan to constitute nothing more than "the discussion of the merits of companies and not of systems; just as would be the case if it were pointed out that the capital of most stock companies is so inconsiderable as to be negligible in the nature of security."[3]

**The Stock and Mutual Plans Compared with Reference to the Control of Companies.**— The control of stock companies, as we have seen, rests with the stockholders, generally by means of proxy voting. Nearly always a majority vote carries with it complete control, although in some instances the minority is able to secure some representative in the company's management through a system of cumulative voting. Control of mutual companies, on the contrary, rests in theory at least with the policyholder. All such companies allow

[3] DEXTER, GEORGE T., "Mutual Life Insurance" in Dunham's The Business of Insurance, i, 500.

their policyholders to express their will by attending the meetings and voting in person. But it is clear that in the case of a large company doing business throughout the country it is impossible for more than a few of the total number of policyholders to attend in person, hence in nearly all companies the proxy system is employed in one form or another. Sometimes the proxies are good until revoked, while in other instances they are good only for the given meeting or for a limited period. Sometimes no member is allowed to vote proxies for more than a certain designated amount of insurance, like $100,000; while in other instances no limitation is imposed. In still other instances direct voting by mail is permitted.

The foregoing distinction between control of companies by stockholders and by policyholders has not proved of much importance in the past. In either case experience has demonstrated that the company is usually controlled by a limited number of persons, and that the situation with respect to a large mutual life-insurance company is similar to that presented by other large corporations with thousands of stockholders widely scattered. Experience has clearly shown that very few policyholders attend the meetings, and that proxies can usually be obtained in sufficient numbers by those who are interested in controlling the company. The average policyholder seems to manifest little interest in the management of the company in which he is insured, and, especially in view of the stringent regulation of the business by the state, makes little effort to keep himself informed. The great majority of policyholders, moreover, even if desirous of attending the meeting or of expressing an independent judgment by proxy, are not sufficiently well informed to-day to vote intelligently on important matters that may come up for decision. Even when attempts have been made to organize groups of policyholders in local associations with a view to bringing their influence more effectively to the attention of the company's management, the efforts have in nearly all instances met with little success

**Arguments Urged in Favor of Each of the Plans of Control.**— The control of stock and mutual life-insurance companies has been the subject of as much controversy as was noted to exist with reference to the cost of protection under the two plans, and innumerable instances have been cited pro and con to support one or the other contention. The supporters of the stock plan point especially to the lack of interest which policyholders show in the management of mutual companies, that they rarely vote, and that the existing management may easily obtain a sufficient number of proxies to perpetuate its control. They assert that the difference is in reality only a theoretical one and that the self-interest of stockholders, since their own investment is at stake, is a guaranty that the company will be successfully managed.

While admitting that few votes are cast in most mutual elections, those who favor the mutual plan assert that "life insurance is essentially mutual in principle," and that control by policyholders, although it may not generally be exercised, nevertheless means that the members of the company possess the final power to express their will in the event of a grave crisis arising in the affairs of the company. They also point to the threefold danger: (1) of allowing a stock-controlled company to issue both participating and non-participating policies, a plan which may make possible the fraudulent treatment of participating policyholders to the advantage of the stockholders; (2) of having all the assets of a company, including not merely the capital stock, but the reserve accumulations in which the policyholder is vitally interested, come absolutely under the control of a limited number of stockholders without the possibility of withdrawal by the insured except at a great financial sacrifice or at the risk of being unable to obtain insurance elsewhere; and (3) of possibly placing the assets of the company within the power of unscrupulous financiers who are interested in controlling the company for purposes totally at variance with the best interests of the policyholders. Again, they argue, what assurance is there that a good management for the present will not be replaced in later years by an inefficient or even dishonest one?

When such conditions arise the stock plan, so the supporters of the mutual plan assert, gives the policyholders no opportunity to express their disapproval effectively; nor may even the larger number of stockholders be able to effect a change since the controlling interest in the stock may be lodged in the hands of one or a few individuals whose interests are furthered by the practices to which the policyholders and minority stockholders are opposed. Under the mutual plan, however, if the company's affairs become so bad as to arouse general dissatisfaction, it is possible to oppose the management with independent nominations. To accomplish this purpose various states have enacted laws which aim to give policyholders every possible facility for exercising their voting power if they so desire. The mere knowledge that the body of policyholders possesses this final voting power, it is felt, will restrain a management from going to the extremes that it might have no hesitancy in doing if it were in a position to perpetuate itself by virtue of a majority control of the company's stock.

**The Control of Mixed Companies.**— Mixed companies, or those which are organized as stock companies but which allow the insured to participate to some extent in the surplus and grant them some measure of voting power, do not possess any great advantage over pure stock companies as regards control by policyholders. An examination of the various plans now in existence gives abundant evidence of this fact. A few permit stockholders only to vote for directors; while a considerable number, although allowing stockholders to vote in person or by proxy, require policyholders to vote in person, and in various instances still further limit control by the insured by restricting the voting power to those who carry a certain amount of insurance, like $5,000, or pay a certain annual premium, like $75 or $100. Such restrictions will amply safeguard the management against a loss of control through the action of the company's policyholders, since it is practically certain that the number carrying $5,000 of insurance who will appear to vote in person will never even approximate the number of shares, to each of which a vote is given. Various other restrictions, sometimes used in conjunction with those already mentioned but at other times constituting the only restrictions, may also be mentioned. Thus, it may be provided that one-half of the directors shall be elected by the stockholders and the other half by the members, or that the stockholders shall elect, say two-thirds of the directors, and the policyholders one-third. Again it is quite common to provide that only stockholders owning a designated number of shares may be directors, while in a limited number of instances only may directors be either stockholders or members. Under such restrictions only half the board with the president is needed for control on the part of the management, while if the stockholders are entitled to elect more than half of the directors, the voting privilege extended to policyholders is apt to be worthless.

The methods adopted by mixed companies for allowing the insured to participate in the profits of the company also differ greatly in their details. Usually the dividend on the stock is limited to 7 or 10 per cent. per annum, or to this rate plus a certain proportion of the remaining surplus, such as one-fifth or one-eighth. In at least one instance the interest of the policyholders in the profits of the company shall be "as hereafter provided, unless otherwise expressly agreed between the company and the insured." Another company limits the return on the stock to 7 per cent. plus the profits on non-participating business; while a few others place no limit upon the stock dividends, yet have been paying large dividends to policyholders. Provision for retiring the stock seldom exists, and where such provision has been made it is usually stated that the retirement shall occur only when it is voted by the members and that a certain proportion of the surplus, like one-fourth, may be applied for that purpose.

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# CHAPTER XXV

## ORGANIZATION OF COMPANIES

### Home Office Organization

In many respects the organization of a life-insurance company is similar to that of other corporations which are concerned with the collection, investment, and disbursement of funds. It is the purpose of this chapter to outline the more important official positions, committees, and departments of the average large life-insurance company, and to describe briefly their respective functions and duties. In doing this it is recognized that the various companies present many differences in their organization.[1] Generally speaking, the average large life-insurance company, aside from the numerous office

[1] In his excellent lecture on "Office Organization in Life Insurance" (*Yale Insurance Lectures*, i, 112–125), Mr. John B. Lunger presents in schedule form the organization of the average large life-insurance company. His schedule is herewith reproduced. Since this chapter aims to discuss only the more important official positions, committees and departments, Mr. Lunger's description of the duties of the other departments and committees is given briefly under the respective headings. Mr. Lunger's schedule is the following:

| | | |
|---|---|---|
| Deliberative Bodies ....... | Board of Directors | |
| | Committees of the Board .......... | Executive<br>Finance<br>General Conduct |
| Officials Charged with Executive Functions ...................... | President<br>Vice Presidents<br>Treasurer | |
| Officials Charged with Administrative Functions ................ | Comptroller<br>Secretary<br>Superintendent of Agents | |
| Officials Charged with Advisory Functions ...................... | Actuary<br>Medical Director<br>Counsel | |

departments and special committees which handle the routine and technical work of the company, is managed by four groups of officials: those who compose the deliberative bodies, those who exercise executive functions, those who are intrusted

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OFFICE DEPARTMENTS:

Agency
Financial
Actuarial
Medical
Legal

Bookkeeping .......Where all of the company's financial operations are summarized and classified.

Auditing ..........Where the company's receipts and disbursements are checked and passed upon by competent accountants.

Claims ............Where all proofs of death are examined and passed upon, also all papers relating to maturing endowment policies and other contract obligations.

Real-estate Loans ...Where all applications for mortgages are considered, the value of property appraised, and if the loan is made, records are kept of all payments of principal and interest.

Policy-writing ......Which takes the applications which have been approved by the medical department and prepares and registers the policies applied for.

Policy Loans ......Which looks after the requests of policyholders for cash advances on the security of their policies.

Inspection .........Which supplements the work of the medical department by making inquiry concerning the habits and financial standing of applicants.

Policyholders' Bureau ............Which looks after all communications and queries from policyholders, formulates ways and means of keeping them posted, and looks after delinquent policyholders.

Editorial and Advertising .........Which is charged with the company's periodicals, circulars, all printed matter for the use of agents, and the company's general and special advertising.

with administrative duties, and those who serve in an advisory capacity.

**The Board of Directors and the Committees Chosen from Its Membership.**— The board of directors and the several committees of the board constitute the deliberative bodies. In a mutual company the directors are elected by the policyholders from among their own number, while in a stock company they are elected by the stockholders and in order to quality must be the owners of a designated number of shares. In mixed companies, as we have seen, the directors are sometimes elected by the stockholders alone, sometimes a certain number are elected by the stockholders and the others by the policyholders, and in still other instances both stockholders and policyholders elect all the directors and may choose the same from either the stockholders or policyholders. But whatever the method of election, the board pos-

Supply ............Which takes care of the printed matter of the company and distributes it in the home office and to the agencies in the field. It is often supplemented by a printing plant.

Mail ..............Which opens all incoming mail and distributes it amongst the offices of the company and the various departments. Also collects, makes up and addresses all out-going mail.

Filing .............Which systematically stores applications for contracts, cancelled contracts, letters, and the replies thereto, books and cards no longer in use, and all of the many receipt forms and papers which it is necessary to preserve.

COMMITTEES OF OFFICIALS AND CHIEFS OF DEPARTMENTS:

Agency Methods
and Conduct .....Composed of the chief of the Agency Department and his leading assistants. It considers the forms and terms of agency contracts, questions as to the amount of business to be written in various sections of the country, the efficiency of the management of state and local agencies, and ways and means for increasing the agency organization, and for the better instruction of agents.

sesses complete supervisory powers over the company. It is not only empowered to select the president and other principal officers, but may delegate to them such powers as it sees fit. It also meets at stated intervals to approve or disapprove the findings of committees, and to consider and pass judgment upon all important matters concerning the general business conduct of the company. Since the transactions of a life-insurance company assume a great variety of forms, it is usually considered desirable that the directorate should be composed of men who represent various callings and possess wide experience.

To expedite the proper fulfillment of its functions, and to bring its members into close touch with the business affairs of the company, the board divides itself into a number of standing committees. These committees vary in the different companies but usually are six in number: the executive com-

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Review ............Composed of representatives of the medical, actuarial, and agency departments. It considers and passes upon the applications concerning the acceptance of which there is a reasonable doubt.

Clerical Efficiency...Made up amongst the heads of departments. It examines applicants for positions, passes upon their qualifications, reports the outcome to one of the leading officials, and is expected to keep track of progress made by new appointees.

Claims ............Sometimes composed of members of the board of directors, but more usually is made up from the officers and heads of departments. It passes judgment upon all claims upon the company, especially those concerning the legality or sufficiency of which there is reasonable doubt.

Office Methods and Systems .........It states and adapts to the company's purposes all improved and simplified office methods, examines and passes upon new forms, cards and registers, and regulates the work of each department so that it will fit smoothly into the work of every other department.

mittee and those on finance, general conduct, claims, agencies and accounts. Of these the executive, finance and general conduct committees rank as most important, while in certain instances the duties embraced under the headings of claims, agencies and accounts are relegated to special office departments or to committees composed of administrative officials and chiefs of departments. The executive committee, consisting of the president and certain members of the board, has for its purpose the consideration and ratification of such matters as bear a vital relation to the general business policy of the company. The finance committee, consisting of the president and treasurer of the company and a certain number of the directors, exercises a supervisory control over the company's investments. It is this committee which approves or rejects the investments selected by the treasurer, and in order to avoid any mistakes in this important matter it is, as Mr. Lunger states, " a common rule that no investment shall be made unless it meets with unanimous approval." The committee on general conduct consists usually of a certain number of the directors and the chief administrative officers. As summarized by Mr. Lunger, it " regulates the expenses of the company, considers the reports of the chiefs of administrative and supervisory departments and of the office committees. It is expected to keep in touch with and pass judgment upon all matters of practical administration that cannot be brought before the executive committee of the board. In brief, it is the committee that observes the workings of the machinery and takes care that each part is in condition to work smoothly."

**Officials Exercising Executive Control.**— These usually comprise the president, one or more vice-presidents, each of whom has charge of a department, and the treasurer. The president is usually intrusted by the board of directors with large executive powers, and should not only be well versed in financial matters but should have a wide experience in the life-insurance business so as to interpret properly the results attained in the respective departments of the company, advise the board of directors in supervising the general business conduct of the company, determine the best policy for it to pursue, and direct the work of the subordinate officials. He is also intrusted with the duty of selecting subordinate officials and departmental heads. The several vice-presidents, each of whom usually has charge of a leading department of the company, must also keep in touch with the general business operations of the company so as to be in a position to assist the president in his duties, to assume his responsibilities (or that of a ranking vice-president) during his absence, and to be prepared to assume the office in the event of promotion.

The treasurer, besides passing on the merits of the company's investments so that those which meet his approval may be presented to the finance committee, is usually the custodian of the bonds, stocks and other investments held by the company, and is intrusted with the duty of collecting the interest and dividends thereon. To invest the company's money in securities that are safe and yet will yield a return from 1 to 1½ per cent. higher than the rate assumed for premium and reserve computations requires skill and a wide knowledge of the various classes of investments in which life-insurance companies are permitted to invest their funds. Great care must be exercised especially with regard to investments in real-estate mortgages since these involve a knowledge of values, the character of the mortgagor, and an examination of the mortgages and abstracts of title. As previously stated, life-insurance investments also consist to a large and increasing extent of policy loans, whose sole security is the value of the policy against which the loan is effected. Since real-estate and policy loans constitute so large a proportion of the total investments in life insurance, it is common for large companies to have two special departments — a real-estate department and a policy-loan department — to manage and supervise the same.

**Officials Intrusted with Administrative Functions.**— These are usually the comptroller,secretary and superintendent of agents. The comptroller is charged with the responsibility of overseeing the company's bookkeeping and of collecting premiums and interest from policyholders. The bookkeeping department ranks among the most important branches of the office work. It has charge of the numerous cash, investment and insurance accounts, and must record them in such a practical and scientific manner as to enable the company to know at any time the progress of its business and to meet the demands of the various state insurance departments for information. It must also be organized in such a manner as to permit a frequent proving of the correctness of its work. The secretary has charge of the company's correspondence, the minutes of the board of directors and its various committees, and the company's records. He also prepares the reports which are presented to the board of directors and its committees, and is frequently charged with the oversight of the office organization and the discipline of employees. The superintendent of agents selects and supervises the company's agents and, as concerns the field force, carries out the instructions of the head of his department (usually one of the vice-presidents) and of the committees which handle agency matters.

**Officials Serving in an Advisory Capacity.**— These are the actuary, medical director and counsel. The actuary's work has been described as "the forerunner of all the business to be conducted," and to be well qualified "he must be well informed not only in the mathematical part of his profession, but must have considerable practical knowledge of life insurance before it will be safe to follow his advice."[2] His work is indispensable if the company wishes to conduct its business on a scientific basis. Previous chapters clearly indicate that premium rates and cash, paid-up, extension and loan values must be carefully ascertained before contracts can be written. The actuary also calculates the reserves and dividends of the company. From time to time it is necessary for him to devise policies to meet the needs of changing

[2] ENGLISH, J. L., "Home Office Management," in Dunham's The Business of Insurance, chap. 20, p. 347.

competitive conditions and to comply with the requirements of the numerous laws adopted by the various states.

The medical director supervises the company's force of medical examiners, selects the physicians who shall constitute this force, instructs them in their duties, and is the final authority to pass upon the insurability of applicants. The acceptance of a risk depends mainly upon his judgment, and in arriving at a conclusion he must consider the local examiner's certificate in conjunction with the facts obtained from the application and sometimes from other sources. The work of the medical department is usually supplemented by an inspection department whose function it is to inquire into the habits and financial responsibility of applicants.

The legal department is charged with the responsibility of handling all of the company's legal matters. These include, among other things, the conduct of court cases growing out of contested claims, foreclosure proceedings, imperfect titles, etc.; the sufficiency and correctness of policy forms, agency contracts, bonds, notes, etc.; the inspection of titles to property purchased by the company or upon which it has granted loans; and the analysis and interpretation for the benefit of the company of the statutory and court law governing life insurance in those states where the company operates.

**Other Departments.**— In addition to the foregoing, numerous other departments are necessary for the handling of the enormous volume of details that make up the work of a large life-insurance company. Most of these have been enumerated and briefly defined on pages 341 and 343, and need not be referred to again. Mention may, however, be made of the fact that a considerable number of companies have, in addition to the departments already enumerated, one or more of three other departments, namely, a statistical department, a policy changes department, and a department of assignments. The function of the first is to tabulate the experience of the company as regards the numerous classes of risks insured, the various types of policies written, the various classes of investments made, etc. The data collected by the department, if properly interpreted by it, should prove invaluable especially to the executive and actuarial departments in enabling the company to profit by past experience with a view to improving its future prospects.

It is also apparent that in a large company numerous changes of beneficiaries will be requested by policyholders, and such changes frequently involve legal and other dangers which the company is anxious to avoid. During the early policy years numerous contracts are also changed with reference to the kind of insurance, the amount of premiums, or the amount of insurance, and all such changes require a careful adjustment between the old and the new contract. To facilitate the speedy and careful handling of such changes some companies have found it advisable to create a special department for the purpose. Furthermore, life-insurance policies are frequently assigned. Such assignments must be duly filed and acknowledged, and must be examined from the standpoint of legality and accuracy. While the companies do not hold themselves responsible for the correctness of policy assignments, they nevertheless desire to protect the insured by extending advice and suggestions. To this end some of the companies find it advantageous to have a department of assignments, the function of which is to examine carefully all assignments filed with the company and call the attention of the parties thereto to any inaccuracies or illegalities which it may discover.

## Agency Organization and Management

While attempts have been made to sell life insurance directly to the public through advertising and circulars or through the medium of savings banks or certain governmental agencies like the post office, experience has shown that such methods met with little success.[3] Like any other costly article life insurance must be sold, and its benefits can be widely disseminated throughout the community only through the direct

[3] **As illustrative of the practical failure of such methods, see page 446 of this volume.**

solicitation of salesmen. In fact their labor underlies the upbuilding of life insurance as a vital force in the community, and without their propaganda only the limited few would secure its protective influence. Especially is this the case since, as has been said, "It is but natural to procrastinate about a provision that needs must be made when one is in good health and does not need it, and that can be most advantageously made when young and the contingency provided against probably, and at least apparently very remote."[4]

**Relation Between the Home Office and the Field Force.** — For the reason just mentioned the agency department is often characterized as the most important branch of the home office. It is usually managed by one of the vice-presidents of the company, who is assisted by the superintendent of agents. The functions of the department are varied, and consist in securing agents and managers, assigning to them their respective territory, instructing them in their work, supervising the home-office correspondence and records pertaining to agents, formulating plans for improving the efficiency and loyalty of the service, and assisting the agency forces in any special difficulties that they may encounter. Frequently there are several assistant superintendents of agents, each of whom is charged with the duty of supervising the agency force in a designated group of states.

Successful agency work requires not only the most effective organization but a close coöperative relationship between the home office and those in the field. To this end united action is emphasized as much as possible. Not only are all important agency questions considered by special committees at the home office, but agents' meetings and conventions are organized with a view to enabling a free discussion of important questions vitally related to the agent's work and equipment. Many of the companies also devote much attention to the education of their agents in a proper understanding of the nature and uses of life insurance and in the methods of

[4] Woods, Edward A., "Agency Management," in The Business of Insurance, chap. 21.

salesmanship. Some companies conduct special courses along these lines while many others issue numerous educational leaflets explanatory of the various types of contracts and their uses, the arguments to be presented in selling the various classes of policies, and much other information of value to the agent in his daily work. It should here be stated that the agent, if he is to render the greatest service to his client and pursue his calling along professional lines, should be well informed concerning those phases of life insurance, such as the principles of rate-making, the operation of the reserve, the nature and sources of the surplus, etc., which are necessary to a correct answering of the numerous questions which are commonly asked of agents. To render expert service he should possess a thorough knowledge of the various types of policies and their usefulness under certain family and business circumstances, and of the various forms of settlement and their advantages, so that he may wisely fit the policy to the real needs of his prospective client. He should be thoroughly informed with regard to his company's investments and its treatment of policyholders as regards surrender and loan values, and should be in a position to present the benefits of insurance clearly and forcibly. There are also many legal phases connected with life insurance, as, for example, in connection with the naming or changing of the beneficiary and the assignment of policies, an understanding of which will greatly enhance the agent's usefulness. Furthermore, the agent should not consider his service to his client completed when the sale of a policy has been effected. Instead, his advisory relation to the insured and the beneficiary should extend, if at all possible, throughout the life of the policy and, as regards the conservation of the proceeds, even after it matures.[5]

**Commissions Paid to Agents.**— For their services agents

[5] For an extended discussion of the way in which agents should view their profession, see the address on "How the Life Insurance Agent Should View His Profession," published as Appendix I on pages 443 to 453 of this volume.

receive commissions and the method of paying them usually assumes one of two forms. One consists in paying a high commission, varying let us say from 30 to 50 per cent., on the first year's premium and a small percentage of, say, 5 per cent. (called a renewal commission) on subsequent premiums for a designated number of years. This method is particularly well adapted to those who aim to write permanent business, since renewal commissions mean an increasing income from year to year to the agent who exerts himself in the procurement of insurance which will remain on the books of the company. The other method consists of paying a somewhat higher commission on the first year's premium than is allowed under the first method, the agent receiving no renewals on subsequent premiums. This plan, it is apparent, is apt to be desired by those who consider the present more important than the future and who desire to receive a higher income at once in preference to waiting for the accumulating commissions that are received under renewal contracts.

**Types of Agency Organization.**— Four agency systems are used in the life-insurance business, viz:

1. *The general-agency system,* according to which a general agent is given exclusive control of a certain territory with power to organize his efforts as he may deem best and to employ agents to assist him on such terms as he may see fit.

2. *The branch-office system,* according to which branch offices are operated in various sections of the country, each being in charge of a manager and a cashier. Under this system the home office approves the contracts made with local agents, although the manager appoints and directs the same.

3. *The direct-agency system,* according to which the agents are appointed and supervised from the home office with or without the assignment of exclusive territory.

4. *The brokerage system* (of relatively much less importance than the other plans), according to which the con-

tract is effected directly with the company but without any arrangement for the allotment of exclusive territory or the payment of renewal commissions.

**The General-Agency System.**— The first two systems have been adopted most generally as the plans for organizing and controlling the operations of agents. The general-agency system is the oldest and most widely used of the two plans, and aims to accomplish through general agents what the other system is designed to do through branch offices. According to the plan the company appoints a general agent to represent it within a designated territory over which he is given control, and by contract agrees to pay him a stipulated commission on the first year's premiums plus a renewal on subsequent premiums. In return the general agent usually agrees to devote himself to the upbuilding of the company's business in his district, to employ and supervise the local agents, to collect premiums, and to pay all expenses (save only the fee paid to medical examiners) connected with the operation of his agency. He is also empowered to engage sub-agents on such terms as he may deem best. Thus he may pay them all of his first year's commission plus a renewal somewhat smaller than that which he receives from the company, or he might pay all of the commission on the first year's premium and retain the renewals himself, or, again, he may retain a portion of both the first year's premium and the renewals. If the agency is already established when the general agent is appointed, the company will usually pay him collection fees on the premiums turned in on the business which his predecessors developed, expecting that this income will be utilized for the upbuilding of the agency. If the agency, however, is just being established, the company will often advance to the general agent the capital necessary for development and reimburse itself out of the commissions accruing under his contract. Frequently the contract also requires the general agent to produce a stipulated amount of business within a designated time.

Two classes of general agencies are described by Mr. Edward A. Woods in his article on "Agency Management,"[6] viz: (1) those where the general agent relies chiefly upon his own personal business for his main profit and considers the income derived from his sub-agents as of minor importance; and (2) those where the general agent subordinates his personal business and aims to develop a large force of sub-agents with a view to deriving his chief profit from the marginal difference between the commissions and renewals paid by him to such agents and those which he receives from the company. If belonging to the first class the general agent will consider his personal business of greatest importance and will select those prospective applicants which he can handle best himself. Needless to say such an agency is not as advantageous to sub-agents as the second class where, although it should always be the aim of the general agent to obtain some personal business, he will nevertheless promote the welfare of his agents in preference to the interests of himself or his office. As Mr. Woods explains:[7]

> It should be the policy of the general agent to subordinate his own interest and that of the office to his agents; to have them feel that their interests are preferred, that they will be given first opportunity to profit by leads of all kinds secured by the office; in all cases of conflict of interest to give all reasonable preference to sub-agents. Some agencies further protect them by refusing business from all outsiders or by declining to pay, or permitting their agents to pay, so-called "helpers or handshakers" or any outsiders any part of their commissions in any way, causing it to be understood that the interests of its agents are first in the agency. Such an agency will be built up slowly, because obviously the small marginal commission upon first, if any, and renewal, premiums will be slow in aggregating any considerable amount; but it should ultimately exceed what will be possible for the first form of general agency.

[6] For an excellent discussion of the nature of a general agency and the business policy which such an agency should pursue, see the article by Mr. Edward A. Woods on "Agency Management," chap. 21 of Vol. I of H. P. Dunham's The Business of Insurance. This article is limited to a discussion of the general-agency system.

[7] DUNHAM, H. P., The Business of Insurance, i, 360.

When thoroughly established the latter will not be so dependent upon the personal effort of the general agent and will gradually attract more and more successful agents to its standard.[8]

**The Branch-Office System.**— As contrasted with the general-agency system, this plan is more recent in its development and is gaining in relative importance especially among the large companies. Its purpose, as already explained, is to establish branch offices in various districts in charge of a manager and cashier. The manager, usually selected becaus^ of his success as an agent, is charged with the responsibility of securing and directing agents within his territory and of instructing and otherwise helping and encouraging them in their work as solicitors. The cashier, on the other hand, to

[8] Attention may here be called to the increasing tendency towards specialization in some of the large agencies. Mr. Woods writes in this connection:

"The future large, successful agency will be further specialized in that its most experienced and expert closers will be more economically employed in giving their time to closing cases jointly with agents who are better able to bring in prospects than to close them. Joint work will be increasingly the rule, as it is in important cases in medicine and law, and it will be the business of the younger and less experienced agents more to hunt up persons interested in or needing life insurance and, by utilizing the skill of the expert closer, acquire commissions more economically and efficiently, just as the able lawyer or physician employs assistants to prepare cases or make the early examinations of patients. Some large agencies have bureaus, referred to above, which supply prospects, giving the agent sufficient data and information as to persons requiring insurance, able to get and pay for it, and the reasons to be presented why it should be secured. These prospects, while, of course, they supplement the agent's own natural clientage, can be much more cheaply secured by a bureau established for this purpose than by the agent, whose time is more valuable when employed in the work of developing cases.

