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PITMAN'S  
DICTIONARY OF LIFE ASSURANCE



# PITMAN'S DICTIONARY OF LIFE ASSURANCE

14612  
A COMPREHENSIVE ENCYCLOPAEDIA OF INFORMATION AND  
DIRECTION ON THE PRINCIPLES, LAW, AND PRACTICE OF  
LIFE ASSURANCE

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FULLY ILLUSTRATED WITH THE  
NECESSARY FORMS AND DOCUMENTS

EDITED BY  
G. W. RICHMOND, F.I.A.  
AND  
F. H. SHERRIFF, F.I.A.

WITH CONTRIBUTIONS BY LEADING ACTUARIES AND OTHER  
WELL-KNOWN AUTHORITIES ON LIFE ASSURANCE PROCEDURE



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# PREFACE

THE contributors to this encyclopaedic work of reference include leading actuaries and other recognized authorities on the great business of life assurance as it is conducted in this country. Its contents are designed to cover as fully as possible within the limits of a single volume every branch of life assurance organization and practice, from the details of actuarial investigation to the preparation and issue of publicity matter and the collection of premiums.

The special features of every main type of life assurance policy are clearly described. The nature and form of the proposal for the different types of policy, and of the various supplementary reports considered indispensable thereto, the principles and methods of bonus allocation, the treatment of claims and the investigation of title, the development of welfare services, the actuarial foundations on which life assurance is so firmly based ; these are only a few of the major matters affecting the procedure of every life office which are authoritatively discussed.

A leading medical authority defines the principal diseases affecting mankind in relation to life assurance and suggests their probable effect upon the acceptability of the proposer. The principles governing the investment of life assurance funds are discussed by an actuarial and financial expert. The purely utilitarian topics are rounded off by an interesting *résumé* of the history of life assurance, together with brief historical records of all the leading British and Colonial life offices.

It is hoped that the work will be found valuable for reference purposes, not only to the Head Office officials of life assurance companies, but to branch managers and agents throughout the country, and particularly to students preparing for the Chartered Insurance Institute's examinations.

G. W. RICHMOND.  
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# INTRODUCTION

IN all ages of which we have cognizance and among all races which have achieved any degree of culture there has been an evident realization of the advantages to be derived from the assembling of knowledge in the form known most simply as a dictionary.

While doubtless the most direct benefit so secured was that of being able to verify facts readily, the convenience of deriving instruction in this form, and, from a higher point of view, the power of apprehending gaps in available information when systematically arranged, were probably perceived at an early date.

While unable to compete with, say, the Chinese, who, as regards antiquity, can point to a dictionary published long before the Christian era, and as regards scope, to another, itself over two centuries old, an English translation of which might require a hundred or more volumes such as the present, yet British scholarship has many notable achievements to its credit—not only dictionaries of languages and literature, but also works of reference coming within that category, restricted, however, to particular arts, sciences, etc.

It is remarkable that among all these special subjects so favoured, insurance, known in a primitive form to mankind for at least four thousand years, and in the particular aspects of life assurance developed in its present form since the middle of the eighteenth century—so important to the community in its financial and social aspects, so intricate in its technical details—should have found so little space. It is not even that our country is singular in this respect, for with one exception the rest of the world is still more poorly furnished. True it is that, as in other departments of human activity, pioneer work has been done here.

In 1871, the late Cornelius Walford, F.I.A., etc., commenced the publication of "*The Insurance Cyclopaedia*: being a dictionary of the definition of terms used in connection with the theory and practice of insurance in all its branches: A Biographical Summary of the lives of all those who have contributed to the development and improvement of the theory and practice of insurance, whether as author, manager, actuary, secretary, agency superintendent, or otherwise: A Bibliographical Repertory of all works written upon the subject of insurance and its associated sciences: An Historical Treasury of events and circumstances connected with the origin and progress of insurance, including a history of all known offices of insurance founded in Great Britain, from the beginning, and also containing a detailed account of the Rise and Progress of Insurance in Europe and in America." By 1880, five large volumes and an odd part had been published in pursuance of this comprehensive scheme—reaching only to the beginning of the letter H—when, unfortunately, Mr. Walford died, and no successor has been found to complete his work. Consequently, what would have been a striking

## INTRODUCTION

monument remains but a noble ruin, invaluable to the historian in spite of its incompleteness.

Other attempts to produce an insurance dictionary were made in Germany and in the United States, but without success until, in 1909, another German, Professor Alfred Manes, Secretary of the German Society for Insurance Science, was able to claim the laurels with his *Insurance Lexicon*, which, within a single volume, treats of all branches of insurance. It has held the field since, and the announcement of an impending Third Edition attests its popularity.

In 1925, Sir Isaac Pitman & Sons, encouraged by the revival of interest in education, particularly as regards commercial subjects, took the matter in hand. Guided by their experience as educational publishers, they decided to keep separate the great main branches of insurance, devoting a volume to each. The dictionaries treating of Fire and Accident Insurance have already appeared (in 1927 and 1928 respectively). The preparation of the *Dictionary of Life Assurance* was entrusted to Mr. J. J. Bisgood. A lifetime devoted to the business of insurance, the widest acquaintance with men and affairs, public and private, combined with personal gifts, literary and other, eminently qualified him for the task.

The work was almost complete when, at the end of 1926, it became evident that the Departmental Committee appointed in July, 1924, to inquire and report what amendments were desirable in the Assurance Companies Act, 1909, was approaching the end of its deliberations. As it was anticipated that the Committee's Report would be followed immediately by legislation, publication of the dictionary was suspended.

On the 10th February, 1927, Mr. Bisgood died. Tragic, indeed, was it that he, a fervent supporter of measures to protect the public, and about to be nominated Chairman of the Safety-first Association, should have been the victim of a motor-bus accident. Born on the 6th January, 1861, at Glastonbury, Joseph John Bisgood was educated at Prior Park, Bath, and graduated B.A. London. In the insurance world he filled many posts, retiring in 1921, when he was London Secretary of the Edinburgh Insurance Company. He was a director of several companies; was closely associated with the London Chamber of Commerce and the Chartered Institute of Secretaries; was Proprietor and Editor of the *Insurance Record*; a Justice of the Peace, and, at the time of his death, was serving his second term of office as Mayor of Richmond in Surrey. This dictionary was accordingly the culminating achievement of an active life.

The Departmental Committee reported on the 21st February, 1927. The imminent translation of its recommendations into statutory enactments, which might have regulated the control of insurance offices for a generation, did not at once take place. Ever expected, it still remains—expected. So long a period having elapsed, it has become desirable to produce this dictionary without further delay. Happily, as will be seen from the Insurance Undertakings Bill, which is included as an Appendix, the Committee's proposals are by no means revolutionary. The general principles of Government supervision favoured in Great Britain—the maximum of publicity with a minimum of interference—continue to hold

## INTRODUCTION

their ground. At the same time, while the general principle of supervision remains unchanged, the methods by which it is to be applied are modified perceptibly. Thus, instead of legislating separately for each of the five main classes of insurance, namely, life, fire, personal accident, employers' liability and bond investment, as was done under the Act of 1909, an attempt has been made to unify the conception of the business of insurance. Insurance business is now defined in terms which cover every category, and, as a consequence, marine business, which has always been important, and motor vehicle insurance, which has become so, are brought within the purview of the proposed new legislation, and there is the implication that any new category which might emerge would come automatically under it.

Since, however, for the purpose of this legislation, which is, let us say, in broad terms, the protection of the assuring public, such a definition would prove too inclusive in its application, certain groups of insurance institutions are exempted from its provisions. The significance of the change in attitude from ignoring entirely certain groups to exempting them for definite reasons will not be overlooked. Examples of such exemptions are Lloyd's Underwriters, employers' mutual protection associations, and the superannuation funds of individual firms, etc. Some minor categories of insurance, which escaped hitherto, are now included. Such are, for example, live-stock insurance and plate-glass insurance. Since, however, they are much cultivated locally in a small way by institutions which could not stand the normal deposit of £20,000, the Board of Trade is to be empowered to provide for this by reducing the amount of necessary deposit down to a minimum of £5,000.

The question of the deposit to be made by insurance offices received much attention. It was made clear that the deposit was to be regarded essentially as a kind of evidence of a minimum financial backing, and not as a sufficient guarantee for the liabilities that would accrue in the course of the development of the concern. Thus, it would not be necessary to make good any subsequent depreciation in the market value of the securities comprising the deposit. Then, again, it was decided that the deposit need not be made by other than life offices which restricted themselves to reinsurance. The latter deal with other insurance offices, who are better qualified to test for financial stability and sound management than the general public.

As will be seen, the deposits to be made by companies transacting several classes of business are adjusted to avoid undue pressure. Reference may be made here, suitably, to the deposits which have to be made by British offices operating in foreign countries. These vary from a mere fee or tax up to a liberal assessment of the entire reserve for all outstanding liabilities in the countries in question. This latter aspect has been, and may be again, serious in its results. In case of insolvency, creditors in the protected country benefit at the expense of all others. After the San Francisco earthquake, very large sums were sent by British offices to America out of their general funds. Were a corresponding catastrophe to take place here, restrictions might operate to prevent full remittances in the reverse

## INTRODUCTION

direction. The Committee decided, however, that publication of the facts along with the accounts would meet the case sufficiently.

Another question of importance was the separation of funds and assets between the several classes of a composite company. Section 3 of the Act of 1909 has proved to be unsatisfactory, and so in the new Bill it is proposed definitely to earmark and separate from the general body of assets such as arise from the several classes of insurance involving contracts of a permanent character, as opposed to short period contracts, *vide* Clauses 3, 4, 16, 17, and the Seventh Schedule of the Bill, showing how this debatable problem has been handled. The Committee had to consider various suggestions to bring into existence new bodies of one kind or another, for example, to constitute an Advisory Committee to the Board of Trade. This was regarded as unnecessary. Another was connected with the above-mentioned separation of assets, which it was said would entail the appointment of separate bodies of trustees in whom such assets would be vested. To meet this situation, rather a novel suggestion is recommended, namely, that the directors of a company should be placed in the position as regards responsibility of being trustees in relation to the separated assets.

As regards investments, the principle of non-interference is continued, except that it is recommended that the assets of statutory funds be not invested in any insurance business without the sanction of the Court.

Winding-up has always been a thorny subject, and the scheme in Clause 17 is intended to ameliorate the stiff and uneconomic processes of former legislation. While it may be held to leave a good deal to the discretion of the Court, it certainly possesses elasticity to meet varying circumstances.

In addition, other modifications in procedure are made, mainly affecting the technical features of the periodical returns, etc.

Finally, a further point may be brought to notice. By the Companies Act of 1929, the assets and liabilities of subsidiary and allied undertakings have to be shown separately in the accounts of the principal company, whereas some of the large composite insurance offices have been accustomed to incorporate such figures with their own. Compliance with the new Act clearly involves an awkward-looking diminution in the statement of assets and liabilities of a parent company, although the aggregate capital under its control remains unaltered. While, possibly, publication of the separate as well as of the combined accounts might meet the case, the position, by continuing unsettled, causes inconvenience.

Disappointing it certainly is that discussion regarding the Government control of insurance business in Great Britain has to deal with regulations liable to change in the near future, and, moreover, only with possibilities and not with certainties as to the nature of such change. All the same, the hope may be expressed that the mass of information on the principles and practice of life assurance assembled in the present volume will prove useful to the student and to the business man.

G. W. RICHMOND.

# DICTIONARY OF LIFE ASSURANCE

ABN]

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## **ABNORMAL OCCUPATION RISKS.**

(See OCCUPATION RISKS.)

## **ABSOLUTE REVERSIONS.**

(See REVERSIONS AND LIFE INTERESTS.)

## **ABSTAINERS AND GENERAL INSURANCE COMPANY, LIMITED.**

Head Office: 142 Edmund St., Birmingham.

This company was established in 1883 to conduct life assurance of every description, upon the principle that abstainers from alcoholic liquors are throughout life entitled to a graduated reduction in premium. At that time no attempt had been made by means of a system of properly apportioned abatements to give to abstainers, whose longevity was asserted to be greater than that of the general public, any equivalent reduction to the premiums charged. It will be found that the company's tables for with-profit assurances for abstainers approximate to the non-profit rates of many companies. As is natural, the graduated abatement is most marked in whole life assurances. Notwithstanding these substantial abatements, increasing reversionary bonuses have been allotted. An experience of nearly half a century, during which the mortality, excluding war claims, has been well under half the expectancy, has abundantly justified the company in the soundness of the principles to which it was established to give effect.

Policy-holders in the General Division will find the premiums moderate.

The company's "House Purchase Department" is popular. The simplicity of the mortgage, the fact that the life policy forms a collateral security, and that the moneys received in excess of the interest and premiums are credited in full in reduction of the mortgage, have been widely appreciated.

The company transacts all usual forms of life assurance. Its prospectus also includes scholarship, family man's old age endowment, "majority," and guaranteed bonus policies.

## **ABSTAINERS' POLICIES.**

Abstainers generally are taken at more favourable rates, or on more favourable

terms, than non-abstainers, and a number of offices rather specialize in such contracts. Their practice differs somewhat, however. As a rule, the proposer who wishes to take advantage of the abstainers' rates must have been a total abstainer for at least two or three years prior to effecting the assurance, and must thereafter periodically sign a declaration as to continued total abstinence from any form of alcohol. One large office charges the same with-profit rates to both abstainers and non-abstainers. Separate records are kept as to the death rates in both sections, however, and each body of policy-holders receives the bonus due to its own death rate. In the non-profit section the rates for non-abstainers are approximately 5 per cent less. A second office quotes a somewhat lower rate in its temperance section for both with-profit and non-profit policies, while a third allows 10 per cent off the premiums ordinarily charged to with-profit policy-holders, provided the reduction does not exceed 10s. for each £100 assured. The holders of policies in its abstainers' section are entitled to 90 per cent of the distributable surplus, including the amount allowed in reduction of premium, estimated to arise from their section. In the event of the life assured ceasing to be a total abstainer, the full ordinary with-profit premium becomes payable. In another office, in the event of the assured ceasing to abstain after the policy has been three years in force it may be continued at the non-abstaining rate of premium for the original age at entry, and this office will permit an abstaining policy-holder, who makes written application, to take alcohol temporarily as a medicine under the written prescription of his medical adviser.

## **ABSTRACT OF VALUATION.**

(See BOARD OF TRADE, POWERS OF.)

## **ACCEPTANCE AND COMPLETION.**

(See PROPOSAL FORM p. 437.)

## **ACCEPTANCE, NOTICE OF.**

(See BRANCH OFFICE SYSTEMS.)

**ACCIDENT AND DISEASE COVER.**

(See COMBINED LIFE, ACCIDENT AND DISEASE POLICIES; also INCAPACITATION BENEFIT POLICIES.)

**ACCIDENT INSURANCE.**

(See INCAPACITATION BENEFIT POLICIES.)

**ACCIDENT RISK.**

(See OCCUPATION RISKS.)

**ACCOUNTANCY DEPARTMENT.**

The system of accountancy in use in a life office, while it, of course, records and accounts for every item of income and expenditure, is quite distinct from that employed in a mercantile undertaking. The income of a life office does not consist of receipts for goods sold or for services rendered, but arises in the main from agreements to pay to the office, made under contracts, which in the case of policies and annuity bonds are subject to sudden termination by death and other causes, and to variation at the instance of the holders, but which, as a general rule, continue as originally entered into for the whole of their currency. With the exception of the first and/or single premiums receivable against the issue of new policies or bonds, the chief sources of income are known quantities. Including one or two small variable amounts, they are as follows—

*Renewal Premiums.* Receivable at definite dates under the terms of the policies.

*Interest on Policy Loans.* Receivable at definite dates under the terms of mortgage deeds.

*Interest and Dividends on Stock Exchange securities,* receivable on all fixed interest bearing securities (which comprise the bulk of the Stock Exchange investments made by life offices) at definite dates under the terms of the bonds, stock certificates, etc., and on other securities as declared.

*Interest on*

Mortgages on properties.

Loans on reversions.

“ “ parochial and other public rates.

“ “ life interests.

“ “ stocks and shares and on personal security.

Receivable at definite dates under the terms of the Mortgage Deeds.

*Rents.* Receivable at quarter days or

other definite dates under the terms of leases.

*Fees, Fines, etc.* Receivable as they arise in course of business.

Additional items that appear in the revenue account as income are—

*Profit on Reversions.*

*Profit on Exchange.*

*Profit on Realization of Securities.*

So far as income is concerned, therefore, the system of accountancy has to provide for the recording and posting of the receipt of moneys in respect of new contract sented into, for the creation of appropriate records showing all amounts due to the company in future, for the adjustment of these records on the termination or variation of contracts, the arrangement for the collection of all such amounts as they fall due, and their subsequent posting through the books, and in addition it must make provision for dealing with the situation when any item of income due is unpaid after the due date.

The expenditure is likewise of a somewhat special character consisting of—

*Claims,* payable on the falling in of policies by death or maturity.

*Surrender Values,* payable on the surrender of policies or bonuses.

*Annuities,* payable in accordance with the bonds issued.

*Bonuses,* payable in cash or allowed in reduction of premiums.

*Commission,* payable for the introduction of new business and on renewal premiums.

*Expenses of Management,* as in any ordinary commercial undertaking.

*Dividends to Shareholders,* as in any ordinary commercial undertaking.

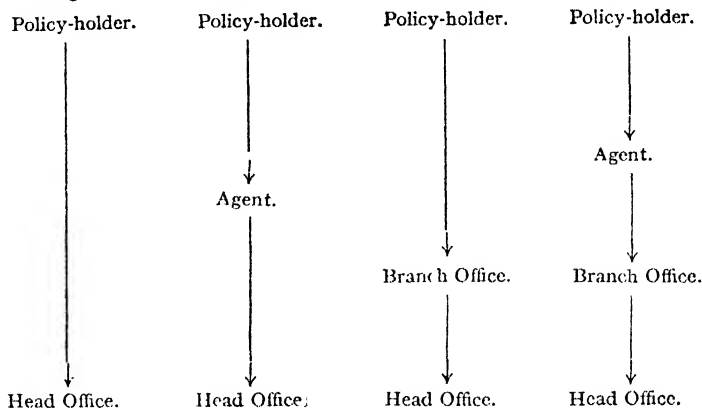
As regards expenditure, the system of accountancy has to provide for the posting in respect of the payments of claims and surrender values. It must set up records to ensure that it duly makes the payments for which it is liable under annuity bonds, in respect of cash bonuses and of bonus reductions on premiums, in respect of commission due to be paid by the office automatically on the receipt of premiums and, except in the case of mutual offices which have no share capital, for the payment of dividends to shareholders, and having made these payments to post the necessary entries in its books.

The details of the expenses of management are extracted by the accountancy department from the cash books and journals and posted to their respective accounts.

In order to give the clearest possible

representation of the working of the system of life office accountancy, the procedure adopted—of course, with variations and modifications according to the practice of

head office, or to a branch office, or to an agent attached to a branch office, and in all cases the premiums will, in due course, reach the head office, thus—



individual offices—in respect of each of the points alluded to above will be detailed in the order in which it has been introduced, commencing with the receipt of first and/or single premiums on new contracts, after which the data will be to hand for the preparation of the revenue accounts and balance sheet in accordance with statutory requirements.

Before dealing with these points, however, a brief explanation must be given of the various channels through which the payment

Interest on loans on policies is sometimes payable through the same channels. In some companies *all* collecting agents remit to head office and not through a branch, in which case the book-keeping is modified accordingly, as the branch accounts can then be treated on exactly the same lines as agents' accounts.

**First and/or Single Premiums Journal.** It is necessary to list all new premiums and to tabulate them according to origin. The following illustration gives a typical method.

FIRST AND/OR SINGLE PREMIUMS JOURNAL

Policy No.	Name.	Branch.	H.O. Agent.	Direct.	Gross Premium.
10234	John Jones.	Liverpool.			£90 - -
10235	Robert Smith.		A. Lowe, St. Albans.		£70 4 -
10236	A. Myers.			E. Rogers, London.	£1,080 2 6

and carried out as follows--

Branch Office.	H.O. Agent.	Direct.	Branch Office Commission.	Agents' Commission.	Direct Commission.
£80 - -			£10 - -		
	£60 4 -			£10 - -	
		£1,047 14 5			£32 8 1

of premiums by the policy-holder to the company is made. The policy-holder will either pay his premium direct to the head office or to an agent working direct with the

The amount of the commission to be credited is vouched for usually by the new business department. By casting the column of gross premiums one finds the

total new premiums received in the year, which should tally with the corresponding total in the policy register (see NEW BUSINESS DEPARTMENT). This total must be posted to the credit of the Premium Account. The commission columns must also be cast and the combined total posted to the debit of the Commission Account. This is the first mention of the Premium Account and the Commission Account. They provide a record of the total premiums received and the total commission due thereon, and the way these are built up will be seen as we progress.

It is now necessary to debit the branch or the agent with the gross amount of the first premium, and to credit them with the appropriate commission, and the following entries<sup>1</sup> must be made in their respective accounts—which, of course, will contain many other items—in the ledgers.

be paid by policy-holders shall fall due. A complete record of all premiums due to the company under its policies must be created, and this is either done in registers or more usually compiled on a card system, one card for each policy in force, drawn up on the lines as shown at the top of the next page.

The tabs at the head of the cards show the month or months in which the premiums fall due. The card for a policy falling due annually or monthly has one tab only, half-yearly two, and quarterly four tabs. Thus the premiums due in each individual month are all in sequence.

Three separate sets of cards are required to cover premiums falling due in any of the twelve months of the year, thus—

January, April, July, and October—1st set.

LIVERPOOL BRANCH				
Dr.	£	s.	d.	Cr.
March 1. New . . . . .	90	-	-	March 1. Commission . . . . .
				10 - -

ST. ALBANS—A. LOWE				
Dr.	£	s.	d.	Cr.
March 1. New . . . . .	70	4	-	March 1. Commission . . . . .
				10 - -

These entries show the indebtedness of the branch or the agent in respect of first premiums. Remittances in settlement of first premiums are usually included with the renewal premiums, and will be dealt with in due course.

E. Rogers is a non-collecting agent, but he is entitled to commission as shown, and it is, therefore, posted to the credit of his ledger account. This account is a purely commission account, and there is no need to show the premiums. In some offices the commission would be sent to Rogers automatically on receipt of the first premium, but in others it stands to his credit until he applies for it. When it has been paid this item in the account stands thus—

E. ROGERS				
Dr.	£	s.	d.	Cr.
Feb. 1. Cash . . . . .	32	8	1	Jan. 2. New . . . . .
				32 8 1

This completes the accountancy book-keeping in connection with first premiums, but it is necessary to look ahead to the time when the renewal premiums contracted to

<sup>1</sup> In practice, one entry only is usually made, namely, a debit entry for the net amount due, i.e. the premium less the commission. For the sake of clearness, however, the details are shown here.

February, May, August, and November—2nd set.

March, June, September and December—3rd. set.

These cards must be maintained absolutely up to date. A new card must be written for every new policy issued, and the existing cards withdrawn for every policy going off the books. Further, as under many policies the amount of the premium may vary or cease altogether after a time, a separate record must be kept in which every alteration in the premium provided for in the policy is entered. Such policies are as shown on page 5.

The information required to bring these changes into being is usually entered in a

book at the time the policy is issued, a space being assigned to each successive year. For example, a convertible term policy issued in 1925 under which the premium will rise from £10 to £20 in 1930 will be entered in the book under the year 1930—or an endowment assurance maturing in 1950 will be entered under 1949, the

Renewal Card.

Jan. <i>Feb.</i> <i>Mar.</i>	Apr. <i>May</i> <i>June</i>	July <i>Aug.</i> <i>Sept.</i>	Oct. <i>Nov.</i> <i>Dec.</i>	<i>Monthly.</i>
Policy No. 12345		Name		
Premium  £14 10 10	<i>John Jones.</i>		Changes  <i>See page</i>  <i>On 1st Jan., 19..</i>  £29 1 8	

entry recording the last premium falling due. The book should also contain--

- Whole life limited pay-ment policies. (*Premiums cease*)
- All endowment assurance policies. *Do.*
- Short-term assurances. *Do.*
- Convertible term policies. (*Premium alters*)
- Deferred annuities by annual premium. (*Premium ceases and annuity commences*)
- Policies on female or other lives on which an extra premium is payable till a given date. (*Premium alters*)
- Decreasing premium policy. (*Premium decreases*)

and various other special classes of policies.

For obvious reasons of convenience the changes recorded in this book are transferred one year before they become effective to another book (which thus contains the whole of the year's changes) for the use of the accountants, but as other departments also require the information, the book is not usually kept by the accountancy department, but by the actuarial department. In some offices the information is merely recorded in the renewal card in a column headed "Changes," these cards being gone through each year for the purpose of picking up and giving effect to them, the particulars in the column being ruled out thereafter.

In addition to contractual changes, every alteration in premium effected by the endorsement of a policy must be noted on the renewal cards, as also must extra premiums for foreign residence and occupation, charged or remitted, and various other alterations which arise, such as the application of bonuses in the reduction of premiums, and so on. It might be mentioned that

where the addressograph system is employed for renewals, the metal plates will conveniently serve the purpose of renewal cards, thus effecting a considerable saving of time.

Separate books or cards are usually kept by the new business or policy department, in which changes of premium following endorsement, and those which may not necessitate the endorsement of policies, are entered for the use of the accountancy department.<sup>1</sup>

These cards are kept in separate sections in respect of--

1. Those payable direct to head office.
2. Those payable to agents who remit to the head office.
3. Those payable through branch offices.

The first section is kept in numerical order of policies in their monthly series.

In the second section the cards for the policies in each agency are kept together in similar order, a guide card with the agent's name on it separating each agent's set. The sets themselves are kept in alphabetical order of agents' names.

The third section of branch office cards necessitates a similar arrangement for premiums payable direct to the branch offices and through agents who remit to those offices.

In some companies premiums are made renewable on the first day of each month, and in others on the anniversary of the date of payment of the first premium, each course having its advantages. The difference in practice leads to slight variation in the details of the accountancy, but the principles adopted are the same in each case.

<sup>1</sup> Branch offices must be advised of all changes in which they are interested.

Each month the accountant sets up a statement of the total amount of premiums falling due. There are various methods of doing this, and perhaps the most simple is—

1. To list the individual premiums paid direct to head office.
2. To list the totals of each individual agent's collection remittable to head office.
3. To list the totals of each branch office's collection, which includes those of agents remitting to branches.

The list of direct premiums need only record the policy number and the amount of the premium, and a column is provided to which any premiums unpaid at the expiry of the days of grace are carried. The two columns are eventually totalled, and the difference between the two is the total of the premiums paid direct to the head office, and must be agreed with the total of the cash received shown in the cash department's "Direct Premiums Received Book." The list of agents' collections must have columns for the agent's name, the total premiums due, the total unpaid, the commission, the charges, and the net amount received. The total must be agreed with the cash received shown in the Agents' Remittances Cash Book.

The three totals combined give the total renewal premiums due each month.

As a further check, this grand total is agreed each month in most companies by the actuarial department. This department is not concerned specifically with accountancy work, but it is the authority responsible for fixing the premiums on which the company's contracts are based. It is responsible for valuing the company's liabilities under them from time to time, and it is, therefore, incumbent on this department to satisfy itself that the company is actually receiving the premiums due under these contracts. Its own statistics relating to the premium income are compiled from other sources, and they afford a valuable check on the accountant's work.

Although not legally necessary, it is customary to make application to policyholders for their premiums by means of a renewal notice, and the preparation of these notices is usually supervised or carried out by the accountancy department. In the larger companies there is often a separate department for this work, but it will be convenient to deal with the preparation of renewal notices as a part of the work of the accountancy department.

The notices are printed in skeleton, and

the policy number, the amount of the premium, the due date, and the address filled in after. Almost all offices nowadays make use of an addressograph or similar machine for preparing notices, and the items to be filled in on the renewal notices (taken originally from the policy register or even the proposal) are punched in type on a metal plate—one for each policy—and printed by the addressograph in the blank spaces on the notices. Once made, the plates are ready for use year after year (or quarterly or half-yearly, as the case may be), the necessary additions, alterations, and withdrawals being all that is required to keep the system up to date. A receipt for each premium due is also required, and this, too, is set up on the addressograph and printed at the same time as the renewal notice. By the use of a metal shutter to block off the policy particulars, envelopes can be addressed from the same plate by the machine, or the address can be printed on the back of the notice, which can be folded and posted, thus saving the expense of envelopes. Or the process may be further simplified by the use of "window" envelopes.

**Policy Loan Interest.** Interest on policy loans is by some companies made to fall due at the same date as the renewal premium; in other companies at a fixed date, sometimes yearly and sometimes half-yearly. In the former case some offices include the demand for the amount on the renewal notice. In the latter case a separate notice must be prepared. A record of the amounts of interest falling due is kept on similar lines to the renewal register or cards, and monthly statements must be prepared on the same lines as for premiums. The particulars of the amounts are not usually set up on a machine, however, owing to the many alterations that arise in them. Repayments of the loan in part, and the taking of further loans are the cause of frequent alterations, but the most prolific of late years has been the successive alterations in the rates of income tax, a deduction for which must always be made from the amount of interest due.

It is now becoming fairly common to fix the rate of interest on a net basis, the wording made use of in the charge being that the rate of interest payable on the loan will be "such a rate as will amount after deduction of income tax to, say, 4 per cent." This would avoid the necessity of working out the amount of the tax to be allowed on each individual item of loan interest, a laborious task calling for an expenditure of

time entirely out of proportion to the small sums involved. Were a net rate of interest applicable to all policy loans, it would be practicable to use the addressograph machine for setting up interest in the same way as renewal notices, but as things are they are usually done by hand or typewriter. The following is a typical form of renewal notice, embodying a demand for loan interest due—

ANCHOR ASSURANCE COMPANY,  
39 Reliance Street, London, E.C.2.

	Premium due	Amount	
	19..	of premium,	
		£	s. d.
Policy No. 12345.		82	10 -
Life Assured: John Jones, 12th Aug.			
Payable at Edinburgh Office			
Interest on loan of £100	£5 - -		
Less income tax	1 - -		
		4 - -	
Total amount due		£86	10 -

"The premiums, as shown above, will fall due on the date stated, and should be paid at the above address within thirty days thereafter. This notice is sent in order that

the benefit of the policy may not be lost by the omission to pay the premium, although such notice is not required by the terms of the policy, nor can the non-receipt thereof be accepted as an excuse for non-payment.

Payment must be made in full, no allowance being permissible for cost of remittance, and should be by cheque or draft payable on demand, and crossed to the credit of "Anchor Assurance Co."

Post-dated cheques cannot be accepted. Please state if there is any alteration in your permanent address.

Alteration in permanent address

.....  
....."

The renewal notices have now to be dispatched. Those respecting premiums payable direct to head office are posted to the policy-holders, the relative receipts being handed to the cash department, who exchange them for the premiums as they are paid. Those for premiums (and loan

Specimen Agency A/c Form<sup>1</sup>

ANCHOR ASSURANCE COMPANY  
39 Reliance Street, London, E.C.2.

Name ..... Agency Account for .....  
Address .....

Dr. Cr.

Remittances				Renewal Premiums due <sup>2</sup>			
Paid direct by policy-holders				First Premiums			
Unpaid premiums				Void Policies renewed			
Loans on Debt Policies				Loan Interest			
Postages							
Commission							
			£				£

<sup>1</sup> In some companies the account is not sent with the list of premiums due, but on the return of the latter by the agent, an account is made up and then sent to him for signature and remittance in settlement.

<sup>2</sup> In some offices the premiums on the credit side are required to be entered less commission, the corresponding commission item on the debit side being omitted.

With each account is sent a list of the renewal premiums falling due in the month, in the following form—

Policy Number	Premium Due	Interest Due	Date Received	Amount Received	
				Premium	Interest

The agent is requested to complete the last three columns, and, of course, the account, and to return to the Head or Branch Office the account, the list, a cheque for the balance, and all renewal receipts for unpaid premiums.

interest) to be collected by agents attached to the head office are sent to those agents, together with the receipts, and the remainder, with receipts, to the branch offices. Statements of account are sent to the collecting agents, either direct or through the branches, and with each account is sent a change of address form on which the agent should enter all changes of address given by policy-holders. For specimens of these accounts see page 7, and of premium and loan receipts see below.

**SPECIMEN RENEWAL PREMIUM RECEIPT**

Anchor Assurance Company, Ltd.,  
39 Reliance Street, London, E.C.2.

Policy No.	Premium.	Due Date.
21210	£107 3s. 4d.	4th May, 19..

Life assured G. Jones.  
Sum assured £2,000. Renewed for 12 months.

Received the amount of premium set out above.

Date 16th May, 19..

.....  
Manager and Actuary.

Countersigned.....

All policies numbered later than 12345 were issued subsequent to 22nd June, 1916.<sup>1</sup>

**SPECIMEN INTEREST PAYMENT RECEIPT**

Anchor Assurance Company, Ltd.  
39 Reliance Street, London, E.C.2.

	£	s.	d.
Half-yearly interest due 4th May,			
19.. . . . .	2	10	-
Less tax . . . . .	10	-	-
Amount payable . . . . .	2	-	-

on the loan of £100 secured on policy No. 21210 on the life of G. Jones.

Received the above interest this 16th day of May, 19..

.....  
Manager and Actuary.

Countersigned.....

It may here be pointed out that in the case of policy-holders resident abroad, it is desirable to suggest to them that they should, if feasible, make arrangements for their premiums to be paid on their behalf in this country. Where this is not practicable, the company usually keeps a special record, and issues renewal notices sufficiently in advance of the due date to enable the policy-holders to remit their premiums so

<sup>1</sup> The object of this note is to enable the Inland Revenue authorities to determine the appropriate rate of income tax to be allowed on the premium paid.

that they will reach the company within the days of grace allowed for payment. Companies which have no foreign branches usually have an appreciable number of policy-holders who have gone abroad on or after the issue of their policies, and the late receipt of their premiums not only causes considerable inconvenience and delay in balancing the monthly accounts, but in the aggregate a loss of interest would ensue from the later availability of premiums for investment. In this connection it may be mentioned that remittances from abroad should be made by draft payable in this country, or by a draft on a London bank, or, where practicable, by Post Office order, so that there may be no question that the full amount due will be realized by the company. When a remittance is received in a form in which it cannot be cashed without loss, it may be necessary to return it to the sender with a note that the policy will be kept in force, and no charge for interest be made, if a proper remittance be sent by return mail, but the opportunity should be taken to request future remittances to conform to the office's rule, as on future occasions of delay interest must be charged.

We now go forward to the date when the time allowed for the payment of premiums and the settlement of accounts has expired to see how the company has fared in regard to its collections. The premiums and interest paid direct to the head office have been banked, the receipts issued by the cash department, and entries made of the payments in the Direct Premiums and Interest Received Book. The agents who remit direct to the head office have, with a few exceptions, sent up their statements of account and their cheques in settlement, which have also been entered in the Agents' Remittance Book.

Incidentally, a number of premiums which should have been paid to agents have been sent to the head office, and these are adjusted on the lines of the following notices.

ANCHOR ASSURANCE CO.  
39 Reliance Street, London, E.C.2.

Policy\_\_\_\_\_ Premium £\_\_\_\_\_

The premium on this policy has been received here to-day, and the amount has been placed to your credit.

Kindly send the official receipt to

-----  
-----

-----  
Manager and Actuary.

To Agent\_\_\_\_\_

ANCHOR ASSURANCE Co.  
39 Reliance Street, London, E.C.2.

Policy----- Premium £-----:-----

I have to acknowledge the receipt of your cheque, for which I am obliged.

I have instructed our agent, Mr. -----, to send you the official receipt.

To Policy-holder

-----  
Manager and Actuary.

The agents who are behind time must be communicated with, for apart from the desirability of their collections being placed out at interest, it is essential to keep the books of the office up to date, and to know for the benefit of assignees and others whether the premiums on policies have been met.

Although bad debts are very few, unpunctual agents are by no means unknown, and firm handling of those who do not conform to the company's regulations with regard to the settlement of accounts is necessary, in order that they may realize the importance of the matter to the company and be more punctual in future. This subject is dealt with more fully in "Branch Office Systems."

The branch offices have collected their direct premiums and interest and their agents' remittances, have instructed the bank to transfer the necessary funds to the Head Office Banking Account, have made up their statements of accounts, and forwarded them to head office. These statements show just which payments have been made and which remain outstanding, and the combined total will enable the department completely to balance the company's monthly statements. The information for this purpose is taken from the Cash Received Book at head office and the statements of account received from the agents and the branches, and, as regards unpaid premiums, the department requires either the production of the receipts which are not taken up or, in the case of some branch offices, a certificate from the manager that he holds them. It is important to extract or mark renewal cards "Unpaid," so that a subsequent renewal notice is not issued in the usual form while a premium is outstanding.

It will be convenient at this stage to indicate the course to be taken in connection with premiums that are not paid within the days of grace. Non-forfeiture clauses and the revivability of policies are dealt with

on pages 395-6, but whatever the precise technical position may be regarding such policies, all companies take steps to draw the policy-holder's attention to the matter, so that a premium shall not be left unpaid through inadvertence. Most companies issue an unpaid notice to the policy-holder direct from head office, inviting the payment of the overdue premium in accordance with the particular regulations of the company on this point, and in cases where the premium is paid direct to head office or branch office the agent concerned, if any, is also advised and asked to endeavour to secure payment of the premium. Most companies, too, will remit the small interest charge to which they are entitled where the premium is received without much delay, although insistence on this penalty has its advantages in the direction of preventing habitual unpunctuality.

The receipts for unpaid premiums are, as a rule, required to be returned by agents and branch offices to the head office. The reason for this is that where the head office deals with inquiries for surrender values, loans and similar matters, it must know the position with regard to any premium due for payment. Where a branch office deals with these matters they might retain the receipts.

If a premium is payable half-yearly, or quarterly, or monthly, the subsequent premiums as they arise will be treated as falling due and included in the monthly statements of premium income due during the remainder of the current year, but renewal notices are not written, and the receipts are attached to those already in hand, and if the premiums are not paid they are again treated in the accounts as unpaid premiums.

After the lapse of twelve months the renewal card and the addressograph plate are withdrawn from use and the policy treated as void, a further notice then being sent to the assured, drawing his attention to the matter, and stating the terms and conditions on which the outstanding premium can still be received. In certain cases it may be suggested that the assured should have recourse to a policy loan with which to pay the outstanding premiums. Should such policies be revived, the renewal card and addressograph plate must be restored to their series, but it is vital to remove them shortly before the lapse of twelve months to prevent a renewal notice being inadvertently issued on a policy on which a year's premium is outstanding.

From the completed monthly statements the total premiums and interest are posted in total to the credit of their respective accounts, and the unpaid amounts and the commission are in turn debited to the "Unpaid Premium," the "Unpaid Interest," and the "Commission" Accounts. In the case of discounted bonus policies, under which a part of the premium is left as a charge on the policy and treated in the office books as an automatic yearly loan, the following procedure is necessary. The Premium Account must be credited with the amount of the "loan" in addition to the actual premium paid by the policyholder, and the Loan Account must be debited. Moreover, the Loan Account must be periodically debited with the interest that accrues on the loan, and this interest must be debited gross, not less tax. At the division of profits the total loan, including capitalized interest, should be repaid out of bonuses.

We will now revert to the specimen accounts which are reproduced below as illustrations. Taking the Liverpool branch first, the total renewals due in the month are, say, £5,000, with which sum the branch must be debited. Of this £4,900 has been received by the branch and transferred to head office less commission, and premiums of £100 remain unpaid. The renewal commission payable by the branch to agents

is £500, with which the branch is debited, and of this £470 is paid and £30 outstanding.

On the transfer to head office of £4,750 net renewals, £470 loan interest, and £80 net first premium, the account would balance. But there are further points to be considered. By the time a branch office monthly account is settled the branch will have received a large number of premiums due for payment in the ensuing month, and it is the practice in many offices for all moneys received at the time of settlement to be included in the remittance to head office, while in some offices there is a standing arrangement with the bank to make a transfer to head office account whenever the branch banking account reaches a certain figure. These transfers must, of course, be credited to the branch account as they are made, so that assuming £150 net of the March premiums had been remitted with the February account, and that April premiums of £200 less commission £5 have been received in time to include with the March settlement, the remittance and statement for March would naturally correspond with these facts. Again, there is usually an item in respect of premiums received, which were due but unpaid in previous months, and taking this as, say, £90, less commission £4, the monthly statement as returned completed to the head office would call for the following posting—

Dr.		£	s.	d.	Cr.		£	s.	d.
Mar. 1.	New (or first)	.	.	90	150	—	—	—	—
	Renewals	.	.	5,000	Commission	.	.	10	—
	Loan Interest	.	.	500	Apr. 7.	Cash	.	5,431	—
	Overdue Premiums	.	.	90		Unpaid Renewals	.	100	—
	Balance	.	.	200		„ Interest	.	30	—
				<u>£5,880</u>		Commission	.	159	—
						<u>£5,880</u>		<u>—</u>	<u>—</u>

on the £4,900 amounts to, say, £150, and that by means of a Journal entry is credited to the branch (the procedure is the same in the case of an agent remitting to head office), and debited to the general commission account.