"Such an agency will further have specialists in various kinds of insurance, to whom all such cases will be brought and worked as joint business. It will, for example, probably have one or more agents who make a specialty of: Income Insurance, Corporation or Partnership Insurance, Insurance to Protect Bank and Other Credits, Insurance for Philanthropies and Charities, Employee Insurance, and Annuities. These men will be experts in these lines and the general economic questions affecting them."

quote Mr. Lunger, "is charged with the collection ot premiums and the interest on policy loans and with the keeping of all office records. He is expected to look after all correspondence in connection with applications and policies, notify delinquent policyholders of their obligations, attend to filling in proofs of loss, applications for policy loans and payment of maturing endowments and answer all communications from policyholders which are not of sufficient importance to be referred to the home office. He is also charged with the supervision, efficiency and conduct of the clerical staff. As in the case of the officials at the home office, the managers, cashiers and clerks at the branch office are paid by salary, although the manager sometimes receives extra payments (bonuses) for increasing the volume of business through his office and for adding to the number of productive agents."[9]

**Arguments Advanced in Favor of the Two Plans.**—Much has been written about the relative merits of the general-agency and branch-office systems, some supporting one plan and some the other, and it may be well to indicate the principal contentions. The general-agency system, it is argued, has the twofold advantage of definitely fixing the cost which the company incurs in securing its business; and of relieving the company of the trouble connected with the supervision of many agents and the risks incident to the financial relations into which the company would otherwise have to enter with numerous agents. The supporters of the branch-office system, on the other hand, maintain that it is more economical because of the more prompt collection and remittance of premiums, agents under this system being required to make prompt payments, and all collections of premiums and interest being deposited at once to the credit of the company and thus made available for immediate investment. This contention has reference to the common practice of allowing general agents a considerable period of grace in

[9] LUNGER, JOHN B., "Organization of Agencies: Details of the Branch Office System," *Yale Insurance Lectures*, i, 131–132. This article furnishes an excellent description of the branch-office system.

making their collections and remittances, thus leading to the piling up of bank balances in favor of the agency or to slackness on the part of policyholders in paying their premiums. It is further argued that the general-agency system causes a lack of uniformity since the general agent can control and pay his agent as he pleases, whereas under the branch-office system "the company conducts all of its agency affairs directly from the home office through its own branch offices, rented in the company's name, and placed in charge of managers under salary. . . . In a few words, the company acts as its own general agent, develops its own plan for the supervision, education and control of agents, and so conducts its affairs that any margin of profit in commissions reverts to the company for the benefit of its policyholders instead of going to a general agent."[10] Again, under the general-agency system soliciting agents have direct relations only with the general agent, he being the only representative of the company with whom they come into business contact. It, therefore, follows that unless the general agent calls the company's attention to the fact, the records and abilities of competent solicitors may remain unknown to the officials of the company.

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[10] Lunger, John B., "Organization of Agencies," *Yale Insurance Lectures,* i, 136.

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# CHAPTER XXVI

## LIFE-INSURANCE INVESTMENTS

**Considerations that Should Govern Companies in Making Their Investments.**— The investment of life-insurance funds is important chiefly because of the fact that the companies must maintain reserves (which we have seen represent advance collections from policyholders) for all the contracts issued on the life and endowment plans, and that their obligations under these contracts do not mature as a rule until the distant future. Since these reserve funds, constituting over four-fifths of the total funds held by American companies to-day, serve as a guarantee for the payment of claims, it is of the utmost importance that the greatest care should be exercised to conserve them properly against loss. This is especially true since the mission of life insurance is a peculiarly sacred one, the insured relying upon it in the great majority of instances as the principal means of protecting his dependents against want. The great majority of contracts, as already noted, will run for many years before maturing and an increasingly large number have for their purpose the provision of a certain income for the beneficiary for life, thus in ever so many cases involving an obligation on the part of the company which will extend over a period of fifty or seventy-five years. Life-insurance protection to be real must be absolutely reliable, and life-insurance funds must, therefore, be invested with such care as to preclude during all this time the possibility of failure on the part of companies to meet their obligations. Almost the greatest calamity that can be imagined is the inability of a company to meet its contracts on which the insured has paid premiums for years and upon which he is placing dependence, and thus leave unprotected the home which it is the fundamental purpose of life insurance to hedge against the loss of the earning capacity of the breadwinner.

But while the absolute security of the principal is the chief consideration that should guide companies in making their investments, four other factors should also be borne in mind. Briefly enumerated these are:

1. It should be the purpose of the companies so to make their investments as to yield the largest return consistent with absolute safety. Needless to say life-insurance investments must give a return at least equal to the rate which has been assumed for premium and reserve computations. But this rate is so low at present, being only 3 or 3½ per cent., that the companies' investments may easily be made to-day to yield a higher rate and thus reduce the cost of insurance to the policyholders who contribute the funds. To accomplish this purpose safely investments should be so distributed, both as regards the number and classes of investments, that the company may secure the benefits of the law of average and have a loss in one investment balanced by a gain in another. As a rule, adverse tendencies in one class of investments will be equalized by favorable tendencies in another.

2. It should be the purpose of companies to invest a considerable proportion of their funds in long-term investments. Such a course will not only lower the expense of maintaining the investments, but is apt to secure a better yield over long periods of time.

3. Since the companies have followed the practice of issuing contracts which promise loan or cash surrender values upon demand by the insured, they should protect themselves against any unusual demand of this character by investing a fair proportion of their funds in securities which are readily convertible into cash.

4. But with the exception of surrender values and policy loans, and the latter we have seen are now often subjected to a sixty- or ninety-day restriction, life-insurance companies are practically exempt from the dangers connected with

demand obligations. In this respect they differ essentially from banks and other financial institutions which accept deposits subject to demand and must, therefore, fortify themselves against unusual withdrawals in time of emergency by keeping most of their funds in the form of liquid assets. A life-insurance company's chief liability, on the contrary, is for the payment of death benefits and maturing endowments, and such payments can be estimated with remarkable precision. Not only may life-insurance companies therefore invest a large proportion of their funds in long-term securities but the greater part of their investments need not be so readily salable for cash as those held by most other financial institutions. Since their daily claims can be estimated accurately it is also unnecessary for the companies to keep large and unproductive cash balances on hand.

**State Regulation of Investments.**-- Recognizing the vital relationship between the conservative handling of life-insurance funds and the ability of the companies to meet obligations which extend over long periods of time, nearly all the states have undertaken to regulate life-insurance investments in one form or another. Some of the more specific regulations will be referred to in the discussion of the various types of investments. Suffice it to state that most of the legislatures take the position that the companies have undertaken trusts of the greatest importance and that those who are named as beneficiaries thereunder should be protected by law to the fullest extent possible. To this end the several states have enacted laws which require the companies to invest their resources in such securities as will yield a reasonable return and which, as regards both principal and yield, will be so unquestionably safe as to secure policyholders during the many years that may elapse before their contracts mature.

While most of the states specify the particular securities which savings banks may invest in, that method has not been followed in the case of life-insurance companies. Instead, the laws are here concerned with classes of investments rather than specific bonds, stocks, and other securities. They either definitely prohibit or approve certain classes of investments.[1] Great lack of uniformity, however, exists in the requirements and restrictions adopted by the different states. All the states permit investments in government bonds. Some limit bond investments and mortgage loans to those of the home state, while others prohibit companies operating within their boundaries from investing in the stock issues of any corporation. A few exclude the securities of all mining and manufacturing companies, and of all corporations that have failed to pay their regular interest and dividends at any time during a designated number of years. While some states specify the margin that must exist in the case of collateral loans, others do not. Real-estate mortgages, available for life-insurance companies, are usually carefully defined, the value of the property being generally twice the amount loaned. Some of the states have also shown a decided tendency to limit a company's holdings of real estate to what is actually necessary for the convenient conduct of business. Some of the states have also sought to enlarge the field for their own securities by adopting legislation which compels insurance companies to invest a large portion of their reserves in such securities. It is also general to require the companies to make to the insurance department of the state annual statements which

[1] The effect of such legislation, generally speaking, is to limit life-insurance investments to the following classes:

1. Bonds of the United States and of the state under consideration.

2. Bonds of cities or counties within the state on which there has been no default in interest.

3. Bonds of any other state on which there has been no default in interest and which, it may be provided, must sell at a certain price at the time of purchase.

4. The bonds of solvent dividend-paying corporations, and in most states also the stock of such corporations.

5. First real-estate mortgages where the property is worth double the amount of the mortgage.

6. Such real estate as may be needed for the convenient conduct of business, or which may come to the company by way of foreclosure on mortgages held, or which it takes as additional security for the protection of a loan.

give a complete and detailed list of investments, together with such other information as the commissioner may request.

Numerous other restrictions have been adopted by various states but only a few need be enumerated for illustrative purposes. Thus it is common to provide that not over one-half of the capital stock of a company may be invested in mortgages on real estate and not over one-tenth in a single mortgage, that no loans on personal security may be made, and that the directors are held personally liable from any loss from investments which are not made according to law. Many of the states also prohibit officers and directors from receiving any commission or profit upon purchases or loans made by the company; while in other states it is provided that companies may not enter into underwriting participations or transactions for joint account. It should also be noted that while some states have enacted practically no legislation for the regulation of life-insurance investments, the insurance commissioners in such states usually possess discretionary powers in the matter and generally pursue a course along the lines adopted in other states.

**The Extent and Character of Investments.**— Through their enormous investments life-insurance companies to-day exert a powerful influence on the upbuilding of the nation's industrial life. Two hundred and eighty-eight companies, reported in the 1921 *Insurance Year Book*, possess total admitted assets of $7,936,496,844, and at present this gigantic fund is increasing annually at the rate of about $600,000,000. As stated on page 34, the significance of these large totals becomes apparent when it is stated that they represent the contributions over a long series of years of millions of policyholders each of whom has contributed his little mite. The companies in other words have been the medium through which a vast aggregation of small sums has been devoted to the furtherance on a large scale of the nation's leading business interests. Of the funds on hand at the close of 1921, $6,203-378;729, or 80 per cent. of the total, represented the reserve value of policies; $388,337,891, or 4.9 per cent., surplus to policyholders; $193,524,409, or 1.4 per cent., unpaid dividends; and $1,108,721,904, or 13.9 per cent., all other liabilities. The character of the investments and the relative importance of each class is indicated by the following table:

| Types of Assets | Amount | Percentage of Total |
|---|---|---|
| Real estate owned | $ 185,888,569 | 2.1 |
| Real-estate mortgages | 2,792,259,598 | 35.2 |
| Bonds owned | 3,346,489,722 | 42.2 |
| Stock owned | 112,627,118 | 1.4 |
| Collateral loans | 29,907,223 | .4 |
| Premium notes and policy loans | 1,058,073,020 | 13.3 |
| Cash in offices and banks | 119,903,451 | 1.5 |
| Net deferred and unpaid premiums | 152,560,326 | 1.9 |
| All other assets | 138,787,817 | 1.8 |

Judging from the foregoing table, bonds and real-estate mortgages are by far the most important, representing respectively 42.2 per cent. and 35.2 per cent. (or over three-fourths when combined) of the total assets of the companies. If we add to these the item of premium notes and policy loans we find that three out of the nine classes of assets represent over nine-tenths of the total. Referring again to our former discussion of the influence of life-insurance investments as a factor in our industrial development it was noted [1] that the investments of over $3,459,000,000 in bonds and stocks will be found fairly well distributed over the principal transportation and other corporate properties of the country and represent a very substantial part of the total funds that have been necessary for their development. The $2,792,000,000 of real-estate mortgages also represent investments in properties located in all parts of the country. Because of such loans, owners of real estate have been enabled to erect buildings or otherwise improve their properties. Not only have large sums been furnished for the development of

[1] See page 34 of this volume.

cities and towns, but for many years the companies have granted loans upon western farming lands, thus enabling the purchase, stocking and cultivation of large areas.

**Nature and Merits of the Various Types of Investments.** — Having enumerated the several classes of life-insurance investments we may next pass to a more detailed discussion of their nature and relative merits. For this purpose the several types of assets may be considered conveniently in the order of their importance:

*Bond investments.*— These are principally of two kinds, viz, the bonds of standard railroad companies and government, state, and municipal bonds. Standard railroad bonds not only meet the requirements of safety, but usually run for long periods, yield a fair return, are readily convertible into cash, and in most instances, although subject to considerable market fluctuations, show a tendency to increase in value in the course of years. To ascertain the security of such bond issues it is necessary to examine the reports of railroads for a series of years with a view to noting the increase or decrease of gross earnings, the nature, stability and future prospects of this traffic, the expenditures for maintenance and improvements to keep the property in the best working condition, and the extent and stability of the net earnings as measured from the standpoint of the requirements of the particular bond issue under consideration. The utmost care is exercised to select only such issues as are fortified, judging the matter from the standpoint of a series of years, with a big margin of safety as regards net earnings. Bonds of public utility enterprises and of industrial corporations are not regarded with special favor by the conservative companies. The first, as a rule, depend too much upon legislative franchises and are therefore subject to political attacks; while the latter are too dependent upon good personal management and too severely affected by business depressions.

State, municipal, county, township and school district bonds are regarded by many writers on the subject as constituting probably the best class of life-insurance investments. Although the issues are frequently not large, the companies often succeed in securing all or nearly all of the issue when it is offered for competitive bids. The interest yield is, as a rule, somewhat higher than that obtained on good railroad bonds and the issues usually run for considerable periods of time. Most of the issues, however, are not listed and therefore, although having the advantage of being comparatively free from market fluctuations, are not so readily converted into cash as listed bonds. But, as has been seen, a life-insurance company is not under the necessity of having a very large proportion of its resources in the form of liquid assets. It may, therefore, supplement its holdings of railroad bonds with a considerable line of municipal and other public bonds. The attractiveness of railroad and government bonds to insurance companies is indicated by the fact that, whereas such investments aggregated only about 22 per cent. of the total assets of the companies in 1890, this percentage had increased to 42.2 per cent. in 1921. An examination of the assets of some of the largest companies doing a foreign business also shows a liberal holding of low interest-bearing foreign government bonds, a fact chiefly attributable to the laws of certain countries which require insurance companies, if they wish to transact business there, to invest a certain proportion of the reserve value of policies in securities of that country.

*Real-estate mortgages.*— This type of asset represents over one-third of the total assets of life-insurance companies. Such investments, when carefully placed and when restricted to desirable classes of property, constitute a safe and excellent investment for life-insurance funds. They yield a better return than do standard railroad bonds, and are not subject to such frequent market fluctuations as listed securities. Usually the states limit such investments to one-half the appraised value of the property given as security. Most of the companies also follow the practice of confining such loans to improved property, i.e. ordinary residences, cultivated farms, and business properties which yield a satisfactory income and are available for general use. Properties devoted to special uses, such as hotels, theaters, churches, factories, expensive residences, etc., are generally excluded. While possessing the advantage of a high interest yield combined with great safety, real-estate mortgage investments require special supervision and a considerable outlay in the form of investment expenses. As previously noted, many of the companies possess a real-estate loan department which is charged with the responsibility of keeping the mortgaged premises under observation and of seeing that the buildings are kept in proper repair and that all taxes are paid. Care must also be exercised in ascertaining the completeness of the title to the mortgaged premises, and any other mortgages and incumbrances that may stand against the property.

*Premium notes and policy loans.*— The nature and remarkable growth of such loans have already been discussed,[3] and need not again be referred to at length. They represent advances to the policyholder, the policy itself being assigned to the company as security. Since such loans are limited to the reserve value of the policies, and in many instances to less, they are really advances against cash deposits made by the insured to the company, and are, therefore, absolutely safe. Usually 5 or 6 per cent. interest is charged on the loans and the insured usually has the right to repay the loan at will or to continue the same indefinitely. Should a policy on which a loan has been made be surrendered or lapsed the company deducts the total indebtedness from the surrender value.

*Real-estate holdings.*— Such holdings include all property that has come to the companies by way of foreclosure proceedings on mortgages held or which is required for the convenient conduct of their business. The ratio of such holdings to the total assets of the companies is to-day only 2.1 per cent., although in 1910 the ratio stood as high as 10 per

[3] See page 254 of this volume.

cent. Serious abuses were at one time connected with this form of investment, such as, for example, the construction of large office buildings chiefly for advertising purposes but which yielded on the investment even much less than the assumed rate of interest, and the renting of quarters in said buildings to interested parties for long periods of time at nominal rents. To prevent such abuses many of the states have enacted laws which restrict real-estate investments to property necessary for the convenient conduct of business, and which require that such property as may be acquired through the foreclosure of mortgages must be sold within a stipulated number of years.

*Stock investments.*— This form of investment has been the subject of much adverse criticism during recent years, and the ratio of corporate stocks to the entire assets of the companies was only 1.4 per cent. at the close of 1921 as compared with nearly 6 per cent. in 1900. Not only did some of the companies, although not obliged by law to omit such investments, advertise the fact that none of their assets were invested in stocks, but the states are showing a distinct disposition to enact legislation prohibiting the investment of life-insurance funds in such securities, or in loans whose collateral consists of stock to one-third or more of its value. Various considerations have led to this type of legislation. Life-insurance funds are considered as trust funds and should, therefore, not be invested in speculative securities. The New York insurance investigation of 1906 also showed clearly that, if insurance companies are allowed to invest in stocks, it becomes possible for some of their officials to organize and finance banks, trust companies and other corporations for purposes of private gain. It is also argued that stock ownership amounts to engaging in the business of the corporation whose stock is held, and in this respect it should be noted that much of the stock owned by life-insurance companies consisted of bank and trust company stocks, the amounts held being frequently so largc as to give the company control over said banks or trust companies or at least a heavy representation on their boards of directors. This situation various legislatures considered highly undesirable. Life-insurance companies, it was felt, are organized to write insurance and not to engage (by virtue of stock control) in banking, railroading, and other business enterprises.

*Cash in offices and banks.*— Although amounting in 1890 to over 4 per cent. of the total assets, this item had decreased to 1.5 per cent. in 1921. This item at one time also lent itself to much abuse on the part of certain companies which kept large sums on deposit in certain financial institutions with which their officers were affiliated at a rate much below that assumed for premium and reserve computations. The balances at present are not disproportionate to the amounts usually kept on hand in most other lines of business. The business of life insurance, we have seen, is so certain in its financial operations that it is unnecessary for companies to retain large sums in cash. It should, therefore, be the policy of a well managed company to avoid large cash balances by investing promptly its net income.

*Unpaid and deferred premiums.*— The proportion of assets invested in this form was only 1.9 per cent. at the close of 1921. Very few businesses, it has been asserted, "carry so little in uncollected accounts."

*Collateral loans.*— Generally speaking, these loans are not favored by the companies and to-day represent the very small ratio of only .4 per cent. Such loans are much better adapted to commercial banks than to investment institutions which make a specialty of investing in bonds and real-estate mortgages. They seldom run for more than a year and in many instances for only six months, require frequent renewal, and necessitate an adjustment of the interest to meet current rates. The collateral required usually consists of approved railroad bonds and standard dividend-paying stocks with a current value 20 per cent. in excess of the amount loaned.

**Rate of Interest Actually Earned.**— Although the interest on high-grade investments has shown a decided downward tendency during the past thirty years, the annual return on life-insurance investments still averages considerably over 4 per cent. According to the 1921 *Insurance Year Book* the rate of interest earned on the mean invested funds of fifty-five of the largest American companies averaged 4.99 per cent. for the five years from 1917 to 1921, inclusive, and 4.87 per cent. for the twenty years from 1902 to 1921. Of the fifty-five companies under consideration twenty-one earned an average rate exceeding 5½ per cent. during the years 1917–1921, twenty-five 5 per cent. or over, and eight between 4½ per cent. and 5 per cent. These rates clearly show that life-insurance companies by widely diversifying their investments may obtain on the average very satisfactory interest returns on their funds without departing from the principles of conservative investment.

**Method of Arriving at the Rate of Earnings.**— Ordinarily the rate of interest on an investment is ascertained by dividing the amount of interest received during the year by the amount invested. In life insurance, however, this simple method cannot be applied since the companies are constantly increasing their funds during the course of the year, partly because the payments received from policyholders exceed claims and other expenditures and partly because interest earnings are constantly coming in and are immediately reinvested. In other words the funds invested at the end of the year are, as a rule, considerably higher than the funds invested at the beginning of the year, and it is, therefore, necessary to ascertain the rate on the mean invested funds. While there is no one method universally followed by the companies in this respect, the general plan most commonly used has been explained by Mr. Henry Moir as follows:[4]

> If the interest earned in any year were divided by the funds invested at the *beginning* of the year, then those companies which had a large increase in their funds would appear too favorably in the comparison. On the other hand, if the year's

[4] Moir, Henry, Life Assurance Primer, 48.

interest were divided by the funds at the *end* of the year the converse would hold. For measuring the interest earned by life-assurance companies a middle course is usually followed, and the following formula has been suggested as a good basis, namely:

$$\text{Average rate earned} = \frac{2I}{A + B - I}$$

In which I represents the total interest earned during the year;
A the funds at the beginning of the year; and
B the funds at the end of the year.

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# CHAPTER XXVII

## GOVERNMENT SUPERVISION OF LIFE INSURANCE

Few business institutions, if any, have been subjected to such strict and detailed government supervision as life insurance. The reasons for this become clear when we consider the vital relation which life insurance bears to the family and the community. We have seen that its mission is a sacred one, that the trust funds it holds run into the billions, and that millions of people rely upon it as the principal means of protecting the home against the deprivations occasioned by premature death. The great majority of contracts, as already noted, run for many years before maturing and frequently involve an obligation on the part of the company extending over fifty or seventy-five years.

Yet despite the almost universal use of life insurance and its vital importance to those who purchase it, very few persons, as we have noted, take a direct interest in acquainting themselves with the management and business policy of the companies in which they are insured. In practically all cases the companies are controlled by a limited number of persons who have little or no difficulty in securing the necessary proxies to perpetuate their control. Even assuming that any considerable portion of the vast number of policyholders could be induced to take an interest in the condition of the company in which they are insured, it is clear that very few are sufficiently posted in life-insurance matters to ascertain intelligently the true state of affairs. Life insurance is necessarily a technical and complicated subject and the real condition of a company can only be determined by laborious and expert examination. In view of conditions like those just recounted, it will readily be admitted that life insurance is a fit subject for some sort of government regulation designed to protect the public adequately against mismanagement and unjust practices.

**State Versus Federal Jurisdiction.**— In the United States the general supervision of all forms of insurance is undertaken solely by the several state governments, and since many of the larger life-insurance companies transact business in all, or nearly all, of the states, there has long existed a strong movement in favor of supervision by the federal government under its powers to regulate interstate commerce. The United States Supreme Court, however, beginning with the famous case of *Paul* v. *Virginia,*[1] has repeatedly refused to declare an insurance contract an instrumentality of commerce, and has asserted the doctrine that "there is no doubt of the power of the state (using that term as contrasted with the federal government) to prohibit foreign insurance companies from doing business within its limits. The state can impose such conditions as it pleases upon the doing of any business by those companies within its borders, and unless the conditions be complied with the prohibition may be absolute." In the absence of national supervision the entire oversight of the insurance business is relegated to the several state governments, and this situation, according to leading authorities, can only be changed by enabling Congress to legislate on the subject through an amendment of the federal Constitution. Under existing conditions, therefore, the several states can prohibit non-resident companies from making contracts within their borders, except upon such conditions as the states may prescribe, and it follows that a company doing business in many states will be subject to the supervisory control of numerous separate governments.

**Officials Intrusted with Supervisory Control and Their Duties and Powers.**— In the great majority of states supervisory control over insurance companies has been intrusted

[1] *Paul* v. *Virginia*, 8 Wall. 168 (1868).

to an insurance official, usually called the superintendent or commissioner of insurance, who is either appointed by the governor or elected by popular suffrage, and who is placed in charge of a separate department of the government. Uniformity among the states in this respect, however, does not exist, and a considerable number attach the responsibility of supervising insurance companies to some other department of the government. At the close of 1921, three states still intrusted such supervisory control to the state auditor or comptroller, two left it to the secretary of state, and three to the state treasurer.

Many of the states have enacted a large body of statute law governing insurance, while others are still very backward in this respect. Although the legislatures and courts of the several states play a prominent part in the enactment and interpretation of insurance legislation, the actual supervision of the companies and the enforcement of the laws is performed by the insurance commissioners. These officials are usually vested with large discretionary powers. It is the duty of the commissioner to see that all insurance laws are properly complied with and that all the companies transacting business in the state are solvent according to some prescribed standard. His permission must be obtained before a foreign company can enter the state, or before an agent of such company can solicit business. Every company is obliged to render an annual statement of its condition and business in the form and manner prescribed by the commissioner, and he has also the power to require at any time statements from the officers or agents of any company operating within his state on any matters on which he may desire to be informed. To facilitate examinations he is empowered to require free access to all books and papers of any company or agent operating in the state, to summon and examine any persons under oath relative to the affairs and condition of any such company, or, for probable cause, to visit the company at its principal office for the purpose of investigating its affairs. Failure or refusal to render any statement required within the time and manner prescribed by the commissioner, or to permit any examination requested, subjects the company to heavy money fines or to the danger of having its license revoked. His other important duties, as summarized on another occasion[2] may be stated as follows:

> Power is given the commissioner to suspend the entire business of any company by revoking or suspending its license if in his opinion the company does not comply with any provision of the law, or whenever its assets appear to him insufficient. He must see that the company has made the proper deposits of approved securities; that it makes a correct return of the taxes which are imposed by law; and that a resident of his state is appointed the attorney of the company so that in the event of litigation legal process may be served without the citizens being obliged to go outside of the state to serve the papers. It is also his duty to see that the assets of all companies organized in the state are properly invested in the form prescribed by law. He has supervisory power over the organization of all companies from the time that the articles of agreement are arranged until the company is ready to begin the writing of policies, and in every stage of the organization and in all matters pertaining thereto, it is necessary for the organizers of the company to have his approval. Finally, he owes it to the public as well as the companies to do all in his power to exterminate improper or unlawful insurance schemes. Numerous other duties and powers might be enumerated, but those mentioned will suffice to show that the insurance commissioner is clothed with extraordinary powers, and that consequently the personality of the commissioner is a factor the importance of which cannot be overestimated.

**Subject Matter to Which State Legislation Especially Applies.**— Having outlined in a general way the duties and powers of the officials intrusted with the supervision of insurance companies, we may next outline in detail the particular functions which it is the purpose of government regulation to perform and the particular subjects and practices to which it is applied. While space forbids a detailed discussion

[2] HUEBNER, S. S., Property Insurance, 245–246.

of all the legislation which has been adopted in the different states, practically all the important laws may be grouped conveniently under the following seven heads:

*Standard of solvency.*— Companies are required by law to charge themselves with a minimum reserve as a liability. While the legal reserve requirement is not uniform in all the states, it may be said that nearly all the leading states require companies to maintain reserves on policies issued since about 1900 which shall at least be equal to those based on the American Experience table of mortality with interest at 3½ per cent. In some states reserves computed on a 4 per cent. basis are acceptable, while in others the companies, if they base their computations on an interest rate lower than that prescribed by law, are obliged to hold the higher reserves that result. On policies issued prior to about 1900 the reserve standard is usually based on the American Experience table with 4 per cent. interest.

*Organization and admission of companies.*— Although the organization of insurance companies is governed largely by the law applying to the organization of corporations in general, most states have seen fit to supplement their general corporation law with special acts pertaining only to insurance companies. Level-premium companies are usually required to deposit with the state approved securities to the value of $100,000 or some other designated sum. The manner of incorporating companies and the conditions under which they can begin business are also prescribed, and frequently the retirement of the guaranty stock of a mutual company and the maximum interest return that the holders of such stock may receive are fully set forth. Much of the legislation in most states is concerned with the conditions under which foreign companies may enter the state, and usually relates to their ability to meet their obligations, to the licensing of their agents, and to the filing of a copy of their charter, a certificate showing that they are authorized to transact business, a copy of all their policy forms, and a complete statement of their financial condition and valuation of policies. In order that legal process may be served, a foreign company must also appoint a resident of the state its attorney. Various states also forbid the removal of suits from state to federal courts.

*Publicity through annual statements and examinations.*— All states require the companies transacting business within their borders to submit annual statements relative to their operations and financial condition. These statements, made out according to the form prescribed by the insurance department, usually show in detail the company's assets and liabilities, income and expenditures, a gain and loss exhibit, a schedule of all classes of investments by kind and amount, and an exhibit of the number and kind of policies written during the year, the amount and kind of insurance in force, and the amount of insurance terminated in various ways. The statements thus received are published in the annual reports of the insurance departments and are thus available to the public and to the representatives of competing companies. As a rule the statements, as adjusted by the commissioner, must also be published a designated number of times in one or more daily or weekly newspapers of general circulation, the companies to attend to the details of publication. To further protect the public, insurance commissioners are authorized to make periodical and, for probable cause, special examinations of the affairs of the companies, and to publish the result of such examinations whenever they deem it to the best interests of the public to do so. The periodical examinations involve an appraisal of the company's assets, a determination of its liability, and an inspection of its books and records.

*Equitable treatment of policyholders.*— Reference is had here chiefly to those provisions of the law which aim to prevent discrimination and misrepresentation, to standardize policy provisions, and to bring about economy of management. Discrimination between insurants of the same class and equal expectation of life, as to rates, benefits or conditions of the contract is prohibited under heavy penalties in most of the states. Nearly all the states also prohibit an agent or other representative of a company from giving, as an inducement to insure, any direct or indirect rebate of premiums payable or any other valuable consideration not specified in the contract. In this connection numerous statutes also prohibit the officers and representatives of any company from giving or selling as an inducement to insurance, or in any connection therewith, any stock or other securities of any insurance company.