Similarly, the total interest in the month

Dr.		£	s.	d.	Cr.		£	s.	d.
Mar. 1.	New	.	.	70	Mar. 1.	Commission	.	10	—
	Renewals	.	.	142	Apr. 7.	Unpaid Renewals	.	10	3
	Loan Interest	.	.	17		Commission	.	3	11
				<u>£229 9 2</u>		Postage, etc.	.	2	3
						Cash	.	205	12
						<u>£229 9 2</u>		<u>—</u>	<u>—</u>

The overdue premiums now paid must be credited to the Unpaid Premium Account (and if there were any overdue interest paid during the month it would be treated just like the overdue premiums).

The next account is that of A. Lowe, St. Albans.

The third account is that of E. Rogers, who has had £100 in premiums due in March, and all paid direct to head office. His renewal commission on them is at the rate of  $2\frac{1}{2}$  per cent, and his account will be credited with the amount—£2 10s.—where it will remain until such time as he makes application for it.

Here is his account credited with the renewal commission—

Dr.	E. ROGERS	Cr.	
Feb. 1. Cash . . . . .	£ 32 8 1	Jan. 2. New . . . . .	£ 32 8 1
		Mar. 31. Renewals . . . . .	2 10 -

and at the same time the £2 10s. must be debited to the General Commission Account.

It will be seen that the account of Mr. Lowe, the agent who remits to head office, differs in two respects from the branch office account—first, he does not remit anything on account of the next month's premiums already received, and, secondly, he deducts postage. It is not practicable to arrange for ordinary agents to remit in advance of their accounts, and as the amounts involved are usually small it is not of the same importance as in the case of branch offices. He deducts postages as a matter of course, but in the case of branch offices there is usually a separate Cash Drawings Account, which covers the whole of their expenditure, including commission which they have to pay to agents whose

**Interest and Dividends on Stock Exchange Securities.** We have now dealt with the collection of the premium income and the interest on policy loans. Our third item of receipts consists of interest and dividends on Stock Exchange securities. These amounts fall due at various dates, and are the only class of receipt (apart from first payments on new policies) for which application

is not made by the company. Nevertheless the company sets up a debit for all the fixed amounts, and makes a note of the payments due of which the actual amount is uncertain. It instructs those from whom the interest is due to pay the interest into its banking account, or, in the case of bonds, which are usually placed in the custody of the bank, the coupons are cashed by the bank and paid into the company's account. The Bank Pass Book is examined regularly for these amounts, which are passed through the Cash Received Book and credited to the individual account, where they have already been debited in the Stock Exchange Ledger, which will shortly be described. The holdings of stocks, etc., are registered on a card system, one card for each holding on the following lines—

ISLEMERE ELECTRIC TRAMWAYS 6 PER CENT. DEBENTURES. 1st Jan.

Year.	Nominal Amount.	Interest.	Tax.	Remarks.
1930	£25,000	£750	£150 - -	
1931				
1932				

premiums the branch collects. Agents who collect their own premiums remit net (or less commission and postages) to the branch, just as Mr. Lowe has done to head office. Full particulars of this Cash Drawings Account will be found under **BRANCH OFFICE SYSTEMS**. A monthly statement in respect of it is sent to head office, and each item of expenditure incurred must be debited to the relative account in the general ledger.

The cards are kept in the order of the date of the interest falling due, and alphabetically under dates.

An Interest Due Book is kept which is really a subsidiary journal, and this book is usually tabulated, so that it can be used also for interest due from other sources. It is drawn up somewhat as shown in the table at the top of the next page.

The month's items are totalled. The

INTEREST DUE JOURNAL  
January, 1930

Date.	Name.	Mortgages.	Prop- erties. <sup>1</sup>	Stock Exchange	Tax.	Invest- ment Ledger	Stock Exchange Ledger.	Principal.	Total.
1st	Islemere Electric Tramways 6% Deb.			£750	£ s. d. 150 - -		£ s. d. 600 - -		

<sup>1</sup> The interest due on properties is usually dealt with through a separate journal—see under RENTS, p. 13.

amounts of interest due are debited net to the accounts in the name of each holding. The interest account in the general ledger is credited with the gross amount of interest due—(it should be noted that interest is always credited gross). The tax is debited to the income tax account in the general ledger, and it will be seen that this, together with the total of the individual net items, completes and balances the monthly statement of interest due.

The Stock Exchange Ledger may conveniently include particulars of the capital and interest as follows—

of arrears being paid it must be written off and transferred to Profit and Loss or Investment Reserve Account.

In the case of bonds under which provision is made for the repayment of capital by drawings, it is convenient to use the Interest Card and the Interest Due Book to make a note of the coming repayment of a drawn bond. (See page 11.) When it is actually repaid the process to be gone through as far as interest receipts are concerned is merely to revise the different amounts on the card, the total of the holding being reduced by the amount drawn. The

STOCK EXCHANGE LEDGER

ISLEMERE ELECTRIC TRAMWAY CO. 6 PER CENT DEBENTURES

Nominal Amount	Capital.						Interest					
	Dr.		Cr.		Dr.		Cr.		Dr.		Cr.	
£25,000	1920 Aug. 3	Cash	£20,625	Date	Cash	Amount	1930 Jan. 1	Int.	£600 - -	1930 Jan.	Cash	£600 - -
							July	"	£600 - -	July	"	£600 - -

(This account will again be referred to in connection with Capital.)

The interest due from the Islemere Electric Tramway Co., Ltd., was debited on the 1st January, 1930, and on its receipt duly credited. Had this interest not been received it would remain to the debit of the account, and together with other similar items, if any, would be included in the balance sheet under the heading of Interest Due and Unpaid. This must, eventually, be dealt with, and when there is no likelihood

matter is more fully dealt with under the heading of "Investments."

Very similar procedure for collecting interest on Stock Exchange investments is followed in the collection of interest on mortgages. Two sets of mortgage cards are kept, of which the first, as follows, is used when the mortgage is not subject to fixed repayments of capital.

MORTGAGE CARD (1)

John Smith.		Rate of Interest 5%		Due date.		Jan. 4th.	
Year.	Amount.	Interest.	Tax.				
19..	£ s. d. 10,000 - -	£ s. d. 250 - -	£ s. d. 50 - -				

The second, as follows, is used for mortgages with fixed repayments of principal and interest, the repayments being split up as shown.

of the accountants. A brief explanation of the method adopted for dealing with the income from this source is necessary. Except in the case of freehold ground rents,

MORTGAGE CARD (2)

John Brown.		Rate of Interest 6%		Due date.		Jan. 10th.	
Year.	Amount.	Interest.	Tax.	Principal.			
19..	£ 5,000 s - d -	£ 150 s - d -	£ 30 s - d -	£ 250 s - d -			

Half-yearly and quarterly payments must be distinguished by the use of different coloured cards. In view of the alteration of principal by repayments, etc., changes in the rate of tax, and occasional alterations in rate of interest, great care must be taken to ensure the accuracy of the necessary calculations prior to the figures being entered on the cards.

Application notices are issued to the mortgagors. The amounts of interest due in each month are set up in the Interest Due Book, debited net to the individual accounts in the Mortgage Ledger, which corresponds to the Stock Exchange Ledger, and there credited net when the cash is paid. The interest account in the general ledger is credited with the gross amount of interest, and the income tax is debited to the Income Tax Account, thus completing the postings required.

When the department is unable to collect interest due, the matter is reported to the investment department, and a note is made not to accept payment if subsequently tendered without the latter's authority, but interest must continue to be debited until further instructions are received. If the security be foreclosed it ceases to be a "mortgage," and becomes a property, and the cards relating to it are transferred to that group of securities.

**Rents.** The next item of income is rents, which include—

- Rent charges.
- Freehold ground rents.
- Leasehold ground rents, and
- Rents on properties.

The collection of rents and the management of properties are sometimes left in the hands of estate agents, but more usually there is an estates sub-department, which attends to the work, under the supervision

of the actual rents paid are little indication of the income arising, especially in the case of properties which are subject to outgoings, such as ground rents, repairs, cost of collection and, in the case of flat property, to rates and taxes, wages, and general upkeep. Even after expenses have been deducted from the rents it is impracticable to regard the balance as representing the interest income yielded by the property, as provision must be made for the future in the shape of deterioration and, in the case of leaseholds, a sinking fund must be set up to safeguard the capital involved. In practice it has been found to be a convenient and safe method to debit these securities with a fixed rate of interest on the capital values at which they stand in the books and when the rents have been received, the outgoings settled and the net amount in hand ascertained, the amount of the fixed percentage of interest decided on is credited to the Interest Account in the general ledger, and further entries made in the following accounts, thus—

1. Investment Ledger, Income Account in name of property, is credited with the net amount, and debited with sinking fund and interest.

2. Investment Ledger, Capital Account in name of property, is credited with sinking fund.

The balance of the Income Account, if any, is dealt with as may be thought fit by the management. The sinking fund, of course, reduces the value at which the property stands in the books, which in turn reduces the amount necessary to satisfy the interest charge.

Each quarter a statement of the total amounts receivable under this group heading must be set up, and a Rent Account debited in the general ledger with this total. In due course the total cash received against

it must be credited to this account, the account balanced, and any outstanding balance (i.e. unpaid rents) at the end of the year must be included in the balance sheet under the heading of "Interest Due and Unpaid." Of course, if these rents were not paid after further application, legal proceedings would have to be taken for their recovery. Irrecoverable rents must, eventually, be written off.

The following form shows a convenient method for the working of a Rent Account—

RENT ACCOUNT

Property or Source of Income.	Amount payable.	Extra charges. <sup>1</sup>	Income Tax Deductions.	Management Expenses. <sup>2</sup>	Balance of Income.	Carried to Ledger.
Shaftesbury Terrace, W.C.	£	£	£	£ s. d.	£ s. d.	
No. 1	150	10	22	7 10 -	130 10 -	
" 2	140	9	21	7 10 -	120 10 -	
" 3	150	10	22	7 10 -	130 10 -	

<sup>1</sup> Such as cleaning, lighting, etc., in flat properties or fire insurance premium and water rate where payable by tenants.

<sup>2</sup> Such as agent's commissions, repairs and renewals.

Another form on same lines omitting <sup>1</sup> and <sup>2</sup> is required for ground rents.

The arrangements for the collection and subsequent posting of interest on loans on reversions (contingent or absolute), parochial and other public rates, life interests, stocks and shares, and on personal security, follow the same lines as in the case of mortgages on property, and need not be described in detail.

In the case of loans on life interests and on contingent reversions, a life policy must be included in the security, and it is necessary to see that the premiums thereon are duly paid. Should the interest and/or premiums not be paid, the fact should immediately be reported to the investment department (see page 13). The interest must continue to be debited until further instructions are received. The unpaid premiums must, in effect, be paid by the company to itself to maintain the necessary cover, and the amounts of these premiums must be debited against the investment.

At the end of the year any such items of outstanding interest will be carried to the item "Interest Due and Unpaid" in the balance sheet.

We have now considered the various items

comprising the income of a life office, but as far as interest earnings are concerned, they are not yet a true record ready for inclusion in the Revenue Account for the year. It has been shown that the bulk of the interest receipts of a life office are received less tax. On those which have been received gross, tax must be paid. Further, in accordance with the provisions of Sect. 14 (1) of the Finance Act, 1915, an assurance company which has been charged income tax by deduction or otherwise, and

has not been charged in respect of its profits, is entitled, with some qualifications, to repayment in respect of sums disbursed as expenses of management and commissions. The interest items as received by the company must, therefore, be adjusted. It will be convenient, however, before doing this to deal with the accountancy work in connection with the company's outgoings, and afterwards to review the interest earnings in the light of the repayments to which the company is entitled in respect of any of these outgoings.

**Disbursements.** Our first item of expenditure is claims—subdivided into claims by death and by maturity. The second item is surrenders, and all three payments are made by the claims department and recorded in a journal from which the accountants post them to their respective accounts. The process is as follows: A claim by death account is credited with the amount of the claim when this has been admitted and passed by the board, and the assurance fund is debited. When the claim is paid the cash entry is debited against the respective credit in the claims account, thus—

Dr.		CLAIMS BY DEATH ACCOUNT		Cr.	
19..		£	s. d.	19..	£ s. d.
Oct. 20. Cash . . . . .		592	10 -	Oct. 1. D. T. Jones . . . . .	592 10 -
" 22. Cash . . . . .		672	15 -	" 2. R. Smith . . . . .	500 - -
				" 4. J. Robinson . . . . .	672 15 -

It will be seen that R. Smith's claim, though admitted, has not, for good reasons, been paid, and the amount thereof, together with similar items at the close of the year, is brought forward in the balance sheet as a separate liability under the heading of "Claims admitted but not paid." Similar accounts are opened in the name of "Claims by maturity" and "Surrenders," and the book-keeping follows the same course, although surrender value payments do not usually have to be passed by the board.

The renewal cards for the policies becoming claims by death and surrender must now be withdrawn from their sections, and their addressograph plates destroyed. Those for endowments maturing will already have received this attention.

Where loans exist on the policies at the time they fall in, the loan interest cards must also be extracted. The loan and interest thereon to date of death, maturity, or surrender is deducted from the amount payable under each policy, and the interest must be treated in the usual way as interest received, and should there be any outstanding premiums similar procedure is followed, commission thereon being credited to the agent concerned.

In connection with reductions of premium resulting from the application of bonuses, the amount involved is vouched by the actuarial department each year, the accountant's duty being to credit the Premium Account with the same amount, and to debit the assurance fund with it. The premiums are, of course, paid short of the amount vouched for, and it will be seen that this simple book-keeping keeps the transactions balanced.

After the division, when the reductions come into force, it is, of course, necessary for the renewal cards and the addressograph plates for the renewal notices and receipts to be corrected.

The next item on the list of payments is that of commission. It has been shown how commission is deducted by collecting agents when remitting their premium collections to the branch or head office, and how non-collecting agents are credited and payments made automatically or upon their request. The items of commission credited during the year to the agents are debited to the Commission Account in the general ledger, and at the end of the year that account is totalled and the debit balance carried to the life assurance fund.<sup>1</sup>

Expenses of management are posted in

detail from the Cash Book. The items arise from various sources of expenditure, and for convenience are grouped, the following being a list of typical headings, in the name of each of which an account in the general ledger is opened. Reference will be made later to the necessity for this grouping in connection with the expenses of management claim for income tax.

Advertising.	Office salaries and wages.
Agency expenses.	Printing and stationery.
Auditors' fees.	Rates: head office.
Directors' fees.	Rent of head office. <sup>2</sup>
Law charges.	Repairs.
Medical examiners' fees.	Stamps and postage.
Medical officers' fees.	

The items are debited to these accounts at the end of the year, the accounts are closed, and the debit balances transferred to Expenses of Management Account. That account in its turn is closed, and the balance transferred to the debit of the life assurance fund.

The remaining item of outgo with which we have to deal is dividends to shareholders. Shareholders' cards must be written up from the Share Register, and will contain name, address, and particulars of holding. A detailed list of dividends payable, showing the individual amounts due, the appropriate deduction of tax, and the net amounts payable is prepared from the register twice a year or as necessary. The statement is then totalled, and the Shareholders' Dividend Account credited with the total amounts and debited with the total tax. After the issue of the dividend warrants by the cashiers, the total of the cash paid is debited to the shareholders' account, and the Income Tax Account credited with the tax deducted.

The various items of outgoings, which were detailed at the commencement of this section, have now been dealt with, but there is one, not yet referred to, which stands on a very special footing. The premiums on the re-assurances which a company effects

<sup>1</sup> It should be noted that where reference is made in this article to the "Assurance Fund" it should be taken as meaning the "Assurance and Annuity Fund." In some companies a separate account is kept of the annuity business, in which case the annuity fund is a separate fund.

<sup>2</sup> Where the head office is owned by the company it must, to create the necessary income on the capital invested, charge itself with a suitable rent. This, too, applies in the case of branch offices, but see also under INCOME TAX.

are, of course, outgoings, but in accordance with the provisions of the Assurance Companies Act, 1909, the items shown in the Revenue Account must be "net amounts after deduction of the amounts paid and received in respect of re-assurances of the companies' risks." It is, therefore, necessary to treat re-assurance premiums paid away as constituting a reduction in the company's premium income. The total premiums received, as has already been shown, have been placed to the credit of the Premium Account. The amounts paid away as re-assurance premiums are placed to the debit of Re-assurance Account in the general ledger, and the total of this account at the end of the accounting period is debited to the Premium Account which, on being balanced, will thus show the total premium income as the net income after deduction of re-assurances. The premiums paid to the company go through the books like ordinary premiums, and already stand to the credit of the Premium Account.

The arrangements for the payment of annuities are sometimes made by the accountancy department. Annuities are seldom paid through the branch offices or through agents, but almost invariably are remitted direct by the head office to the annuitants or other persons entitled to receive. Annuities are payable less the full standard rate of income tax, except in cases where the annuitant is exempt from tax or liable for only half the standard rate, in which cases declarations from them to this effect are taken.

A set of annuity payment cards on somewhat the same lines as renewal premium cards are required, thus—

with the total of the gross amount of annuities due for payment. After they have been paid the same account is debited, as shown in the table on page 17, and the annuity fund is debited with the gross total, and the Income Tax Account in the general ledger is credited with the tax total.

It frequently happens that the death of an annuitant is not reported to the company until an annuity cheque which has been paid away is returned to it by the representatives of the deceased to whose notice, perhaps, the matter has then come for the first time. This is unavoidable. As the transaction has already been dealt with as described above, upon the cheque being returned corresponding reverse entries must be made.

**Income Tax.** Having dealt with the whole of the receipts and disbursements, it is now possible to deal with the adjustment of the income tax for which the company is liable. This liability is an exceedingly complicated one. Under Sect. 14 (1) of the Finance Act, 1915, now embodied in the Income Tax Act, 1918, an assurance company which has been charged income tax by deduction or otherwise, and has not been charged in respect of its profits, is entitled to a refund of so much of the tax paid by it as is equal to the amount of the tax on sums disbursed in expenses of management, including commission for the year in question, but relief will not be given so as to make the income tax paid by the company less than the tax which would have been paid if the profits of the company had been charged.<sup>1</sup>

As has already been stated, the bulk of the

Name ----- Due Date -----  
 Agent ----- Term -----

Policy No.	Annuity.	Amount Due.	Tax.	Amount payable

From these cards the annuity cheques are drawn by the cash department. A statement of the amounts due to be paid each month is made, as shown in the table at the top of page 17.

The columns are totalled, and the Annuitants' Account in the general ledger credited

interest earnings of a company is taxed at the source. There are, however, various items of interest and income which are received by the company in full, and before

<sup>1</sup> This position has been modified by Sect. 16 (1) of the Finance Act, 1923, in respect of which and for definitions of profits, see p. 253.

Name.	Gross amount of Annuity.	Tax.	Net amount payable.

## ANNUITANTS' ACCOUNT

Dr.		Cr.	
	£ s. d.		£ s. d.
January. Cash . . . . .	9,004 7 6	January. Due . . . . .	10,009 14 6
Tax . . . . .	1,005 7 -		
	<u>£10,009 14 6</u>	Gross . . . . .	<u>£10,009 14 6</u>

the claim for relief in respect of expenses of management can be passed, it is necessary to make a return of untaxed income to the Inland Revenue, and to pay the amount of the assessment which will be made on it under Schedule D. Such items include the following—

1. Interest received on short loans, tax on interest paid on temporary borrowings being recoverable, i.e. money on deposit or on loan at the bank.

2. Interest on War securities, e.g. 5 per cent War Stock, which was issued subject to payment of interest without deduction of tax in order to attract small investors not liable to full tax.

3. Capitalized interest on policy loans, including certain discounted bonus policies. Where loan interest is not paid and a company capitalizes it in its books, it must, when received, which may be some years later, account for the tax thereon to the Inland Revenue, unless, of course, it is received net.

4. Interest on policy loans from residents abroad which is paid gross to the company.

5. Interest on certain foreign and colonial securities is received gross, e.g. dividends received through Enemy Debt Office, or again where payments are made under a scheme of settlement where interest has been in default for some years.

6. Interest on foreign securities held abroad, which is collected by the company's bankers and remitted periodically to this country gross.

Adjustment of the taxation in respect of the annuity fund is also necessary. The interest on the annuity fund is exempt from income tax, but actually in practice full tax is paid (the Inland Revenue agreeing to accept this as being the case, provided the whole of the assessment on interest untaxed at source

is accounted for to them), and the company must, therefore, recover. By arrangement with the Inland Revenue, assurance companies are able to pay annuities in full to annuitants who declare that their incomes are exempt from tax, and with a deduction of only half the standard rate to those who declare that they are only liable to that extent.