No person connected with any life-insurance company, according to the law of many states, is allowed to issue or circulate directly or indirectly, any estimate or statement which misrepresents the terms, benefits and advantages of any policy which his company issues, or the dividends to be paid thereon. The use of any name or title of any policy which misrepresents the true nature thereof is likewise prohibited. Nor may any representative of a company resort to misrepresentation with a view to inducing any policyholder in another company to lapse, forfeit or surrender his insurance. Statements of the insured are declared by the laws of some states as constituting representations and not warranties.[3] Misrepresentations are not considered as voiding a policy unless the same are of material importance. Not only do all the states, as we have seen, protect the insured against excessive forfeitures in case of surrender and lapse, but many have undertaken in recent years to adopt certain standard policy provisions; to require all life and endowment policies to contain or to exclude certain prescribed provisions; to compel companies to print prominently on the face of the policy a plain description of its character, dividend periods and other peculiarities, so that the holder thereof shall not be liable to mistake its nature; and to require all policy forms and indorsements to be filed with and approved by the commissioner. Lastly, it should be stated that many of the states have shown a strong disposition to regulate the expenses of companies and to prevent the accumulation of unnecessary surplus funds. To this end laws have been enacted which (1)

[3] For a discussion of representations and warranties, see pages 391 to 395 of this volume.

prescribe the methods of allotting dividends; (2) prohibit the payment of pensions, political contributions and excessive commissions; and (3) place a limit upon salaries, the amount of expense which may be incurred to secure new business, the amount of surplus that may be withheld from policyholders, and the amount of new business that may be written.

*Taxes and fees.*— A study of the insurance laws of the different states shows a remarkable absence of uniformity in the way life-insurance companies are taxed. Some states levy the tax on all or a part of the companies' assets; others tax their net receipts; but by far the greater number tax the gross premiums, the rate varying all the way from 1 to 3 per cent. In addition to these taxes there exists a great variety of license fees, fees for filing charters, statements and other papers, and in some states municipal license fees. A recent compilation showed that total taxes and fees paid by life-insurance companies operating in the United States aggregate annually approximately $35,000,000, a sum considered grossly excessive by those who wish to see the state encourage the widest possible dissemination of the benefits of life insurance.

The present heavy taxation of life insurance is attributable chiefly to general ignorance on the part of the public and the lawmakers of the true nature of legal-reserve insurance, and to the fact that taxes on this business, especially those levied on gross premiums, are so easily collected. Probably not more than one out of every twenty policyholders understands the true function of the reserve. The general public and the lawmakers see only the billions in assets that are being accumulated, and naturally conclude that such huge funds should be taxed like any other property, overlooking the intimate relation that life insurance bears to the welfare of the family and the state, as well as the fact that the large reserves referred to represent merely the accumulations of millions of policyholders which are held in trust for them and which are necessary for the fulfillment of the companies' obligations to the insured for the protection of his wife and children. To a large extent the heavy tax burden is also traceable to the fact that as regards most states the companies operating therein are foreign companies and for that reason, especially when it is believed that they take millions out of the state, are not regarded as entitled to leniency.

The taxation of life-insurance companies has long been a much discussed subject. Among students of the question there is a very widespread conviction that the states in this country, instead of repressing the growth of life insurance through excessive taxation, should adopt a policy of encouraging the widest possible use of its beneficent protection among their citizens as is done by practically all other leading civilized nations. The supporters of this view take the position that a life-insurance policy in itself constitutes a self-imposed tax, and that it cannot properly be regarded as income-producing property. Their contention is that life-insurance policies merely represent funds accumulated through the sacrifice of the insured for the protection of dependents, and thus not only benefit the entire community but relieve the state of the necessity of supporting large numbers who would otherwise be dependent on charity. They, therefore, hold that the business should not be taxed more than is necessary to pay for the cost of its proper supervision.

*Other main subjects covered.*— To the foregoing groups of subjects two others should be added, viz, the regulation of investments and the supervision of agents. These, however, need not be discussed here since the first was covered in the chapter on "Life-Insurance Investments" and the second will be treated in the chapter on "The Law Pertaining to the Agent."

**State Supervision in Practice.**— Although the insurance departments of certain leading states have exercised an efficient supervision of the life-insurance business, this cannot be said to be the case generally. The complaints most commonly heard against the present system of regulation refer to the results which are the necessary outcome of supervision on the part of fifty-two different states and territories, and which grow out of the many different laws enacted and the different demands and rulings of the insurance commissioners. The most important of the results referred to may be described briefly. Attention has already been directed to the heavy taxation imposed by the states and the lack of uniformity in the methods of taxation. A similar lack of uniformity also manifests itself in the other legislation. As the writer stated on another occasion:[4] "Each year witnesses the enactment of a multitude of new laws by the state legislatures; also a change in numerous existing laws, as well as the introduction of a large number of bills never intended to become law. In fact, bills affecting the interests of insurance companies in one way or another are said to be introduced in our state legislature at the rate of approximately six hundred a year." Another result growing out of state supervision consists of the conflicting rulings of the different state courts on almost every important legal phase of the subject; and the rulings of the state courts, again, are often at direct variance with those of the federal courts. Attention should also be called to the abuse of unnecessarily duplicating examinations at the expense of the companies, and frequently for no other reason than the profit of the examiner.

**State Versus National Control.**— Life-insurance officials are almost a unit in believing that it is impossible to overcome the difficulties of unifying the action of half a hundred legislative bodies and the same number of supervising officials, and therefore favor a system of national control which will eliminate state supervision of interstate insurance. They point to the fact that the proportion of life insurance written by American companies in the states where they were organized is surprisingly small. A compilation made a few years ago by the writer shows that in the case of twenty leading companies, transacting nearly nine-tenths of the total ordinary life insurance in the United States, only 15.5 per cent. of the total amount of their outstanding policies was ob-

[4] HUEBNER, S. S., Property Insurance, 248.

tained in the home state and only 12.6 per cent. of the total premium income was derived from that business. Even in the case of the four largest companies domiciled in the wealthy and thickly populated state of New York less than one-fifth of their total business was intrastate and over four-fifths was interstate and international.

The advocates of national control wish to have the federal government assume exclusive regulatory power over all insurance transactions between the states, but do not intend to interfere with the constitutional right of each state to supervise its own home companies and purely intrastate transactions. As previously stated, national supervision cannot be established unless the Supreme Court of the United States reverses its former rulings and holds insurance to be commerce, or, as an alternative, the federal constitution is amended. Aside from the present legal obstacles to the plan, the advocates of national control believe that it would bring about the following desirable results:

1. Centralized supervision by experts would provide for a much greater degree of publicity and would protect the business against sectional and retaliatory legislation. Not only would the reports to and the examinations of the federal supervising department entitle a company to admission in any state, but such reports and examinations would carry greater weight in both this and foreign countries. The present lack of uniform insurance legislation, it is believed, would largely be obviated, and relief would be afforded to the companies against the evils resulting from variations in the rulings of numerous insurance commissioners. It is also argued in this connection that centralized control would be more effective than state control in eliminating fraudulent insurance concerns.

2. The large expense connected with supervision by half a hundred separate departments would largely be avoided. Duplication of reports and examinations, as well as the publication of voluminous reports all of which contain about the same information, would be obviated. Several million dollars

of wasteful expense, it is asserted, might be saved annually in this way.

3. A more equitable, uniform and less burdensome policy of taxation than now exists, it is hoped, would also result. As one supporter of national supervision recently remarked concerning the present system of taxing life-insurance business:[5]

> Under the system of state taxation, the man who pays his premiums into a life-insurance company is frequently taxed twice, and in some cases three times. That such burdens should be placed upon men, because having to provide for their families they must needs have recourse to life insurance, is a national disgrace, excused only on the ground of ignorance of the real nature of the business. Since much of this taxation is the result of jealous fear of the states that the others are profiting through the insurance business at their expense, national supervision would bring at least partial relief from this burden.

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# PART V

# IMPORTANT LEGAL PHASES OF LIFE INSURANCE

# CHAPTER XXVIII

## LEGAL INTERPRETATION OF THE POLICY AND APPLICATION

**General Rules Underlying Court Decisions Affecting Life Insurance.**— Policy forms are necessarily general in character, and are drawn to meet a general situation and not with reference to particular cases. Yet, it is apparent that innumerable instances arise which require a special interpretation of the general terms of the contract in order to realize the essential purpose of the contract, viz, to protect against loss. There is scarcely a provision in the policy to-day which has not been the subject of interpretation by the courts, and there are few provisions concerning which, chiefly because of ambiguity in the wording, varying circumstances surrounding the loss, or statutory requirements, there are not conflicting opinions. Frequently also the interests of the insured seem at variance with the interests of the insurer, with the result that the attitude of state legislatures has often been one of hostility. Under these conditions, it is to be expected that disputes will frequently occur as to the interpretation which shall be given to the general provisions of the policy when unexpected circumstances surround the particular loss. But however great the conflict of authority has become, there are certain legal principles which underlie the interpretation of the application as well as policy provisions, and which are kept in mind by the courts as guiding principles in their efforts to interpret the contract. Briefly summarized, the important principles to which reference is had are the following:

1. Unlike fire-insurance contracts, life-insurance policies, although the indemnification of the value of the human life in case of premature death should be their essential object,

cannot be regarded by the courts as purely contracts of indemnity. Instead, these contracts are held to be "contracts to pay a certain sum in the event of death." This general ruling has an important bearing upon the subject of insurable interest in life insurance, and will be referred to further in the chapter on "Insurable Interest." The chief difficulty that the courts have encountered in disposing of this legal phase of the subject seems to have presented itself in those cases where creditors (or persons similarly situated) take out policies on the lives of their debtors with a view to securing the indebtedness. In such instances some leading authorities hold that life-insurance contracts are for indemnity only.

2. Whenever the wording of any provision in the contract permits of more than one construction the courts will give the benefit of the doubt to the insured on the ground that the insured is obliged to take the form of policy offered by the companies and which was framed by them in their own interest. Forfeitures are not favored by the courts, and conflicting provisions or ambiguous language will, therefore, be so construed as to give effect to the contract. As the United States Supreme Court has ruled:[1] "Where a policy of insurance is so framed as to leave room for two constructions, the words used should be interpreted most strongly against the insurer. This exception rests upon the ground that the companies, attorneys, officers, or agents prepared the policy and it is their language that must be interpreted."

Admitting that this is a reasonable rule where the company is free to frame the policy, the question arises as to whether this same ruling should be applied where the policy form, or portions thereof, are prescribed and made compulsory by law.[2] Judging from the case of *Matthews* v. *American Central Insurance Company* (154 N. Y. 449), which decided the question

[1] *Liverpool Insurance Company* v. *Kearney*, 180 U. S. 132.

[2] At a recent date New York and Ohio had statutes providing for standard clauses in life-insurance policies, while a number of other states have statutes providing for standard policies which "may be issued and delivered."

favorably to the insured as regards the New York Standard Fire Policy, it would seem probable that a similar construction might be extended to standard life-insurance policies.[3]

3. Since policy forms are necessarily general in character and cannot meet all particular contingencies, although this is not so generally true in life insurance as in fire and other forms of property insurance, it follows that special or written agreements must often be indorsed on the contract with a view to modifying the original terms of the policy form. Where this is done, it is a universally recognized principle that whenever there is a difference in meaning between any indorsement and the policy form itself, the superimposed parts of the contract, whether written, stamped, or printed, control the regular provisions of the policy. This principle is based on the theory that indorsements on the policy must be considered as later in date than the policy itself, thus representing the latest agreement between the parties. If ambiguity exists in the wording of any such indorsements, the insured must again be given the benefit of the doubt. Similarly, if the written portion of the regular policy is inconsistent with the printed portion, the former will be upheld since it refers to this particular contract as distinguished from the general form which the parties frequently do not bother to revise in conformity with the written portion.

4. In the absence of conflicting provisions or ambiguity in

[3] The court in this case decided that: "The policy, although of the standard form, was prepared by the insurers, who are presumed to have had their own interests primarily in view, and hence, when the meaning is doubtful, it should be construed most favorably to the insured, who had nothing to do with the preparation thereof. Moreover, when a literal construction would lead to manifest injustice to the insured and a liberal but still reasonable construction would prevent injustice by not requiring an impossibility, the latter should be adopted because the parties are presumed, when the language used by them permits, to have intended a reasonable and not an unreasonable result."

language, however, no discretion can be exercised by the court to modify the contract in such a way as to bring about an adjustment which it may regard as more just than the strict enforcement of the contract as it stands.

5. Generally speaking, the construction of the contract will be according to the laws and usages of the place where the contract is made.[4]

**The Application and Its Interpretation.**— An application for life insurance may be defined as the insured's proposal to the insurer for protection, and may be considered as the beginning of the policy contract. In this document the applicant is required to give true answers to a large number of questions, relating principally to his personal and family history, habits, age, total insurance already taken out, and other applications for insurance which are either pending or have been postponed or refused. The policy usually stipulates that insurance is granted in consideration of the application

[4] In discussing this rule and exceptions thereto, Richards makes the following comments:

"This rule is peculiarly appropriate to this branch of the law because in insurance there may be several places where the contract is operative — one place for the payment of premiums, another for the payment of loss, and a third for the location of the subject of insurance. But if the policy provides that the premiums and loss are to be payable at the home office, the latter place would seem to be the place of performance, and there would in that case be cogent reason for holding, in analogy to the general rule, that its law is to prevail in the construction of the policy. It is often important to determine by what law the validity and effect of the policy are to be governed, because the statutory provisions, as well as usages and decisions, relating to the insurance contract vary greatly in different states, and such statutes generally have no extraterritorial effect.

"If the policy provides that it will not be binding until countersigned at a certain agency, the agency is ordinarily the place of contract; so if the policy is sent to the agent for delivery on receipt of the premium; but if the application is accepted at the home office, and the policy mailed from there to the applicant in another state, the home office will be the place of contract. As a general thing the contract is considered made where the last act necessary to complete it is done." RICHARDS, GEORGE, Treatise on the Law of Insurance, 113–114.

for the policy, which is declared to be a part thereof, and most generally contains an additional clause to the effect that the policy and the application therefor (a copy of which is attached to the policy when issued) "constitute the entire contract between the parties." Many states have also adopted laws requiring the annexation of applications to policies, on penalty of the company being estopped from denying the correctness or truth of such application; while other states have adopted statutes requiring every policy to contain the entire contract between the parties and forbidding the incorporation therein by reference, of any rules, application or other writings unless the same are indorsed upon or attached to the policy when issued. Since the application is the basis of the policy contract, and especially in view of the fact that the answers to the questions contained therein are sometimes warranted by the applicant to be true, it is important to note the attitude of the courts in construing disputes that grow out of misstatements made by the applicant. The facts in this respect may be conveniently summarized under the following:

1. *Statements as to health, freedom from disease, habits, and medical attendance.*— An unusually large number of decisions have been rendered in connection with such statements, owing principally to the varying phraseology used by the companies in formulating the questions. While much depends upon the exact phraseology used in determining whether or not the contract has been violated, the courts have generally taken the view that the expression "good health," or words to that effect, does not preclude indispositions but means freedom from such diseases or ailments as tend to undermine the general healthfulness of the system.[5] If such words as "to the best of my knowledge or belief" are used to qualify the applicant's answers, the insurer, in order to avoid the policy, must show that the insured acted in bad faith and had actual knowledge of the facts. But as Richards points

[5] *Plumb* v. *Pennsylvania, etc., Insurance Company,* 108 Mich. 94, 65 N. W. 611.

out: "Without such qualifying words, where the answer of the applicant is made in good faith and relates to an unknown and obscure disease, or to a long list of diseases, some of them obscure, the courts are disposed to construe the answer as relating to matter of opinion of the applicant rather than to matter of fact."[6]

Answers relating to habits, while regarded by the courts as matters of fact rather than opinion, have in many instances been construed leniently, as may for example be judged from the expression of opinion of the United States Supreme Court that one occurrence of delirium tremens does not necessarily violate a warranty covering temperate habits.[7] Similarly, the courts, while holding that untrue answers to questions relating to medical attendance or consultation with physicians invalidate the policy, will, whenever possible, especially if the questions are in the least ambiguous, interpret the language favorably to the insured.

2. *Statements relating to family relationships and family history.*— Untrue answers of the applicant to questions relating to his family relationships have, in nearly all instances, been held to invalidate the policy. With respect to family history, however, the courts have shown reluctance to nullify a policy where the insured's incorrect answers were not made in bad faith. In other words the courts have manifested a strong tendency to construe statements of this class, if made in good faith, as mere representations or matters of opinion on the ground that such questions are in the nature of collateral inquiries and that the applicant can hardly be expected to keep himself thoroughly posted as regards the ages at death, the condition of health during life, and the causes of death, of his relatives and ancestors.

3. *Statements relating to the age of the applicant.* — It must be apparent that the insurer is entitled to a correct statement of the insured's age, since the rate of premium is based on that age. In the absence therefore of any policy

[6] RICHARDS, GEORGE, Treatise on the Law of Insurance, 482.

[7] *Insurance Company* v. *Foley*, 105 U. S. 350.

provision relating to the matter, the courts have consistently held that an understatement of age increases the risk as a matter of law and will void the policy. Such a harsh consequence is avoided to-day by a clause which provides for an adjustment by stipulating that "if the age of the insured has been misstated, and the error shall not have been adjusted during his lifetime, the amount payable hereunder shall be such as the premium paid would have purchased at the correct age." Some thirteen states have also provided by statute for a similar adjustment of errors in age.

4. *Statements relating to other insurance and to rejected or postponed applications.*— The importance of inquiries along these lines as a means of preventing over-insurance and uncovering or preventing attempts at fraud is obvious, and false answers to such inquiries have been consistently held to invalidate the policy. The only question of importance in this respect, concerning which court decisions do not agree, is whether the term "other insurance," when used in the application of a regular insurance company, includes certificates issued by and applications made to fraternal and mutual benefit societies. Most of the cases rendered take the position that only policies or applications in regular companies are included in the inquiry, although some of the courts regard fraternal orders and other benefit societies as insurance concerns and, therefore, consider membership therein as "other insurance." The doubt occasioned by this conflict of legal opinion, can, however, easily be overcome by making the inquiry in the application specifically cover benefit certificates as well as other insurance in companies.

**Warranties and Representations.**— A policy contract being based upon the answers to the questions contained in the application, it follows that material misstatements by the applicant should place him in the moral position of one who secures a thing of value through misrepresentation and false pretense. In many instances, however, the tendency of court decisions has been in the direction of protecting the insured by giving him the benefit of the doubt wherever possible and by placing favorable constructions upon the "materiality" of inquiries contained in the application. For this reason some life-insurance policies contain, and according to the views of many authorities should contain, a "warranty clause" in which the truth of his statements is warranted by the applicant. Thus some life policies call attention, not merely once but several times, and usually in special print, to the fact that answers in the application are made a part of the contract and shall have the effect of warranties. By this practice the companies aim to give added force to the information furnished in the application with a view to protecting themselves as fully as possible against fraud and against the difficulty of proving the materiality of inquiries to the satisfaction of a jury. Such references are also common in the policies of many other types of insurance, and in probably no business is the emphasis on warranties so frequent as in insurance. Thus, the standard fire policy until recently provided that "if an application, survey, plan, or description of property be referred to in this policy it shall be a part of this contract and a warranty by the insured." The marine-insurance contract also usually furnishes a striking illustration of numerous provisions and indorsements which are declared in the contract to be warranties.

**Definition of Warranties and Importance of the Same to Companies.**—This brings us to the distinction between "representations" and "warranties" and the reason for emphasizing the distinction. A statement by the insured, if construed merely as a representation, need be only "substantially correct," and before a forfeiture of the contract can occur because of the incorrectness of the statement, the insurer must not only prove the statement false but must show that such falsehood was of material consequence. "Materiality," the courts have usually decided, is measured by the following consideration: Was the inaccuracy or falsehood of such material importance as to have induced the company, had the information been correct, to have declined the risk or to have altered the rate?

If, on the contrary, statements are construed as warranties, they must be "absolutely and literally true" and a forfeiture will result, unless policy provisions stipulate to the contrary, if merely the falsehood of the statement can be shown, irrespective of the materiality of the same. In other words, if statements are construed as warranties the insurer is relieved of the burden, usually a difficult one in jury trials, of proving materiality, and is obliged simply to establish the incorrectness of the statement. As is well stated in one case: "The purpose in requiring a warranty is to dispense with inquiry, and cast entirely upon the assured the obligation that the facts shall be as represented. Compliance with this warranty is a condition precedent to any recovery upon the contract. It is, therefore, that the materiality of the thing warranted to the risk is of no consequence."

**Classification of Warranties and Manner of Stating the Same.**— Warranties may be either affirmative or promissory, while in certain forms of property insurance importance is also attached to "implied warranties," i.e. those which are understood to exist in every case although no reference may have been made thereto in the contract. Affirmative warranties refer to facts or situations which exist either before or at the time of the issuance of the contract; while those that are promissory refer to matters which should or should not be done during the time that the contract is in force.

No special form of wording is necessary to make a statement a warranty. The courts have generally taken the position that the presence or absence of the word "warranted" is not conclusive in this respect. Warranties, however, must form a part of the contract, and where policies aim to state explicitly the various provisions upon which the validity of the contract depends, as is the case in life insurance, the courts have shown a reluctance to consider statements as warranties unless they are expressly defined as such. As summarized by Richards: "A statement in an extraneous paper merely referred to in the policy is not a warranty; but if the policy, and such is usually the case with the life policy, makes the application a part of the contract, and the basis of the undertaking, then the statements of fact or stipulations therein contained, whether relating to the past, present, or future, become warranties."[8] It may be added that the general rules applied in the construction of the insurance contract also apply to the construction of warranties, and that in interpreting the same the courts lean towards the insured wherever latitude is possible because the meaning of the warranty is surrounded by doubt or ambiguity.

**State Statutes Relating to Warranties.**— Because of the hardship and injustice which the technical enforcement of the common law rule pertaining to warranties might sometimes cause, and also largely because there was a time when certain insurance companies took undue advantage of warranties in their policies as a means of bringing about a technical forfeiture of the contract, a considerable number of states have passed statutes which protect the insured against technical avoidance of the contract because of statements which he may have made, unless the same relate to a matter material to the risk or were made with fraudulent intent. In other words such statutes make warranties representations. In some instances the statutes go so far as to provide that there shall be no forfeiture unless the violation of the policy condition occasioned the loss or resulted in materially increasing the risk.

At a recent date seven states had statutes which, while differing in their wording, amounted in substance to the New York statute: "All statements purporting to be made by the insured shall in the absence of fraud be deemed representations and not warranties." Twenty-one states have passed statutes which aim to guard against technical forfeitures by providing that misrepresentations shall not nullify the contract unless made in matters material to the risk. These statutes usually read to the following effect: "No

[8] Richards, George, Treatise on the Law of Insurance, 139.

written or oral misrepresentation, or warranty therein made, in the negotiation of a contract or policy of life insurance, or in the application therefor or proof of loss thereunder shall defeat or void the policy, or prevent its attaching, unless the matter misrepresented increases the risk of loss."

Statutory provisions, such as those referred to in the preceding paragraph, have been declared constitutional and obligatory by both the United States Supreme Court,[9] and various state supreme courts, and therefore control all policies issued subsequently to the enactment of the law. They are supported by many writers on the ground that most policyholders are ignorant of the true significance of warranties, and that many may thus incur a technical forfeiture of the contract through inadvertent misstatements in their applications.

**The Incontestable Clause.**— The severity of warranties is also greatly alleviated by the general practice of the companies making their policies incontestable after one or two years following the date of issue, except for the non-payment of premiums. So-called " incontestable clauses " usually read to the following effect: " This policy shall be incontestable after one year from its date except for non-payment of premium." [10] Such clauses represent a clear illustration of the modern tendency on the part of the companies to liberalize their contracts, and much can be said in their favor. From the standpoint of the insured and the beneficiary such clauses remove the fear of law suits especially at a time — namely, after the death of the insured — when it may be

[9] *John Hancock Mutual Life Insurance Company* v. *Warren*, 181 U. S. 73.

[10] The time limit stated in the clause varies in different policies from one to five years, although one year is the limitation most frequently applied. According to the standard provisions required by the laws of New York, incontestability is authorized either from its date or after one or two years. Some clauses also specify other exceptions than non-payment of premiums as, for example, misstatement of age, fraud in procuring the contract, and prohibited occupations or residence.

difficult for the beneficiary successfully to combat with competent testimony the company's charge of a violation of the contract. From the standpoint of the solicitor the existence of the clause increases business by making the policy attractive to the public. Again, from the standpoint of public policy it is undesirable to have widows, children or other dependents protected by a contract which throughout the lifetime of the insured may be subject to forfeiture, possibly for trivial violations, which forfeiture might remain unknown until the death of the insured, and thus leave the dependents without the protection which it is the essential purpose of life insurance to give. Moreover, if policies can be contested at the time of the insured's death, the issue must be determined in the courts, thus involving long delay in the settlement of the claim at the very time when the need for speedy payment is greatest. Considerations like these have, no doubt, been responsible for the requirement of incontestable clauses in life-insurance policies by the statutes of a considerable number of states.

In view of the aforementioned reasons the incontestable clause should be regarded as a conspicuous feature of the policy contract, and may be considered as similar to a short statute of limitation. By inserting this policy provision the company undertakes to make all necessary investigations concerning the good faith and all other circumstances surrounding the insured's application within the time limit stipulated in the clause. The company also definitely agrees not to resist the payment of the claim if there has been no violation of the contract during the first year (or whatever the time limit may be) following the issuance of the policy and if during that time the company has taken no action to rescind the contract. It is understood, however, that the clause does not waive any of the remedies or provisions which the contract provides must be complied with by the claimant following the death of the insured.

The wording of the clause would seem to make the policy incontestable for any reason whatsoever, except for non-payment of the premium or such other particulars as may be stipulated in the policy.[11] In fact the courts have shown a decided tendency to hold uppermost in mind the interests of innocent beneficiaries, and to this end have quite generally adopted the rule that the clause prevents the insurer from setting up a defense of fraud, suicide or death at the hands of justice. Lack of insurable interest, however, has been considered a necessary exception. Such an interest, as will be explained later, is necessary owing to considerations of public policy. Therefore, it has been held that the absence of such an interest will cause the policy to fall even though it contains an incontestable clause.[12]

**The Suicide Clause.**— Owing to the difficulty of defining clearly the term "suicide," insurance companies now protect themselves by including some such clause as the following in their contracts: "If within one year from the date hereof the insured shall, *whether sane or insane,* die by his own

[11] In this respect, as pointed out by Richards: "Two pertinent and distinct questions are presented for the determination of the courts in connection with this subject; first, what does the language of the clause fairly mean? second, if it is so worded as to include fraud, is the provision so far opposed to public policy as to be void to that extent? The answer to the first question is clear. Fraud when not among the exceptions is covered. In disposing of the second question, the courts have very generally concurred that the clause is not invalid though intended to cover fraud, and that the company is not excused from payment because of fraud in procuring the policy, or for breach of warranty, intentional or unintentional, provided it seeks no relief until after the expiration of the period of limitation specified in its contract." (Page 533.)

Again he states: "The insurer makes whatever examination he chooses to make before closing his engagement and commands methods of getting at the material facts with a measure of thoroughness and accuracy. Now and again he may be seriously deceived by an applicant; nevertheless it is more important that millions of honest families should purchase peace of mind and immunity from litigation than that insurers should be given a longer and better opportunity of detecting and taking advantage of occasional fraud which in their own interest they have expressly agreed to ignore." (Page 534.)

[12] *Clement* v. *Insurance Company,* 101 Tenn. 22.

hand, the liability of the company under this policy shall be limited to the amount of the reserve hereon." Such a limitation upon the company's liability the courts have generally construed as reasonable, and as Elliott concludes: "Under it the insurer is not liable, although the insured kills himself while in a condition which renders him wholly unconscious of the moral nature of the act."[13] Full support of this view has been given by the United States Supreme Court which decided in a leading case[14] that "for the purpose of this suit it is enough to say that the policy was rendered void, as the insured was conscious of the physical nature of his act and intended by it to cause his death although, at the time, he was incapable of judging between right and wrong and of understanding the moral consequences of what he was doing."

Accidental self-destruction, however, cannot be regarded as coming within the scope of the modern suicide clause; in fact, cannot be considered as suicide at all. Moreover, in case of doubt as to whether the death occurred through suicide or accident, the presumption is always in favor of accident. The company also, when raising the defense of suicide, "whether sane or insane," must assume the burden of proving conclusively that the case is one of intentional self-destruction.