In accordance with the provisions of the Income Tax Act, 1918, the amount of annuities which an assurance company is entitled to treat as having been paid out of profits or gains brought into charge to income tax must not exceed the amount of the taxed income of its annuity fund. A company must pay over to the Inland Revenue all tax deducted from annuities. It is, however, entitled to a refund of tax on the interest on its annuity fund, and in making up the claim the one may be set off against the other.

A statement must, therefore, be drawn up showing the total tax deducted from the annuity payments made by the office and the total interest earned on the annuity

INCOME TAX ON ANNUITIES FOR THE YEAR ENDING 5TH APRIL, 1930			
	£	s.	d.
Total annuities paid . . . . .	20,000	-	-
Annuities taxed at 2/- . . . . .	£8,000	800	-
" " " 4/- . . . . .	9,000	1,800	-
" exempt . . . . .	3,000	Nil	-
	<u>£20,000</u>	<u>2,600</u>	<u>-</u>
Total annuity fund . . . . .	225,100	-	-
Interest thereon at £5 10s. per cent . . . . .	12,380	-	-
Tax at 4s. . . . .	2,476	-	-
Tax deducted from annuities . . . . .	2,600	-	-
Less tax deducted from interest . . . . .	2,476	-	-
Balance due to Inland Revenue . . . . .	<u>£124</u>	<u>-</u>	<u>-</u>

fund, the balance giving the office's indebtedness to the Inland Revenue, or vice versa. As many companies do not keep their annuity fund separately invested, the procedure is to state the amount of the annuity fund, and to calculate interest thereon at the gross average rate of interest earned on the mean annuity funds for the year. The table at the foot of page 17 shows how such a statement would appear.

Had the balance been against the Inland Revenue, the amount thereof would have been refunded to the company.

In order to secure relief on account of expenses of management, an analysis of these expenses under the headings shown (see below) must be submitted, of which the total will correspond with that shown in the Revenue Account, or for the particular accounting period adopted for income tax purposes. To these should be added items of expense charged elsewhere, such as bank charges and brokers' and other charges on purchase and sale of investments. Deductions must also be made in respect of—

(a) Any fines and fees charged.

(b) The amount of any profit arising from reversions. In calculating profits from reversions the company may set off against these profits any loss arising from reversions for any previous year, during which

any enactment granting this relief was in operation.

(c) The amount of any profit on annuity business.

Amongst the details of expenses of management there will be included, in the case of companies owning their own head office or branch office properties, an item or items for rent with which they must charge themselves to secure a return on the capital invested. The Inland Revenue will not pass these rent charges, as they might be arbitrarily fixed, so they must be deducted from the expenses of management, but in their place may be inserted the amount at which these properties are assessed for income tax under Schedule A. The expenses of management claim will thus emerge in the form shown in the previous column.

On the claim being agreed, the Inland Revenue will send the company a cheque for the amount repayable, subject to the production of vouchers evidencing previous payment by the company of tax to the amount of the claim.

**Revenue Account.** With the settlement of the expenses of management claim for income tax the year's items of receipts and outgoings have been dealt with. The various entries in the subsidiary account books will have been concentrated in the ledgers, and the items making up the Statutory Revenue Account are now grouped in accordance with the requirements of the Assurance Companies Act, 1909, Schedule 1, and thereafter carried to the Assurance and Annuity Fund Account, which is the basis of the statutory account.

The statutory requirements affecting the accountancy work, directly and indirectly connected with the production of the Revenue Account, and also the further requirements relating to Profit and Loss Account, and to the Balance Sheet are as follows—

**Statutory Requirements (affecting Accountancy Department).** Various statutory requirements are placed on all companies transacting life assurance business. The Assurance Companies Act, 1909, consolidates and amends and extends to other companies carrying on assurance or insurance business the law relating to life assurance companies. Its provisions apply to all persons or bodies of persons not being registered under the Acts relating to friendly societies or to trade unions carrying on assurance business within the United Kingdom—whether established within or without the

EXPENSES OF MANAGEMENT			
Income Tax (Claim—1929-1930)			
Income Tax Act, 1918, Sect. 33			
	£	s.	d.
Expenses of management (Exhibit 1)	58,562	9	-
Less rent of head office premises . . . . .	£2,200		
Depreciation . . . . .	Nil		
Tithes and land tax . . . . .	20		
	2,220	-	-
	56,342	9	-
Add Schedule A on head office premises . . . . .	2,090	-	-
	58,432	9	-
Less Fines and fees . . . . .	£ 350	4	-
Profit on reversions . . . . .	1,010	-	-
„ „ annuities . . . . .	Nil		
	1,360	4	-
	57,072	5	-
Total Commission . . . . .	27,560	10	7
<sup>1</sup> Expenses of properties (Exhibits 2 and 3) . . . . .	Nil		
Broker's Charges . . . . .	1,043	7	4
<sup>1</sup> Bank Charges . . . . .	Nil		
	85,676	2	11
Tax repayable at 4/- on £85,676 . . . . .	£17,135	4	-

<sup>1</sup> These items may have been adjusted by the companies in the course of their accounting.

United Kingdom—hereafter described as assurance companies. Life assurance business is defined by the Act as the issue of, or the undertaking of liability under, policies of assurance upon human life or the granting of annuities on human life. A policy on human life is defined as any instrument by which the payment of money is assured on death (except death by accident only) or the happening of any contingency dependent on human life or any instrument evidencing a contract which is subject to payment of premiums for a term dependent on human life, and where a company grants annuities on human life "policy" shall include the instrument evidencing the contract to pay such an annuity, and "policy-holder" includes annuitant. In practice the "instrument" in this case is often referred to as an annuity bond.

**Deposit with the Supreme Court.** Every assurance company has to deposit and keep deposited with the Paymaster General for and on behalf of the Supreme Court the sum of twenty thousand pounds invested in securities acceptable by the Court, the interest accruing thereon being payable to the company. The deposit shall be deemed to be part of the assets of the company. No certificate of incorporation of a new company shall be issued by the registrar until the deposit has been made.

Where a company transacts assurance business of more than one class, a separate sum of twenty thousand pounds shall be deposited.

**Separation of Funds.** Companies transacting other classes of business in addition to life assurance business shall keep the accounts of each class of business separate, and shall carry their accounts to a separate assurance fund with an appropriate name. The investments of any such funds are, nevertheless, not required to be kept separate from the investments of any other fund.

**Accounts and Balance Sheet.** Every assurance company shall, at the expiration of each financial year, prepare—

(a) A Revenue Account for the year in the form set forth in the first schedule of the Act.

(b) A Profit and Loss Account in the form set forth in the second schedule of the Act, except where the company carries on assurance business of one class only and no other business.

(c) A balance sheet in the form set forth in the third schedule to the Act.

**Deposit of Accounts with the Board of Trade.** Every account, balance sheet,

abstract, or statement above referred to shall be printed, and four copies thereof, one of which shall be signed by the chairman and two directors of the company, and by the principal officer of the company and, if the company has a managing director, by the managing director, shall be deposited at the Board of Trade within six months after the close of the period to which the document relates: the Board of Trade having power, however, to extend this period by such period not exceeding three months as they think fit.

There shall be deposited with every revenue account and balance sheet any report on the affairs of a company submitted to the shareholders or policy-holders in respect of the financial year to which the account and balance sheet relates.

**Right of Shareholders and Policy-holders to Copies of Accounts.** A printed copy of the last deposited accounts, balance sheet, abstract or statement shall, on the application of any shareholder or policy-holder of the company, be forwarded to him by post or otherwise.

**Audit of Accounts.** Where the accounts of an assurance company are not subject to audit in accordance with the provision of the Companies (Consolidation) Act, 1908, or the Companies Clauses Consolidation Act, 1845, its accounts shall be audited annually in such manner as the Board of Trade may prescribe.

**Publication of Authorized, Subscribed, and Paid up Capital.** Where any publication of an assurance company contains a statement of the amount of its authorized capital, the publication shall also contain a statement of the amount of the capital which has been subscribed and the amount paid up.

**Alteration of Forms.** The Board of Trade may, on the application or with the consent of an assurance company, alter the forms contained in the schedules to the Act as respects that company for the purpose of adapting them to the circumstances of the company.

**Penalty for Non-compliance with Act.** Any assurance company which makes default in complying with any requirement of the Act shall be liable to a penalty not exceeding one hundred pounds or, in the case of a continuing default, to a penalty not exceeding fifty pounds for every day of continuance, and every director, manager, or secretary or other officer or agent who is knowingly a party to the default shall be liable to a like penalty, and the default if

continued for three months after notice by the Board of Trade, shall be a ground on which the Court may order the winding up of the company in accordance with the Companies (Consolidation) Act, 1908.

**Penalty for False Statements.** If any document required by the Act be false in any particular to the knowledge of any person who signs it, that person shall be guilty of

a misdemeanour, and liable on conviction to fine and imprisonment, or on summary conviction to a fine not exceeding fifty pounds.

Arising out of the paragraph marked N.B. (First Schedule) the No. 2 on the next page is a typical Sinking Fund and Capital Redemption Account.

The items which come under "Other

## SCHEDULES

## FIRST SCHEDULE

N.B. Where marine insurance business or sinking fund or capital redemption insurance business is carried on, the income and expenditure thereof to be stated in like manner in separate accounts. Any additional businesses (including employers' liability insurance business transacted out of the United Kingdom) to be shown in a separate inclusive general account.

## (A)—FORM APPLICABLE TO LIFE ASSURANCE BUSINESS

REVENUE ACCOUNT OF THE \_\_\_\_\_ FOR THE YEAR ENDING \_\_\_\_\_ IN RESPECT OF LIFE ASSURANCE BUSINESS

	Business within the United Kingdom.			Total.		Business out of the United Kingdom.			Total.
	£ s. d.	£ s. d.	£ s. d.			£ s. d.	£ s. d.	£ s. d.	
Amount of life assurance fund at the beginning of the year					Claims under policies paid and outstanding—				
Premiums—					By death . . . . .				
Consideration for annuities granted					By maturity . . . . .				
Interest, dividends, and rents	£ s. d.				Surrenders, including surrenders of bonus . . . . .				
Less Income Tax thereon					Annuities . . . . .				
Other receipts (accounts to be specified)					Bonuses in cash . . . . .				
					Bonuses in reduction of premium . . . . .				
					Commission . . . . .				
					Expenses of management				
					Other payments (accounts to be specified)				
					Amount of life assurance fund at the end of the year, as per Third Schedule . . . . .				
£						£			

Note 1. Companies having separate accounts for annuities to return the particulars of their annuity business in a separate statement.

Note 2. Companies having both ordinary and industrial branches to return the particulars of the business in each department separately.

Note 3. Items in this Account to be net amounts after deduction of the amounts paid and received in respect of re-assurances of the company's risks.

Note 4. If any sum has been deducted from the expenses of management account, and taken credit for in the Balance Sheet as an asset, the sum so deducted to be separately shown in the above account.

Note 5. Particulars of the new life assurances effected during the year of account to be appended to the above account showing separately, as respects business within and business out of the United Kingdom, the number of policies, the total sums assured, the amount received by way of single premiums, and the amount of the yearly renewal premium income, the items to be net amounts after deduction of the amounts paid and received in respect of re-assurances of the company's risks. The particulars as to yearly renewal premium income need not be furnished in respect of industrial business.

Note 6. The columns headed "Business out of the United Kingdom," in the case of companies having their head office in the United Kingdom, apply only to business secured through branch offices or agencies out of the United Kingdom.

(No. 2). In respect of SINKING FUND AND CAPITAL REDEMPTION INSURANCE BUSINESS

£ s. d.	£ s. d.
Amount of Sinking Fund and Capital Redemption Fund at the Beginning of the Year . . . . .	Claims under Policies . . . . .
Premiums . . . . .	Surrenders . . . . .
£ s. d.	Commission . . . . .
Interest, Dividends and Rents	Expenses of Management
Less Income Tax thereon . . . . .	Applied in Writing Down Investments . . . . .
Balance of Profit on Securities Realized . . . . .	Amount of Sinking Fund and Capital Redemption Fund at the end of the year, as per Third Schedule . . . . .
Increase in Value of Reversions . . . . .	

receipts (accounts to be specified) " vary according to circumstances, but include such amounts as—

1. Fines and fees.
2. Balance of profit on securities realized.
3. Increase in value of reversions.
4. Profit on reversions.
5. Profit on exchange.

1. Fines and fees have already been dealt with.

2. This item speaks for itself, and is necessary to account for the increase in funds arising from sales of securities.

3. Some offices value their reversions periodically, and any increase in values must similarly be brought into account.

4. Profit on reversions arises when reversions fall in, and the company takes over the securities comprised in the reversion.

5. Profit on exchange shows the profit accruing to a company on moneys from abroad being sent to this country and converted into sterling.

Similarly, the items which come under " Other payments (accounts to be specified) " would include such items as—

1. Dividends to shareholders.
2. Interim bonus to shareholders.
3. Applied in writing down investments.
4. Transfer to superannuation and guarantee fund.
5. Loss on exchange.

All these items are quite clearly withdrawals from the assurance and annuity fund, and must, therefore, be brought into account.

Note 1. A separate annuity account would be as follows—

First Schedule (A).

ANNUITY BUSINESS

	Business within the United Kingdom.	Business out of the United Kingdom.	Total.		Business within the United Kingdom.	Business out of the United Kingdom.	Total.
	£ s. d.	£ s. d.	£ s. d.		£ s. d.	£ s. d.	£ s. d.
Amount of Annuity Fund at the beginning of the year				Annuities, less Income Tax			
Consideration for Annuities granted, including renewal premiums on Deferred and Reversionary Annuities				Annuities Surrendered . . . . .			
Interest, Dividends and Rents	£			Return of Consideration for Annuities . . . . .			
Less Income Tax thereon				Commission . . . . .			
				Expenses of Management			
				Amount of Annuity Fund at the end of the year, as per Third Schedule			
£				£			

PARTICULARS OF NEW ANNUITIES GRANTED DURING THE YEAR 19..

	Number.	Total Annuities.	Consideration.	
			Single.	Renewal.
		£ s. d.	£ s. d.	£ s. d.
Within the United Kingdom . . . . .				
Out of the United Kingdom . . . . .				

Note 2. This calls for no explanation.  
 Note 3. See explanation on page 20.  
 Note 4. Such a sum would be described in some such way as Establishment Charges. It is not a tangible asset and should be written off as soon as the company's position permits.  
 Note 5. The note called for runs as follows—

	No. of Policies.	Sums Assured.	Single Premiums.	Annual Premiums.
		£	£	£
Business within the United Kingdom . . . . .				
Business out of the United Kingdom . . . . .				

Note 6. This means that companies transacting business on lives out of this country by correspondence or otherwise from the head office or a branch office in this country need not be shown separately.

SECOND SCHEDULE

In the second schedule to the Assurance Companies Act, 1909, is set forth a Profit and Loss Account, which is called for except where the company carries on assurance business of one class only and no other business. The following is a copy of the Schedule and a specimen Profit and Loss Account—

PROFIT AND LOSS ACCOUNT OF THE FOR THE YEAR ENDING 19..

				£	s.	d.					£	s.	d.
Balance of last year's account . . . . .							Dividends and bonuses to shareholders . . . . .						
Interest and dividends not carried to other accounts . . . . .	£	s.	d.				Expenses not charged to other accounts . . . . .						
Less income tax thereon . . . . .							Loss realized (accounts to be specified) . . . . .						
Profit realized (accounts to be specified) . . . . .							Other payments (accounts to be specified) . . . . .						
Other receipts (accounts to be specified) . . . . .							Balance as per Third Schedule . . . . .						
	£										£		

SPECIMEN ACCOUNT

PROFIT AND LOSS ACCOUNT OF THE ANCHOR INSURANCE COMPANY, LTD., FOR THE YEAR ENDING 31ST DECEMBER, 19..

				£	s.	d.					£	s.	d.
Balance of last year's account . . . . .							Dividends, less income tax, to shareholders . . . . .						
Interest, Dividends and Rents not carried to other accounts . . . . .				£			Expenses not charged to other Accounts . . . . .						
Less Income Tax . . . . .							(a) Applied to reduction of Office Premises Account . . . . .						
(a) Transferred from—							(b) Transferred to Personal Accident Insurance Account . . . . .						
Fire Insurance Account . . . . .							Balance, as per Third Schedule (Balance Sheet) . . . . .						
Marine Insurance Account . . . . .													
Employers' Liability Insurance Account . . . . .													
Life Assurance Account, shareholders' portion of quinquennial profit . . . . .													
(b) Excess Profits Duty refunded, less taxes on profits and Property Tax . . . . .													
(c) Transfer, Registration, and Trustee Fees . . . . .													
				£							£		
(a) Profit realized.							(a) Other payments.						
(b) Other receipts.							(b) Loss realized.						

The Third Schedule is as follows—

## THIRD SCHEDULE

BALANCE SHEET OF THE		ON THE		19..	
<i>Liabilities</i>		<i>£</i>	<i>s. d.</i>	<i>Assets</i>	
Shareholders' capital paid up (if any) £				Mortgages on property within the United Kingdom	
Life assurance funds <sup>1</sup> —				"    "    out of the United Kingdom	
Ordinary branch . . . . .				Loans on Parochial and other public rates	
Industrial " . . . . .				"    Life interests . . . . .	
Annuity fund <sup>1</sup> . . . . .				"    Reversions . . . . .	
Fire insurance fund . . . . .				"    Stocks and shares . . . . .	
Accident insurance fund . . . . .				"    Company's policies within their surrender values . . . . .	
Employers' liability insurance fund . . . . .				"    Personal security . . . . .	
Bond investment and endowment certificate fund . . . . .				Investments—	
Marine insurance fund . . . . .				Deposit with the High Court (securities to be specified) . . . . .	
Sinking fund and capital redemption fund . . . . .				British Government securities . . . . .	
Profit and Loss Account . . . . .				Municipal and county securities, United Kingdom . . . . .	
Other funds (if any) to be specified				Indian and Colonial Government securities . . . . .	
		£		"    provincial securities municipal	
Claims admitted or intimated but not paid <sup>2</sup> —				Foreign Government securities . . . . .	
Life assurance . . . . .				"    provincial " municipal	
Fire insurance . . . . .				"    municipal " . . . . .	
Bond investment . . . . .				Railway and other debentures and debenture stocks . . . . .	
Annuities due and unpaid <sup>2</sup> . . . . .				Home and foreign . . . . .	
Other sums owing by the company <sup>2</sup> (to be stated separately under each class of business)				Railway and other preference and guaranteed stocks . . . . .	
				Railway ordinary stocks . . . . .	
				Rent charges . . . . .	
				Freehold ground rents . . . . .	
				Leasehold " . . . . .	
				House property " . . . . .	
				Life interests . . . . .	
				Reversions . . . . .	
				Agents' balances . . . . .	
				Outstanding premiums <sup>2</sup> . . . . .	
				"    interest, dividends, and rents <sup>2</sup> . . . . .	
				Interest accrued but not payable <sup>2</sup> . . . . .	
				Bills receivable . . . . .	
				Cash—	
				On deposit . . . . .	
				In hand and on current account . . . . .	
		£		Other assets (to be specified) . . . . .	£

<sup>1</sup> Life companies having separate annuity fund to show amount thereof separately.

<sup>2</sup> These items are or have been included in the corresponding items in the First Schedule.

Note 1. When part of the assets of the company are specifically deposited, under local laws, in various places out of the United Kingdom, as security to holders of policies there issued, each such place and the amount compulsorily lodged therein must be specified in respect of each class of business, except that, in the case of fire, or employers' liability insurance business, it shall be sufficient to state the fact that a part of the assets has been so deposited.

Note 2. A Balance Sheet in the above form must be rendered in respect of each separate fund for which separate investments are made.

Note 3. The Balance Sheet must state how the values of the Stock Exchange securities are arrived at, and a certificate must be appended, signed by the same persons as sign the Balance Sheet, to the effect that in their belief the assets set forth in the Balance Sheet are in the aggregate fully of the value stated therein, less any investment reserve fund taken into account. In the case of a company transacting life assurance business or bond investment business, this certificate is to be given on the occasions only when a statement respecting valuation under the Fourth Schedule is made.

Note 4. In the case of a company required to keep separate funds under Sect. 3 of this Act, a certificate must be appended, signed by the same person as signed the Balance Sheet and by the auditor, to the effect that no part of any such fund has been applied, directly or indirectly, for any purpose other than the class of business to which it is applicable.

**ACCOUNTS.**

(See ASSURANCE COMPANIES ACT, 1909; BOARD OF TRADE, POWERS OF; ACCOUNTANCY DEPARTMENT; BRANCH OFFICE SYSTEMS.)

**ACCOUNTS, BRANCH OFFICE.**

(See BRANCH OFFICE SYSTEMS.)

**ACCOUNTS, SEPARATE.**

(See INDUSTRIAL ASSURANCE ACT, 1923.)

**ACQUIESCENCE.**

(See LACHES.)

**ACTUARIAL DEPARTMENT.**

The duties of the actuarial department may be put roughly into three groups—

1. General Routine.
2. Valuation.
3. Special.

1. The general routine consists of keeping the valuation and bonus records and attending to all alterations and additions. These records are usually kept on cards in some such form as the following, coloured according to class, and they are brought up to date periodically.

seeing that the premiums which are contracted to be paid are in fact received, that is to say, the department should be responsible for seeing that the premium receipts recorded by the accountants correspond with the amounts required under the actuarial records, for both new and renewal premiums. This resolves itself in practice into checking the accountant's monthly statements of premium income.

2. It is now the general practice for all offices, whatever the duration of their valuation periods, to make an annual valuation for office purposes. This involves the summation and checking of business in force at the close of the year, and tabulation and actual valuation of the assurances. The assets are also valued, sometimes by this department and sometimes by the investment department. The year's surplus is thus shown, and it is analysed by the actuarial department into its component parts, the various sources of profit being traced as a check on the results.

At the periodical distribution of surplus the work is much enlarged, requiring as it does the preparation of the various bonus registers and the overseeing of the work of

CLASS—INDICATED BY COLOUR		GROUP—INDICATED BY TAB									
No.		Office Year of Birth									
Name		Year of Maturity									
		Age at Maturity									
Sum Assured	.	Date of Entry	.	.	.	.	.	.	.	.	.
Annual Premium	.	" " Birth	.	.	.	.	.	.	.	.	.
Net Premium	.	Age at entry	.	.	.	.	.	.	.	.	.
Loading	.	Age at exit	.	.	.	.	.	.	.	.	.
Payable	.	Cause of exit	.	.	.	.	.	.	.	.	.
		Bonus									
Last Payment	.										
Date of Maturity	.										
Valuation Functions	.										
Cause of Death	.	Remarks	.	.	.	.	.	.	.	.	.

The daily work will consist of working special rates, surrender values (except where these are all guaranteed and recited in the company's policies), valuation of reversions offered, and, possibly, some dealings with investments. Any proposed alteration in risk must be referred to the department for assessment, and needless to say all increases, reductions, and cessations of premiums due under policies must be provided for.

The valuation of bonus records of assurances in force is purely actuarial, but the department should also be responsible for

recording and advising, which is frequently performed by a large proportion of the staff. The surplus must be allocated to the individual policies following this statutory valuation. The student is referred for general details of the work to the various paragraphs dealing with actuarial science, under the heading of DISTRIBUTION OF PROFITS, to be found elsewhere in this volume.

3. The general tables of office premiums are, of course, already tabulated and published in prospectus form, but the preparation

of a new table or the revision of an old table is occasionally required. The examination of rates of premium for the purpose of gauging their equity between different classes and ages arises occasionally, and estimates of the cost of various innovations and alterations in practice must be made.

Occasionally also the mortality experience may come under examination, either privately or in conjunction with other offices under the aegis of the Institute of Actuaries.

### ACTUARIAL SCIENCE.

In its narrowest aspects, actuarial science may be considered as a form of applied mathematics based upon vital statistics and, particularly, human mortality; probabilities and the theory of compound interest being the special branches of mathematics more particularly required. In a wider sense the science embraces developments of statistical theory and practice in various directions—financial, economic, medical, and legal, having as a primary base the scientific control of life assurance in all its aspects. Thus the study of the subject in its elementary aspects calls for a knowledge of elementary mathematics up to and including the binomial theorem; permutations and commutations; logarithms; the theory of probabilities; principles of compound interest; construction and use of mortality tables; and the theory of annuities and assurances. A progressively advancing treatment of the subject brings in trigonometry, the differential and integral calculus, finite differences, and developments of the theory of probabilities. For the full training of an actuary, reference should be made to the examination syllabus of the Institute of Actuaries, or of the Faculty of Actuaries in Scotland. See also NOTATION.

### ACTUARIES, FACULTY OF.

(See FACULTY OF ACTUARIES IN SCOTLAND.)

### ACTUARIES, INSTITUTE OF.

(See INSTITUTE OF ACTUARIES.)

### ACTUARY.

From the Latin *actuarius*, a legal writer or recorder, the term has been changed from its original meaning, and now describes one who is qualified to deal with all questions affecting insurance, and particularly life

assurance, from the mathematical, statistical, financial, legal, medical, and economic points of view.

Developed as a system of training for officials mainly occupied in life assurance offices, the syllabus for the examinations of the Institute of Actuaries (*q.v.*) exhibits the stage of development at present reached—the natural extension to friendly society and superannuation fund work, and in later days to the problems of State insurance, and with less attention to the other branches of insurance.

In Great Britain and in some foreign countries the chief officer of a life assurance company is usually an actuary, who, however, in the United States confines himself mainly to the mathematico-statistical calculations, the chief control being in the hands of business men for the most part. In Germany the administrative posts are largely taken by jurists, the insurance mathematician, most nearly corresponding to the actuary here, being a consultant rather like the chief medical adviser to a life office.

**Qualifications of an Actuary.** In terms of the Order of the Board of Trade dated 6th June, 1910, relative to the Assurance Companies Act, 1909, any person signing as actuary valuation returns of life assurance business, sinking fund, or capital redemption insurance business, or bond investment business, shall be either—

1. A Fellow of the Institute of Actuaries or of the Faculty of Actuaries; or
2. Where application is made by a company and where, in the opinion of the Board of Trade, special circumstances exist, an Associate of the Institute of Actuaries or of the Faculty of Actuaries; or
3. The actuary at the date of making these Rules to a company under the Assurance Companies Act, 1909, having its head office within the United Kingdom or to any closed fund of such a company established in consequence of an amalgamation or transfer; or

4. Such other person having actuarial knowledge as the Board of Trade may, on the application of a company, approve.

Any person signing as actuary returns with regard to employers' liability business shall be either—

1. A Fellow or Associate of the Institute of Actuaries or of the Faculty of Actuaries; or
2. The actuary at the date of making these Rules to a company under the said Act

having its head office within the United Kingdom, or to any closed fund of such a company established in consequence of an amalgamation or transfer; or

3. Such other person as the Board of Trade may, on the application of a company, approve.

#### ACTUARY'S REPORT.

(See BOARD OF TRADE, POWERS OF.)

#### ADENITIS (Inflammation of the Lymphatic Glands).

This is commonly due either to tubercle or to a septic infection from the part of the body from which the lymphatic vessels come that enter the gland. The commonest situation is in the neck, and the commonest cause some infection of the head, throat, or mouth, e.g. septic teeth or tonsils.

Enlarged glands are frequently due to sores of the scalp or face in children.

Adenitis may be acute or chronic. If acute when a proposal is made, this must be postponed until the attack has subsided, and the primary cause efficiently treated. If chronic, the case must be declined if there is any question of tubercle, especially in the family history; or postponed until the primary cause, e.g. tonsils and teeth, have been attended to and the glands have subsided. The proposal may then be accepted at ordinary rates.

If there is a history of enlarged glands and these have been removed, a full medical history must be obtained from the doctor under whose care the case came at the time of operation, and a complete medical examination carried out to exclude the possibility of tubercle.

If this can be satisfactorily done, and there is no family history of tubercle, the proposal may be accepted at ordinary rates.

Other cases have to be dealt with on their merits, after consultation with the chief medical officer.

There is another form of general enlargement of lymphatic glands, not due to inflammation, termed Hodgkin's Disease. The presence of this condition is a definite bar to any form of life assurance. Any history, therefore, of the removal of glands calls for a full medical report as to the cause of the glandular swelling.

#### ADENOIDS.

A growth of lymph tissue at the back of the nose, causing obstruction to the breathing, and, if allowed to continue, poor chest

development and chronic ear, nose, and throat trouble. A history of adenoids removed in early childhood, with no recurrence and no history of persistent sore throats, is of no significance in life assurance. If, however, the adenoids are present in an adult, the case needs special care, owing to the likelihood of poor chest development and affections of the ear, nose, and throat being present. A medical examination is therefore essential, and must deal with all these points.

In the event of the examination proving satisfactory, the wisest course is to insist on the adenoids being removed before a policy is granted. If any of the defects mentioned above are present, the case must be dealt with entirely on its merits after consultation with the chief medical examiner. A slight increase in the premium is usually sufficient to meet the case.

#### ADMINISTRATION, LETTERS OF.

(See CLAIMS.)

#### ADMISSION OF CLAIM.

(See CLAIMS.)

#### AD VALOREM DUTY.

(See STAMP DUTIES AND STAMP ACT.)

#### ADVERTISING LIFE ASSURANCE.

In order to discuss the advertising of assurance it is necessary in the first place to consider it in relation to the general subject of advertising, and in the second place to contrast it therewith. Finally, it will seem desirable to compare the methods at present in use in this country with those which are employed in North America. But, first, something in the nature of a definition is required, and for our purpose we cannot demand great precision, and can satisfy ourselves by saying that advertising consists in "making known." From this very wide definition it follows at once that there is some measure of advertising in almost every activity of the assurance companies; and it must, therefore, be said at once that there is no intention here to do more than mention such influences as the head office and branch offices of the companies transacting business, the personnel of the directors and the officers of the companies, and the influence of the various representatives, both inside the offices and out in the field forces. For our purpose we shall confine the discussion of advertising to those activities which are primarily put into

motion with the deliberate intention of providing publicity, eliminating those activities which have some other primary purpose, and merely produce advertising value as a by-product. Moreover, certain specific types of publicity are dealt with elsewhere in this dictionary, and here it is intended to deal only with the following three forms of advertising—

1. Newspapers and periodicals.
2. Posters.
3. Theatres and cinemas.

The reader is referred also to PROSPECTUS, PREPARATION OF; and CANVASSING LEAFLETS.

**General Principles.** While this is not the place to discuss at great length the general principles which underlie all forms of advertising, we must first briefly review those principles which have always to be borne in mind in any form of publicity, including assurance advertising, notwithstanding those special requirements of assurance publicity, even sometimes at variance with the principles underlying publicity in general, which have to be noted later on. Whether our advertisement appears in the pages of a newspaper or periodical, or is flashed upon the screen in a theatre, or appears upon the poster hoardings, there are four duties which it is intended to perform, and which must be performed in the order stated—

1. To attract attention.
2. To create interest.
3. To carry conviction.
4. To compel action.

These four requirements have been so often stated and re-stated that we stand in grave danger of forgetting them on account of their very familiarity. It is not sufficient to keep them in mind; it is also of the utmost importance to remember that these four things have to happen in exactly the order stated, and can happen in no other order. Moreover all four have to be borne in mind simultaneously in designing any advertisement, as otherwise there is grave danger of one or more of the requirements being secured at the expense of the others. It would be easy to give examples of advertising where attention has been attracted in such a bizarre fashion as to kill any hope of carrying conviction, or by using so large a proportion of the available space as to prevent the possibility of compelling action. Again, the student of advertising can easily collect many specimens of advertising which

are admirably designed to create interest, and no doubt would have done so if only the attention of the public had first been attracted to them. No one who is employed in the advertising profession, and, indeed, no one who has any part to play in his daily work which in any way concerns advertising, can regard himself as an ordinary member of the public so far as the advertising of other firms is concerned. Either consciously or sub-consciously he glances through the morning newspaper, or gazes upon the posters upon the hoardings, with the eye of a man who knows something of the technique of advertising, and with a mind partially receptive to the methods used by others. Even though he may hardly realize it, it is probably a fact that he deliberately looks for advertisements, and certainly if an unusual advertisement appears his attention must be immediately attracted; not in the same way as the attraction will be felt by the general public, if indeed it is so felt, but because he has an interest in knowing what it is that is being advertised in this unusual manner. Thus, in passing, we must state that very often the advertising which would appeal to 99 per cent of the people engaged in the business would have no attraction whatever for the public. Nor is there any lack of instances where advertising which is hopelessly incorrect, as judged by every canon of advertising principle and practice, has had an enormous success so far as its effect upon the community is concerned.

**Attracting Attention.** From first to last the purpose of an advertisement is to start a process in the minds of as many people as possible, and to carry that process through to a satisfactory conclusion. For this reason we must remember that the mind is highly complex, and without going into questions of psychology it will, perhaps, be sufficient for our purpose if we divide all mental processes into two classes, conscious and sub-conscious. Upon first reflection we may be tempted to imagine that everything which enters the mind is dealt with, first, consciously, and then when it has been thoroughly digested, as it were, becomes sub-conscious. For example, the infant, soon after he has first learned to walk, essays to mount a flight of stairs, and to return, and finds that it is a problem upon which he must concentrate the whole of his mental forces. In later life he runs gaily up and down stairs without giving the matter a thought; by which we mean that although

the mind is controlling the muscles, and at a very much more rapid rate than in those early days, he is not conscious of any thought. So much so is this a fact that if anyone who is in the habit of running downstairs two steps at a time, will try the experiment when half way down of suddenly bringing the conscious mind to bear upon the subject, that is to say, will deliberately pay attention to what he is doing and to the steps on to which he has to place his feet, he will find that he is in danger of stumbling, or may even fall.

Innumerable other examples could be quoted of matters which at one time required our concentrated attention, but which later became habitual, and have accordingly been relegated to the sub-conscious mind; but the temptation to imagine that this order of things inevitably occurs must be resisted, for if we ponder the matter a little more fully we shall presently be bound to admit that there have been many cases where something has first impressed our sub-conscious mind, without our realizing it, so that an unborn idea has lain, perhaps for many months or years, waiting to be brought to birth in the conscious mind. It may be doubtful whether a single isolated idea can reach the sub-conscious mind without being placed there by the conscious, but no thought consists of single isolated ideas; it is only by taking a number of ideas and weaving them together, comparing phenomena which have just been observed with other phenomena of which we have had experience in the past, that thought is formed. Thus our sub-conscious mind contains a vast store of units, which at any moment it may group together into thoughts, and thrust these thoughts into the conscious mind. Very frequently it happens that the reception into the conscious mind from an external source of one unit will prove all that is necessary to complete a group the remaining members of which are already in the sub-conscious mind, from which they are instantly drawn. Thus it is that there are so many people who declare that they never look at advertisements, but who will be found quite familiar with the first dozen well-advertised products that one cares to mention to them.

If one advertisement alone were to complete all the four requirements of advertising, it would have, in the first place, to be so striking as to attract attention to the extent of excluding every other thought from the mind of the reader. This is very seldom

possible, and the cumulative effect of advertising, to which reference must be made again, is a natural result of the fact that at first the advertisement is attracting only sub-conscious attention.

If the Post Office should decide to erect a pillar box in the corner of a certain street, every passer-by would have his attention irresistibly drawn to the operation of setting up the box, and to its subsequent painting. By the time the paint had dried, his interest in it would have ceased. Thereafter he might pass it daily for years without noticing it at all, and, indeed, if it were not used by him he might forget its very existence, although he passed it twice a day. It is then perfectly true to say that he would never see that box again until the day when, having been found of no further use, it had been removed early, before his arrival. If the Post Office wished to keep their pillar box before the attention of the general public, they would paint it a different colour every week, and move it from one corner of the street to the opposite corner at least once a month.

Just as nobody observes consciously everything which his eye lights upon in the street, so no one reads a newspaper from one end to the other. Yet probably the eye glances over every paragraph of every page. The reader sees everything, but is aware of only those things which he wishes to become conscious of, because they are of interest to him. Should one have the misfortune to be fined for being drunk and disorderly, it is remarkable how quickly one's friends will notice the fact in the morning's newspaper, be the item reported in the briefest possible terms, and printed in the smallest type, and in the most obscure position. Something, it may be only a word, has darted from the sub-conscious mind to the conscious, and attention has been aroused. The average reader of a newspaper does not usually scan the advertisements deliberately; indeed, many readers do everything in their power to avoid them. Consequently the good advertisement is one which contains something which will first attract the eye, then create sufficient impression upon the sub-conscious mind to require the attention of the conscious, either by arousing curiosity, or by stirring any of the emotions. Finally, it must be remembered that usually more than one hammer blow upon the sub-conscious mind will be required before the conscious mind is aroused; and that the same means cannot be indefinitely continued

for effecting these hammer blows upon the sub-conscious mind for the reason that, like the pillar-box, that which is constantly seen is after a very short period in danger of never being seen at all.

**Creating Interest.** When it is realized how complex are the workings of the mind, it becomes apparent that it is impossible to draw a hard and fast line between the attracting of attention, and the creating of interest. Of course, the attention which is attracted may be unfavourable, in which case no interest can ever be created; but providing favourable attention is attracted, the process of creating interest commences at once. Having attracted attention, it is necessary to maintain it; and, indeed, it must be maintained so long as the interest continues. Precisely the same principles apply, whether the advertisement consists of half-a-dozen words only, or several hundred. In general terms, it may be said that so long as the advertisement tells the reader something which he wishes to know, whichever one of a thousand possible motives may be in operation, his attention will be maintained and his interest continued, unless something more insistent or more attractive calls his mind elsewhere. It is more than likely that in the advertisements it may be necessary for you to tell him something he does not wish to know; as, for example, that Lord Muffin is the chairman of your board of directors, or that the reader must divert the money which he intends, and wishes, to spend upon his own pleasures and use it instead for the purchase of life assurance, which at the moment would be a most unattractive thing to him.

Unpalatable statements of this kind can only be introduced at the risk of breaking his interest, losing his attention, and causing him to cease reading the advertisement; or deferred to a point where his interest has been aroused to such an extent that it has become a desire of sufficient strength to compel him to accept the medicine within the sugar coating.

**Carrying Conviction.** It follows that it must be a dominant note of every advertisement, whether that advertisement appears in the press or otherwise, that the article advertised is everything which it is represented to be, and that the advertiser is a proper source from which to obtain it. Obviously if extravagant and exaggerated claims are made for the article, or it is praised in such terms as to be incredible, a negative reaction will immediately be set up in the

mind of the reader, who has learned in the school of experience that this is a hard world for anyone who is too gullible. So also with the advertiser himself; an advertisement by the local ironmonger offering to repair motor cars would certainly carry no conviction whatever. Furthermore, a point which is of particular importance to us for our present topic, it is customary to find among the largest financial institutions a certain quiet dignity, which need not necessarily connote a dormant state, and it is natural to imagine that any absence of this dignity indicates a smaller and less secure institution. It accordingly follows that the question of dignity is intimately connected with the carrying of conviction.

**Compelling Action.** It must not be imagined that by this phrase we mean that the moment the reader has completed our advertisement he is to leave everything else and not rest until he has sought out and acquired the article advertised. Sometimes, indeed, this may happen; more usually we must be satisfied if we can put him into a frame of mind such that he will be prepared to buy when some further factor is brought into existence; such, for example, as seeing the advertised article in a shop, or being directly appealed to orally to make a purchase. In recent years it has become very usual to attempt to take advantage of the favourable state of mind which has been created by asking the reader to write at once, before the matter fades from his memory, either for further particulars, or a catalogue or booklet with any interesting sounding title, or in some cases for a free sample, a method which, where it is feasible, appears to be never failing of results. It is important to notice that this must not be confused with compelling action. We have admittedly made the reader do something, but it is not yet the thing which we wish him to do. What we have really accomplished is this: We have secured the means of getting into touch again, and perhaps many times, with a certain proportion at least of those readers who have shown sufficient interest in our advertisements to write for whatever it is that we are offering. The distinction just indicated is an important one, too often lost sight of, because unless the attraction which has caused the first action is in direct conformity with the attraction which we have at our hand for ultimately compelling the action desired, we shall in all probability succeed merely in getting into

communication with the wrong people. Every advertiser of experience knows of certain newspapers in which a properly worded advertisement, and even quite a small one, will inevitably produce thousands of inquiries. It is, unfortunately, all too easy to attract inquiries from the people who under no circumstances could be attracted to the proposition itself, and to fail utterly to attract any inquiries from those from whom business might have been obtained if means had been provided for ascertaining their names and addresses.