**Other Policy Provisions.**— Life-insurance contracts sometimes contain other provisions which limit the liability of the company. Reference is had to prohibitions or restrictions, not already referred to in previous chapters, which relate to the insured's occupation after the issuance of the policy, residence and travel, military and naval service in time of war, intemperance, death while violating law, or death at the hands of justice. Relative to these restrictions the tendency has been towards a liberalization of the contract. Public opinion has favored a policy which is not loaded down with unnecessary restrictions, and the aforementioned instances

[13] ELLIOTT, CHARLES B., Treatise on the Law of Insurance, 412.

[14] *Bigelow* v. *Berkshire, etc., Insurance Company,* 93 U. S. 284.

are, with the exception of military and naval service, the exception and not the rule. It may also be accepted, with the exception of military and naval service, as a principle that whatever is not prohibited or restricted in the policy becomes an implied privilege to the insured, especially where the policy contains an incontestable clause.[15]

[15] In discussing the incontestable clause, Richards makes the following significant comments: "If the general incontestable clause bars the insurance company from setting up in defense the act of suicide, even when committed by a sane man, it is difficult to discover any sufficient reason for allowing the company to except from its application, the death of the insured by legal sentence and execution for crime. The act of suicide, it may often be shown, is committed with the express purpose of hastening payment of the insurance money; whereas it rarely appears that the insured is actuated by any thought of insurance on his own life when persuaded to commit crime. So far as innocent beneficiaries are concerned the reasons for allowing them to take their insurance money are no stronger in case of suicide than in the case of legal execution; and so far as the insurance company is concerned it shows no equity in its own favor in either case inasmuch as it has expressly contracted by the clause in question to raise no such defense. . . .

"Where beneficiaries, as well as insurer, are in no wise responsible for hastening the date of maturity, it is not altogether clear, that in disregard of the express terms of the contract the insurer should be so unexpectedly favored, and the beneficiaries so heavily penalized. Premiums are often paid for many years, and at great sacrifice, a sacrifice felt, perhaps, by all the members of the household. Before leaving the insurance moneys with the company and depriving innocent widows and children of their natural means of support, in violation of the terms of the contract, the courts must be convinced that the general welfare of the community will thereby be promoted. Accordingly it is not surprising that the drift of opinion in the state courts is in the direction of extending the operation of the incontestable clause to the fullest protection of innocent beneficiaries." RICHARDS, GEORGE, Treatise on the Law of Insurance, 536.

# CHAPTER XXIX

## INSURABLE INTEREST

A contract of life insurance must, according to law, be supported by an interest in the continuance of the life of the insured. Such an "insurable interest" may assume hundreds of forms and may have its origin, as we shall see, in a great variety of relationships. An exact definition of the term in a few words is therefore difficult, if not impossible. Mr. Justice Field briefly summarized the nature of the interest in the following words:[1]

> It is not easy to define with precision what will in all cases constitute an insurable interest so as to take the contract out of the class of wager policies. It may be stated generally, however, to be such an interest, arising from the relations of the party obtaining the insurance, either as creditor of or surety for the assured, or from the ties of blood or marriage to him, as will justify a reasonable expectation of advantage or benefit from the continuance of his life. It is not necessary that the expectation of advantage or benefit should be always capable of pecuniary estimation, for a parent has an insurable interest in the life of his child, and a child in the life of his parent, a husband in the life of his wife, and a wife in the life of her husband. The natural affection in cases of this kind is considered more powerful — as operating more efficaciously — to protect the life of the insured than any other consideration. But in all cases there must be a reasonable ground, founded upon the relations of the parties to each other, either pecuniary or of blood or affinity, to expect some benefit or advantage from the continuance of the life of the assured. Otherwise, the contract is a mere wager, by which the party taking the policy is directly interested in the early death of the

[1] *Warnock* v. *Davis,* 104 U. S. 775.

assured. Such policies have a tendency to create a desire for the event. They are, therefore, independently of any statute on the subject, condemned, as being against public policy.

**Insurable Interest of the Insured in His Own Life.**— It is a well accepted principle of law that every man possesses an insurable interest to an unlimited extent in his own life, and that he may make his insurance payable to any person he chooses to name as beneficiary. In this respect life insurance affords a striking contrast to fire and other forms of property insurance. Fire-insurance policies, for example, are contracts of indemnity and the company's liability is limited to the value of the property at the time of the fire, i.e. the face of the policy, owing to depreciation of the property or other causes, is not necessarily the sum that will be paid when a total loss of the property occurs. Life-insurance contracts, however, are not regarded purely as contracts of indemnity, and in cases where the insurance is taken out by the person whose life is insured, the courts have refused to establish any degree of relationship between the amount of insurance and the value of the life on which it is taken. The position of the courts in this matter is summarized by Richards[2] as follows:

> Every man's life is presumed to be valuable to himself, therefore, whenever the insured takes out a policy on his own life, whether payable to himself, his estate or other beneficiaries or his own selection, until it is affirmatively shown that he entered into the contract with the purpose of hastening his death, or evading the law, the usual love of life is held by the better authority to satisfy the legal demand for evidence of a sufficient insurable interest. Accordingly, every man is said to have an insurable interest in his own life and to any amount. But when the insurance is taken out by a person other than the life insured, the problems presented are not always so easy of solution and the rules relating to insurable interest become more or less arbitrary.
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> It has been held, however, that, if the beneficiary has an insurable interest, the party taking out the insurance need

[2] RICHARDS, GEORGE, Treatise on the Law of Insurance, 40–41.

have none. And similarly it has been held that if only one of the beneficiaries has an insurable interest the policy will not be avoided. The doctrine of the necessity of an insurable interest has not been adopted for the benefit of the insurance company, but out of regard to the public welfare.

**Creditor's Insurable Interest in the Life of the Debtor.** — Turning now to a consideration of the subject from the standpoint of insurance taken out by persons on the lives of other persons, we unfortunately meet with a great variety of court decisions. This lack of harmony in the court law presents itself in nearly all relationships which may arise out of commercial dealings or out of the ties of affection or kinship.

With respect to creditor and debtor "the rule is well settled that a creditor has an insurable interest in the life of his debtor which is said to survive a discharge in bankruptcy or general assignment for creditors. And the rule applies whether the creditor is assignee or insures his debtor's life; and although the debt is voidable, or not enforceable on account of the statute of limitations."[3] In this respect, however, the important question is the amount of insurance, as compared with the amount of the debt, which the creditor shall be allowed to take on the life of the debtor. Manifestly, the creditor's insurable interest should not be limited to the face of the indebtedness, because under such circumstances the creditor, upon the death of the debtor, would be enabled to indemnify himself only to the extent of the debt, and would be unsecured as regards the premiums paid together with interest thereon. Many courts have therefore held that creditors should be permitted to provide themselves with insurance on the debtor's life to an amount equal to the debt and interest thereon, plus all premiums (with interest thereon) required to keep the policy alive. The Pennsylvania Court, for example (*Wheeland* v. *Atwood*, 192 Pa. St. 237), laid down the rule that the debtor's life may be insured by the creditor for an amount equal to the debt

[3] Richards, George, Treatise on the Law of Insurance, 45.

plus all premiums payable during the life expectancy of the insured according to the Carlisle table, together with interest on the debt and premiums. Such attempts to define precisely the creditor's insurable interest, however, have not met with the favorable opinion of legal critics; but, instead, have been opposed on the grounds that "the validity of the contract should be determined according to the motives of the parties and the prospect as viewed at its date rather than after the death of the insured; and second, the total amount of premiums as thus viewed with interest thereon will always exceed the whole face of the policy leaving to the creditor nothing at all to apply upon the debt."[4]

As contrasted with the aforementioned attempt to fix a definite test for the creditor's insurable interest, two other lines of decisions should be mentioned. One of these, adopted by the United States Supreme Court, places an indefinite restriction upon the insurable interest of the creditor by providing that the relationship between the amount of insurance and the amount of the debt must not be so disproportionate as to make the policy take on the appearance of a wagering contract as distinguished from its legitimate purpose, viz, security for the indebtedness. In *Cammack* v. *Lewis* (15 Wall 643) the court, for example, declared a policy of $3,000 taken out by a creditor to secure a debt of $70 to be "a sheer wagering policy, without any claim to be considered as one meant to secure the debt." Mr. Justice Miller stated in his opinion that "to procure a policy for $3,000 to cover a debt of $70 is of itself a mere wager. The disproportion between the real interest of the creditor and the amount to be received by him deprives it of all pretense to be a *bona fide* effort to secure the debt, and the strength of this proposition is not diminished by the fact that Cammack was to get only $2,000 out of $3,000; nor is it weakened by the fact that the policy was taken out in the name of Lewis and assigned by him to Cammack." But while making the relationship between the

[4] **Richards, George, Treatise on the Law of Insurance. 46.**

amount of insurance and the amount of the debt an important factor, to be considered on the merits of each case, the Supreme Court has never undertaken to define this relationship precisely.

Opposed to the foregoing rule are those decisions which, while limiting the creditor in his interest in the recovery on a policy, permit him to secure as much insurance on the debtor's life as he may choose to take out. His right to recover, however, is limited to the amount of the debt and the premiums plus interest thereon, the balance, if any, passing to the debtor. This rule, sometimes referred to as the Texas rule, is well exemplified by *Cheeves* v. *Anders* (87 Tex. 287). Here the court declared that "the limit of interest of a creditor in a policy upon the life of his debtor is the amount of such debt and interest plus the amount expended to preserve the policy with interest thereon." The remainder of the proceeds of the policy, the court held, should go to the estate of the insured on the ground that "if the person named as beneficiary, or the assignee of such policy, has no insurable interest in the life of the insured, he will hold the proceeds as the trustee for the benefit of those entitled by law to receive it."

**Insurable Interest Growing Out of Other Business Relations.**— Numerous business relations, other than that of creditor and debtor, justify the taking of insurance by one person on the life of another. Thus, a surety on a bond, though no default on the bond has occurred, has an insurable interest in the life of the principal. Similarly, the holder of a property interest contingent upon another person reaching a certain age may protect himself against the loss of his contingent right through the death of that person before attaining the prescribed age. The courts have even refused to hold that those furnishing funds for corporate enterprises have no insurable interest in the lives of the managers and promoters of said corporations; and it is stated that certain stockholders in the United States have taken out insurance on the lives of prominent financiers who were instrumental in financing and promoting the corporations whose stock they held. Among other important instances of lawful insurable interest may be mentioned the following: a tenant in the life of a landlord who possesses only a life interest in the premises, a partner in the life of a copartner, one party to a joint venture in the life of another party, and an employer in the life of an employee.[5]

**Insurable Interest of the Assignee.**— The assignment of a policy and the appointment of a beneficiary, it should be noted, have been held by the courts to be subject to contract or statutory restrictions. The important question for consideration under this heading, however, is: Can a policy taken out by a person on his own life, and valid at its inception, be subsequently assigned to one who has no insurable interest in the life of the insured? In answering this question the courts are by no means a unit. An examination of the federal decisions shows the position of the United States Supreme Court to be somewhat in doubt. On the one hand, some of the decisions would indicate the courts' disapproval of such a practice,[6] and the same ruling prevails in Alabama, Kansas, Kentucky, North Carolina, Pennsylvania, Texas and Tennessee. In other instances the court held that "there is no doubt that a man may effect an insurance on his own life for the benefit of a relative or friend, or two or more persons on their joint lives, for the benefit of the survivor or survivors" (94 U. S. 457). And again: "A policy of life insurance, without re-

[5] See Richards, page 48, for numerous court citations showing the many property or commercial relationships which may and which may not be made the subject of an insurable interest.

[6] In *Warnock* v. *Davis*, 104 U. S. 775, the court states: "If there be any sound reason for holding a policy invalid when taken out by a party who has no interest in the life of the assured it is difficult to see why that reason is not as cogent and operative against a party taking an assignment of a policy upon the life of a person in which he has no interest. The same ground which invalidates the one should invalidate the other, so far, at least, as to restrict the right of the assignee to the sums actually advanced by him. In the conflict of decisions on this subject we are free to follow those which seem more fully in accord with the general policy of the law against speculative contracts upon human life."

strictive words, is assignable by the assured for a valuable consideration equally with any other chose in action when the assignment is not made to cover a mere speculative risk and thus evade the law against wager policies" (117 U. S. 591). Richards in his analysis of the various decisions finds the doctrine of the highest court to be this: "Where a man effects insurance upon his own life for the benefit of another and pays the premiums, an insurable interest will readily be inferred from almost any kinship or intimate relationship, and where even a stranger buys the policy in good faith, his payment of a consideration will be regarded as creating an insurable interest, at all events to that extent."[7] It may be added that many of the cases declaring an assignment without interest to be illegal involve a consideration of facts which indicate strongly that the transaction under consideration constituted an attempt to secure speculative insurance.

The weight of authority seems to support the doctrine that a policy valid at its inception is a mere chose in action which may, for value or by way of gift, be assigned subsequently by the insured to anyone, irrespective of insurable interest of the assignee, provided that the transaction is bona fide and not a device to conceal wagering, speculation in insurance, or attempts at evasion of the law. This doctrine, prevailing in most of the states,[8] has been extended in some instances to permit a beneficiary or creditor holding a policy to assign the same to one possessing no insurable interest, provided such assignment has not for its purpose the concealment of wagering or speculative insurance. Generally speaking, assignments of policies are not regarded by the courts as creating new contracts, but merely as continuing the old ones. The modern tendency in business seems to be in favor of making the transfer of life-insurance policies as free as possible, and if

[7] Richards, p. 54.

[8] Among the states in which this view has been upheld may be mentioned California, Colorado, Connecticut, Georgia, Illinois, Indiana, Maryland, Massachusetts, Mississippi, New York, Ohio, Rhode Island, Vermont, Wisconsin, and South Carolina. This is also the ruling in England and Canada.

the transfer is effected with the consent of the parties, the courts are more and more inclined to regard objections on the ground of public policy as of little consequence.

**Insurable Interest Arising Out of Ties of Affection, Blood or Marriage.**— The courts have generally held that certain ties of near relationship create an insurable interest, even though the element of dependence is not present. Thus, according to the weight of authority, a parent has an insurable interest in the life of a child even though the same be permanently disabled. The relationship of husband and wife is also conclusively presumed in nearly all cases to establish an insurable interest on behalf of either party in the other's life.

As regards other relationships, however, the courts have generally taken the position that the interest must be based upon a reasonable expectation of deriving pecuniary benefit from the continuance of the insured's life. On this theory American courts have repeatedly held, for example, that a woman has an insurable interest in the life of her fiancé, since that relationship gives to her a reasonable right to expect pecuniary benefit. An excellent review of the numerous decisions referring to insurable interest arising out of ties of blood or affection is furnished by the Circuit Court of Appeals.[9] Following a review of the decisions bearing on the subject the court held:

> The sum of the decisions and of text-book discussions upon the subject of insurable interest may, we think, be fairly stated thus: No person has an insurable interest in the life of another unless he would in reasonable probability suffer a pecuniary loss, or fail to make a pecuniary gain, by the other's death; or (in some jurisdictions) unless, in the discharge of some undertaking, he has spent money, or is about to spend money, for the other's support or advantage. The extent of the insurable interest — the amount for which a policy may be taken out, or for which recovery may be had — is not now under consideration. What is often called "relationship in-

[9] *Life Insurance Clearing Company* v. *O'Neill*, 106 Fed. 800.

surance" must be governed by this rule. It must rest upon the foundation of a pecuniary interest, although the interest may be contingent, and need not be capable of exact estimation in dollars and cents. Sentiment or affection is not sufficient of itself, although it may often be influential in persuading a court or jury to reach the conclusion that a beneficiary had a reasonable expectation of pecuniary advantage from the continued life of the insured. In one relation only — the relation of husband and wife — is the actual existence of such a pecuniary interest unimportant; the reason being that a real pecuniary interest is found in so great a majority of cases that the courts conclusively presume it to exist in every case, whatever the fact may be, and therefore will not inquire into the true state of a few exceptional instances. This, we think, is essentially what is meant by the declaration of courts and textbook writers that the mere relationship of husband and wife is sufficient to give an insurable interest. . . .

In all other relationships there is no presumption of interest, and no insurable interest exists unless the reasonable likelihood of pecuniary loss or gain is present in actual fact. No doubt, judicial language is to be found supporting the view that the mere relationship of parent and child is sufficient to give an insurable interest.

**The Time and Continuity of Insurable Interest.**— Recent cases affecting insurance on property exhibit a strong tendency to apply the rule that an insurable interest existing at some time during the risk and at the time of the loss is sufficient to validate the policy, and that it is unnecessary to have the interest exist at the time of the issuance of the contract. As regards life insurance the weight of authority is to the opposite effect, i.e. the interest must exist at the time the contract is made, and a policy, valid at its inception, will not thereafter be voided if it should happen that the interest ceases before the maturity of the contract, unless the provisions of the policy are such as to bring about that result. Indeed, the courts have decided that a policy naming a married woman as beneficiary remains in force even though she obtains a divorce before the insured's death. The principal cases which are exceptions to the aforementioned general rule refer chiefly to the insurable interest of creditors and assignees. Here a certain group of cases hold that the assignee of a life-insurance policy, even though valid when issued, must nevertheless possess an insurable interest. The United States Supreme Court has also decided (144 U. S. 621) that "if the policy of insurance be taken out by a debtor on his own life naming a creditor as beneficiary, or with a subsequent assignment to the creditor, the general doctrine is that on payment of the debt the creditor loses all interest therein and the policy becomes one for the benefit of the insured and collectible by his executors or administrators."

# CHAPTER XXX

## THE LAW PERTAINING TO THE BENEFICIARY

If a policy of life insurance is taken out by one person on the life of another in whom he has an insurable interest, such policy, as previously explained, may be regarded by him as his own property, free from any control whatsoever by the person whose life is insured. But this chapter is concerned primarily with a policy which the insured has taken out on his own life for the benefit of someone whom he has named as beneficiary therein. Very frequently, the insured sees fit to name gratuitously some beneficiary or beneficiaries, such as his wife, children or near relatives, and sometimes without their having knowledge of his act. This common practice of thus gratuitously designating a beneficiary raises many important legal questions. Under what conditions does the beneficiary's interest become a vested right which cannot be impaired by either the insured or his creditors? Under what conditions may the insured retain sufficient control over his policy to change the beneficiary at will? To what extent is a beneficiary's interest in a policy transmissible to his or her representatives? What is the effect of a cessation of the beneficiary's insurable interest in the life of the insured prior to the maturity of the contract? To what extent are the rights of a beneficiary in a bankrupt's policy subject to the claims of creditors? These are some of the important questions which, as regards essentials, it is the purpose of this chapter to answer.

**Vested Rights of the Beneficiary.**— Unless the policy reserves to the insured the power to change the beneficiary at will, such beneficiary is held to have acquired a vested right in the policy immediately upon its issuance, although he or she may not even have knowledge of its existence. This vested right is so complete that neither the insured nor his creditors can impair the same without the beneficiary's consent. This general principle of law is well stated by the Supreme Court of the United States in the following words:[1]

> We think it cannot be doubted that in the instance of contracts of insurance with a wife or children, or both, upon their insurable interest in the life of the husband or father, the latter, while they are living, can exercise no power of disposition over the same without their consent; nor has he any interest therein of which he can avail himself, nor upon his death have his personal representatives or his creditors any interest in the proceeds of such contracts, which belong to the beneficiaries to whom they are payable. It is indeed the general rule that a policy, and the money to become due under it, belong, the moment it is issued, to the person or persons named in it as beneficiary or beneficiaries, and that there is no power in the person procuring the insurance by any act of his, by deed or by will, to transfer to any other person the interest of the person named.

It may be added, of course, that the beneficiary's vested right is a contingent one in so far that the payment of the proceeds depends upon the maturity of the contract and the observance by the insured of all warranties and policy provisions.

The wisdom of the foregoing rule cannot be questioned. Many court decisions take the view that when a beneficiary has been gratuitously designated by the insured the policy partakes of the nature of a voluntary trust or gift to the payee, and that the probable intent of the donor should be enforced

[1] *Central Bank* v. *Hume*, 128 U. S. 195. The principle of law defined in this case has been disapproved by the courts of England and Wisconsin. The Wisconsin court, in a notable exception (estate of Breitung, 78 Wis. 33), held that "one who has procured a policy of insurance upon his own life for the benefit of another, and has paid the premiums thereon as they become due, may dispose of the insurance money by will to the exclusion of the beneficiary named in the policy, during the lifetime of such beneficiary."

so long as the beneficiary is not guilty of intentionally causing the death of the insured. But even more fundamental is the plain duty of every person, if financially able to do so, to use life insurance as a means to protect wife and children and other dependents of the household against the want and discomfort that may result from premature death. In making such provision for his dependents, it is certainly probable that the insured intended to safeguard the interest of those named in his policy as beneficiaries against the claims of his possible future creditors. In fact, the United States Supreme Court, in the decision already referred to, also held that: "A married man may rightfully devote a moderate portion of his earnings to insure his life, and thus make reasonable provision for his family after his decease, without being thereby held to intend to delay, or defraud, his creditors, provided no such fraudulent intent is shown to exist or must be necessarily inferred from the surrounding circumstances." There is also much to support the view that the courts in adopting the rule above stated have been influenced by the numerous statutes which have been adopted for the protection of the interest of a married woman and her children in the proceeds of her husband's life insurance against the claims of his creditors. The great majority of states also have enacted laws to this effect;[2] while most states also have laws protecting the proceeds of a policy taken out by a married woman on the life of her husband in favor of herself and children against the claims of her husband's creditors or representatives.[3]

[2] These laws substantially provide that "all policies upon the life of any person which shall thereafter mature, and which have been or shall be taken out for the benefit of or bona fide assigned to the wife or child or any relative dependent upon such person or any creditor, shall be vested in such wife or children, or other relative or creditor, free and clear from all claims of the creditors of such insured person."

[3] In this respect the law of New York is here quoted as a specimen. It provides that: "A married woman may, in her own name, or in the name of a third person, with his consent, as her trustee, cause the life of her husband to be insured for a definite period, or for the term of his natural life. Where a married woman survives such period or term she is entitled to receive the

**Reserving the Right to Change the Beneficiary at Will — Claims of Creditors Where the Beneficiary Has Been Thus Named.**— Life-insurance policies may contain a provision reserving to the insured full power to change the beneficiary or beneficiaries at will while the policy is in force and subject to any previous assignment. When this right is reserved the policy remains the property of the insured, and the original beneficiary obtains no vested rights in the policy or its proceeds but possesses only a "mere expectancy" until after the maturity of the contract.

Various methods may be used in designating the insured's right of revocation. Some companies provide in their policies words to the effect that "when the right of revocation has been reserved, or in case of the death of any beneficiary under either a revocable or irrevocable designation, the insured, if there be no existing assignment of the policy made as herein provided, may, while the policy is in force, designate a new beneficiary, with or without reserving the right of revocation, by filing written notice thereof at the home office of the com-

insurance money, payable by the terms of the policy, as her separate property, and free from any claim of a creditor or representative of her husband, except that where the premium actually paid annually out of her husband's property exceeds five hundred dollars, that portion of the insurance money which is purchased by excess of premium above five hundred dollars, is primarily liable for the husband's debts. The policy may provide that the insurance, if the married woman dies before it becomes due and without disposing of it, shall be paid to her husband or to his, her or their children, or to be for the use of one or more of those persons; and it may designate one or more trustees for a child or children to receive and manage such money until such child or children attain full age. The married woman may dispose of such policy by will or written acknowledged assignment to take effect on her death, if she dies thereafter leaving no descendant surviving. After the will or the assignment takes effect, the legatee or assignee takes such policy absolutely.

"A policy of insurance on the life of any person for the benefit of a married woman, is also assignable and may be surrendered to the company issuing the same, by her, or her legal representative, with the written consent of the assured."

pany accompanied by the policy for suitable indorsement thereon. Such change shall take effect when indorsed on the policy by the company and not before." Other policies state that the insured may at any time change the beneficiary or beneficiaries under the policy, and where this is done it is frequently stipulated that the insured may, however, declare the designation of any beneficiary to be irrevocable. In other instances the change of beneficiary clause may contain stipulations to the effect that if any beneficiary shall die before the insured, the interest of such beneficiary shall vest in the insured, or that the insured reserves the right, without the beneficiary's consent, to surrender the policy for its cash value or to borrow thereon.

In contrast to the foregoing provisions, some companies purposely omit a change of beneficiary clause in their contracts, and ask the insured to state specifically in his application his position in regard to this privilege. These companies, while admitting that the right of revocation may in occasional instances prove of great practical use, call attention to the fact that "a policy containing the unconditional reservation of the right to change the beneficiary may produce an instrument identical with the one in which the estate is made the beneficiary." They, therefore, hold that the danger connected with such an unconditional reservation, regarded by them as a questionable privilege, should always be called to the attention of the applicant by the agent. Then, if the applicant still insists on having the privilege, the company will gladly grant the same; but under these circumstances it is felt that the insured asked for the privilege with a full understanding of what he was doing and what his request might mean to himself and family in the future. On the other hand, the advocates of a special beneficiary clause for every contract consider the practice to be supported by reasons of expediency and equity, and contend that the insured should, as a matter of right, have the privilege of doing as he wishes with his own.

Whatever the practice in designating the insured's right of revocation, it is highly important that the legal significance of the privilege to change the beneficiary at will should be clearly comprehended by the policyholder. The possibilities of future bankruptcy do not seriously occupy the thoughts of the average person, yet statistics reveal a surprisingly large number of business failures. Records show that during the past thirty years the number of actual business failures, as compiled by Bradstreet, averages annually 1 per cent. of the total number of businesses listed by this organization. As has been well stated: "The probability of business mortality is as great as that of adult human mortality at its average age. In fact, it is identical with the 1 per cent. shown by the American tables of mortality on selected lives at age 41." It is also noteworthy that in a year like 1907 about 19 per cent. of the total number of failures and over 55 per cent. of the failure liabilities were traceable to disasters, failure of apparently solvent debtors and undue competition, i.e. causes which cannot be regarded as due to faults of those who failed. On the other hand, nearly 65 per cent. of the total number of failures in that year were due either to incompetency or to lack of capital.

The foregoing considerations assume importance when the change of the beneficiary clause is viewed from the standpoint of claims of creditors. Judging from the numerous court decisions that deal with the matter, there is much variance of judicial opinion. In *Holden* v. *Stratton,* 198 U. S. 202 (1905), the United States Supreme Court definitely decided that, according to Section 6 of the Federal Bankruptcy Act[4] of 1898, a life insurance policy that is exempt from the claims of creditors under any state statute is also exempt in bankruptcy proceedings. But this decision did not settle the important question as to whether the insured possesses exemption rights in the event that the policy contains a clause

[4] Section 6 of the Federal Bankruptcy Act reads as follows:

"Section 6. This act shall not affect the allowance to bankrupts of the exemptions which are prescribed by the State laws in force at the time of the filing of the petition in the State where they (the bankrupts) have had their domicile for the six months or greater portion thereof immediately preceding the filing of the petition."

reserving to him the unqualified power to change the beneficiary at will. Here the state courts seem to be in hopeless conflict. In some states, like Kentucky, Minnesota, Missouri, New Hampshire, Ohio and Wisconsin, the courts have held that the policy, although reserving to the insured the privilege to change the beneficiary, does not pass to the trustee in bankruptcy. On the contrary, however, the courts of Georgia, Louisiana, New York, Pennsylvania, and Tennessee have held that, where the right to change the beneficiary is reserved, the policy passes to the trustee despite the existence of a state exemption statute. Mention should be made of the Pennsylvania Act of 1919 which seeks to meet the situation by expressly providing that all policies payable to wife or children or other dependents of the insured shall, despite the inclusion of a change of beneficiary reservation, be exempt from all claims of the insured's creditors. The statute does not, however, adversely effect creditors with respect to any rights existing at the time the law was enacted.

Special attention should be called to the recent case of *Cohen* v. *Samuels,* 245 U. S. 50 (1917). In this case the Supreme Court of the United States in no sense overrode the rule laid down in *Holden* v. *Stratton,* namely, that the surrender value of a policy definitely exempt under a state law cannot be claimed by the trustee in bankruptcy. But the court further ruled, and this is the important feature, that a bankrupt's policy, if payable to a beneficiary other than "himself, his estate, or personal representatives," and if reserving the unqualified right to the insured to change said beneficiary, will, if it has a cash surrender value and to the extent of such value, pass to the trustee as provided under Section 70-a of the Federal Bankruptcy Law. To quote the decision:

> The declaration of Subdivision 3 is that "powers which he might have exercised for his own benefit" "shall in turn be vested" in the trustee, and there is vested in him as well all property that the bankrupt could transfer or which by judicial process could be subjected to his debts, and especially as to insurance policies which have a cash surrender value payable to himself, his estate, or personal representative. It is true the policies in

question here are not so payable, but they can be or could have been so payable at his own will and by simple declaration. Under such conditions, to hold that there was nothing of property to vest in a trustee, would be to make an insurance policy a shelter for valuable assets and, it might be, a refuge for fraud. And our conclusions would be the same if we regarded the proviso alone.

If, as seems probable, the courts will generally interpret a transferable beneficiary clause as giving the trustee in bankruptcy the power to distribute the cash value of a policy among creditors, it follows that a policy taken out for family protection, if containing such a clause, will have connected with it a hazard that the insured, in view of the future possibility of bankruptcy, should bear in mind and carefully consider. Numerous statutes, as we have seen, have purposely made it possible for men to make suitable provision for their families in case of premature death by creating an insurance fund that is immune from seizure by creditors. Yet the introduction of a clause giving the insured a free hand to change the beneficiary, or to surrender the policy or use it for borrowing purposes, introduces an element of uncertainty in a contract that in most instances should be made absolutely secure for the benefit of those for whose protection it was expressly taken out and who have the right to expect that the insurance fund, which is their sole provision against want after the death of the breadwinner, shall not have constantly hanging over it an element of uncertainty. Not to protect a policy against creditors may often result, as has been well said, "in accumulating trouble for a time when misfortune would be amply abundant."

Before leaving this subject, brief reference should be made to the beneficiary's interest under a fraternal or mutual benefit certificate. Here the right of revocation is usually reserved to the insured by the constitution or by-laws governing the members, and under such circumstances the interest of the beneficiary is not a vested one. But should the rules or certificate of the order or society, or any statute, contain restrictions as to the classes of beneficiaries that may be named, the holder of the certificate is obliged to observe the same. It has been held that under such conditions the properly named beneficiary can contest an appointment illegally made at a future time. In the absence, however, of any right of revocation by statute or by the rules of the association, or in case of a definite agreement with the beneficiary originally named, the insured is precluded from substituting another appointment.

In industrial policies, it should be stated, it is frequently the practice to include a provision permitting the company to choose the beneficiary under certain circumstances. Usually the clause is given some such wording as the following: "The Company may pay the amount due under this policy to either the beneficiary named below, or to the executor or administrator, husband or wife, or any relative by blood or connection by marriage of the insured, or to any other person appearing to said company to be equitably entitled to the same by reason of having incurred expense on behalf of the insured, or for his or her burial; and the production of a receipt signed by either of said persons shall be conclusive evidence that all claims under this policy have been satisfied." Such provisions have been repeatedly upheld by the courts as reasonable in this form of insurance. In *Brennen* v. *Prudential Insurance Company* (170 Pa. 488) the court even held that "the company may in its discretion and acting in good faith with the person selected by it, settle for less than the amount of the policy, and the personal representative of the insured cannot recover from the company the difference between the amount so paid and the amount of the policy."

**Rights of Creditors to Life-Insurance Policies.**—The National Bankruptcy Act expressly permits a bankrupt, having a policy with a cash surrender value payable to himself, his estate or his legal representatives, to keep the policy free from the claims of creditors by paying such surrender value to the trustee within thirty days after the ascertainment of the amount.[5] Failure to do this causes the policy to pass to the

[5] The U. S. Bankruptcy Act, Sec. 70-a, provides that: "Property which prior to the filing of the petition he could by any means

trustee as assets for the benefit of creditors. But if the policy has no surrender value, the courts have held that the trustee has no interest therein. In *Morris* v. *Dobb, trustee* (110 Ga. 606), where a husband took out a policy payable to his legal representatives and subsequently transferred the same to his wife four months prior to the filing of a petition in bankruptcy, the court held: "A policy of insurance on the life of a bankrupt which has no cash surrender value, and no value for any purpose except the contingency of its being valuable at the death of the bankrupt if the premiums are kept paid, does not vest in the trustee as assets of the estate." Moreover, the courts have held that a state statute protecting certain beneficiaries against the claims of creditors takes precedence over the National Bankruptcy Act. Thus, in *Holden* v. *Stratton* (198 U. S. 202) the court ruled that: "Policies of insurance which are exempt under the law of the state of the bankrupt are exempt under Section 6 of the Bankruptcy Act of 1898, even though they are endowment policies payable to the assured during his lifetime and have cash surrender values, and the provisions of Section 70 (a) of the Act do not apply to policies which are exempt under the state law. It has always been the policy of Congress, both in general legislation and in bankrupt acts to recognize and give effect to exemption laws of the states." Following the

have transferred, or which might have been levied upon and sold under judicial process against him, provided that when any bankrupt shall have any insurance policy which has a cash surrender value, payable to himself, his estate or personal representatives, he may, within thirty days after the cash surrender value has been ascertained and stated to the trustee by the company issuing the same, pay or secure to the trustee the sums so ascertained and stated and continue to hold, own and carry such policy free from the claims of the creditors participating in the distribution of his estate under the bankruptcy proceedings; otherwise the policy shall pass to the trustee as assets.''

In *Clark* v. *Equitable Life Assurance Society* (143 Fed. 175) the court held that: ''Policies of life insurance of a bankrupt having an actual value pass to his trustee, and the bankrupt is divested of all interest therein, unless he retains the same under the proviso of the Bankruptcy Act of July 1, 1898, see 541, Sec. 70 (a), by paying the cash surrender value.''

payment of the policy to the beneficiary, however, the proceeds are subject to levy and attachment for such beneficiary's debts, just as any ordinary assets would be.

Cases often arise where shortly following the filing of the petition in bankruptcy a policy, payable to the insured or his representatives, matures through the death of the bankrupt. In that event, are the creditors entitled to the proceeds of the policy? The question was decided by the Supreme Court of the United States in *Burlingham* v. *Crouse,* 228 U. S. 459; *Everett* v. *Judson,* 228 U. S. 474; and *Andrews* v. *Partridge,* 228 U. S. 479. According to the facts of the first case, the bankrupt carried $200,000 of insurance which, owing to loans on the policies protected with an assignment to the insurance company as well as to an additional third party, had a negligible cash surrender value at the time of the filing of the petition in bankruptcy. Shortly after becoming bankrupt the insured died, thus maturing the contracts. The trustees undertook to set aside the assignment as preferential and contended that the proceeds of the policy belonged to the bankrupt's estate. As opposed to this view, the assignee contended that the creditors were only entitled to the available cash surrender value at the time of the filing of the petition in bankruptcy, and this, as previously noted, was negligible. The court upheld this view and ruled, "We think it was the purpose of Congress to pass to the trustee that sum which was available to the bankrupt as a cash asset; otherwise to leave to the insured the benefit of his insurance."

Some courts have also emphasized the right and duty of an insolvent, in the absence of actual fraud, to make moderate provision for his wife and children by naming them as beneficiaries in a life-insurance policy. This is clearly indicated in the opinion rendered in *Central Bank of Washington* v. *Hume* (128 U. S. 195), where "a married man," it was declared, "may rightfully devote a moderate portion of his earnings to insure his life, and thus make reasonable provision for his family after his decease, without being thereby held to intend to hinder, delay or defraud his creditors, provided no such fraudulent intent is shown to exist, or must be necessarily inferred from the surrounding circumstances." But on this point the courts are by no means a unit. Some hold that the premiums paid by the insured following his insolvency are obtainable by his creditors; while others have ruled that creditors may obtain the insurance money in the proportion that the premiums paid subsequent to the insolvency bear to the sum total of the premiums paid on the policy.

**Transmissibility of the Beneficiary's Interest.**—Where the beneficiary has been named absolutely and without any qualifying restriction, the important question arises: Are the rights of the beneficiary in the policy such as to pass to his or her representatives in case of death before the insured dies? This question may be discussed conveniently from two standpoints: (1) when all the designated beneficiaries die before the insured, and (2) when some of them die before the insured but others outlive him. Assuming that the sole beneficiary designated in the policy dies before the insured, is the latter at liberty to make a new appointment? Frequently the difficulty is overcome by a clause in the policy, as is the case in the New York standard provision, expressly providing to some such effect as this: "If no beneficiary shall survive the insured the policy shall be payable to the legal representatives of the insured." Beneficiary clauses also frequently contain stipulations to the effect that "if any beneficiary shall die before the insured, the interest of such beneficiary shall vest in the insured." In the absence of such provision, the courts have disagreed as to the powers which the insured may exercise in this respect. The majority of decisions permit him to make a new appointment and this ruling is regarded as the better one by legal writers on the subject.[6] It is contended that since the insured's original intention as to the disposition

[6] Among the states the courts of which have upheld this ruling may be mentioned the following: Alabama (87 Ala. 263), Ohio (50 Ohio St. 595), Missouri (35 Mo. App. 178), New Jersey (58 N. J. eq. 189), New York (28 N. Y. Hun 119), Virginia (24 Grat. (Va.) 497), and Wisconsin (50 Wis. 603).

Among the states in which the contrary ruling holds may be mentioned the following: Arkansas (71 Ark. 295), Indiana (86 Ind. 196) and Maryland (95 Md. 101).

of the proceeds of the policy has failed, the power to indicate a new beneficiary should revert back to him. His original intention to protect his wife and children, it is argued, cannot be construed as implying that he meant to waive all control over his own policy in case he should happen to become the sole survivor. To hold otherwise would seem inequitable and would likely prove ineffective since the insured could lapse his policy.

Now assuming in the second case, that the policy simply names the "wife and children" or the "children" as beneficiaries, and that it contains no conditions governing the matter, how shall the proceeds of the policy be shared when some of the designated beneficiaries die before the insured dies while others survive him? In other words, are those beneficiaries who outlived the insured entitled to the entire proceeds of the policy, or is the interest of the surviving beneficiaries still limited to the share which they originally held under the policy, while the respective interests of those beneficiaries who died before the insured's death pass to their representatives or assigns. Here again the courts are not in accord. Where the policy is payable to "the wife of the insured, if living, otherwise to their children," it is clear that the interest of the children is a contingent one, depending upon the life of the wife. But suppose that the husband survives the wife, shall the proceeds of the policy pass only to those children who survived the mother, or shall all the children living at the time of the issuance of the contract participate in the distribution. Some courts hold — sometimes called the New York rule — that only the children surviving the mother come into possession of the entire policy.[7] Other courts, however, follow the rule — sometimes called the Connecticut rule — that all the children alive when the policy was issued acquire a vested right therein, and that the interest of those dying before their mother dies passes to their representatives.[8]

[7] Among cases upholding this rule may be mentioned: 140 Mich. 233, 68 N. H. 405, 133 N. Y. 408, 118 Ga. 657, 54 Ala. 688, 202 Pa. St. 141.

[8] Among cases upholding this rule may be mentioned 42 Conn. 60, 89 Iowa 396, 100 Tenn. 297, 135 Mass. 468.

**The Designation of the Beneficiary.**—Judging from the unusually large number of court decisions which relate to this subject, it is apparent that the beneficiary often is designated carelessly in a life-insurance policy, and that because of such carelessness the real intention of the insured might upon his death be difficult to determine and might, therefore, possibly be defeated. It is the general rule of the courts, if at all possible, so to construe the language used in designating the beneficiary as to enforce the intentions of the parties thereto. But in doing this the courts cannot set aside the language expressly used if the same is not ambiguous.

Numerous illustrations may be cited as indicating the necessity of care in describing the beneficiary. Thus, where the policy is payable to the insured's "children," the term includes those by a former wife but not his wife's children by a former husband. A policy payable "to the wife and upon her death before the insured to 'their children,'" does not give an interest to a child by a marriage contracted by the insured after his first wife's death. Adopted children are included in the term "children," and the term "dependents" is limited strictly to those actually dependent for support upon the insured. Again the term "relatives" has been held to "include those by marriage as well as by blood, but not an illegitimate child"; while the term "heirs" refers to "those who take under the statute of descent and distribution." [9]

**Effect of Cessation of the Beneficiary's Insurable Interest in the Life of the Insured Prior to Maturity of the Contract.**—In the chapter on "Insurable Interest" it was stated as a general rule that a person has an insurable interest in his own life and may accordingly insure that life to any amount and name any one as beneficiary under the policy, even though such beneficiary may not have as insurable interest at the time. The only general exception to this rule, we saw, consists of those instances where the policy is a mere cover

[9] ELLIOTT, CHARLES B., Treatise on the Law of Insurance (1903). 348–387. A detailed list of the numerous interpretations which American courts have given to the various terms that are commonly used in designating beneficiaries in life-insurance policies.

for fraud or speculative insurance and thus an evasion of the law against wagering. But assuming that the policy is taken out legally by one person on the life of another, or that a beneficiary has been appointed who has an insurable interest at the time, will a subsequent loss of that interest before the maturity of the contract adversely affect the vested rights of such beneficiary? Here the prevailing rule holds that a policy valid at its inception because supported by an insurable interest will not, unless its provisions clearly stipulate the contrary, be affected thereafter by a loss of that interest on the part of the beneficiary. A married woman, for example, named as beneficiary in her husband's policy has been held to have the right to maintain the existence of the policy following a divorce and be entitled to the proceeds upon the insured's death. Exceptions to this rule frequently exist as regards creditors, as noted in the preceding chapter. Certificates or the rules of fraternal and mutual benefit societies, however, usually provide that the relation of husband and wife, or other family relationship under consideration, must exist at the time of the insured's death.

# CHAPTER XXXI

## LAW PERTAINING TO ASSIGNMENT OF POLICIES

There are few types of contracts which are so frequently assigned as insurance policies, and any discussion of the subject must distinguish clearly the underlying difference between the assignment of life policies and the assignment of policies in fire and most other lines of property insurance. The fire-insurance policy, being strictly a personal contract, i.e. insuring the particular owner of the property rather than the property itself, can be assigned only with the consent of the company, and the standard fire policy now in general use provides that "the entire policy shall be null and void if without the consent of the company there be an assignment of the policy before a loss takes place." In case, therefore, of the transfer of insured property, the company may refuse its consent to the transfer of the policy to the new owner, and if such transfer of the policy has been undertaken without the company's knowledge or consent, it will be relieved of all further liability. A life-insurance policy, however, being in the nature of a chose in action, has been held by the courts to be freely assignable for a valuable consideration in the absence of (1) restrictive provisions in the policy, or (2) attempts at concealment of fraud or mere speculative insurance.[1]

[1] "It is desirable that the insured should have the opportunity of making free commercial use of his life insurance as available property, for it may often be convenient to secure money, by loan or otherwise, upon it. Unlike the case of a fire policy, as before shown, a life policy was considered assignable at common law. And, by the better opinion, a policy of life insurance may be assigned or made payable to one who has no insurable interest, if the transaction is not a mere cover for a wager. The demands of business quite outweigh the remote possibility that some unscrupulous assignee may succumb to the temptation of murdering

To hold otherwise might often diminish the value of a life policy to its owner as a means of securing credit or other benefits. Unlike a fire policy, the life-insurance contract in most instances provides for payment upon death, an event which is certain to occur sooner or later. For this reason the courts have held the life policy to resemble an ordinary chose in action, and have generally inclined to the view that sufficient reasons against its assignability cannot be given so long as there is no infringement of the vested rights of the beneficiary. But, as already stated, if the assignment is based upon an immoral or illegal consideration, the courts will refuse to uphold it; and cases are on record where even executors or administrators of the insured have been permitted to oppose the legality of an assignment on such grounds. After death has occurred, it may be added, the interest in the policy is held to be purely a chose in action subject to assignment by the beneficiary without regard to the "notice of assignment" or any other provisions of the policy.

**Policy Restrictions Relating to the Assignment of Policies and the Legal Interpretation of the Same.**— Although assignable in the absence of restrictive policy provisions, it is the universal practice to-day of life-insurance companies to include an assignment clause of some kind in their policies. While much variation exists in the wording adopted by the companies, the provision usually reads to the effect that "no assignment of this policy shall be binding upon the company unless in writing and until filed at its home office. The company assumes no responsibility as to the validity of any assignment." In many policies, however, the provision is more elaborate, some companies stipulating that in addition to the

or shortening the life of the insured for the sake of hastening payment of the insurance money. Moreover, there would seem to be room for the operation of any such sinister designs regardless of whether the assignee has an insurable interest. A creditor, for example, may be quite as strongly tempted, as the donee of a gift, to realize a prompt payment of the insurance upon the life of the assignor." RICHARDS, GEORGE, Treatise on the Law of Insurance, 527–528.

filing of the assignment, or a duplicate thereof, the assignment must be approved in writing by certain officers of the company; that the original assignment and due proof of interest must be produced when the policy is presented for payment, and that all assignments shall be subject to any indebtedness to the company at its home office.

Where an assignment has thus been brought to the attention of the company and has been consented to, it is held to constitute a new contract between the company and assignee. The assignee, however, simply obtains the rights of the original insured — i.e. takes the position of the assignor — and is protected only to the extent that the assignor was protected under the policy. In other words, the assignee takes only what the assignor can assign, and if the policy is void at the time of assignment because of acts of violation on the part of the assignor, the assignee is not in a position to recover.

The assignee's position in this respect has been greatly improved through the general use of the incontestable clause, which, as we have seen, protects the policy against the acts of the insured after the lapse of a stipulated period. The principle, however, is worthy of emphasis in that it applies before the incontestable feature goes into operation, and in so far that it has a most important bearing upon other forms of insurance. In fire insurance ordinary assignments of policies are considered so dangerous, because of the possible invalidity of the contract at the time of assignment, that it is almost the universal practice for mortgagees either to insure their own interest as mortgagee or to require the mortgagor to have a so-called "mortgage clause" indorsed on the policy protecting the premises offered as security for the loan, which provides that "this insurance, as to the interest of the mortgagee (or trustee) only therein, shall not be invalidated by any act or neglect of the mortgagor or owner of the within described property, nor by any foreclosure or other proceedings or notice of sale relating to the property, nor by any change in the title or ownership of the property, nor by the occupation of the premises for purposes more hazardous than are permitted by this policy, etc." In some jurisdictions the courts have even held that the indorsement of such a clause does not revive a policy already void at the time the indorsement is made, and for this reason it is the practice of certain large lending institutions — a number of life-insurance companies resort to the practice — to require fire-insurance companies to consent by special agreement to protect them, as mortgagees, against all acts and neglect of the mortgagor whether occurring prior or subsequent to the issuance of the mortgage clause.

It should also be observed that the assignment provisions of life-insurance policies to which reference was made do not *prohibit* an assignment without consent, but simply provide that the company need not recognize the assignment until it has received written notice of the same, and that it assumes no responsibility as to its validity. Nor does the provision state that an assignment, not consented to by the company, will invalidate the policy. As is well stated in one case [2] where the court had under consideration an assignment similar to those mentioned above: "The consent of the company to an assignment is not necessary. All that is required is that the assignment be in writing on the policy, and a copy of it furnished to the company within thirty days. This provision is not one which is intended to guard against increased risks, and does not go to, or infuse itself into, the essence of the contract. Its sole purpose is to protect the company against the danger of having to pay the policy twice, by requiring written evidence of any change of beneficiaries to be put in reliable form and promptly furnished to the company. All that could, at the very most, be claimed as the effect of non-compliance with this stipulation is that the company might disregard an attempted assignment and pay the money to the original beneficiary; in other words, such attempted assignment would be merely voidable at the option of the company." Elliott in reviewing the cases affecting

[2] *Hogue v. Minnesota Packing Provision Company,* 59 Minn. 39, 60 N. W. 812.

notice of assignment to the insurer concludes: "At the most, the failure to give the required notice invalidates an attempted assignment, but does not avoid the policy. A notice given within a reasonable time after an assignment is sufficient, although the insured may have died in the meantime."[3]

When the writing of the assignment is required it is unnecessary to use any particular wording, and the content of the assignment may assume any form that the parties thereto may agree upon, such for example as a special agreement between debtor and creditor as to the final disposition of any balance of the proceeds of the policy after full payment of the actual indebtedness. Where nothing to the contrary is stipulated in the agreement of assignment, the assignee of a policy held as collateral security for a debt of the assignor cannot dispose of the same by sale or surrender to the company for its cash value, without first giving the insured proper notice and a reasonable time for redemption. Moreover, actual delivery of the policy to the assignee is not necessary to make an assignment binding; in fact, the courts have held that the assignee's rights may be fully supported even in cases where neither the policy nor the assignment has been delivered to him.

**State Statutes Affecting Assignments by Beneficiaries.** — In the absence of restraining statutes, beneficiaries may assign their contingent interest in a life policy, although there are legal cases affirming the position that the holder of a certificate in a fraternal or mutual benefit society may not assign the same, unless the restriction is waived by the society, to persons who do not come within the group of permitted beneficiaries. Unless prohibited by statute, even the wife has been held to have the right to assign her interest in a policy in order to secure a debt of her husband. But, as noted in the preceding chapter, some thirty-five states have adopted laws which have for their purpose the protection of the interest of the wife and children of the insured by providing

[3] ELLIOTT, CHARLES B., Treatise on the Law of Insurance, 406.

that the proceeds of his life insurance made payable to them shall not be liable to seizure or appropriation for the satisfaction of the claims of creditors. In New York and Wisconsin the courts have construed such statutes as meaning that the wife is prohibited altogether from assigning her interest; while in other states — Arkansas, Kentucky, Maryland, and Missouri — similar statutes were construed as not precluding such an assignment. By subsequent enactment, however, the New York law now provides that "a policy of insurance on the life of any person for the benefit of a married woman, is also assignable and may be surrendered to the company issuing the same, by her, or her legal representative, with the written consent of the assured."

**Assignment of the Policy by the Assignee — A Policy of Life Insurance Is Not a Negotiable Instrument.**— Although an assignee cannot, in the absence of an agreement to the contrary, sell or surrender the policy without giving the insured a reasonable opportunity to redeem it, he may, under proper circumstances, reassign the policy to another. Thus, in *Corcoran* v. *Mutual Life Insurance Company,*[4] it was held that where a policy was given as collateral security for the payment of a note, the holder has the right to assign the same to the indorsee of the note, who will then be entitled to hold the policy as security for the note.

But a life-insurance policy is not to be regarded as a negotiable instrument, as is exemplified by the case of *Brown* v. *Equitable Life Assurance Society.*[5] Here the insured assigned a policy as security for a debt, and the assignee subsequently assigned the same to a bank as security for another loan. The court held that despite the absoluteness of the form of assignment, "the bank took the policy subject to the equities existing in favor of the insured, unless the conduct of the latter was such as to create an estoppel." According to the facts of the case the insured had neglected to

[4] 183 Pa. 443, 39 Atl. 50, 1898.

[5] 75 Minn. 412, 1899.

pay premiums for eleven years, and during that period had made no effort to recover the policy. These circumstances, together with the fact that the bank kept the policy from lapsing by paying the premiums itself, caused the court to hold that the insured was prevented from claiming any rights under the policy as against either the first assignee or the bank.

# CHAPTER XXXII

## THE LAW PERTAINING TO THE AGENT[1]

Life insurance being written almost exclusively by corporations, in most instances transacting business in many states, the agent is a necessary factor in the successful prosecution of the business. It is also apparent that if the agent is to perform properly the duties connected with the solicitation of business on behalf of his employer he must be given a certain amount of authority. To govern his relations with the company and the public, there was to begin with the general law of agency. But there has since developed a large body of statute and court law dealing with insurance agents in particular, and it is from this law that we are able to comprehend the status of the life-insurance agent.

It is a general rule of law that the position of agent carries with it authority to do and say those things and use those means which are appropriate to the proper fulfillment of the services which he is employed to render. Almost invariably the company gives its agents a written commission defining their authority. But the absence of such written authority does not relieve the company of responsibility for the conduct of those who are in reality its agents, because to hold otherwise would enable the insurer at any time to avoid all responsibility for the misconduct or errors of its agents by simply sending them into the field without written authority. Agency is a fact depending on circumstances independent of any provisions that may exist in the policy or application, and

[1] The law pertaining to agency in life insurance being in part the same as that relating to agency in fire insurance, about one-third of this chapter is a duplication of the chapter on "Agency" in the author's book, Property Insurance.

in cases where the question has come up for decision the courts have outlined the evidence that may be considered as proof establishing the fact and character of the agency. This evidence may consist of an express contract between the company and agent, as already stated, or a recognition by the company that a certain person is its agent. Again, the fact and character of the agency may be shown by the possession of certain papers or by other evidence from which agency may be legally inferred. It is important, however, to note that the insured must not presume the existence of the agency relationship, but must satisfy himself of it and the extent of its character by some tangible evidence.

**State Statutes Regulating Agents.**— Practically all the states have seen fit to enact laws which define the meaning of the term "agent," regulate the appointment and licensing of agents, and prohibit on their part various kinds of misconduct. The statute law relating to these three subjects may briefly be summarized as follows:

*Definition of the term "agent."*— It was at one time the practice of certain companies to employ agents without written agreements and to provide in their contracts or application forms that "as regards all matters pertaining to the application, the person soliciting the insurance is expressly agreed to be the agent of the insured." Such a practice manifestly afforded abundant opportunity to the company to resist many claims by simply considering the solicitor the agent of the insured, thus placing all responsibility for the agent's misconduct or error upon the insured. To preclude such treatment to policyholders the several states soon found it necessary to enact statutes which defined the term "agent" with particular reference to the insurance business. Such statutes are held by the courts to control the situation, and thus overcome the evils formerly connected with stipulations in the policy or application which declared the solicitor to be the agent of the insured as regards all matters relating to the application for a policy. A few states even provide by statute that notice to the agent as to the health, habits, or occupation of the insured shall be deemed notice to the company. In the great majority of states a solicitor of life insurance is expressly declared by statute to be the agent of the insurance company and not of the insured. The law of Pennsylvania, which will serve as an example, provides that "an agent is a person, firm or corporation authorized in writing by a company to solicit or countersign or issue policies of insurance on its behalf." A considerable number of the states have formulated the law to the effect that any person soliciting insurance, or performing any act in relation thereto shall be deemed the agent of the company, anything in the policy to the contrary notwithstanding.

Attention should be called to the distinction, although of much less importance in life insurance than in fire and other forms of property insurance, which the laws of many states make between insurance agents and brokers. As distinguished from an agent, a broker is usually defined "to be a person, not an officer or agent of the company interested, who, for compensation, acts or aids in any manner in obtaining insurance for a person other than himself." There has always been much disagreement between the court decisions in the different states as to the legal position which the insurance broker bears to the insured. In some of the states the courts declare him to be the agent of the party paying him for his services, but this rule necessarily involves uncertainty unless the courts fix the ownership of the fund from which the broker is compensated. Other state courts have declared the broker to be the agent of the insurer as regards the payment of the premium and the delivery of the policy, but to be the agent of the insured in all other matters relating to the insurance. For the greater protection of the insured various states have also seen fit to pass laws which make the broker the agent of the company for certain purposes and the agent of the insured for others. In the great majority of states, however, an insurance broker is regarded as the agent of the insured in all matters. Where the broker is thus declared not to be an agent of the company, it is important for the insured to bear in mind that the broker is his agent, and that consequently the act or knowledge of the broker is his act or knowledge. This is especially true as regards the payment of the premium to a broker who may neglect to remit the same within the proper time, although the courts have shown a disposition to protect the insured in this matter where it appears that an arrangement existed whereby the broker made periodical settlement with the company for premiums collected.

*Regulation of the appointment and licensing of agents.*— Most of the states have not only made solicitors of life insurance specifically the agents of the company, but also carefully regulate their appointment and licensing. While numerous differences of detail present themselves in the statutes of the several states, the law of Pennsylvania is probably as nearly typical as that of any other state and will be used for illustrative purposes. Thus, according to the law of this state, all companies to which certificates of authority are issued must certify to the insurance commissioner from time to time the names of all agents appointed by them to solicit risks in the state, and such agents may be either individuals, copartnerships, or corporations. Before transacting any business each agent must obtain from the commissioner a certificate showing that the company has complied with all the laws of the state and that the agent has been duly appointed its agent. In case the agency is a copartnership or corporation, every member, officer and director is required to have an individual license. Certificates to agents are issued only upon written application, approved and countersigned by the company, which must be made upon a form prescribed by the commissioner, and which must furnish the information he desires. The commissioner is empowered by the law "to refuse to issue a certificate to any agent, or to renew the same; or he may suspend or revoke any certificate when it shall appear to his satisfaction that the applicant for a certificate, or the agent holding a certificate, has, by misconduct or by misappropriation of collected premiums, or by misrepresentation, or incomplete or misleading comparison of policies, oral, written or otherwise, for the purpose of inducing or tending to induce a policyholder in any company to lapse, forfeit or surrender his insurance therein, and to take out a policy of insurance in another company insuring against similar risks, or otherwise, proved to be unfit to hold such certificate." It may be added that the law provides not only for heavy fines in case the aforementioned regulations are violated, but further declares that the agent "shall be personally liable on all contracts of insurance unlawfully made by or through him for or in behalf of any company not authorized to do business in the state."