**A Contrast.** From many points of view the advertising of life assurance provides a striking contrast to the advertising of other commodities. With, it is believed, one single exception, no life assurance company has ever succeeded in selling its services through the medium of the post alone. For reasons which we need not discuss here it must be conceded that the final stage of selling a life assurance policy is nearly always a face-to-face conversation between the prospective policy-holder and a representative of the company. It follows that life assurance advertising effort must always be secondary to personal effort, and that, moreover, it must always accompany, and can never precede, the creation of the selling force. Again, life assurance is not a thing which every man is ready to buy at any moment; but what is true in general of the cumulative effect of advertising, is especially true of life assurance. During the first fifty years of a man's life, he may, perhaps, buy life assurance five times. If it were possible to keep dinning into every man's mind between the time when he is twenty and the time when he reaches age forty, the idea that he should assure his life, that he should assure it for very large amounts, and that he should assure it with a particular company, there can be no doubt that satisfactory results would eventually be achieved. If, on the other hand, we engage in an intensive advertising campaign over a period of a month, and then because no tangible results accrue, lose heart and discontinue the campaign, it may well be that we have ceased just at the moment when our continued efforts might have been on the point of producing results. No sensible advertiser would continue a campaign indefinitely without satisfying himself that he was obtaining an appropriate return for his expenditure; but, unfortunately, the period which must elapse before it is possible to hope for any marked increase in sales is,

in the case of life assurance, very much longer than it is in the case of other commodities. A third point of contrast is the intangibility of life assurance. It is invisible, and therefore cannot be photographed; it is indefinite, and therefore difficult to describe. We cannot send samples of it, or invite the prospective purchaser to call and see it in our showrooms; we cannot offer it for a trial run; we cannot sell it on condition that the purchaser shall have his money back if he is not satisfied with it.

**Fighting Apathy.** Perhaps the most striking contrast with very many commodities, at least, is that the life assurance companies are not competing with one another, in the main, but are fighting apathy. Those who contend that a properly planned advertising campaign for life assurance, carried out by a company of repute, and continued for a long period, produces results which abundantly justify the cost, hold the opinion that in the result such a campaign, bringing largely increased business to the advertiser, nevertheless does not take away a single policy from any other company. On the contrary, it is maintained, and it must be admitted with a great deal of reason, that far from affecting other companies adversely the campaign will actually assist to increase their sales also. The foundation for this view is the well-known fact that the amount of life assurance per head of the population in this country is very much smaller than the amount per head of the population in America. Even on that side of the Atlantic it is thought, with reason, that the population is still very much under-insured. Certainly every statistical test which can be applied to the problem in this country leads us to the conclusion that if every insurance company doing business here were in one day to write as much new insurance as the total already in force, thereby in twenty-four hours doubling that total, the absorbing power of the public for life assurance would still not be appreciably affected. One cannot help noticing that large sums of money are spent continuously by rival cigarette manufacturers, extolling their particular brands. It is stated that as a result of this lavish expenditure there has, in fact, been some slight increase in the total quantity of cigarettes consumed; but if the evidence of one's own eyes is to be believed it seems clear that the absorbing power of the British public for cigarettes must be reaching saturation point. In a word, the advertisers of varying brands of

cigarettes are endeavouring to take business away from one another, or at least to prevent other makers from taking their business from them. Presumably, if all makers of cigarettes agreed to cease advertising, none of them would be one penny the worse; or it might well be that the slight decrease in the total quantity consumed would be more than offset by the saving of the money otherwise spent in advertising. So far as life assurance is concerned, this is entirely different. Whenever the companies wait for a prospective policy-holder to take the initiative it is only natural to find that several companies are in competition. It is, however, a well-known fact that the more energetically a selling campaign for life assurance is conducted, the less is the element of competition present, and the greater is the proportion of business written without consideration of the existence of any other office, upon the lives of people who would not have assured at all had it not been for the selling campaign.

**Institutional Advertising.** Based upon the firm conviction that the chief problem in the selling of life assurance at the present day is not competition one with another, but the co-operative fighting of apathy, there has for some time been in existence in Canada a scheme of institutional advertising, as it is called, i.e. co-operative publicity of the life assurance companies in that dominion. The campaign runs practically without interruption, except in the months of July and August, and the advertisements appear in every daily newspaper of repute in the dominion, both those printed in English and those printed in French. These advertisements appear at intervals of three or four weeks. They are all necessarily of a general character, serving as they do the interests of life assurance as a whole, rather than the interests of individual companies. Where possible, however, they are timed with important events of the year. For instance, during the wedding month of June, one of the advertisements used last year was entitled "On the Threshold of Life," depicting a church wedding, the copy appealing to newly-married people. In September, when schools re-open, there appeared an advertisement entitled "What About the Child's Education?" It is impossible to look at this series of advertisements without feeling that both art work and copy have been of an exceptionally high standard, thoroughly in keeping with the cause of life assurance. Some twenty-two companies contributed towards

the cost of the campaign, and it is interesting to observe amongst these the names of more than one English and Scottish company. Nowhere in any of the advertisements is the name of any company mentioned; and since the advertisements must appear above some signature, each one is boldly named at the foot "Life Insurance Service." This scheme would, of course, be impracticable, or at least inequitable, were it not that all the life assurance companies of any magnitude contribute towards its cost. While every company obtains a measure of support from the campaign, it is generally believed that those companies which spend the most on their own individual advertising get the largest share of the support which the general campaign provides. Anyone who is in the habit of reading Canadian newspapers will notice the tendency of the companies to insert their own advertisements in the same issues of the newspapers as those in which the institutional advertising appears. Except that no company is mentioned, the general style of this institutional advertising does not differ materially from the style of advertising used by the companies either in Canada or in the United States, and it is therefore not necessary to refer to it further at this point.

**Contrasted Methods.** By placing side by side two cutting books, one containing specimens of the advertising used by life assurance companies in this country during a certain period, and the other containing Canadian and American advertisements which appeared during the same period, it is possible to make an exhaustive comparison between methods which even a casual glance shows to be essentially different. For the moment we will leave out of account advertisements appearing in the United States; in general, it is true to say of them anything which can be said of the Canadian advertisements, although in some respects, particularly as regards certain companies, special features are to be seen in the advertisements used in the United States, to which we will refer presently. The Canadian advertisements are in type more homogeneous, and we will first compare them with our collection of English advertisements. There are certain conspicuous differences which are observed at once—

1. It is almost impossible to find a Canadian advertisement which is not illustrated. It is only very rarely that one finds an English advertisement that is.

2. The Canadian advertising manager appears to prefer his advertisement to appear on a page where no other life assurance company is advertising. Many English companies seem to have a preference for pages where their advertisement shall appear in company with the advertisement of as many other companies as possible.

3. Each Canadian company seems to have determined upon an exact shape and size for its advertisement, which, so far at least as any one newspaper is concerned, is never varied. In the main, English companies do not appear to decide upon any particular shape or size.

4. Broadly speaking, Canadian companies seem to insert advertisements in any given paper at regular intervals; a large proportion of the advertising used by English companies appears at extremely irregular intervals.

5. Canadian companies very seldom use the same advertisement twice in the same paper. Some English companies continue to use the same advertisement more or less indefinitely.

6. There is, nevertheless, a similarity running through a series of advertisements used by a Canadian company, so that when the series is brought together it is recognizable as forming a set, and each one reminds the reader of others that he has seen. On the other hand, when the English company changes its "copy," it not infrequently changes the style so completely that there is nothing but the name of the company itself to connect the various advertisements with one another.

7. If a Canadian company inserts an advertisement in a number of newspapers, the advertisement is printed in precisely the same way in each newspaper. It should not be necessary to explain that this is achieved by supplying "electros" of the advertisement to the various newspapers. The use of electros is partially forced upon the companies by the use of illustrations, and is deliberately applied by the company to the whole of the advertisement, in order to prevent the newspaper compositor from exercising a too-lively choice in the matter of type faces. When an English company inserts the same advertisement in several papers it does not seem to use electros, or even to exercise its right to stipulate the type to be employed, with the result that not unusually the several attempts of the

various newspapers when laid side by side are hardly recognizable as the same advertisement.

8. On certain special occasions a Canadian life assurance advertisement may publish the names of a number of the directors or officers of the company. Similarly, on special occasions these advertisements may publish statistical and financial information of the company, and particularly of the progress made over a given period. Apart from these special occasions, it is almost impossible to find a single advertisement issued by a Canadian company which mentions the name of a single director or a single officer, or which gives any information whatever with regard to the company's magnitude or financial solidity. At least a majority of the advertisements appearing in this country contain the names of one or more of the directors or officers of the company, and a very large proportion of such advertisements contain some information with regard either to the funds, the amount paid in claims, the amount of assurance in force, or other statistical and financial information.

9. Almost invariably the Canadian advertisement attempts to tell a story of the results which can be achieved by the use of life assurance. Attempts to tell such a story in an English advertisement are the exception rather than the rule.

10. Ninety-five per cent of the advertisements appearing in Canada conclude either with the invitation to write for a named booklet, or with a coupon to be used for obtaining such a booklet, or for supplying information upon which the company is requested to recommend a policy. Probably not 5 per cent of the advertisements appearing here contain any coupon or other invitation whatsoever.

Posters. Those to whose advantage it is to advocate the use of the hoardings for poster publicity, seem to use as their most powerful argument the statement that the hoardings are seen by the women who are on their way to the shops with their minds bent on making purchases. When once this argument has been grasped, an analysis of the posters which are most seen upon the hoardings in this country will show that those firms which have consistently used this form of publicity over a lengthy period are in the main manufacturers who depend for their distribution upon the various shopkeepers who can be persuaded to co-operate

by displaying the goods advertised. If this be true, it follows that there is but little attraction in poster publicity for life assurance companies. It is not quite true to say that this form of advertising is entirely unknown in England, but certainly it is rare. In Canada there is one company at least which uses the poster hoardings consistently, but there does not at present appear to be any unanimous opinion with regard to the result of this campaign. At the best, poster publicity for life assurance purposes can only be regarded as subsidiary to the main advertising campaign; like those various factors mentioned at the commencement which produce publicity as a by-product, there can be no doubt that consistent poster publicity would play some part by constant repetition in helping to familiarize the name of a certain company and the idea of life assurance in general to the public. Whether for this purpose poster publicity is economically feasible, is at the best a moot point.

**Theatres and Cinemas.** The lantern-slide form of publicity, which is used chiefly by local tradespeople in theatres and cinemas, does not appear to have attracted life assurance companies either on this or on the other side of the Atlantic. There has recently been brought into existence an elaborate form of cinema publicity, in which the dose of advertising is judiciously hidden beneath a sugar coating, which takes the form of a short film story lasting some seven or eight minutes; and it is claimed that the story can in every case be made interesting enough in itself to be tolerated by the public, although in its later stages, at least, its advertising purpose must be apparent. So far as is known, the use of the film has not yet been invoked by any English assurance company, and although, as will presently appear, it has been employed in America, its use there so far has been limited to one special purpose. Possibly the public may rebel against this new form of publicity, but if they do not it is manifest that an interesting and perhaps profitable experiment lies to the hand of the first English assurance company who will venture upon this method.

**Reminder Publicity.** In considering the advertising of life assurance it is important to bear in mind that there are two kinds of publicity, which are entirely distinct, each calling for essentially different methods. The first is the announcing of something new, whether it be a new company, or a new

policy issued by an old company; the second has been aptly termed "reminder publicity," and is not intended to tell the public anything new, but consists merely of those repeated hammer-blows which, we have seen, are required in all forms of publicity, and are especially necessary in the case of such a service as life assurance, which an individual only buys half a dozen times during the course of his life at the most. This is not the place to discuss the technicalities of advertising in general, and we cannot do more here than draw the attention of the reader to the necessity for differentiating between the two kinds of publicity just mentioned, whenever he is studying advertising which has been used, or is deliberating upon the selection or the design of advertising for future use.

**American Publicity.** In addition to the general advertising of life assurance in America, which is not dissimilar to that employed in Canada, there are one or two special forms of publicity which have been developed in the United States to which attention must be drawn. Incidentally, each of these examples belongs to the form of reminder advertising, just referred to. The Metropolitan Life Insurance Company of New York, which is the largest life assurance company in the world, may be regarded as so well-known throughout the United States of America that, unless the company decided to bring out some new scheme of assurance, the whole of its publicity belongs to the "reminder" class. That this fact is well recognized is shown by the type of publicity which the company has been using, occupying whole pages in weekly and monthly magazines which are entirely devoted to the dissemination of knowledge on the subject of good health and physique. To some extent this may be regarded as part of the scheme of the Metropolitan Life Insurance Company, referred to elsewhere in this Dictionary. (See WELFARE SERVICES.)

There can be no doubt, however, that there is a great publicity value also attached to this use of advertising space for health propaganda; for the name of the company is permanently attached to the information given, and the result is certainly to remind the reader of the company and to impress him with the valuable service which it is rendering to the community at large.

Finally, the Metropolitan Life has had prepared a cinematograph film, which depicts, by analogy with the necessity for overhauling a motor car, the even more important need

for periodically overhauling the human body. The purpose of this film is primarily to advertise the form of periodical medical examination, referred to elsewhere in this Dictionary. (See PERIODICAL MEDICAL EXAMINATIONS.) The film has been prepared entirely at the company's expense, but it is shown to the public without any further cost to the company. The co-operation of the Medical Officers of Health is secured, no attempt being made to approach the cinemas direct. Apparently the Medical Officer of Health is able to persuade the local cinema proprietor of the advantage to him in showing the film without any payment for doing so. In addition to the lesson of the film, there can be no doubt that a great deal of general publicity is also secured for the Metropolitan Life Insurance Company.

#### AFRICA.

(See CLIMATIC RISKS.)

#### AFRICA, WEST COAST.

(See CLIMATIC RISKS.)

#### AFRICAN LIFE ASSURANCE SOCIETY, LIMITED.

Head Office: Johannesburg. Chief Office for United Kingdom: River Plate House, Finsbury Circus, London, E.C.2.

The African Life Assurance Society, Ltd., was established with head offices in Johannesburg, South Africa, in 1904. The Society at once commenced to issue the most up-to-date plans of insurance, and it has maintained this policy throughout its whole existence. As a consequence, the success with which it met right from the start was remarkable, and it has remained an outstanding example of the enterprise with which the Overseas British Offices have carried the benefits of life assurance at its best to the peoples of the Dominions.

For its business in the United Kingdom, the Society has a British board of directors. To all practical intents and purposes the British establishment is equal to the head office, as all matters relating to the company's policies are dealt with expeditiously, and claims are paid on receipt of proof of death and title.

The Society is concentrating upon policies carrying a definite annual guaranteed bonus, the amount of this latter varying according to the class of policy effected. In the case of whole life guaranteed annual bonus policies, the bonus of £2 per cent per annum is added during the first twenty years, but after that

time no further bonuses are added, but the premiums are substantially reduced. Under limited payment whole life and endowment assurances, however, the bonus is added for each year throughout the whole premium-paying term.

If the assured become totally and permanently disabled from any cause whatsoever, no further premiums are payable, but the policy remains in full force. By payment of a slight additional premium, the insurance can be extended to provide for payment of double the face value of the policy in event of death from accident before age 60.

The policy conditions and privileges are based upon the most up-to-date practice. Each policy contains a table of guaranteed cash or loan values, and also extended paid-up insurance. By this means the assured knows at any moment exactly what amount he can obtain either on surrender or loan, which is a very great privilege.

The Society is in a most prosperous and progressive condition, and all liabilities are amply provided for by the funds. In all respects, therefore, it is well worthy to be classed amongst the best and leading British companies, and should enhance the esteem with which British offices throughout the world are regarded.

#### AGE.

(See CLAIMS; and PROSPECTUS.)

#### AGE, AND BONUS ADJUSTMENT.

(See AGE, PROOF OF; and PROSPECTUS.)

#### AGE, ERRORS IN STATEMENT OF.

(See AGE, PROOF OF; and PROSPECTUS.)

#### AGE LIMITS FOR NON-MEDICAL SCHEMES.

(See PROPOSAL FORM.)

#### AGE, OVERSTATEMENT OF.

(See AGE, PROOF OF; and PROSPECTUS.)

#### AGE, PROOF OF.

The dates when the chief registration Acts came into force are—

England and Wales.	. . .	1 July, 1837
Scotland	. . .	1 Jan., 1855
Ireland	. . .	1 Jan., 1864

Registration of births, however, did not become compulsory in England and Wales until 1874, but it is thought that, between 1837 and 1874, 95 per cent of all births were, in fact, registered. Consequently in nearly

all cases of lives born in England and Wales since 1st July, 1837, and all cases of lives born in Scotland and Ireland since 1st Jan., 1855 and 1864, respectively, certificates of birth should be forthcoming, and may be accepted as conclusive proof of age, provided the identity of the person named in the certificate with the person named in the policy is sufficiently established. In establishing identity it is usual to rely on the full names of the parents, but married women and widows must produce their certificates of marriage. Where registrar's certificates of birth are not forthcoming, it will often be found possible to obtain a certificate of baptism, or extract from a church register or an old family Bible, which contains a statement of the date of birth or of the age at date of baptism. Usually that is near enough to satisfy the office.

Registers of baptism are, it is believed, available in every parish in England and Wales, but they only refer to persons baptized in the Church of England. There are also to be had at Somerset House registers of birth and baptism from certain English churches abroad and from certain English chaplains attached to legations, containing records for many years before and after 1837. In Scotland the registers of births and baptisms that were, prior to 1855, kept by the Established Church of Scotland are now in the office of the Registrar-General for Scotland.

In Ireland the division of the records in existence before the splitting of the country politically has not yet been carried through. Application for searches and certificates in respect of lives born in what is now Northern Ireland should be made at the office of the Registrar-General, Murray Street, Belfast. The records of births in Northern Ireland since 1st Jan., 1922, are kept in the Registrar-General's Office at Belfast, but records dealing with births before that date have not yet been handed over. Nevertheless, application for searches and certificates should be made to the Registrar-General, Belfast, by whom the certificates are issued.

Application in connection with births in what is now the Irish Free State should be addressed to the Registrar-General, Irish Free State, Dublin. Certain of the Irish Records were, however, destroyed in the fire at the Four Courts, Dublin, during the political disturbances that led up to the formation of the Free State. The remarks above as to the quasi-certainty of certificates being forthcoming in Ireland in respect of

births after 1st Jan., 1864, must, therefore, be qualified until it is known exactly what records are missing.

Some offices will accept the various Peerages, and even the Army List, as sufficient evidence of age, but it is known that there have been printer's errors in some of the former affecting the year of birth, and it is reasonable to suppose that the same may happen in the Army List. Such entries are not really conclusive evidence.

Failing evidence based on any of the afore-stated suggestions, it will usually be necessary to accept a declaration made by the life assured and/or his friends. Such a declaration would usually be made before a Justice of the Peace, and be stamped with half-a-crown as a statutory declaration, and be based on the personal appearance of the deceased, his apparent age, and on any hearsay knowledge which seems reasonable enough to be taken for want of better.

**Errors in Statement of Age.** Instances of mis-statement of age, discovered only after a claim has been intimated, are not infrequent and, as already remarked, they necessitate adjustment of the policy. If the method of adjustment is covered by a clause in the policy the practice to be followed will conform thereto, but in many offices there is no such clause, and common sense must be applied.

**Understatement of Age.** A number of offices do not state the methods they adopt in adjusting understatements of age, so that it is not possible to speak with absolute authority on the subject. It is believed, however, that the practice of the offices which publish their methods is fairly representative of the whole. Subject to this reservation, there are two methods of adjustment in common use for the rectification of understatements of age after a claim has arisen. There is, first, what has conveniently been called the accumulation method, which consists in charging the difference between the premium paid and the premium that should have been paid at the true age, accumulated at a specified rate of interest, and deducting this amount from the sum payable under the policy. And there is what has been called the reduction method, which consists in reducing the sum assured in the proportion of the premium actually paid to the premium that should have been paid for the correct age. For example, if the premium paid were £2 5s. per £100 assured, and the premium for the correct age £2 10s. per £100 assured, the sum

assured under the policy would be reduced to

$$\frac{2.25}{2.5} \times \text{£}100, \text{ or } \text{£}90 \text{ per } \text{£}100 \text{ assured.}$$

As between the two methods it may be stated that where a policy has been in force for a long time the former will, in quite a number of possible combinations of circumstances, result in a deduction which may approach or even exceed the sum assured. For this reason it is not generally considered a suitable method for rigid application in all cases. It penalizes unduly those persons who unintentionally understate their age and live to a ripe old age without discovering the mistake. The reduction method is admirable in all cases, and is the method most commonly applied.

The foregoing remarks apply equally to assurances for the whole of life and to endowment assurances payable at the end of a fixed term or at death. There are, however, on the books of many companies, endowment assurances that mature at a certain age, i.e. are payable on the actual birthday, and it will be evident that understatements in such cases will affect the term of the assurance. For instance, a policy effected at an incorrect age, say 30, to mature at age 60, would be charged for as a thirty-year endowment assurance. If it appears later that the true age at entry were 35 the policy would mature at the end of 25 years. Under such a policy the assured might continue to pay, and the office to receive, premiums after the policy had in fact matured by reason of the life having attained age 60. Such cases, therefore, require further consideration.