*Prohibition of various kinds of misconduct.*— In addition to the foregoing regulations most of the states have seen fit to regulate specifically the conduct of agents in at least five other important matters. Briefly stated the laws referred to in this connection are directed against and designed to punish the following acts on the part of an agent:

1. Rebating any portion of the premium payable on a policy or of the commission thereon, or giving any other valuable consideration, either directly or indirectly, as an inducement to insurance. In numerous states the statutes also prohibit agents from personally or otherwise offering or selling any stocks, bonds or other securities of any insurance company as an inducement to insurance or in connection therewith.

2. Fraudulent conversion or wrongful use of premiums collected.

3. Making any misrepresentation or false statement for the purpose of securing a policy from a company upon the life of any person.

4. Representing or advertising himself as the agent of an unauthorized or fictitious company.

5. Issuing, circulating or using any written or oral statement or circular misrepresenting the terms of any policy issued or to be issued by his company, or making any estimate, with intent to deceive, of the future dividends payable under a policy. Incomplete comparisons with a view to selling a policy, or to inducing a policyholder in any company to lapse or surrender his insurance and to take out a pol-

icy in another company, are also frequently prohibited by statute.

**Policy Provisions Pertaining to Agency.**— It frequently happens that life-insurance companies insert a provision in their policies or application forms prohibiting their agents from in any way altering the contract. Industrial policies, as has already been noted, usually contain a provision to some such effect as: "No modification, change or alteration hereof or indorsement hereon will be valid unless signed by the president, a vice-president, the secretary or an assistant secretary, and no other person is authorized on behalf of the company to make, alter or discharge this contract or to waive any forfeiture. Agents are not authorized to waive any of the terms or conditions of this policy or to extend the time for payment of premiums or other moneys due to the company, or to bind the company by making any promise or by accepting any representation or information not contained in the application for this policy." Ordinary life policies in the case of some companies likewise stipulate, for example, that "no agent of the company has any authority to waive forfeitures or to make, alter or discharge contracts."

The reasonableness of stipulations like the above must be conceded when one takes into account the fact that most large life-insurance companies are represented by hundreds and sometimes thousands of agents and that in the desire to obtain business many are often tempted to make promises not covered by the policy, or to overlook or conceal representations or information which, had the same been known to the company, would have caused it to refuse to issue the policy. It therefore seems reasonable that the companies should seek to protect themselves against such contingencies by stating expressly in the contract itself that the agent is not authorized to modify or alter the policy in any particular. It may be added that a similar clause is found in fire and various other kinds of insurance policies.

Despite the apparent reasonableness of such policy provisions, however, the various court decisions are by no means in harmony as to the legal force of the same.[2] Most of the decisions deal with the subject of oral waiver in its relation to fire policies. Here most of the state courts have refused to uphold such policy provisions, and have taken the position that where facts constituting a forfeiture are known to the agent at the time of the issue of the policy the company may not consider the policy forfeited. Various reasons have been offered by the courts for taking this view. One court regards the doctrine "as peculiar to the law of insurance and as founded on the laudable design of preventing the perpetration of a fraud through obtaining a premium by the issuance of a policy known to be void *ab initio.*" Other courts refuse to uphold the provision "in the interest of fair dealing," or on the ground that "if the principal has inherent, inalienable power to waive either orally or in writing so has the agent." But it should be noted that in the famous *Northern Assurance Company* case,[3] characterized by Mr. Richards as "a decision of perhaps greater practical moment than any other rendered in the law of insurance within half a century," the United States Supreme Court refused to uphold the aforementioned doctrine of oral waiver and repudiated it as fundamentally unsound. Despite this decision, however, many state courts have continued to render opinions to the opposite effect.

In life insurance the state court decisions relating to oral waiver on the part of the agent show the same lack of harmony that we have noted in connection with fire insurance. Thus the Court of California,[4] for example, approved and followed the *Northern Assurance Company* case, and held that where the agent knew the applicant for insurance had had a stroke of paralysis, and still permitted the policy to be issued

[2] For a detailed discussion of the legal effect of such provisions see George Richards' A Treatise on the Law of Insurance, 193–194, 206–214, 525–526.

[3] *Northern Assurance Company* v. *Grand View Building Association,* 183 U. S. 308.

[4] *Iverson* v. *Metropolitan Life Insurance Company,* 91 Pac. 609. For a discussion of this and other cases see Richards' Treatise on the Law of Insurance, 525.

without the company having knowledge of the fact, his knowledge could not be regarded as a waiver of the forfeiture since the application contained a stipulation to the effect that the determination of whether the policy should be issued rested entirely with the officers of the company. On the other hand there are cases where the courts, with the California and other similar cases before them, have rendered contrary decisions. Moreover, as previously stated, some states seek to neutralize policy provisions like those discussed under this heading by enacting laws which make notice to the agent notice to the company as regards the insured's health, habits and occupation.

**Powers of the Agent.**— A general agent's powers are coextensive with those of his principal within the limit of the particular business or territory in which such general agent operates; while a special agent's powers extend to all acts necessary for the accomplishment of the particular transaction which he is engaged to perform. If acting within their apparent powers, agents make the company liable for their wrongful or fraudulent acts, omissions, and misrepresentations. Provided the policy or application contains no restrictions upon the agent's authority to waive forfeitures — and even here we have noted disagreement in the court decisions — the acts and knowledge of the agent in relation to anything pertaining to the application or policy are generally held by the courts to be the acts and knowledge of the company, thus estopping it from taking advantage of any forfeiture occasioned by the agent's errors or fraudulent acts.

While there is not unanimity in the decisions, the weight of authority is to the effect that, in the absence of restrictions, the company is liable not only for the acts of its agents, but also for the acts and knowledge of the sub-agents and employees to whom the agent has delegated authority. In insurance it is a common practice, and is frequently found necessary, for agents to employ others to assist them in their work, and having delegated authority to them, the courts have regarded it as "just and reasonable that insurance companies should be held responsible not only for acts of their agents, but also for the acts of the agents employed within the scope of their agents' authority." While it may be argued that the company has not authorized its agents to delegate their authority to others, and that it would therefore be an unreasonable extension of the company's liability, it must be remembered that agents are employed by the companies in accordance with the usages and necessities of the business.

**Agent's Liability to His Principal for Injury Occasioned by Misconduct.**— The relation of the agent to his employer is such that he must never further his own personal interests by disobeying or exceeding his instructions. Any misconduct of the agent makes him personally liable to his principal for the damage occasioned. Among the legal textbooks announcing this principle we may quote from Story on *Agency,* Section 217: "Whenever an agent violates his duties or obligations to his principal, whether it be by exceeding his authority or by mere negligence or omission in the proper functions of his agency or in any other manner, and any loss or damage thereby falls on the principal, he is responsible therefor, and bound to make full indemnity."

**Legal Effect of Agents' Opinions on the Meaning of Provisions in the Contract.**— In the course of their daily business agents are frequently asked to express opinions on the meaning of policy provisions, and it is of the utmost importance that definite relations should exist between the company and its agents as regards the expression of such opinions. What, then, is the legal effect of the agent's opinion? The general rule is that no legal effect can be given to such opinions in case, for example, they result in misleading the insured as to the meaning of any policy provision. This view is based on the theory that an agent's opinion as to the meaning of any section of the contract does not create new or change old obligations.

# APPENDICES

# APPENDIX I

## HOW THE LIFE-INSURANCE SALESMAN SHOULD VIEW HIS PROFESSION[1]

An address delivered by the Author before the Annual Meeting of the Baltimore Life Underwriters Association on February 20, 1915, and before the New York Life Underwriters Association on February 24, 1915.

Life-insurance "salesmanship" and "profession" are entirely compatible terms; in fact, they should be synonymous. The time is rapidly drawing near when the cardinal idea underlying every business and vocation shall be service to the customer or client. On every hand — among physicians, lawyers, teachers, bankers, investment houses, credit men, exporters, brokers and many other groups — there is noticeable a distinct tendency to organize the component members within the group into associations with a view to standardizing the calling and elevating its ethical and utility phases. This is as it should be and constitutes true progress. It is therefore with pleasure that I have been following the concerted efforts of life-insurance salesmen to take stock of the standing of their group in the community and to combat the temptations and meet the problems which are so peculiar to their calling. During the past year I have had my attention called to at least a score of able addresses on this subject delivered by leaders of your vocation. Throughout all I note the same general line of thought — the advocacy of a high standard of honor and service. Many speak with a frankness that is perfectly amazing. All refer to the "professional aspects" of the business. All want it to have the status of a profession and not that of a mere occupation as regards both the methods pursued and the quality of service rendered. Practically all, too, assume that in this way alone can the calling command

[1] This address is based upon the subject matter discussed in the preceding chapters, and is reprinted to illustrate the way in which life-insurance salesmen should pursue their profession.

that general respect and confidence which it should rightly have.

If I may now assume that the consensus of opinion is favorable to placing life insurance on the plane of a profession, it is important to note that you alone have it within your power to make it so. All depends upon the attitude which you assume with reference not merely to the sale of a policy, but to the whole broad question of life insurance in its relation to the community. Now what shall that attitude be? In answering that question we shall be assisted by recounting the several concepts that underlie a professional career and by then applying them to your vocation. Briefly stated, four ideas, in my opinion, should be present in any definition of the term profession. These are:

1. That the vocation should be so essentially useful to society and so noble in its purpose as to inspire sufficient love and enthusiasm on the part of the practitioner to make it his life's work. One cannot regard highly the services of a professional man who looks upon his vocation as a side issue and who is not willing to devote to its practice his entire time and his best thought and energy.

2. That the vocation involves a science and in its practice an expert knowledge of that science.

3. That in applying this expert knowledge the practitioner should abandon the strictly selfish commercial view and ever keep in mind the advantage of the client. Conscientious and disinterested service — proper advice and guidance — is the very essence of professional conduct, and in the long run the best policy.

4. That the individual practitioner should possess a spirit of loyalty to his fellow practitioners, of helpfulness to the common cause that they all profess, and should not allow any unprofessional acts to bring shame upon the entire profession. Unfortunately the public has a habit of jumping to general conclusions, and too frequently the selfish unprofessional conduct of a few leads to a distorted and unfair view of an entire group. The Golden Rule is applicable in this respect quite as much as in individual transactions.

An application of these four ideas to your calling can leave no doubt that the terms "life-insurance salesmanship" and "profession" are entirely compatible. In the first place, do life-insurance salesmen follow an inherently useful and noble calling, and are they absolutely necessary? Most decidedly.

yes. Few institutions, indeed, so vitally affect the average family, the very basis of our whole social structure, as life insurance. In fact, so intimate is this relationship that I am accustomed to refer to life insurance as a sacred duty, and as the only absolutely safe measure to adopt as a means of protecting loved ones against the want and misery that may be occasioned by premature death; likewise to refer to the deliberate failure to provide such protection when necessary as a crime, as an act of a gambler, and a swindle upon a dependent household. Life insurance should constitute to-day a substantial item in every family budget, just like food, clothing, rent and fuel. It is the only sure means of eliminating one of life's greatest gambles. It alone enables a breadwinner to capitalize his value as such for the benefit of those who depend upon that bread. It should do more than any other institution to eliminate the curse of worry. Not only is it a powerful agency for inculcating thrift, but even for the person who can save it furnishes the only certain method of hedging against the possibility of the saving period being cut short. Moreover, life insurance may be put to almost innumerable business uses, and in this connection let us remember that family welfare and business success are nearly always closely interrelated. As I stated in my address before the twenty-fifth annual convention of the National Association of Life Underwriters: "You have the right to feel that you are identified with one of the noblest professions in existence, ranking with that of the ministry, law, medicine and teaching. . . . Where the doctor fails to save the head of the family and where the pastor can only console, the agent may feel the supreme satisfaction of having been responsible for effecting a contract the proceeds of which, partially at least, continue the earning capacity of the deceased and protect the dependents from want. The agent who, as the result of a life's work, has sold, let us say, three or four million dollars' worth of life insurance — yes, any agent whenever selling a policy — has the right to feel that he has performed in a practical way a very noble service to his fellow men in staving off worry and want."

But these facts, you will say, are commonplace truths. Yet, granting that they are known, they are, as you all can testify, reluctantly practiced even by those who understand. One thing is certain: life insurance can be widely disseminated only through salesmen. This is demonstrated by the results attained by everv governmental scheme of insurance which is purely voluntary and permissive in character. On numerous occasions, for example, England has enacted laws providing that the post office savings banks might be used as a medium through which the Government might sell annuities and insurance contracts. Purposely, however, these laws were not compulsory and depended upon the voluntary action of the public. What was the result? During the seventeen years of the operation of the act of 1864 only 6,524 life-insurance contracts and only 11,646 annuities were sold. The act of 1882 resulted in a similar showing. At the end of the twenty-fifth year of its operation the total number of annuity contracts in force aggregated only 2,930 ($297,307); the total insurance contracts only 13,262 ($3,727,000); while the average number of annuities written per year amounted to only 2,026 and of life-insurance contracts to only 677.

Now let us turn to the second concept. Does life-insurance salesmanship involve a science and in its practice an expert knowledge of that science? The answer, again, must certainly be: "Yes." There is probably no other business subject which because of its complexity is so academic in character and presents so many varied phases in its practical application. There is only one right plan of life insurance, viz, that based on sound mathematical theory. A thorough grounding in that theory is necessary to an understanding of the scientific features and practical applications of the business that underlie all of the many types of contracts sold. A knowledge of the science of the business alone makes possible the giving of correct and unevasive answers to the numerous questions that are asked of agents and the avoidance on their part of meaningless or unjust comparisons between companies and types of policies. Much of the loose talk which so many salesmen indulge in to-day when advocating their contracts is traceable to the lack of a clear understanding of the fundamental principles underlying rate-making, the operation of and necessity for a reserve, the nature and proper interpretation of the sources of the surplus and of similar scientific features of the institution of life insurance. Life-insurance contracts also present many legal phases concerning which agents should be equipped to give proper advice. They should be in a position, too, to know and appreciate the numerous family and business uses of life-insurance protection. The latter, especially, affords a boundless field for study and thought, because there are few business men, indeed, who do not at some time face a business situation the solution of which would be made simpler and less hazardous through the medium of some kind of life-insurance contract. A knowledge of the foregoing factors is necessary to the salesman if he is to be an expert in his subject and if he is to appreciate fully his obligations to his client. But, as I recently stated: "It is not expected that agents should spend their valuable time in always telling all that they know. The application of knowledge need not necessarily involve long explanations, except when requested, and, like the physician, the agent may diagnose his case and conscientiously perform his service without explaining his every act in detail."

Now a few thoughts with reference to the third concept, viz, that the man who practices a profession should abandon the strictly selfish commercial view and ever keep in mind the greatest good of the client. This is the very essence of professional conduct, since the client, as payer, acknowledges his ignorance and dependence when he consults the practitioner, who, as payee, professes, impliedly or otherwise, his expertness to serve. Let it be remembered that it is not the company that pays the commission and renewals, but the policyholder; furthermore, that such payments should not be predicated upon the consideration of mere friendship. Service to the policyholder alone justifies the commission and renewals, and the dignity of the profession requires that they should be earned and not taken as a gratuitous favor from friend to friend.

Life-insurance salesmanship to be compatible with the term "profession". involves more than the mere effecting of a sale. It should always involve a willingness to understand the insured's needs for life-insurance protection and to guide and assist him in selecting that type of contract and that form of settlement which will most advantageously protect him and his beneficiary. When about to complete the sale of a contract, it might be well to pause just a moment and ponder on this thought: Have I effected a transaction which I conscientiously believe to be the best, in view of the circumstances, that I can make for the insured and his beneficiary, and has my recommendation been wholly uninfluenced by the desire to increase my own compensation? A disregard of this serious view of your vocation may be likened to that of the lawyer who aims to enlarge his fee by unnecessarily counseling a long drawn-out procedure; to that of the physician who unduly prolongs the period of attendance, or to that of the teacher whose instruction is grossly imperfect or behind the times. It is the absence of this high motive which soon causes a representative of any noble vocation to look upon it as a "game," and it is sickening to hear so many reveal their attitude by casually referring to the "game" of the business in which they are engaged. Such language and such thoughts should be ostracized in the field of life insurance.

Numerous ways of serving the insured have, no doubt, suggested themselves to you during the years of your experience. So much has been said and written recently about "fitting" the form of policy — whether term, whole-life, limited-payment, endowment, etc.— that I shall not emphasize this phase of the subject. But, besides familiarizing himself with the circumstances surrounding the insured and assisting him to select the right type of policy, there are, in my opinion, two matters which the agent should bear in mind at the time of effecting the sale. These two things are not generally known and appreciated by the public, and advice in regard to them is, therefore, desirable. The primary purpose of life insurance is the protection of the family, and where a wife, children or other dependents are named as beneficiaries, it is highly important that the real purpose of the policy, viz, their protection, shall be realized. To this end the agent should be sure, in my opinion, to do two things:

1. He should bring clearly to the attention of the insured the importance of properly safeguarding the proceeds of the policy upon its maturity. He should explain the advantages of the ordinary and continuous installment policies and should contrast these with other forms of settlement, and with other methods of investment as regards safety, economy and convenience. The longer I study life insurance the more firmly do I believe in the advantages and efficiency of income policies. It is stated on good authority that about 60 per cent. of the insurance funds left to beneficiaries is lost through bad investment or dissipation within six years following the death of the insured. This experience is also true of other funds left to the beneficiary. On every hand we can point to examples illustrating how easily and frequently the competency which a husband or father has provided through saving or insurance is lost or foolishly spent by the heir or beneficiary. Modern income policies, especially where the circumstances justify the use of the continuous income feature, are a guarantee against such a calamitous contingency. To bring this matter

convincingly to the attention of each applicant for insurance is a real service.

2. The agent, in my opinion, should, for the sake of the family, give to the policyholder a clear understanding of the legal significance of the privilege reserved in the policy of changing the beneficiary at will. The right of revocation is treated differently in the contracts of different companies. Many contain a printed provision reserving to the insured the right of revocation at will, usually on the ground that such a practice is supported b/ reasons of expediency and equity, in that the insured should, as a matter of right, have the privilege of controlling his policy. The primary purpose of life insurance, however, is to protect the members of the family named as beneficiaries, and the change of beneficiary clause should, therefore, be viewed from the standpoint of the claims of creditors. Judging from recent court decisions, it is probable that a clause reserving full power to the insured to change the beneficiary at will subjects the policy to the claims of creditors and causes it, in case of the insured's bankruptcy, to pass by order of the court to his assignees. Reference is frequently made to the decision of the United States Circuit Court of Appeals on Nov. 9, 1909. (*In re White,* 174 Fed. 333.) In this case the court even held that a policy which is not the absolute property of a married woman or her children is not exempt from the operation of the National Bankruptcy Act by virtue of the law of New York, which was enacted for the protection of the interest of a married woman and her children in the husband's policy against the claims of his creditors.

In view of this tendency to interpret a transferable beneficiary clause as giving the trustee in bankruptcy the power to distribute the cash value of a policy among creditors, it follows that a policy taken out for family protection, if containing such a clause, will have connected with it a hazard that the insured, in view of the future possibility of bankruptcy, should bear in mind and carefully consider. The introduction of a clause giving the insured a free hand to change the beneficiary, or to surrender the policy or use it for borrowing purposes, introduces an element of uncertainty in a contract that in most instances should be made absolutely secure for the benefit of those for whose protection it was expressly taken out and who have the right to expect that the insurance fund, which is their sole provision against want after the decease of the breadwinner, shall not have constantly hanging over it an element of uncertainty. Not to protect a policy against creditors may often result, as has been well said, "in accumulating trouble for a time when misfortune would be amply abundant." The possibilities of future bankruptcy do not seriously occupy the thoughts of the average person, yet statistics reveal a surprisingly large number of business failures. Computations show that during the past thirty years the number of actual business failures as compiled by Bradstreet, averages annually 1 per cent. of the total number of businesses listed by this organization. As has been well said, "The probability of business mortality is as great as that of adult human mortality at its average age. In fact, it is identical with the 1 per cent. shown by the American tables of mortality on selected lives at age 41." It is also noteworthy that in a year like 1907 about 19 per cent. of the total number of failures and over 55 per cent. of the failure liabilities were traceable to disasters, failure of apparently solvent debtors, and undue competition, i.e., causes which cannot be regarded as due to faults of those who fail. On the other hand, nearly 65 per cent. of the total number of failures in that year were either due to incompetency or lack of capital.

If the foregoing contentions are correct, I am inclined to favor the attitude of those companies which purposely omit a change of beneficiary clause in their contracts, and which require the insured to specifically state his wishes in regard to this privilege. While the right of revocation and the refusal to give the beneficiary a vested interest in the policy may in occasional instances prove very useful, I feel that the applicant's attention should be called by the agent to the fact, as one company has recently stated, that "a policy containing the unconditional reservation of the right to change the beneficiary produces an instrument identical with the one in which the estate is made the beneficiary." Then, if the applicant still insists on having the privilege, it should be freely granted. But under those circumstances the insured asked for the privilege with an understanding of what he was doing and what his request might mean to himself and family in the future.

In addition to the foregoing factors permit me to offer one more suggestion relative to the agent's service to his client. Is this service completed when the policy is sold and issued, or should the agent, if the circumstances permit, consider that his advisory relation to the insured and the beneficiary still continues? According to my way of thinking, the latter is desirable, and most consistent with the dignity of the profession, and in the long run, with the welfare of the agent himself. Here, again, your experience has, no doubt, suggested numerous ways of serving the insured. But having in mind again the primary purpose of life insurance as a protection to the family, I would like to call attention to two forms of service. After life insurance has been acquired it is essential that its protection should be conserved. As you know, this protection may be lost (1) before the maturity of the contract, and (2) after such maturity. My two suggestions apply, respectively, to these two contingencies. In the first place, it has become a common habit to borrow on policies. The loan privilege is necessary and has its proper uses, but in ever so many instances the privilege is exercised because some unnecessary luxury is desired, or because the security market seems low, or because some other apparent opportunity to make money quickly seems to present itself. And even where these considerations are not the motive, the insured frequently uses this asset because it is so easily obtained, never considering at the time the relation of that asset to his beneficiary and often overlooking some other available asset which should have been used in preference to the cash value of his policy. The enormous increase in policy loans in recent years would warrant this conclusion. Between 1903–1913 loans against policies for the 260 companies referred to in the *Insurance Year Book* increased 313 per cent., as compared with an increase of only 106 per cent. in total admitted assets and 73 per cent. in total insurance in force. In other words, loans against policies increased relatively nearly three times as fast as assets and about four and one-third times as fast as the volume of insurance. In the last four years the increase in such loans aggregated approximately $212,000,000, or over 20 per cent. of the increase in admitted assets during the same four years.

Much attention has been given of late to this alarming situation, and an educational campaign may do much to counteract this undesirable tendency. But it seems to me that in this respect nothing can take the place of the agent who has negotiated the contract and who, if again placed in touch with his client at the time the loan is contemplated, can emphasize to him such facts as: " Life insurance should be regarded as a sacred possession to be mortgaged only in case of extreme necessity"; "borrowing on the policy depreciates its value, in the great majority of instances results in a lapse and defeats the original purpose the policy was intended to serve," and "borrowing on the policy if not actually necessary is an act of flagrant injustice to the beneficiary." Such arguments, if amplified and forcibly presented, are apt to prevail, especially if the agent renders the further service of ascertaining and suggesting the use of some other asset which the insured may possibly have available for his pressing requirements. These remarks, of course, are based on the assumption that almost the last thing a man should mortgage is the life insurance taken out by him for the protection of a dependent household.

Secondly, the agent is afforded another opportunity for service by advising the beneficiaries under his client's policies in respect to the safeguarding of the proceeds. As already stated, about 60 per cent. of insurance funds are lost by the beneficiary within six years following the insured's death. If the client did not avail himself of an income policy, there is special need to keep the lump sum payment intact and to conserve its income-producing capacity. Here a knowledge of conservative investment is a desirable feature of an agent's equipment. Placing this knowledge at the beneficiary's disposal will be appreciated and warmly recommended to acquaintances.

Lastly, let me refer briefly to the fourth concept underlying professional conduct, namely, that the life-insurance salesman should be actuated by a spirit of loyalty to his fellow insurance men and of helpfulness to the institution of life insurance and enthusiasm for the greatest possible dissemination of its benefits. General compliance with our several concepts of professional conduct will be the surest means of protecting the entire group against distorted and unfair views of the public. But even more than professional conduct is required. You should ever be students and teachers of your subject. Never forget the close relationship between the theory of life insurance and its practice. "In the pursuance of your vocation," as I stated on a former occasion, "despite the fact that you are justified in viewing your efforts from the standpoint of commercial gain, you nevertheless are and always will be as a class essentially teachers, persuaders of men and the missionaries of a noble propaganda. If this view is correct, it follows that the more you know about your complex subject the better for the people whom it is your duty to serve. The agent should not only be a student as well as a teacher all his life, but he should grasp the truth of the saying that 'theory without practice to test it, to verify it, to correct, is idle speculation; but practice without theory to animate it is mere mechanism. In every art and business theory is the soul and practice the body.'"

It has been said that "nine-tenths of the man exists above the shoulders." It is the part above the shoulders that needs to be developed and kept abreast of the times if the service idea is to be given the widest and most beneficent application. Constant study will better fit you to know the innumerable uses of life insurance, and to know your contract, your client, and the technical phases of your subject in its relation to your field work. It will give you power and cause you to love and respect your calling. It will set you to thinking, and with the mind centered on the subject, suggestions will come from the most unexpected sources. And do not restrict your studies to too narrow a groove. Rather acquaint yourselves also with a knowledge of investments and with the facts surrounding the organization and management of various business activities, especially in view of the growing importance of so-called "business life insurance."

In closing let me make the further suggestion that each and all of you do your share as promoters and teachers of life-insurance education to help cover this nation with life insurance. Life-insurance education among the masses, I feel, has become firmly rooted and is a powerful movement. It is important that you should assist in getting this subject on the program wherever and whenever possible, and in having it properly presented from the pulpit and lecture platform and in the schools, colleges and press. Note the great and disinterested educational work that the medical profession is doing in preventing loss of life and misery through disease. That is the right spirit, and it should also be your aim to educate the public in protecting itself against the loss and misery occasioned by the premature death or improvidence of its productive members. You, however, may proceed with the certain knowledge that your efforts along this line will not only raise your calling in the estimation of the community, but will result advantageously to yourselves.

# APPENDIX II

## SPECIMEN COPY OF AN ORDINARY WHOLE-LIFE POLICY TOGETHER WITH THE FORM OF APPLICATION

### FORM OF POLICY

### THE —— LIFE INSURANCE COMPANY

No.

——

Age
*35*

In Consideration of the payment of *Twenty-six and 88/100* Dollars, the receipt whereof is hereby acknowledged, and of the *annual* payment of a like sum to the said Company, on or before the *twenty-first* day of *April* in every year during the lifetime of *John Doe,* of *Philadelphia, Pennsylvania,* (hereinafter called the Insured), promises, upon receipt of due proof of the death of the Insured, to pay at its Home Office unto *his wife Jane Doe,* Beneficiar*y,* the sum of *One Thousand* Dollars, less any unpaid premium or premiums for the then current policy year and any other indebtedness on account of this Policy; provided, however, that if there be no Beneficiary or Contingent Beneficiary surviving the Insured, such payment unless otherwise directed by the Insured and endorsed by the Company on this Policy shall be made tô the executors, administrators or assigns of the said Insured.

Subject to the Rights of any Assignee and With or Without Reserving the Right of Revocation, the Insured, (1) may designate a Beneficiary or Beneficiaries if none be named in this Policy, or in the event of the death of any person designated; (2) and may designate a Contingent Beneficiary or Beneficiaries whose interest shall be as expressed in, or by endorsement of the Company on, this Policy; (3) and may change any Beneficiary or Contingent Beneficiary not irrevocably designated. If there be more than one Beneficiary the interest of any deceased Beneficiary shall pass to the survivor or survivors unless otherwise directed by the Insured and endorsed by the Company on this Policy. No designation, direction, revocation or change shall be effective unless duly made in writing, and filed at the Home Office of the Company (accompanied by the Policy for suitable endorsement) prior to or at the time this Policy shall become payable.

No Assignment of this Policy shall be binding upon the Company until it be filed with the Company at its Home Office. The Company assumes no responsibility as to the validity of any assignment, and satisfactory proof of assignee's interest must be produced on making claim.

This Policy is issued and accepted by the parties in interest subject to the provisions stated on the second and third pages hereof which are a part of this contract.

In Witness Whereof, THE —— INSURANCE COMPANY, of ——, ——, has by its President and Secretary executed this contract, this *twenty-first* day of *April,* one thousand nine hundred and *fifteen.*

...................., President.

...................., Secretary.

## PROVISIONS

1. **Policy and Application Entire Contract.** This Policy and the application therefor (a copy of which is attached to this Policy when issued) constitute the entire contract between the parties hereto. All statements made by the Insured shall, in the absence of fraud, be deemed representations and not warranties, and no statement of the Insured shall avoid this Policy or be used in defense to a claim thereunder unless it is material and is contained in the said application.

2. **Agents.** No agent of the Company has any authority to waive forfeitures or to make, alter or discharge contracts.

3. **Reserve.** The reserve on this Policy and any dividend additions thereto shall be in accordance with the American Experience Table of Mortality with interest at three per cent.

4. **Suicide.** If within one year from the date hereof the Insured shall, whether sane or insane, die by his own hand, the liability of the Company under this Policy shall be limited to the amount of the reserve hereon.

5. **Incontestability.** This Policy shall be incontestable after one year from its date except for non-payment of premium, provided, however, that if the age of the Insured has been misstated, and the error shall not have been adjusted during his lifetime, the amount payable hereunder shall be such

as the premium paid would have purchased at the correct age.

6. **Premium Payments.** The insurance under this Policy is based upon annual premiums payable in advance, but payments may be made semi-annually or quarterly, in advance, at the premium rates therefor now in use by the Company, and change from the mode selected to either of the other of such modes may be made on any anniversary of the Policy. No premium after the first shall be considered paid (except it be duly charged as a premium loan) unless a receipt, signed by the President or Secretary of the Company and countersigned by an agent authorized to receive such premium, shall be given therefor. Should default be made in the payment of any premium this Policy shall cease and determine except as hereinafter otherwise provided.

7. **Grace.** A grace of thirty-one days, during which time the insurance shall remain in full force, will be allowed for the payment of every premium except the first.

8. **Reinstatement.** This Policy will be reinstated at any time within five years succeeding default in premium payment, upon evidence satisfactory to the Company of the insurability of the Insured and payment of all premium arrears with interest at the rate of five per cent. per annum, and the payment or reinstatement of any indebtedness which existed at the time of such default with interest from that date.

9. **Dividend Options.** This Policy while in force except as extended term insurance shall participate in the surplus of the Company and the Company will annually determine and account for the divisible surplus accruing hereon until all surplus found to have arisen from this Policy shall have been returned.

The current dividend each year, at the option of the owner of the Policy, may be: (a) withdrawn in cash; or (b) applied to the payment of premiums; or (c) applied to the purchase of non-forfeitable participating paid-up additions to the Policy; or (d) left to accumulate to the credit of the Policy and withdrawable on any anniversary thereof, at such rate of interest not less than three per cent., credited annually, as may be determined by the Company. Unless the owner of the Policy shall otherwise elect in writing, dividends will be paid in cash.

10. **Paid-up and Endowment Options.** Whenever the reserve on this Policy and existing dividend additions at the end of any policy year shall equal or exceed the net single pre-

mium for the attained age of the Insured by the American Experience Table of Mortality with interest at three per cent. for an amount of insurance equal to the face amount of this Policy, the Company, at the written request of the Insured, will endorse the Policy (subject to any existing indebtedness) as participating paid-up insurance for such an amount as the said reserve will purchase at the premium named; or, whenever said reserve at the end of any policy year shall equal or exceed the face amount of this Policy, the Company upon a full and valid surrender of the Policy and all claims thereunder will pay, as a matured endowment, the amount of said reserve less any existing indebtedness to the Company on account of this Policy.

11. **Non-Forfeiture and Loan Features.** The following provisions relating to the Non-Forfeiture and Loan features of this Policy shall become operative only after payment of premiums for two full years, and no request, revocation or change in connection with such provisions shall become effective unless duly made in writing and filed at the Home Office of the Company:

11 *a.* *Basis of Surrender Values.* The cash surrender value of this Policy at any time prior to default in premium payment or within the thirty-one days of grace, will be the then reserve on the Policy and any dividend additions then existing, less any indebtedness to the Company on account thereof, and less also a surrender charge on the amount insured which during the fifth or any previous Policy year shall be at the rate of ten dollars per $1,000 of insurance and which thereafter shall diminish annually at the rate of one dollar per $1,000 of insurance.

11 *b.* *Premium Loans.* Upon request of the Insured, together with the Assigns if any, made prior to default in premium payment, the premium or premiums thereafter falling due, during the time any such request shall remain unrevoked and not paid when or before due, will be charged as a premium loan with interest at the rate of five per cent. per annum, *provided* the then cash surrender value (as stated in the preceding paragraph numbered 11 a) shall be sufficient to cover such loan. Any premium loan may be repaid at any time.

11 *c.* *Extended and Paid-up Insurance Options.* Upon de-

fault in premium payment, unless the premium be paid within the thirty-one days of grace, the face amount of the Policy and any existing dividend additions, less any indebtedness to the Company on account thereof, will be extended automatically as non-participating term insurance for such length of time from the date of such default as the then cash surrender value (as stated in the preceding paragraph numbered 11 a) will provide at the net single premium rate for the attained age of the Insured according to the American Experience Table of Mortality with interest at three per cent.

11 *d.* Upon request of the Insured, together with the Beneficiary and Assigns if any, made prior to default in premium payment or within the thirty-one days of grace and including a waiver of the automatic extended term insurance feature, participating paid-up insurance will be secured upon default in premium payment, unless the premium be paid within the thirty-one days of grace, for such an amount as the then cash surrender value (as stated in the preceding paragraph numbered 11 a, but exclusive of any indebtedness which shall remain as a lien against the policy) will provide at the net single premium rate for the attained age of the Insured according to the American Experience Table of Mortality with interest at three per cent.

11 *e.* Change from automatic extended term insurance to paid-up insurance, or vice versa, may be made in accordance with their respective provisions, if the Policy be not then in premium default for more than thirty-one days.

11 *f.* *Cash Surrender and Loan Options.* Upon request accompanied by a full and valid surrender of this Policy and all claims thereunder, the Company will pay the then cash surrender value thereof, which while the Policy is in full force including the thirty-one days of grace, shall be as stated in the preceding paragraph numbered 11 a, and subsequent thereto shall be the full reserve on the form of insurance then in force less any indebtedness to the Company on account thereof.

11 *g.* Upon request and the sole security of this Policy

properly assigned, the Company, unless extended term insurance be in force, will advance at a rate of interest not exceeding six per cent. per annum, an amount which with the interest, and any unpaid premium or premiums, for the then current policy year shall equal, or at the option of the Insured be less than, the cash surrender value of the Policy and of any existing dividend additions at the end of such year. Failure to pay either loan or interest shall not avoid the Policy unless the total indebtedness to the Company on account thereof shall equal or exceed the cash surrender value of the Policy and any existing dividend additions, nor until thirty-one days after notice shall have been mailed to the last known address of the Insured and of any Assignee.

11 *h*. The Company shall have the right to defer payment of the cash value, or the making of the loan (unless for the purpose of paying renewal premiums on policies in this Company), for a period not exceeding ninety days.

## TABLE OF LOAN AND SURRENDER VALUES

This Table is based upon a policy of $1,000 free from indebtedness and without dividend additions. The Values stated will apply *pro rata* to the amount of this Policy and due allowance will be made for any dividend additions continued in force and also for any portion of a year's premium paid over and above the premiums for the full number of years indicated. Indebtedness will be adjusted as stated in the Policy.

| At End of Policy Year | Loan or Cash Value | Paid-up Insurance | Extended Term Insurance | |
|---|---|---|---|---|
| | | | Years | Days |
| 2 | $ 16.13 | $ 37 | 1 | 297 |
| 3 | 29.76 | 67 | 3 | 122 |
| 4 | 43.77 | 97 | 4 | 313 |
| 5 | 58.16 | 127 | 6 | 132 |
| 6 | 73.94 | 158 | 7 | 332 |
| 7 | 90.11 | 189 | 9 | 122 |
| 8 | 106.68 | 220 | 10 | 220 |
| 9 | 123.65 | 250 | 11 | 258 |
| 10 | 141.01 | 279 | 12 | 236 |

| At End of Policy Year | Loan or Cash Value | Paid-up Insurance | Extended Term Insurance | |
|---|---|---|---|---|
| | | | Years | Days |
| 11 | 158.76 | 309 | 13 | 158 |
| 12 | 176.87 | 337 | 14 | 31 |
| 13 | 195.35 | 366 | 14 | 222 |
| 14 | 214.16 | 393 | 15 | 10 |
| 15 | 233.28 | 420 | 15 | 127 |
| 16 | 251.68 | 445 | 15 | 195 |
| 17 | 270.34 | 469 | 15 | 238 |
| 18 | 289.22 | 492 | 15 | 258 |
| 19 | 308.32 | 515 | 15 | 260 |
| 20 | 327.58 | 537 | 15 | 245 |
| 21 | 347.00 | 559 | 15 | 214 |
| 22 | 366.52 | 579 | 15 | 171 |

The Values in the above Table after the fourteenth policy year are equal to the full reserve according to the American Experience Table of Mortality with interest at three per cent. The basis upon which the Table is constructed will apply if this Policy be continued in force beyond the twenty-second year.

## PROVISIONS RELATING TO SETTLEMENT
(in lieu of payment in one sum)
## WHEN THIS POLICY BECOMES PAYABLE

The Insured shall have the right, with the privilege of revocation and change, to elect, in lieu of payment in one sum, either of Options "A", "B", or "C", or that the amount payable be distributed under two or more of said options; the Beneficiary or Beneficiaries when this policy becomes payable shall have the same right and privilege if no such election effected by the Insured shall then be in force; the Beneficiary or Beneficiaries if of lawful age when this Policy becomes payable, shall also (subject to the rights of any assignee, and if there then be living no Contingent Beneficiary designated by the Insured) have the right, with the privilege of revocation and change, to designate a Contingent Beneficiary or Beneficiaries whose interest shall be as expressed in, or endorsed by the Company on, this Policy; provided, however —

1st. *Amount Payable.* The amount payable must equal or exceed $1,000 for each option elected.

2nd. *Endorsement.* No election, direction, designation, revocation or change shall be effective unless duly made in writing and filed at the Home Office of the Company (accompanied by the Policy for suitable endorsement) prior to or at the time this Policy shall become payable.

3rd. *Deceased Beneficiary.* If there be more than one Beneficiary, the interest of any deceased Beneficiary shall, upon satisfactory proof of such decease, pass to the survivor or survivors unless otherwise directed by the Insured and endorsed by the Company on this Policy; except that under Option "C" only so many of the stipulated installments, if any, as then remain unpaid, shall so pass.

4th. *Rights of Contingent Beneficiary.* Unless otherwise directed by the designator and so endorsed by the Company on this Policy, the Contingent Beneficiary or Beneficiaries, if any, shall, upon satisfactory proof of the death of the last surviving Beneficiary, succeed to all the interest, rights and privileges then possessed by such Beneficiary; except that under Option "C" the interest of any Contingent Beneficiary shall be limited to such of the stipulated installments, if any, as then remain unpaid.

5th. *Last Surviving Beneficiary or Contingent Beneficiary.* At the death of the last surviving Beneficiary if there be no Contingent Beneficiary then living, or at the death of the last surviving Contingent Beneficiary occurring subsequently thereto, the amount retained by the Company under Option "A" will be paid to the executors, administrators or assigns of such last surviving Beneficiary or Contingent Beneficiary upon due surrender of this Policy; under the same conditions, any of the installments under Option "B", or any of the stipulated installments under Option "C", then remaining unpaid, will be commuted upon the basis of three per cent. compound interest and paid in one sum in like manner.

## OPTION A

*Annuity Extension.* To have the whole or any part not less than $1,000 of the proceeds of this Policy at the death of the Insured retained by the Company until the death of the last surviving Beneficiary or Contingent Beneficiary, the Company in the meantime to pay an annuity equal to three per cent. of the amount so retained, the first annuity being payable one year after the death of the Insured.

*Commutation.* At the time any annuity payment becomes due the Beneficiary, if of lawful age, provided the Company has not been specifically directed to the contrary by the Insured, shall have the right, upon due surrender of this Policy, to withdraw the amount so retained by the Company, in addition to such annuity payment, and if said amount be so withdrawn the annuity payments shall cease.

## OPTION B

*Limited Installments.* To have the whole or any part not less than $1,000 of the proceeds of this Policy at the death of the Insured paid in a specified number of annual installments as per the first Table below, *which shall apply pro rata per $1,000 of the amount to be so paid,* the first installment being payable immediately.

*Change.* The number of the installments may be changed by the insured at any time prior to the payment of the first installment.

*Commutation.* The installments remaining unpaid will be commuted upon the basis of three per cent. compound interest, and paid in one sum, at any time when an installment is due, upon written request of the Beneficiary or Beneficiaries, if of lawful age, and due surrender of this Policy, provided the Company has not been specifically directed to the contrary by the Insured.

LIMITED INSTALLMENT TABLE

| Number of Installments. | 25 | 20 | 19 | 18 | 17 |
|---|---|---|---|---|---|
| Amount of each ...... | $55.75 | $65.25 | $67.78 | $70.59 | $73.74 |
| Number of Installments. | 16 | 15* | 14 | 13 | 12 |
| Amount of each ...... | $77.29 | $81.32 | $85.94 | $91.29 | $97.53 |
| Number of Installments. | 11 | 10 | 9 | 8 | 7 |
| Amount of each ...... | $104.92 | $113.81 | $124.69 | $138.30 | $155.83 |
| Number of Installments. | 6 | 5 | 4 | 3 | 2 |
| Amount of each ...... | $179.22 | $211.99 | $261.19 | $343.23 | $507.39 |

* ILLUSTRATION.—If payment is to be made by 15 installments, the amount of each Installment will be $81.32 for each $1,000.

## OPTION C

*Continuous Installments.* To have the whole or any part not less than $1,000 of the proceeds of this Policy at the death of the Insured converted into an immediate life annuity to the Beneficiary at the then published rate of the Company; or, paid in either 10, 15, 20 or 25 stipulated annual installments of an amount corresponding in the Table below to the number of installments selected and to the age of the Beneficiary at the date of the death of the Insured, provided that if the Beneficiary shall survive to receive the number of installments selected, then similar installments shall be continued throughout the lifetime of the Beneficiary. The Table *shall apply pro rata per $1,000 of the amount to be so paid,* the first installment being payable immediately.

*Pro-rata Share.* If there be more than one Beneficiary the amount to be so paid, unless otherwise directed by the Insured and endorsed by the Company on this Policy, shall be considered as divided into equal parts and the amount of each Beneficiary's annual installment shall be determined in accordance with the Table below for the age attained.

CONTINUOUS INSTALLMENT TABLE

| Age of Beneficiary | Number of Installments Stipulated | | | |
|---|---|---|---|---|
| | 10 | 15 | 20 | 25 |
| 10 | $42.06 | $41.24 | $40.36 | $39.48 |
| 11 | 42.27 | 41.43 | 40.54 | 39.64 |
| 12 | 42.48 | 41.63 | 40.72 | 39.81 |
| 13 | 42.71 | 41.84 | 40.91 | 39.97 |
| 14 | 42.95 | 42.05 | 41.10 | 40.14 |
| 15 | 43.19 | 42.28 | 41.31 | 40.32 |
| 16 | 43.44 | 42.51 | 41.51 | 40.50 |
| 17 | 43.70 | 42.74 | 41.72 | 40.70 |
| 18 | 43.94 | 42.97 | 41.93 | 40.88 |
| 19 | 44.19 | 43.20 | 42.14 | 41.07 |
| 20 | 44.44 | 43.43 | 42.35 | 41.27 |
| 21 | 44.71 | 43.68 | 42.58 | 41.48 |
| 22 | 44.99 | 43.94 | 42.81 | 41.68 |
| 23 | 45.28 | 44.20 | 43.05 | 41.89 |
| 24 | 45.59 | 44.48 | 43.30 | 42.12 |
| 25 | 45.89 | 44.76 | 43.56 | 42.35 |
| 26 | 46.23 | 45.06 | 43.83 | 42.61 |

| Age of Bene-ficiary | Number of Installments Stipulated | | | |
|---|---|---|---|---|
| | 10 | 15 | 20 | 25 |
| 27 | 46.56 | 45.37 | 44.11 | 42.86 |
| 28 | 46.92 | 45.69 | 44.40 | 43.12 |
| 29 | 47.28 | 46.03 | 44.70 | 43.38 |
| 30 | 47.65 | 46.36 | 45.02 | 43.67 |
| 31 | 48.04 | 46.73 | 45.34 | 43.96 |
| 32 | 48.45 | 47.10 | 45.68 | 44.27 |
| 33 | 48.87 | 47.48 | 46.03 | 44.56 |
| 34 | 49.29 | 47.88 | 46.39 | 44.88 |
| 35 | 49.75 | 48.30 | 46.77 | 45.21 |
| 36 | 50.22 | 48.73 | 47.16 | 45.56 |
| 37 | 50.70 | 49.18 | 47.56 | 45.89 |
| 38 | 51.23 | 49.66 | 47.99 | 46.27 |
| 39 | 51.78 | 50.16 | 48.43 | 46.64 |
| 40 | 52.36 | 50.69 | 48.90 | 47.01 |
| 41 | 52.98 | 51.25 | 49.38 | 47.42 |
| 42 | 53.62 | 51.83 | 49.88 | 47.82 |
| 43 | 54.32 | 52.45 | 50.40 | 48.22 |
| 44 | 55.04 | 53.10 | 50.94 | 48.64 |
| 45 | 55.83 | 53.78 | 51.50 | 49.04 |
| 46 | 56.64 | 54.49 | 52.08 | 49.46 |
| 47 | 57.50 | 55.23 | 52.67 | 49.88 |
| 48 | 58.42 | 56.01 | 53.27 | 50.30 |
| 49 | 59.39 | 56.82 | 53.89 | 50.68 |
| 50 | 60.42 | 57.66 | 54.51 | 51.10 |
| 51 | 61.50 | 58.54 | 55.14 | 51.47 |
| 52 | 62.63 | 59.44 | 55.76 | 51.84 |
| 53 | 63.82 | 60.36 | 56.38 | 52.19 |
| 54 | 65.07 | 61.31 | 56.99 | 52.52 |
| 55 | 66.37 | 62.28 | 57.60 | 52.83 |
| 56 | 67.75 | 63.26 | 58.18 | 53.11 |
| 57 | 69.18 | 64.25 | 58.75 | 53.39 |
| 58 | 70.67 | 65.24 | 59.29 | 53.65 |
| 59 | 72.20 | 66.23 | 59.81 | 53.88 |
| 60 | 73.79 | 67.21 | 60.30 | 54.08 |
| 61 | 75.41 | 68.17 | 60.76 | 54.26 |
| 62 | 77.07 | 69.10 | 61.20 | 54.44 |
| 63 | 78.75 | 70.00 | 61.60 | 54.60 |
| 64 | 80.44 | 70.87 | 61.97 | 54.74 |
| 65 | 82.11 | 71.68 | 62.32 | 54.86 |
| 66 | 83.78 | 72.46 | 62.65 | Age 66 |
| 67 | 85.39 | 73.19 | 62.97 | and over |

| Age of Bene-ficiary | Number of Installments Stipulated | | | |
|---|---|---|---|---|
| | 10 | 15 | 20 | 25 |
| 68 | 86.99 | 73.88 | 63.28 | same as 65. |
| 69 | 88.50 | 74.52 | 63.58 | |
| 70 | 89.96 | 75.11 | 63.87 | |
| 71 | 91.36 | 75.65 | Age 71 and over same as 70. | |
| 72 | 92.69 | 76.14 | | |
| 73 | 93.96 | 76.57 | | |
| 74 | 95.17 | 76.94 | | |
| 75 | 96.30 | 77.24 | | |
| 76 | 97.35 | Age 76 and over same as 75. | | |
| 77 | 98.32 | | | |
| 78 | 99.22 | | | |
| 79 | 100.05 | | | |
| 80 | 100.82 | | | |
| | Age 81 and over same as 80. | | | |

*Participation.* For ages of Beneficiaries under 10 years the installments will be the same as for age 10.

All payments under Options " A " and " B ", and the stipulated payments under Option " C ", will be increased by such annual dividends as may be apportioned by the Company.

## FORM OF APPLICATION

PART I. APPLICATION TO THE —— LIFE INSURANCE COMPANY.

1. Part 1 of application of (Name in full) for Life Insurance,

Residence

County of

State of

P. O. Address

2. Full name of the person, if any, to be designated as beneficiary.

Relationship to yourself

3. Do you reserve the right to change such beneficiary?

4. Your Occupation or Employment. (If more than one, state all)

5. Place and date of your Birth?

6. Have you ever applied for insurance in this Company? If so, what is the number and amount of each policy issued?

7. Is your life now insured in any other company? If so. in what companies and for what amount?

8. Have you ever applied to any company or society for insurance, without receiving a policy of the exact kind and amount applied for?

9. Is any negotiation for other insurance now pending or contemplated?

10. Insurance — Amount, $

Plan

Premium payable (Annually, Semi-Annually or Quarterly)

11. Have you paid the Agent taking this application the amount of such premium?

It is understood and agreed (1) that if the amount of the premium on the insurance herein applied for is not paid at the time of making this application there shall be no liability on the part of the said Company under this application unless nor until a policy shall be issued and delivered to me and the first premium thereon actually paid during my lifetime; and (2) that if the amount of such premium is paid to the said Company's agent at the time of making this application the insurance (subject to the provisions of the said Company's regular form of policy for the plan applied for) shall be effective from the date of my medical examination therefor and such a policy shall be issued and delivered to me or my legal representatives, *provided* the said Company in its judgment shall be satisfied as to my insurability, on the plan applied for, on the date of such medical examination; and (3) that if said Company shall not be so satisfied the amount of the premium paid shall be returned.

........................,

Name in full of the Beneficiary (*may be signed by applicant*).

Per ............ Initials of Applicant.

........................,

Signature in full of the person applying for insurance on his life.

Dated at ——— this ——— day of —— 19—

Actual date of signature to application.

PART II. DECLARATIONS MADE TO THE MEDICAL EXAMINER OF THE —— INSURANCE CO.

N. B.— Answers to the following questions must be elicited and recorded by a regularly appointed Examiner of the Company, with no one present but the Applicant and Examiner.

1. A. Part II of Application of —— for Life Insurance which forms part of the accompanying application signed by the undersigned applicant and marked Part I. Said application is to be hereto annexed.
   B. Race (white or black?)
   C. Age last birthday?
   D. Are you married, single or a widower?
2. A. Where do you reside winter and summer?
   B. Where have you resided during the past ten years?
   C. Have you ever changed your residence or tried a change of climate on account of your health, or been advised to do so by a physician? If so, give particulars.
   D. Do you contemplate, for any reason, either a temporary or permanent change of residence, or a trip beyond the limits of the temperate zone? If so, give particulars.
3. A. How much insurance are you applying for in this application?
   B. Has any proposal or application to insure your life ever been made to any Company, Society, Association or Agent upon which a policy has not been issued as applied for?
   C. Has any physician ever given an opinion that you were not safely insurable?
   D. When and for what Company were you last examined for life insurance?
4. A. What is your present occupation and how long have you been so engaged?
   B. Have you any other occupation or business?
   C. What have been your occupations during the past ten years?
   D. Do you contemplate a change in occupation? *If so, what?*
   E. Are you now, or have you ever been, engaged, either directly or indirectly, in the sale or manufacture of malt or other spirituous beverages?
5. A. What is your weight in ordinary clothes?
   B. What is your height in shoes?

C. To what extent, if any, has your weight increased or diminished during the past year, and from what cause?

D. If heavy or light in weight, state whether this is a family or individual characteristic.

E. Which parent do you most resemble physically?

6. A. If you use wine, spirits, malt liquors or other alcohclic beverages, state kind used and how much in any one day at the most.

B. How frequently do you use the amount stated?

C. If you use any of them daily, weekly or monthly, state kind and average for the past two years.

D. Have you used any of them to the extent of intoxioation during the past ten years? *If so give circumstances and dates.*

E. Have you ever taken treatment for alcoholic or drug habit?

F. If a total abstainer, how long have you been so?

G. In what form and to what extent do you use tobacco?

H. Do you now use or have you ever used opium, chloral, cocaine or any other narcotic drug?

| 7. | Age if Living. | State of Health. | Age if Dead. | Specific Cause of Death *If from Tuberculosis, give date of death.* | Duration and Fatal Illness. | Previous Character of Health. |
|---|---|---|---|---|---|---|
| Father. | | | | | | |
| Mother. | | | | | | |
| No. living....<br>Brothers.<br>No. dead.... | | | | | | |
| No. living....<br>Sisters.<br>No. dead..... | | | | | | |
| Father's Father. | | | | | | |
| Father's Mother. | | | | | | |
| Mother's Father. | | | | | | |
| Mother's Mother. | | | | | | |

8. Have either of your parents, or any of your uncles, aunts, brothers or sisters been afflicted with Consumption? — or

Cancer, Insanity, Epilepsy, Gout, Diabetes or Rheumatism?

9. Have you been closely associated within the past two years, either at home or in business life, with a consumptive?

10. A. When were you last confined to the house by illness? How long? What nature?
B. When did you last consult a physician, and for what?
C. Have you fully recovered, and are you now in good health?
D. Give name and address of the physician who attended you.
E. Give name and address of your usual medical attendant.
F. Are you willing your physician be consulted respecting your health?

11. Have you had any illness, disease or accident during past ten years not mentioned above? Give details. Illness, disease or accident. Date. Duration. Severity. Results. Name of medical attendant.

12. Have you had since childhood any of the following diseases or disorders?
Malarial or other Fevers?
Smallpox or Varioloid?
Apoplexy or Paralysis?
Mental Derangement or any Nervous Disease?
Headaches, severe, protracted or frequent?
Indigestion, Appendicitis or any Disease of Stomach or Bowels?
Persistent or frequent Cough or Hoarseness?
Spitting or raising of blood?
Asthma or shortness of breath?
Pleurisy, Bronchitis, Pneumonia, or any Chest or Lung Disease?
Vertigo, Dizziness or Unconsciousness?
Fits, Epilepsy, Delirium Tremens or Convulsions of any kind?
Impairment of Eyesight or Hearing?
Discharge from Ear or any other Chronic Discharges?
Piles, Fistula or any other Disease of the Rectum?
Chronic or frequent Diarrhœa or Dysentery?
Affection of the Liver or Spleen?
Jaundice or Dropsy?
Liver or Kidney Colic or Stone?
Gravel, Bladder or Kidney Disease?

Painful, frequent or difficult Urination?
Sunstroke or Fainting Spells?
Palpitation or any Disease of the Heart?
Enlarged Veins, Cancer, Tumors, or Ulcers, of any kind?
Hydrocele or any disease of the Testicles or Prostate gland?
Neuralgia or Sciatica?
Skin Disease, Gout or Goiter?
Syphilis, or Stricture?
State how frequently, the date, character and duration of each, and its effect upon your health?

13. A. Are you ruptured? B. If so, do you wear a truss constantly except when in bed?

14. A. Have you ever had Inflammatory or Articular Rheumatism? B. If so, state the number of attacks. C. The duration of each attack. D. In what years, and parts affected?

15. Have you ever applied for a Pension? If so, what was the disability?

16. Have you undergone any Surgical Operation, or ever had disease of bones of joints, spinal curvature, or any bodily malformation?

17. Has a Physician at any time expressed an opinion that your urine contained either sugar, albumin or casts?

18. Have you had since childhood any chronic or constitutional disease or severe injury not fully set forth above?

I certify that my answers to the foregoing questions and statements are correctly recorded.

..............................,

Signature of the Applicant. (Signed in presence of Medical Examiner.)

Signed by applicant in my presence.

.............................., M.D.
Medical Examiner.

# APPENDIX III

## SPECIMEN COPY OF AN ADULT WHOLE-LIFE INDUSTRIAL POLICY

### —— INSURANCE COMPANY

*In Consideration* of the representations and agreements in the application herefor, which is copied hereon and made a part hereof, and of the premium stipulated herein, to be paid on or before each Wednesday, grants this insurance with the privileges and benefits and subject to the conditions and provisions on this and the three following pages, which are made a part of this contract.

Policy number ——
Date *April 28 1915.*
Weekly Premium *25* Cents
Age next birthday *35* Years
Name of Insured *John Doe*
Name of Beneficiary *Jane Doe*
Relationship to Insured *Wife*
Full Policy Amount *340.* Dollars

During the first SIX MONTHS from the date hereof, the sum insured hereunder will be ONE-HALF only of the full policy amount in case of death from any cause other than ACCIDENT. In case of death from ACCIDENT during the first SIX MONTHS and THEREAFTER in case of death from any cause, the sum insured will be the FULL policy amount.