The circumstances under which mis-statements of this nature might be discovered are—

1. Where the error is detected at death before the number of premiums paid exceeds the maximum number that should have been paid if the age had been correctly stated. In the example given above this would mean that the life assured died, and the error was detected in investigating the claim, before 25 years' premium had been paid. In such a case the sum assured would be scaled down by the reduction method in the usual way on a 30-year term basis.

2. Where the error is detected at death, or during life after the number of premiums paid exceeds the maximum number that should have been paid if the age had been correctly stated, i.e. after 25 years' or more

premium had been paid in the example given above. It is clear in such a case that the policy really became a claim by maturity for the reduced amount on the attainment of the maturity age some time previously, and under these circumstances the reduced sum assured would generally be paid with interest at some low rate, say,  $2\frac{1}{2}$  or 3 per cent, from the date of the actual maturity, and any premiums overpaid would be returned, generally with the addition of interest at the same rate.

3. Where the life understates the age at entry and then claims the sum assured at the correct age of maturity. The normal method of procedure would then be to pay the claim for the reduced amount, but some offices might permit reinstatement of the policy to the full original sum assured, making it mature at the date the life would have attained the maturity age according to the incorrect statement made when the policy was effected. In some cases evidence of health would be required before reinstatement would be allowed.

4. Where the error is detected at the date the life has attained the maturity age according to the office records, whereas he has already passed that age. The case is somewhat like that stated under (2) above, and would seem to call for the same treatment. As, however, the payment of the reduced sum assured and the refunding of the overpaid premiums with interest would result, in many cases, in the office having to pay more than the sum assured, evidence of age is generally dispensed with, and the claim is paid in the usual way on the assumption that the age has been correctly stated. In connection with the understatement of age, the case of *Hemmings v. The Sceptre Life Association* must be noted: A proposer effected with the defendant society an endowment assurance policy payable "at age 60" or death, and inadvertently mis-stated her age as 41, whereas it was really 44. The policy was subsequently assigned to a third party in security for a loan, and payment of premiums was guaranteed by relatives of the life assured. In 1897 the relatives discovered the error in the age, and immediately informed the society which, for some reason not explained, accepted two further premiums on the original basis in March, 1898, and March, 1899. In August, 1899, the society informed the assignee for the first time of the mis-statement of age, and called upon him to pay the difference in premium accumulated

to date, and the correct premium for the future. This he declined to do, tendering the original premium in March, 1900, which the society refused to accept. It was held that by accepting premiums on the original basis after the error of age had come to their knowledge the society had forfeited their right to demand an adjustment, and that the policy matured at the true age 60, i.e. three years earlier than was provided for by the premium paid.

The opinion has since been expressed that had the policy contained a clause reducing the sum assured in the event of understatement of age, the decision would have been different. This, however, is only an opinion, and no decision has been given on the point. Moreover, few policies have such a clause, so that the importance of declining to accept premiums after an error has been detected in the statement of age, and before an adjustment has been arranged, will be seen. Where the premium is payable at a branch office or at an agency, and the information as to the mis-statement is discovered shortly before a premium falls due there is some danger of the matter being overlooked.

**Adjustment of Bonus.** Where the bonus is independent of the age of the life, any bonus standing to the credit of the policy at the time of an adjustment for understatement of age would be scaled down in proportion to the sum assured, or if the accumulation method of adjustment were applied it would remain unaltered. Where the bonus is in any way dependent on the age, this relation will not hold and a special calculation would have to be made, the nature of which would depend entirely on the circumstances.

**Overstatement of Age.** Overstatement of age is not nearly so common as understatement. The methods adopted by the offices in dealing with such cases are not clearly defined, but it may be taken as a general rule that the over-paid premiums would be returned, with or without interest, and that where interest is allowed it will be calculated at some low rate, such as 2½ or 3 per cent. According to the Queensland Life Assurance Companies Act, 1901, companies in that State may, at their option, increase the sum assured in the proportion that the premium paid bears to the premium for the correct age at entry. This method might sometimes be followed in this country also, but evidence of health would almost certainly be demanded unless the amount of the increase involved were very small.

The foregoing remarks, except those dealing with endowment assurances payable at a certain age, apply generally to all classes of life policies, but special attention is required to the following—

Last survivor assurance, where evidence of the ages of all the lives is required, even though some of them may be dead at the time the age comes to be proved.

Temporary assurance, where the accumulation method is too favourable to the assured.

Double endowment assurance and pure endowments, where overstatement must be guarded against, as the premiums sometimes decrease with age.

Children's deferred assurance where it is advisable to insist on proof of the age of the life assured before allowing any of the usual options to be exercised at age 21; and in cases where the payment of the premium is dependent on the life of the parent or guardian, evidence of his age must be obtained.

#### AGE, UNDERSTATEMENT OF.

(See AGE, PROOF OF; and PROSPECTUS.)

#### AGENCIES.

(See COMMISSION.)

#### AGENCY APPLICATIONS.

(See BRANCH OFFICE SYSTEMS and AGENCY DEPARTMENT.)

#### AGENCY APPOINTMENTS REGISTER.

(See AGENCY DEPARTMENT.)

#### AGENCY DEPARTMENT.

The agency manager, the head of this department, and indeed of the whole branch office and agency system, is responsible for the maintenance and development of new business, the production of which in sufficient quantity and quality is obviously vital to the progress and well-being of a company. The extent of the organization which is built up to ensure that the business will be forthcoming may be gauged from the fact that a moderate sized company may have anything from a dozen to a score of branches in London and the large provincial cities. These are staffed by officials who work the surrounding districts, supervising and assisting the agents who represent the company in the various towns and villages, and, in fact, in every centre of any importance in the country.

The administration of this organization

is in the hands of the agency department, but much of the work that is entailed is of a special character, the most important part of it being almost personal to the agency manager, and outside the general departmental duties. For example, matters relating to branch office administration would be referred by the branch managers to him as the head of the branch office system, and in his absence such matters, and indeed practically all questions arising for decision, would be dealt with by the chief officer of the company, except in the few cases where there is an assistant agency manager. While, therefore, the functions of the agency manager comprise some of the most important in the company's affairs, the purely departmental work is of a somewhat routine nature. Nevertheless, it affords considerable scope for the competent and enterprising clerk, as will be seen later.

The departmental duties fall under four main headings—

1. Records, appointments, and statistics.
2. Publicity and propaganda.
3. Correspondence.
4. Counter work.

#### **Records, Appointments, and Statistics.**

Complete and accurate records of the agents, numbering probably many thousands, must be kept. A card index is required, consisting of a list of the agents in alphabetical order under their names, and giving also the address, occupation, date of appointment, and any special notes referring to the particular agency. Collecting and non-collecting agents are shown by the use of different coloured cards. This index is used as an agency address book. It must be maintained absolutely up to date, for almost daily there will be additions, transfers, removals, resignations, and deaths to be attended to.

A second card index is required which is kept alphabetically under places, a set of cards for London agents usually being kept separately, itself divided up into districts convenient to the company's method of working the London area. Yet a further set of cards may be kept, giving particulars of the business introduced, and these are generally sorted into branch office order and "signals" attached which will indicate at a glance the approximate date of the last business introduced or, perhaps, in a more general way the value of the agent, thus, a red signal for very good, a blue for good, a black for medium, and no signal at all for indifferent agents.

The object of this classification is to enable notifications, new prospectuses, business whips, and so on, to be issued to the right quarters.

An agency appointment register must be kept in which full particulars of all new appointments made will be entered, and from this register the cards will be typed. The loose-leaf system is often found convenient. The register should be divided into two sections for the collecting and non-collecting agents respectively. Agency appointments are made on the recommendation of the branch managers and the head office agency inspectors, who must vouch for their suitability and, in the case of those who are to be entrusted with the collection of premiums, satisfy themselves of their financial position. It is a general rule that no agent is appointed unless he has been interviewed by an official of the company.

With the letter of appointment is usually sent a form of agreement which must be signed by the agent and returned by him to the company, when it should be filed for safe keeping. It is a convenient plan to attach to the agreement any correspondence bearing on the appointment, the branch manager's recommendation, and any subsequent correspondence that may arise. With the letter of appointment a list of agency rules and regulations, and a supply of prospectuses and forms should also be sent. On a new appointment being made, it often happens that policies introduced by an agent who has died, or who has left the district, are transferred to the new agent for collection. Or, again, the policies introduced by an agent may, for various reasons, have to be collected direct by the head office or by a branch office, or perhaps by another agent already appointed. It is necessary for all alterations of this character to be recorded in a book to which other departments will have access, so that the changes may be given effect to throughout the company's records.

All such alterations must also be promptly notified to the branches, agents, and policy-holders concerned, as must all changes of address. Full particulars of policies must be sent to the new "collector," so that they may be entered in the necessary registers or files.

(For specimen rates of commission, see under **COMMISSION**.)

Occasionally an agent's financial position deteriorates, and the company considers it desirable to withdraw his collecting authority.

In notifying policy-holders of an alteration in the collecting arrangements, great care must be taken not to prejudice the agent's position or to give him a ground of action against the company.

A complete record of the business introduced by each agent must also be kept, and a similar record for each branch office. From the latter the branch office commission will be worked. These records should be kept in loose-leaf books. An account should be opened for each agent as he does business, and the leaf containing his account inserted in this book in alphabetical order. The proposals received are first entered from the proposals book kept by the new business department, and when the policies are issued the number, class, and amount filled in from the policy register, thus—

which promotes healthy competition between the branches.

Statistics of branch office costs in full detail, rent, rates, taxes, salaries, commission, travelling expenses, and so on, worked out in their ratio either to new premium income or to sums assured as the office practice may be, must be compiled in order that expenditure may be kept in check, and any tendency to unproductive increase traced to its source and corrected. These statistics are of the greatest use in comparing the cost of business from the different branches, and enable the management to determine whether further development of any individual branch is likely to prove economic.

**Publicity Work.** The agency department also has charge of the work connected with propaganda and publicity effort, which

JOHN PETERS, HULL (YORKSHIRE BRANCH)

Date Received.	Name.	Sum Assured.	Policy No.	Class.	Completed for.
19..		£			£
Jan. 1 . . .	J. Smith	400	12321	DI	500
Mar. 3 . . .	R. Jerry	600	12749	EII	600
July 17 . . .	A. Simson	1000	Declined	---	---
Aug. 8 . . .	E. Brown	300	Rated up 7 years	---	---
					2—£1,100

The amount of a proposal is often altered on completion, and the foregoing columns provide for showing any such alterations. Should a proposal not be completed, the cause may be entered as shown. At the end of the year the business completed should be totalled and entered on the third set of cards referred to above.

A similar book, including a column for the agency, should be kept under the heading of each branch, and the totals that result can be readily checked against the agency records. The column headed "Class" is required, as the commission occasionally varies according to the class of policy issued. The percentage of uncompleted business can also be arrived at readily, the quality of the business submitted by each branch thus being indicated. Should the percentage consistently be unduly heavy, steps must be taken to ascertain the cause, and remedies be applied.

It is the practice of many agency managers to issue quarterly or monthly to each branch office a statement showing the business completed by all branches to date, a system

includes the issue of show cards, prospectuses, leaflets and circular letters, and advertising when it is not transacted by an advertising agent. Estimates for all work must be procured before orders can be given, and it is well to keep close details of the relative expenditure incurred under the above headings. The creative side of the work is in the hands of the agency manager, who frequently produces much of it personally, although for some part of it he must go to outside sources.

In a large office the stores themselves will be in charge of a store-keeper; in smaller offices the material is handled by the agency department, which will require dust-proof accommodation, large enough to admit of easy handling of the assortment of booklets, stationery, etc., which are in continuous use. An account showing how the stock of each article stands should be kept so that a proper check is maintained on the supplies in hand, and the new supplies ordered in ample time, before there is any risk of their becoming exhausted. As regards advertising, where the orders are

issued direct an order book is required in which copies of the "matter" and the proofs that are submitted for correction may be kept. All advertisements should be keyed and results recorded, so that the relative value of different advertisements may be gauged.

The issue of prospectuses and special leaflets is one of the principal methods of propaganda employed. The preparation of the prospectus is described elsewhere. Many of the leaflets issued may be regarded as supplementary to the prospectus, which is too full of technical information to prove attractive in the first instance to the public. The leaflets are brief and concise, dealing, as a rule, with the advantages of a particular type of policy or emphasizing the reasons why a life policy should be effected with the particular company. The leaflets are usually dispatched to the branch offices and agents for circulation among the public.

**Correspondence.** Agency department correspondence is mainly with policy-holders, agents, and the branch offices, and to a smaller extent only with the general public. In each case the most important part of it relates to inquiries for new business. Such inquiries received from policy-holders and from the public should not be answered direct, but should almost invariably be forwarded to the branch offices for the district from which the letter emanates, leaving the branch to reply to it, and if special rates have to be worked they should be sent with the inquiry to the branch office. This plan is not adopted by all managements, but it is gradually becoming the rule. It not only gives the branch official more status, but he, being on the spot, is generally better able to decide the best kind of reply to make. As an example of what is meant by this, consider an actual case of an inquiry for which, perhaps, the company does not give particularly good terms. Simply to quote the terms might be to lose the business. The district manager or one of his assistants in such a case would probably answer the letter in person, and suggest some more suitable policy, a course which would be much more difficult for him to adopt had the terms been actually quoted and compared by the recipient with those of another office, and a detrimental atmosphere created. The one objection to referring these letters to the branches is that it occasions delay, and this can often be overcome by telephoning or telegraphing to the branch.

In theory agents should correspond with the branch offices under which they work, rather than with the head office, but in practice their letters are frequently addressed to headquarters. Too much stress can hardly be laid on the importance of replying promptly, comprehensively, and sympathetically to agents. In some offices it is the rule to forward these letters also to the branch managers for attention, but although this plan has its advantages, there is also the consideration that if the right note be struck in the head office reply it often does a good deal to cement the agent's friendship with the company. It must be remembered that the bond between the agent and the company, especially in the early stages of the agency, is quite a slight one. It may be strengthened tremendously if the opportunities which a letter gives for letting the agent infer that his activities on behalf of the office are appreciated at headquarters are properly used. Thus in some instances it will certainly be better to reply direct to an agent's letter, leaving the branch manager when he sees him to arrange for future inquiries to be sent to the branch, but it is imperative that head office replies should strike the right note. Something more than a bald perfunctory answer to the actual question asked is called for, and a tactful letter written with imagination and insight will often help an agent materially. The fact is that the average agent is not a life assurance expert, and supplementary information to that which he actually asks for is often of the utmost value to him.

Suppose, for instance, that an inquiry is received, as it frequently is, for a straightforward premium rate which is actually in the company's prospectus. It should be clear to the department that such an inquiry comes from an agent who has not so far interested himself very deeply in assurance matters, and that it presents an opportunity for stimulating his interest in them. It is, in fact, a psychological moment for which the official who appointed this agent has been waiting. If this business is secured it may well be the means of opening the agent's eyes to the potentialities of the agency, when he may readily be induced to work actively, and become a really successful producer of business. If the agent's letter be referred to the branch manager for attention it is true that the manager can be relied on to make the most of the occasion. On the other hand, the right kind of reply

sent direct to the agent may materially assist the branch manager's efforts.

The agent has, perhaps, asked for the rate of premium for a twenty-year with profit endowment assurance of £1,000 for a life aged 30 next birthday. The obvious thing in quoting the rate is to add that on the basis of the last declared rate of profit the bonuses would amount to such and such a sum at maturity. But if, after giving this information, the writer went on to say that it might interest the agent to know that the same premium would give a policy for, say, £1,250 under the discounted bonus table (see page ... of the enclosed prospectus) or, again, a policy effected under this latter table would only cost so much per annum, the agent would begin to see the value of a wider knowledge of the subject, and if the letter wound up with the further suggestion that the branch manager would be happy to discuss the matter with the agent or with the agent's client, it is reasonable to suppose that the way would have been paved and made smooth for the manager when he interviews the agent.

This illustration serves to show the kind of openings that exist for useful and intelligent work in the agency department. Requirements in regard to life assurances are extremely varied, and present constant opportunities to an alert man with a supple mind for using his faculties.

Correspondence with the agents and branch offices on routine matters is straightforward, and calls for no special comment. Much of the branch office correspondence, however, deals with the more complex quotations for new business and the more difficult cases of comparison with other offices, for branch managers do not hesitate to apply to headquarters for assistance when they are at a loss. Although such matters are usually attended to by the agency manager personally, it is desirable that his assistants should be familiar with the terms and conditions of other companies' policies, so that they may undertake this work when necessary.

**Counter Work.** Many inquiries by brokers, agents, policy-holders, prospective policy-holders, and others are made in person at the head office of all companies. Those which have any bearing on new business should be attended to in the first instance by the agency department. These inquiries afford excellent opportunities of securing both business and agency connections, and it is of importance that the member of the

department detailed to take charge of the counter should be fully competent to deal with the varied questions that arise, and he should also be able to handle men well. In many companies a clerk has a seat at the counter, but it is a great advantage if a waiting room be available into which the caller can be shown, as it is generally found that the latter will discuss his affairs much more freely in a private room than in the publicity of the open office.

When an inquiry relates definitely to a new policy the caller should, if possible, be passed over to one of the head office "inspectors," but when, as frequently happens, this is impracticable, a representative of the agency department must deputise. He should endeavour to obtain the name and business address of the inquirer, so that an inspector may afterwards follow the matter up by calling on him.

The golden rule of counter work is to keep the negotiations open, so as to secure a clear opening for the field staff.

#### **AGENCY RENEWAL REGISTERS.**

(See BRANCH OFFICE SYSTEMS.)

#### **AGENCY, TERMINATION OF.**

(See COMMISSION ; AGENCY DEPARTMENT.)

#### **AGENDA.**

(See BOARD MEETINGS AND MINUTES.)

#### **AGENT.**

(See AGENCY DEPARTMENT ; AGENT, AUTHORITY AND RESPONSIBILITY ; AGENTS AND COLLECTORS ; BRANCH OFFICE SYSTEMS ; CORPORATION OF INSURANCE AGENTS ; CORPORATION OF INSURANCE BROKERS ; INSURANCE BROKER, FUNCTIONS OF ; INSURANCE PARLIAMENTARY ASSOCIATION, LTD.)

#### **AGENT, AUTHORITY AND RESPONSIBILITY.**

An ordinary local agent of an assurance company is not, without special authority expressly or impliedly, empowered to bind the company by a contract to grant a policy. Acts done by agents within the scope of their authority and in discharge of their duties as agent bind the company, otherwise the company is not so bound. A representation made by an agent as to the advantages of the policy of a company which were, in fact, inconsistent with the terms of the policy, was held not binding on the company, even though made in writing (*Horncastle v. Equitable Co. of U.S.*, 1906,

22 T.L.R. 735). An assurance agent is not entitled to commission from the company and the assured, and if he takes it, the assured may recover, unless he has acquiesced in the receipt of the commission.

The London agent of a country assurance company received a proposal for an assurance. The party paid the annual premium to the agent, who promised that he should have the policy. The agent retained and misapplied the money, and never forwarded the proposal to the company. It was held, in the absence of proof of special authority to the agent, that the company was not bound to grant the policy (*Linford v. Provincial, etc., Insurance Co.*, 1864, 34 Beav. 291).

When an agent has given credit for overdue premiums, but not in fact received them, it does not necessarily bind the company to treat the policy as continuing, unless he has the express or implied authority of the company to give credit (*Busted v. West of England Co.*, 5 Ir. Ch. R. 553).

An assurance agent is usually vested with a very limited authority, chiefly to receive proposals for the assurance company and to collect the premiums on the policies when issued by the company; his duty is to forward the proposal to the company for acceptance or refusal, and he has no authority to insure on behalf of the company. If he is authorized to accept proposals for assurance, the company is bound by his act in so doing. The agent cannot generally bind the company by altering the conditions of any contract of assurance, or by reviving a lapsed policy, or *a fortiori* by pledging it to any new or additional policy without the previous approval of the company. The knowledge of the agent may be imputed to the principal, and a company may be estopped from availing itself of a condition in a policy by receiving premiums after the breach of the condition is known to its agent, if it is his duty to inform the office and he neglects to do so. A policy was subject to a condition, making it void if the assured went beyond the limits of Europe without licence. An assignee of the policy, on paying the premium to a local agent of the society at the place where the assurance had been effected, informed him that the assured was resident in Canada. The agent stated that this would not avoid the policy, and received the premiums until the assured died. It was held that the society was precluded from insisting on the forfeiture (*Wing v. Harvey*, 1854, 23 L.J. Ch. 511).