On satisfactory proof of the death of the Insured, made in the manner and to the extent required herein and upon surrender of the Policy and Premium Receipt Books, the Company will pay the amount due hereunder. The Company may make payment either to the beneficiary above named, if living, or to such other living beneficiary as may be duly and finally designated, and recognized by endorsement hereon, or to the Executor or Administrator of said Insured or to any relative by blood or connection by marriage, or to any person appearing to the Company to be equitably entitled thereto by reason of having incurred expense in any way on behalf of the Insured for burial or for any other purpose; and the receipt of any such payee shall be conclusive evidence that payment has been made to the person or persons entitled thereto and that all claims under this Policy have been fully satisfied.

This Policy shall not take effect unless upon its date the Insured shall be alive and in good health and the premium duly paid.

*In Witness Whereof,* the said —— Insurance Company has, by its President and Secretary, executed and delivered this contract on the date herein above set forth.

........................, President.

........................, Secretary.

**Limitation of Premium Payments.** If the premiums shall be duly paid until the anniversary of the date of thiε policy next following the Insured's seventy-fourth birthday, it will be continued in force thereafter without the payment of further premiums.

**Change of Beneficiary.** With the consent of the Company, the Insured, if of lawful age, may from time to time change the beneficiary by request to the Home Office upon the Company's prescribed form accompanied by this policy, such change to take effect only upon endorsement hereon by the Company.

**Incontestability.** After this policy shall have been in force for two full years, it shall be incontestable except for non-payment of premiums, or for assignment or pledge, or for failure to have the policy endorsed in case of previously issued insurance as herein provided, but it shall nevertheless be subject to adjustment for error in age. In case of error in age, no greater sum will be paid hereunder than the premiums paid would have purchased for the true age according to the table of rates and benefits on which this policy is based. No suit shall be maintained under this policy unless commenced within six years from the time when cause of action accrues.

**Distribution of Surplus.** Beginning not later than the end of the fifth year from its date, if all the premiums then due shall have been paid, this policy shall annually participate in such distribution of the surplus as the Company may apportion. Dividends will be applied in payment of premiums unless the holder elects to receive them in cash.

**Reinstatement.** At any time within one year from default in payment of premiums, if the cash surrender value has not been paid or the extension term expired, this policy may be reinstated upon production of evidence of insurability satisfactory to the Company and approved at its Home Office, and upon payment of arrears of premiums and payment or reinstatement of any indebtedness hereon or secured hereby.

**Claim Concession.** This policy will be paid subject to its conditions if the Insured die while premiums are in arrears not more than four weeks, but neither this concession nor the acceptance of any overdue premium shall create an obligation on the part of the Company to receive premiums which are in arrears, nor shall it be a waiver of their payment on Wednesday of each week in advance.

**NON-FORFEITURE BENEFITS.** — *Automatic Extended Term Insurance After Three Years.* After premiums shall have been paid on this policy for three full years, then, in case of failure to pay any subsequent premium, the policy, without any further stipulation or act, will be binding on the Company for its full amount as EXTENDED TERM INSURANCE, commencing from the date to which the premiums shall have been paid, the length of the term to be determined by the period of premium payments, according to Table A. The insurance will wholly cease and expire at the end of the term of extension to which the policy is entitled under its conditions.

TABLE A.— The periods of Extended Insurance in this table are the same for any amount of weekly premium paid.

| AGE AT ISSUE | END OF 3 YEARS | | END OF 4 YEARS | | END OF 5 YEARS | | END OF 6 YEARS | | END OF 7 YEARS | | END OF 8 YEARS | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Yrs | Wks | Yrs | Wks | Yrs | Wks | Yrs | Wks | Yrs | Wks | Yrs | Wks |
| 26 | 0 | 32 | 1 | 30 | 2 | 26 | 3 | 23 | 4 | 21 | 5 | 19 |
| 27 | 0 | 34 | 1 | 31 | 2 | 28 | 3 | 26 | 4 | 25 | 5 | 24 |
| 28 | 0 | 36 | 1 | 33 | 2 | 32 | 3 | 31 | 4 | 30 | 5 | 29 |
| 29 | 0 | 38 | 1 | 37 | 2 | 36 | 3 | 36 | 4 | 36 | 5 | 35 |
| 30 | 0 | 42 | 1 | 41 | 2 | 42 | 3 | 43 | 4 | 43 | 5 | 42 |
| 31 | 0 | 46 | 1 | 47 | 2 | 48 | 3 | 50 | 4 | 50 | 5 | 49 |
| 32 | 0 | 51 | 2 | 1 | 3 | 3 | 4 | 5 | 5 | 5 | 6 | 3 |
| 33 | 1 | 5 | 2 | 8 | 3 | 10 | 4 | 12 | 5 | 12 | 6 | 9 |
| 34 | 1 | 10 | 2 | 14 | 3 | 17 | 4 | 19 | 5 | 18 | 6 | 15 |
| 35 | 1 | 16 | 2 | 20 | 3 | 23 | 4 | 25 | 5 | 24 | 6 | 20 |

| AGE AT ISSUE | END OF 9 YEARS | | END OF 10 YEARS | | END OF 11 YEARS | | END OF 12 YEARS | | END OF 13 YEARS | | END OF 14 YEARS | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Yrs | Wks | Yrs | Wks | Yrs | Wks | Yrs | Wks | Yrs | Wks | Yrs | Wks |
| 26 | 6 | 17 | 7 | 13 | 8 | 8 | 9 | 1 | 9 | 43 | 10 | 30 |
| 27 | 6 | 22 | 7 | 18 | 8 | 12 | 9 | 4 | 9 | 45 | 10 | 31 |
| 28 | 6 | 27 | 7 | 23 | 8 | 17 | 9 | 8 | 9 | 47 | 10 | 31 |
| 29 | 6 | 33 | 7 | 28 | 8 | 21 | 9 | 11 | 9 | 49 | 10 | 32 |

| Age at Issue | End of 9 Years | | End of 10 Years | | End of 11 Years | | End of 12 Years | | End of 13 Years | | End of 14 Years | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Yrs | Wks | Yrs | Wks | Yrs | Wks | Yrs | Wks | Yrs | Wks | Yrs | Wks |
| 30 | 6 | 39 | 7 | 34 | 8 | 25 | 9 | 14 | 9 | 51 | 10 | 32 |
| 31 | 6 | 45 | 7 | 39 | 8 | 29 | 9 | 16 | 10 | 0 | 10 | 31 |
| 32 | 6 | 51 | 7 | 44 | 8 | 33 | 9 | 18 | 10 | 0 | 10 | 30 |
| 33 | 7 | 4 | 7 | 48 | 8 | 35 | 9 | 19 | 9 | 51 | 10 | 27 |
| 34 | 7 | 9 | 7 | 51 | 8 | 37 | 9 | 19 | 9 | 50 | 10 | 24 |
| 35 | 7 | 12 | 8 | 1 | 8 | 37 | 9 | 18 | 9 | 47 | 10 | 20 |

| Age at Issue | End of 15 Years | | End of 16 Years | | End of 17 Years | | End of 18 Years | | End of 19 Years | | End of 20 Years | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Yrs | Wks | Yrs | Wks | Yrs | Wks | Yrs | Wks | Yrs | Wks | Yrs | Wks |
| 26 | 11 | 14 | 11 | 46 | 12 | 22 | 12 | 47 | 13 | 16 | 13 | 34 |
| 27 | 11 | 13 | 11 | 43 | 12 | 18 | 12 | 42 | 13 | 10 | 13 | 26 |
| 28 | 11 | 12 | 11 | 41 | 12 | 14 | 12 | 36 | 13 | 2 | 13 | 18 |
| 29 | 11 | 11 | 11 | 38 | 12 | 10 | 12 | 30 | 12 | 47 | 13 | 9 |
| 30 | 11 | 9 | 11 | 35 | 12 | 5 | 12 | 23 | 12 | 39 | 12 | 51 |
| 31 | 11 | 7 | 11 | 31 | 11 | 51 | 12 | 16 | 12 | 31 | 12 | 42 |
| 32 | 11 | 4 | 11 | 26 | 11 | 45 | 12 | 9 | 12 | 22 | 12 | 32 |
| 33 | 11 | 0 | 11 | 21 | 11 | 38 | 12 | 0 | 12 | 12 | 12 | 21 |
| 34 | 10 | 47 | 11 | 14 | 11 | 30 | 11 | 43 | 12 | 2 | 12 | 10 |
| 35 | 10 | 41 | 11 | 7 | 11 | 22 | 11 | 34 | 11 | 43 | 11 | 50 |

*Alternative Options of Paid-up Policy or Cash Surrender Value After Five Years.* After premiums shall have been paid on this policy for five full years, then, in case of failure to pay any subsequent premium, if the holder hereof, instead of having the policy continued as extended insurance as above provided, shall elect in place thereof to avail himself of either one of the following options, and shall signify his preference by writing filed with the Company at its Home Office while the extended insurance is in force and not later than thirteen weeks from the date to which the premiums shall have been paid, the Company will, upon surrender of the policy,—

**OPTION 1** — Issue in exchange therefor a Paid-Up Policy according to Table B, payable at the same time and on the same conditions as this policy.

TABLE B.— The amounts in this table are based on a weekly premium of five cents. If the weekly premium on this policy is ten cents, the Paid-up Value will be twice the amount stated in this table; if fifteen cents, three times, and so on.

| Age at Issue | End of 5 Years | End of 6 Years | End of 7 Years | End of 8 Years | End of 9 Years | End of 10 Years | End of 11 Years | End of 12 Years |
|---|---|---|---|---|---|---|---|---|
| 26 | $6 | $9 | $11 | $13 | $15 | $18 | $20 | $22 |
| 27 | 6 | 9 | 11 | 13 | 15 | 17 | 20 | 22 |
| 28 | 6 | 8 | 11 | 13 | 15 | 17 | 19 | 22 |
| 29 | 6 | 9 | 11 | 13 | 15 | 17 | 19 | 22 |
| 30 | 6 | 9 | 11 | 13 | 15 | 17 | 19 | 22 |
| 31 | 6 | 9 | 11 | 13 | 15 | 17 | 19 | 21 |

| Age at Issue | End of 5 Years | End of 6 Years | End of 7 Years | End of 8 Years | End of 9 Years | End of 10 Years | End of 11 Years | End of 12 Years |
|---|---|---|---|---|---|---|---|---|
| 32 | 7 | 9 | 11 | 13 | 15 | 17 | 19 | 21 |
| 33 | 7 | 9 | 11 | 13 | 15 | 17 | 19 | 21 |
| 34 | 7 | 9 | 11 | 13 | 15 | 17 | 19 | 21 |
| 35 | 7 | 9 | 11 | 13 | 15 | 17 | 19 | 21 |

| Age at Issue | End of 13 Years | End of 14 Years | End of 15 Years | End of 16 Years | End of 17 Years | End of 18 Years | End of 19 Years | End of 20 Years |
|---|---|---|---|---|---|---|---|---|
| 26 | $24 | $26 | $28 | $30 | $33 | $35 | $37 | $39 |
| 27 | 24 | 26 | 28 | 30 | 32 | 34 | 36 | 38 |
| 28 | 24 | 26 | 28 | 30 | 32 | 34 | 36 | 38 |
| 29 | 24 | 26 | 28 | 30 | 32 | 34 | 36 | 37 |
| 30 | 24 | 26 | 28 | 30 | 32 | 33 | 35 | 37 |
| 31 | 23 | 25 | 27 | 29 | 31 | 33 | 35 | 36 |
| 32 | 23 | 25 | 27 | 29 | 31 | 33 | 34 | 36 |
| 33 | 23 | 25 | 27 | 29 | 31 | 32 | 34 | 36 |
| 34 | 23 | 25 | 27 | 29 | 31 | 32 | 34 | 36 |
| 35 | 23 | 25 | 27 | 28 | 30 | 32 | 34 | 35 |

**OPTION 2** — Or, with the written assent of the person to whom the policy is payable, pay the Cash Surrender Value according to Table C, within sixty days after written demand therefor.

TABLE C.— The amounts in this table are based on a weekly premium of five cents. If the weekly premium on this policy is ten cents, the Cash Surrender Value will be twice the amount stated in this table: if fifteen cents, three times, and so on.

| Age at Issue | End of 5 Years | End of 6 Years | End of 7 Years | End of 8 Years | End of 9 Years | End of 10 Years | End of 11 Yfars | End of 12 Years |
|---|---|---|---|---|---|---|---|---|
| 26 | $2.49 | $3.46 | $4.46 | $5.48 | $6.53 | $7.61 | $8.73 | $9.87 |
| 27 | 2.53 | 3.51 | 4.52 | 5.56 | 6.63 | 7.73 | 8.87 | 10.03 |
| 28 | 2.55 | 3.54 | 4.55 | 5.59 | 6.67 | 7.78 | 8.91 | 10.08 |
| 29 | 2.62 | 3.62 | 4.65 | 5.72 | 6.81 | 7.93 | 9.08 | 10.26 |
| 30 | 2.71 | 3.73 | 4.78 | 5.85 | 6.96 | 8.10 | 9.26 | 10.45 |
| 31 | 2.78 | 3.80 | 4.85 | 5.93 | 7.03 | 8.16 | 9.33 | 10.52 |
| 32 | 2.89 | 3.93 | 4.99 | 6.08 | 7.20 | 8.34 | 9.51 | 10.71 |
| 33 | 3.01 | 4.06 | 5.13 | 6.23 | 7.36 | 8.52 | 9.70 | 10.90 |
| 34 | 3.13 | 4.19 | 5.27 | 6.38 | 7.52 | 8.68 | 9.87 | 11.09 |
| 35 | 3.24 | 4.31 | 5.40 | 6.52 | 7.67 | 8.84 | 10.04 | 11.26 |

| Age at Issue | End of 13 Years | End of 14 Years | End of 15 Years | End of 16 Years | End of 17 Years | End of 18 Years | End of 19 Years | End of 20 Years |
|---|---|---|---|---|---|---|---|---|
| 26 | $11.05 | $12.26 | $13.50 | $14.77 | $16.07 | $17.40 | $18.76 | $20.14 |
| 27 | 11.22 | 12.45 | 13.70 | 14.99 | 16.30 | 17.64 | 19.01 | 20.41 |
| 28 | 11.27 | 12.50 | 13.75 | 15.03 | 16.34 | 17.68 | 19.04 | 20.43 |
| 29 | 11.47 | 12.71 | 13.97 | 15.27 | 16.58 | 17.93 | 19.30 | 20.70 |
| 30 | 11.67 | 12.92 | 14.20 | 15.50 | 16.83 | 18.19 | 19.56 | 20.97 |
| 31 | 11.73 | 12.97 | 14.24 | 15.54 | 16.85 | 18.20 | 19.56 | 20.95 |
| 32 | 11.94 | 13.19 | 14.46 | 15.76 | 17.09 | 18.43 | 19.80 | 21.19 |
| 33 | 12.14 | 13.39 | 14.67 | 15.98 | 17.30 | 18.65 | 20.02 | 21.41 |
| 34 | 12.32 | 13.59 | 14.87 | 16.18 | 17.51 | 18.86 | 20.22 | 21.61 |
| 35 | 12.50 | 13.77 | 15.05 | 16.36 | 17.69 | 19.04 | 20.40 | 21.79 |

The figures in Tables A, B and C are for the end of the full paid policy year, on the assumption that there is no indebtedness then existing hereon. The figures for additional years will be furnished on request.

If neither the option of paid-up policy nor of cash surrender value be chosen as above provided, then the policy will be continued as extended insurance, subject to its terms.

This policy is based on reserves calculated upon the Standard Industrial Mortality Table with interest assumed at three and one-half per cent. The values and extension terms stated herein are the equivalents of the reserve at the end of each full paid policy year, less an amount not exceeding two and one-half per cent. of the full policy amount. They will be increased by a proportionate part of the difference between such reserve and that of the succeeding year for each thirteen weeks premiums paid beyond the full paid policy year, and will be lessened by deduction from such reserve of any indebtedness to the Company on or secured by the policy.

A paid-up policy issued under the terms hereof will have a surrender value which will be its net value at the date of the demand therefor, less any indebtedness on or secured by the policy; and if this policy shall become extended insurance after payment of premiums for five full years, it will have a surrender value, similarly determined, but decreasing and expiring with the extension term. The Company will pay such value within sixty days after written demand therefor, upon surrender of the policy, with the written assent of the person to whom it is payable.

**Alterations, Erasures and Waivers.** No modification, change or alteration hereof or endorsement hereon will be valid unless signed by the President, a Vice-President, the Secretary or an Assistant Secretary, and no other person is authorized on behalf of the Company to make, alter or discharge this contract or to waive forfeiture. Agents are not authorized to waive any of the terms or conditions of this policy or to extend the time for payment of premiums or other moneys due to the Company, or to bind the Company by making any promise or by accepting any representation or information not contained in the application for this policy.

**Payment of Premiums.** Premiums hereon are payable at the Home Office of the Company in ——, but may be paid to any of its authorized Agents, subject to the conditions of the policy. Should such Agent fail to call for any premium when due, it will be the duty of the Insured to make immediate payment of the premiums either to the District Office or to the Home Office. Failure of the Agent to collect premiums will not relieve the Insured from the obligation to pay the premiums when due, nor will the Company assume any liability for such failure. No payment of premium shall be valid unless entered in the Premium Receipt Book at the time of payment, by the Agent, or other representative of the Company, authorized to receive it, nor if made when more than four weeks in arrears, except as herein provided under "Reinstatement."

**Policy When Void.** This policy shall be void, if in the application therefor, there is any misrepresentation, willfully made or relating to a matter increasing the risk of loss; or if any premium shall not be paid when due, except as herein provided; or if the policy be assigned or pledged; or if any erasure or alteration be made otherwise than as herein provided; or if an Industrial or Weekly Premium policy previously issued by this Company on the life of the Insured shall be in force on the date hereof or running as extended insurance, unless this policy bears an endorsement signed by the President, a Vice-President, the Secretary or an Assistant Secretary, authorizing its continuance in addition to such previously issued insurance. The Company shall not be presumed or held to know of the issue of any prior policy or the existence of any previous application upon which a policy may not have been issued, and the issue of this policy shall not be deemed a waiver of this condition.

**Proof of Claim.** In case of death of the Insured, proofs of claim shall be made on blanks to be provided by the Company and shall contain full answers of the claimant, physician and other persons to all the questions asked therein and shall conform to all the requirements thereof.

# APPENDIX IV

## SPECIMEN COPY OF A WHOLE-LIFE ANNUITY CONTRACT

### THE —— LIFE INSURANCE COMPANY

*Single* Premium
*$10,000*
Age *60*

Number ——
Annuity:
*$863.70/100*
Every *Year*

In consideration of the payment of *Ten Thousand Dollars* agrees to pay at its Home Office in the City of ——, ——, to *RICHARD ROE* an *Annual* Annuity of *Eight Hundred and Sixty-three and 70/100* Dollars — during the lifetime of the said *RICHARD ROE* (herein called the Annuitant).

The first *Annuity* shall be payable on the *First* day of *July*, Nineteen hundred and *twelve*, if *the Annuitant* is then living, and subsequent payments *Annually* thereafter, said Annuity terminating with the last *Annual* payment preceding the death of the *Annuitant.*

Each Annuity will be paid by check to the order of the person entitled to receive the same, which check will require the personal endorsement of the payee as proof of survival.

**Age.** If the age of the Annuitant has been misstated, the amount payable hereunder shall be such as the actual money paid would have purchased at the Society's annuity rates in use at the register date of this contract at the correct age; any overpayment or overpayments by the Society, with interest thereon, shall be charged against the payments to be made after adjustment.

**The Contract.** The entire agreement between the parties hereto is comprised in this contract. No person except an Executive Officer of the Society — President, a Vice-President, Secretary, Assistant Secretary, Comptroller, Deputy Comptroller, Treasurer, an Assistant Treasurer — has the power to modify this contract. This contract does not participate in Surplus.

Executed, this *First* day of *July, 1911,* at the Home Office of the Society in ——.

EXAMINED BY

........................, President.

........................, Secretary.

........................, Registrar.

# APPENDIX V

## SPECIMEN COPY OF A FRATERNAL BENEFIT CERTIFICATE, TOGETHER WITH FORM OF APPLICATION

### COPY OF BENEFIT CERTIFICATE

| | |
|---|---|
| {SUPREME COUNCIL<br>SEAL.} | {SUBORDINATE COUNCIL<br>SEAL.} |

This certificate is issued to ——, a member of —— Council, No. ——, located at ——, upon evidence received from said Council that he is a contributor to the Widows and Orphans' Benefit Fund of this Order; and upon condition that this certificate, the Charter of the Order and the statements made by him in his application for membership in said Council, and the statements certified by him to the Medical Examiner, both of which are filed in the Supreme Secretary's office, be made a part of this contract, and upon condition that the said member complies in the future with the laws, rules and regulations now governing the said Council and Fund, or that may hereafter be enacted by the Supreme Council to govern said Council and Fund, and upon condition that any changes, additions or amendments to the Charter, Constitutions or Laws, duly made or enacted subsequent to the issuance of this Benefit Certificate, shall bind the said member and his beneficiaries and shall govern and control the agreement in all respects in the same manner as if such changes, additions or amendments had been made prior to and were in force at the time of the application for membership, and upon condition that the said member, for himself and for any person or persons accepting or acquiring any interest in this Benefit Certificate, agrees that no action at law or in equity shall be brought or maintained on any cause or claim arising out of any membership in the —— or on any Benefit Certificate, unless such action is brought within three years from the time when the right of action accrues. These conditions being complied with, the Supreme Council of the —— hereby promises and binds itself to pay out of its Widows and Orphans' Benefit Fund to

—— the sum of —— Dollars, in accordance with and under the provisions of the laws governing said Fund, upon satisfactory evidence of the death of said member, and upon the surrender of this Certificate; provided that said member is in good standing in this Order at the time of his death, and provided also that this Certificate shall not have been surrendered by said member and another Certificate issued at his request, in accordance with the laws of this Order.

In witness whereof the Supreme Council of the —— has hereunto affixed its Seal and caused this Certificate to be signed by its Supreme Regent and attested and recorded by its Supreme Secretary at ——, ——, this —— day of ——, A. D. 19—.

Attest: ——, Supreme Secretary.

——, Supreme Regent.

I accept this certificate on the conditions named herein.

—— (Signature of Member.)

Witnessed and delivered in the presence of either

——, Regent, } Of
or ——, Secretary, } Council, No. ——.

Form of Application for Membership in a Fraternal Order

State of ——, 19—.

To the Officers and Members of —— Council, No. ——, ——,
Located at ——, State of ——.

Having become acquainted with the objects of your Order, I hereby make application for —— amount —— membership
Write whether "Option A" or "Option D."
in your Council, and do declare, upon my honor as a man, that the statements by me subscribed herein are each and every one of them true. I am not now a member of this Order; I have not, within six months, been rejected; am not now under suspension, and have never been expelled from any Council of this Order; and am a believer in a Supreme Being.

I reside at No. —— St., City or Town of ——, State of ——. I was born at ——, State of ——, on the —— day of ——, 18—, and am between —— and —— years of age. My occupation is that of ——. Place of business, No. —— St., City or Town of ——, State of ——. I direct that, in case of my decease, all benefit to which I may be entitled from the —— be paid to

Names of Beneficiaries. (Write name or names in full.)

Residence of Beneficiaries. (Give complete address.)
Related to me as
Ages of Beneficiaries.

Subject to such future disposal of the benefit, as I may hereafter direct, in compliance with the Laws of the Order. I am temperate in my habits, and have no injury or disease which will tend to shorten my life; am now in good health and am able to gain a livelihood. I do hereby warrant the truthfulness of the statements in this application, and consent and agree that any untrue or fraudulent statements, or any concealment of facts, therein, or to or from the Medical Examiner, or my suspension or expulsion from, or voluntarily severing my connection with the Order, shall forfeit the rights of myself and my beneficiaries, heirs, and all other persons claiming under my Benefit Certificate issued hereon, or from my membership in the Order, to all benefits and privileges therein. I agree for myself, my beneficiaries, heirs, and all such other persons, that in any and all questions, controversies, actions and trials in court, or otherwise, which shall arise between myself and between them, or any of them, and the Supreme Council of the ——, and any Grand or Subordinate Council thereof, it shall be presumed and taken *prima facie,* that every officer of said Supreme, of every Grand and of every Subordinate Council, in the sending of notices and otherwise has in all respects fully performed his duty, and fully complied with all the laws of said Councils, and that the burden of proving any failure of such performance or compliance shall rest upon me and said beneficiaries, heirs or said other persons; that any Subordinate Council of which I may become a member or its officers or any one or more thereof, shall not have the power to waive the performance of or compliance with any law or requirement of the Supreme Council, and any such attempted waiver shall be inoperative to bind or create any liability upon the Supreme Council; that any knowledge or information which may be acquired by any Subordinate Council of which I may be a member, or by any officer or member thereof, and not imparted or disclosed to the Supreme Council, shall not be deemed to be notice to the Supreme Council, and the said Supreme Council shall not be bound thereby; that I will and they shall conform to and abide by the Constitutions, Laws, Rules and Usages of the said Council and Order now in force, or which may hereafter be adopted by the same. If I refuse or neglect to undergo an examination within six weeks from the date of notice from the Secretary of said Council to present myself to the Medical Examiner, or if I fail to present myself for initiation within sixty days from the date of the approval of my medical examination, I hereby agree that my medical examination and my initiation thereafter, without further medical examination, unless authorized by the Supreme Regent, shall be void, and I hereby accept notice of the fact that no Sub•ordinate Council has power or authority to waive the same; and I agree that my proposition fee shall be forfeited, that my first election may be declared void, and a new ballot be taken by said Council at any time before I receive the Degree. And for myself, and for any person accepting or acquiring any interest in any Benefit Certificate issued on this application, I hereby expressly waive any and all provisions of law now existing, or that may hereafter exist, preventing any physician from disclosing any information acquired in attending me in a professional capacity or otherwise, or rendering him incompetent as a witness in any way whatever; and I hereby consent and request that any such physician testify concerning my health and physical condition, past, present or future. And for myself, and for any person or persons accepting or acquiring any interest in any Benefit Certificate issued on this application, or arising out of any membership therein, I agree that no action at law or in equity shall be brought or maintained on any cause or claim arising out of any membership, or on said Benefit Certificate unless such action is brought within three years from the time when the right of action accrues; or if the action arises upon my death, or alleged death, within three years from the date of such death, and that in case I shall, within five years from and including the date of my initiation, enter upon or become engaged in a proscribed occupation, or take my own life, whether sane or insane, or, in case, after having been suspended for one year or more I shall, within five years from the date of my reinstatement, take my own life, whether sane or insane, or if my death shall be caused, at any time, by the excessive use of intoxicating liquor, or be the result of my violation of, or occur while I am violating any law, the punishment for which is death or imprisonment in a State or Provincial prison or penitentiary, my Benefit Certificate shall become and be null and void, and no person or persons be entitled to a benefit thereunder or under my membership in the Order.

Recommended by ——. Applicant will write his name IN FULL.
——.

(Recommenders must sign personally.)

I hereby certify that the above Application of ——
Write applicant's name IN FULL.
was received by me on the —— day of ——, 19—, and was read at a stated meeting of the above-named Council, on the —— day of ——, 19—; that he was notified by me on the —— day of ——, 19—, to present himself to Dr. ——, Medical Examiner.

........................., *Secretary.*
Address, ——.

I hereby certify that he was duly elected by ballot on the —— day of ——, 19—; and that he was admitted to membership by the conferring of the Degree according to the prescribed Ritual of the ——, on the —— day of ——, 19—. Number on Roll Book ——.

........................., *Secretary.*

QUESTIONS TO BE ASKED BY THE COLLECTOR ON THE NIGHT OF INITIATION.

Ques.—Is the date of your birth correctly stated above? If not, please correct it.

Ques.—Have you changed your occupation since date of your application? If so, what is now your occupation?

Ques.—Has your physical condition changed since your examination for admission?

I hereby certify that ——
Write applicant's name IN FULL.
on the —— day of ——, 19—, paid to me $—— as his assessment for the W. & O. B. Fund for age ——
(Attained age nearest birthday.)
and that the same has been entered in the W. & O. B. Fund Account Book accordingly.

This Application must be sent to the Supreme Secretary, with blanks properly filled by Secretary and Collector of Subordinate Council, immediately after the admission of applicant,
........................., *Collector.*
and Benefit Certificate will be returned.

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