Where a person entered into a contract

with the agent of an assurance company to insure him, under the impression that he was dealing with the agent of another company, it was held that there was a contract, and that the company, whose agent he dealt with, was liable (*Mackie v. European Assurance Co.*, 1870, 21 L.T. 102).

As to the liability of the company for the unauthorized acts of the agent, the test seems to be whether the proposer was properly responsible for the mis-statements alleged against him. Where the proposal form is wrongly filled up by the company's agent and is signed by the proposer, he is usually bound by his signature, even where the proposer has answered the questions truthfully and the agent has fraudulently or carelessly written down the answers. Where such mis-statements have been made or induced by the company's agent the company is usually bound to repay the premiums received.

Agents sometimes fill up the proposal form or instruct the proposer as to filling it up. In these circumstances as regards the validity of the policy issued, it is material to ascertain: (1) Whether the company has knowledge of the true facts; (2) were the mis-statements inserted by him as agent of the company, or as agent of the assured.

Companies often protect themselves by inserting a condition in the policy that it shall not be liable in respect of any knowledge of, or notice to, an agent which has not been communicated to and acknowledged in writing by the company. An agent of an assurance company who is allowed by a proposer to invent the answers to questions which form the basis of the contract between the proposer and the company, and to send them in as the answers of the proposer, is for that purpose the agent of the proposer, and not of the company; and in such circumstances the company is not liable upon a claim under the policy by the proposer, even though he did not know that the agent had answered any question falsely (*Biggar v. Rock Life Assurance Co.*, 1902, 1 K.B. 516; see also *Newsholme Bros. v. Road Transport and General Insurance Co., Ltd.*, 1929).

Where an inaccurate statement was amended by an agent without reference to the company and premiums were paid to the agent and forwarded to the company, it was held in *Holdsworth v. Lancashire, etc., Insurance Co.* (1907, 23 T.L.R. 521) that the company having knowledge of the true facts was stopped from denying

them and was bound by the amended policy. In *British Workman's, etc., Co. v. Cunliffe* (1902, 18 T.L.R. 502), the respondent effected an assurance on a life, in which he had no insurable interest, through an agent of the appellants, who fraudulently represented that the policy would be valid. On ascertaining that the policy was invalid, the respondent claimed the return of the premiums. It was held that as the representation was made by a man skilled in assurance matters to a person ignorant of the law, the premiums could be recovered back. In *Harse v. Pearl Life Co.* (1904, 1 K.B. 558), the plaintiff took out a policy on his mother's life on the innocent representation of the defendant's agent that it would be valid. It was in fact void for want of insurable interest. In an action to recover back the premiums, it was held that the representation having been innocently made by the agent, the parties were *in pari delicto*, and the premiums could not be recovered.

Some companies insert in their policies a condition that the knowledge of their agent shall not be deemed the knowledge of the principal. In *Kelling v. Pearl Assurance Co.* (1923, 129 L.T. 573), the proposer signed a form in blank. Untrue answers were filled in by the agent of the company, although true information was given by the assured. It was held that the policy was not vitiated by the untrue statements of the agent, and that he was not the agent of the assured to fill in answers contrary to information given by the assured. In *Kettlewell v. Refuge Assurance Co.* (1908, 1 K.B. 545), the company's agent, with a view to inducing the policy-holder to continue payment of premiums, falsely and without authority of the company, represented to her that if she continued paying the premiums for four more years she would be entitled to a free policy. Relying on that representation she continued to pay the premiums as suggested, but on the expiration of that period the company refused to give her a free policy. It was held that the amount of the premiums could be recovered as money obtained for the defendants by the fraud of their agent.

Where a proposer in filling up a proposal form omits to state a material fact, but informs the agent of the true facts, and the agent informs the district manager, the knowledge thus acquired by the district manager is the knowledge of the company; and the subsequent acceptance of premiums by such district manager amounts to a

waiver of the breach of an agreement in the proposal form which vitiates the policy in the event of there being any misrepresentation or omission or concealment of a material fact (*Ayrey v. British Legal, etc., Association*, 1918, 1 K.B. 136).

"Innocent misrepresentation" should be distinguished from wilful misrepresentation, i.e. "fraud." "Innocent misrepresentation" is a mis-statement either not known to be untrue, or made without intent to deceive. Fraud is a false representation of fact made with a knowledge of its falsehood, or recklessly, without belief in its truth, with the intention that it should be acted upon by the complaining party, and actually inducing him to act upon it.

**Fraud of Agent.** A principal is liable for all the agent's wrongs in the course of his employment on his behalf. A principal is liable for the fraud of his agent acting within the scope of his authority, whether the fraud is committed for the benefit of the principal or for the benefit of the agent. The agent is also liable. But a principal is not liable for any wrongful act or omission of his agent while acting without the principal's authority outside the ordinary course of his employment, or while acting otherwise than on the principal's behalf.

#### AGENT (INDUSTRIAL ASSURANCE), REMUNERATION OF.

(See AGENTS AND COLLECTORS.)

#### AGENTS, ADVICES TO.

(See BRANCH OFFICE SYSTEMS.)

#### AGENTS AND COLLECTORS.

The Industrial Assurance Act, 1923, defined industrial assurance as being the business of effecting assurances on human life, the premiums in respect of which are received by means of collectors, subject to certain exceptions referred to elsewhere. (See INDUSTRIAL ASSURANCE ACT, 1923.) The expression "collectors" is defined in Sect. 45 and briefly may be said to refer to every person who makes house-to-house visits for the purpose of receiving premiums on life assurance policies. Under Sect. 20 of the Act if the proposal form is filled in wholly or partly by a person employed by the office, the validity of the policy may not be questioned (except where a fraudulent statement in some material particular has been made by the proposer), on the ground of any mis-statement contained in the proposal. This section is important because it reverses the general law under which an

agent in filling up a proposal form is the agent of the proposer and not of the office, and the importance of the matter from the point of view of the office is greatly increased by the fact that in industrial assurance, to a far greater extent than in any other branch of assurance, the services of the agent in filling up the proposal forms are frequently essential. By Sect. 34 it is made illegal for any person not in the regular whole or part-time employment of the office to be employed in procuring or canvassing for new industrial business. It will be noticed that this section does not prohibit the employment of part-time agents, providing they are regularly employed in that capacity. However, it is now becoming generally recognized that however much room there may be for difference of opinion as to the advisability of employing whole-time instead of part-time representatives for ordinary life assurance, the service of whole-time employees is essential for the transaction of industrial assurance. As long ago as 1863 an enactment was passed under which the British Government Post Office Department can transact industrial assurance; and the striking lack of success with which this effort has met is only one more of many pieces of evidence that house-to-house collection is an essential feature of industrial assurance. Needless to say, the laborious process of collecting small sums of money is bound to be expensive; and the high expense of transacting industrial assurance, which has throughout been one of the two major problems facing the business, is intimately associated with the employment of a small army of collectors. It is recorded elsewhere (see INDUSTRIAL ASSURANCE, HISTORY OF) that there has recently been a considerable reduction, notably in certain directions, in the expense of transacting industrial assurance. From every possible point of view it is obvious that the expense is heavy as compared with, say, the writing of ordinary assurance. In fact, in every possible commercial undertaking it is an unalterable economic law that buying and selling in small units must be a more costly operation than transactions which are carried out in bulk. An unlimited number of examples could easily be given of commodities which, purchased in large quantities, would be comparatively cheap, but which for our own convenience we prefer to purchase in small quantities; we realize quite well that in doing so we are paying very much more for them, but we are satisfied because of the convenience to ourselves. As

an example, take the municipal tramway system of any large town. If every resident would voluntarily, on the 1st of January, make a journey to the Town Hall and pay a sum of money to enable him to travel on the tramway system at any time he chose throughout the year, it would be possible to dispense with the use of conductors. But we prefer to pay for our tram rides as and when we take them, and as a consequence the municipality is compelled to provide a conductor upon every car. As we shall see presently, and as we should naturally imagine, this necessarily adds very considerably to the cost of tram rides.

Although considerable success has already been achieved, particularly in certain cases, in reducing the expense at which industrial assurance is carried on, it would not be fair to claim that all that is necessary in this regard has already been accomplished. With the exception, and admittedly very important exception, of one or two offices, it seems fairly clear that most of the American industrial insurance companies have been more successful in their efforts to reduce the expense of the business than have the companies in this country. Numerous attempts have been made from time to time to transact industrial assurance without the use of agents or collectors to call upon the policyholders week by week. Somewhat better results than those achieved by the British Government Post Office Department have been obtained by the State Savings Bank of Massachusetts, U.S.A. Nevertheless, it still remains obvious that the agent is essential to the carrying out of industrial assurance on any large scale. When one considers that during the course of the week this agent has to travel many miles collecting a few pence here and a few pence there, it is easy to understand that he requires as remuneration a substantial proportion of the amount he collects. For many years past the expense of industrial assurance in every direction, except the remuneration of the agents, has been reduced to a minimum. At the present time this remuneration forms so large a portion of the whole expense, that one does not need to be a mathematician to see that any substantial reduction in the expense ratio can only be effected now by reducing the cost factor which is represented by the remuneration paid to the agents. On the other hand, it has never been seriously contended, even by his worst enemy, that the industrial assurance agent is over-remunerated for the service which he renders

to the community. It therefore becomes obvious that any hope of reducing expense in this direction can only be effected by some change in method, some improvement in organization, by the elimination of waste time, and in fact by making it possible for one man to handle a great deal more business without any material increase in effort on his part.

The original method of remunerating agents in this country appears to have been the payment in some form or other for new business obtained, combined with a percentage of the premiums collected week by week. In many cases the method of paying a percentage of the premiums collected still continues. Our two largest companies, however, have introduced what they term the "block system," the effect of which is that collectors are paid a salary, increasing with an increase in the amount collected, but not increasing in strict proportion. Consequently as the amount collected by one man increases, his remuneration also increases, but the ratio which it bears to the total of the premiums collected decreases.

Before the introduction of the block system it was not customary on the one hand to reserve, nor on the other hand to limit, any particular agent's territory. The amount which an agent sets out at the beginning of the week to collect is frequently called his "debit," and the block system is so called because it represents an attempt to carry out the process of blocking debit in such a way as to avoid the overlapping of several agents in one area. It is obvious upon reflection that the larger the company, the easier it is for it to obtain worth-while results from this process of blocking the debit.

Most of the large companies in America use a salary scale method of remunerating their agents instead of a fixed percentage commission. In the case of a small agency, the salary may work out to a commission of 15 per cent or more, and as the amount collected increases the rate of commission to which the salary is equal steadily decreases, notwithstanding that the salary itself increases. Thus on a medium sized agency the salary will be equivalent to about 12 per cent of the amount collected, and on larger agencies it will be even smaller.

The first step taken in this country to get away from the method of paying a big percentage of the amount collected was the inauguration of the block system by the Prudential Assurance Co. in 1912. The company appears to have set itself the gigantic

task of changing from one system to another without allowing a single agent to suffer the reduction of one penny in the amount he received each week. Consequently, this task was spread over a number of years, and now that it has been completed it may be presumed that the number of agents employed by the Prudential has either decreased, or at least represents a smaller figure proportionate to the amount of business in force now and in 1912.

The lead of the Prudential was soon afterwards followed by the Pearl Assurance Co., which is understood to have completed the blocking of its debits. Consequently, these two companies are now operating under a system which, though different in form, is the same in effect as that employed by the American industrial assurance companies. Unfortunately, the majority of the offices transacting industrial assurances in this country appear to be unable to get away from the system of paying a fixed percentage of the amount collected. It is generally understood that in the case of the industrial assurance companies the percentage is 20, but that most of the friendly societies pay as high a percentage as 25. It must not be supposed that there is anything wrong in this ethically, but the situation appears to be subject to the criticism that the business has been proved capable of cheaper transaction by other companies. The economic laws which underlie competition must, sooner or later, and possibly very speedily, compel the companies to readjust the position; and what is true of the companies is even more true of the friendly societies. Now that two companies in this country, and the majority of the companies in America, have demonstrated the feasibility of transacting the business at a cheaper rate, it is no longer possible for the other companies to remain indefinitely paying away one-fifth or one quarter of the amount collected. Nevertheless, from every other point of view, except that of competition, the remuneration is justifiable. It is not the purpose of this Dictionary to anticipate the future, and therefore this is not the place to suggest how the position may be adjusted; but in justification of those who seek to prevent a reduction below the figure of 20 per cent, and in some cases below 25 per cent, it is only fair to revert to the case of the municipal tramways. Certain minutely accurate figures relating to the municipal trams of one of our large cities recently came before the notice of the writer. These

figures showed that out of every fourpence collected in fares from the travellers upon the trams, the salaries paid to the conductors accounted for one penny. If it is necessary to pay to the conductor of a tram, to walk briskly up and down the interior of his vehicle collecting coppers rapidly from the travellers, no less an amount than one penny out of every fourpence he receives, it is at first sight a little difficult to understand why the industrial assurance agent, who has to pass from house to house, and from street to street, often under most adverse weather conditions, should be begrudged one penny out of every five which he collects.

The majority of the industrial assurance agents in this country belong to one or other of certain trade unions. In America there is not a single industrial assurance agent who is a trade unionist. The average remuneration received by the industrial assurance agent in America is twice the average remuneration received by the industrial assurance agent in this country. In placing these two statements side by side it is not, of course, suggested that there is necessarily any relationship of cause and effect between them. Certainly the American agent receives a smaller percentage of the premium collected, and it does not necessarily follow that he works for a longer number of hours per week. We know, of course, that the average premium in the United States is considerably larger than the average premium here, and it is obvious that the average debit in the United States must be considerably larger than the average here also. The conditions in the two countries are not the same, but we have to face the fact that the two companies who have adopted the block system in this country have in effect arrived at a system which closely approximates to that used in America. Consequently, it may well be that the other companies in this country will find themselves faced with the necessity of preparing some formula for effecting a gradual change designed to reduce the percentage of premiums paid away to the agents, without reducing the agent's average remuneration. And from that point of view it may be interesting to observe the methods employed by two typical American companies. Of these companies the first has abandoned the method of calculating the remuneration for the collection of renewal premiums as a percentage, and instead pays a salary in accordance with a sliding-scale, arranged as follows.

1. Every agent is guaranteed a minimum weekly salary of \$12.00.

2. When the debit exceeds \$85.00 the weekly salary is dependent on the size of the debit, in accordance with the schedule, and may be either one of two amounts, called maximum salary and minimum salary respectively.

3. Salary is paid in accordance with the maximum salary scale, providing the agent maintains a certain specified accumulative weekly gross increase.

4. The standard accumulative weekly gross increase required to be maintained in order to qualify for salary at the maximum scale depends upon the size of the debit, and is shown in the schedule.

5. If the agent fails to maintain the required amount of weekly gross increase he is paid at the minimum salary scale.

6. Gross increase is the extent of new business and revivals over policies lapsed and otherwise charged against the agent, but excluding deaths, matured endowments, and policies paid up at age 70.

The accumulative weekly gross increase to be maintained is approximately 12 cents per \$1,000 of debit. The salaries paid under the maximum scale are calculated at 15 per cent of debit, and the salaries under the minimum scale are calculated at 12½ per cent of the debit.

In this company the agent is normally paid fifteen times the new weekly premium in respect of all gross increase as defined in paragraph (6) above, as his remuneration for obtaining new business. If and when his accumulative weekly gross increase is at least twice as much as the quotas specified above, he is paid twenty times the new weekly premium, instead of fifteen times only. Adequate safeguards are set up to prevent the danger of over-pressure being brought upon the agent.

The second company pays 15 per cent of the premiums collected upon debits of less than \$60, with no guaranteed minimum salary, except in certain cases where a guarantee is made by the company outside the terms of the agreement. Upon debits of \$60 or more the weekly salary is in accordance with a sliding scale. The effect of this scale is to reduce the percentage of salary to the debit, as the debit increases. Thus on a debit of \$100 the salary is \$14, i.e. 14 per cent; upon \$140 it is \$18, namely, 12.9 per cent; and upon \$180 it is \$22, namely, 12.2 per cent.

In this country there are believed to be

almost as many different ways of remunerating agents for new industrial business obtained, as there are companies transacting industrial assurance. It may, however, be taken as a general practice to pay agents for gross increase only, thereby discouraging them from writing business which must inevitably lapse; there is reason to believe that in years gone by the very heavy lapse ratios were partly explained by the method of remunerating agents for new business obtained without setting off the lapses which occurred; and the abandonment of this system many years ago has possibly been one of the factors resulting in a very satisfactory decrease in the number of lapses.

#### AGENTS AND PROPOSAL FORM.

(See AGENTS AND COLLECTORS.)

#### AGENTS, CARD INDEX OF.

(See BRANCH OFFICE SYSTEMS.)

#### AGENT'S COMMISSION.

(See COMMISSION.)

#### AGENT'S CONFIDENTIAL REPORT FORM.

(See PROPOSAL FORM, page 427.)

#### AGENT'S LETTER OF APPOINTMENT.

(See AGENCY DEPARTMENT.)

#### AGENTS, LICENSING OF.

(See COMMISSION.)

#### AGENTS, PART-TIME.

(See INDUSTRIAL ASSURANCE, HISTORY OF; also AGENTS AND COLLECTORS.)

#### AGENTS' POLICY LOAN INTEREST JOURNAL.

(See BRANCH OFFICE SYSTEMS.)

#### AGENTS, WHOLE-TIME.

(See INDUSTRIAL ASSURANCE, HISTORY OF; also AGENTS AND COLLECTORS.)

#### ALBUMINURIA.

Albumen in the urine (albuminuria) is an abnormality which may be due to a large variety of causes. Its significance in connection with life assurance depends on two factors—

1. Its cause, and, 2, the age of the proposer.

With regard to the cause of albuminuria, it must be appreciated that the presence of albumen in the urine is abnormal, and may be due to some defect in the kidney, or to

some abnormal condition in the ureters or bladder, e.g. calculus or tubercle.

Owing to the importance of the kidneys as "vital" organs in ridding the system of the poisonous products of the breaking down of the tissues of the body, any derangement of their function must be regarded as a danger signal, and any proposer in whom albuminuria is reported must be investigated very closely.

In years gone by albuminuria was always regarded as a definite bar to the acceptance of a life proposal. It has, however, been recognized for some years now that this condition may be only transient, and of little, if any, significance. Such cases of transient albuminuria are fairly common in youth: hence the significance of the age of the proposer.

These cases are not accompanied by any disease of the kidneys, and as far as medical knowledge goes, there is no evidence that such disease is likely to develop.

In order to distinguish between these cases and those due to disease of the kidney (which are, as a rule, uninsurable), a microscopic examination of the urine is necessary, and repeated examinations extending over three or four months must be carried out.

If a specimen of urine passed on rising in the morning contains albumen, and the person's age is under 28, the condition is generally regarded as merely functional.

Any case of albuminuria, therefore, must either be refused at once (if there are other definite signs of kidney disease), or must be postponed for further examination.

The causes of transient albuminuria are not fully known, but exposure to cold (e.g. bathing) and exercise are two conditions which may be followed by the presence of albumen. With regard to assessment, these cases may be divided into two groups—

(a) Those in which albumen is discovered at the first examination, but not subsequently.

(b) Those in which albumen may be present in two or three consecutive examinations, but then disappears.

Class (a) may be accepted at ordinary rates.

Class (b) may be accepted at a higher rate.

The albuminuria in these cases differs from that found in cases of renal disease, in that a microscopic examination shows no abnormality. In cases due to renal disease various abnormal appearances are present on microscopical examination, viz., casts and blood corpuscles.

A "cast" is a fragment of albumen,

cylindrical in shape due to its derivation from a diseased kidney tubule. These casts may be perfectly clear and transparent (hyaline), or covered with cells derived either from the kidney tubule (granular casts), or consisting of blood cells (blood casts). The presence of these casts indicates one or other of the forms of kidney disease, and such a case cannot be accepted for life assurance.

In cases where there is a past history of albuminuria, but no albumen is found in the urine at the time the proposal is made, full details of the attack must be obtained, preferably from the doctor who attended the patient, and the case submitted to a medical referee. The history of the cause of the albuminuria and of any possible illnesses that the proposer may have had to account for the condition should also be submitted.

The common causes of albuminuria are—

1. Bright's disease—acute or chronic—inflammation of the kidneys.
2. Arterio-sclerosis.
3. Tubercle.
4. Syphilis.
5. Renal calculus.
6. Cystitis (inflammation of the bladder).
7. Following specific fevers, e.g. scarlet fever, influenza, septicaemia (acute or chronic).
8. Tumour.

For the significance of the above diseases in life assurance, the reader is referred to the appropriate headings.

#### **ALLIANCE ASSURANCE COMPANY, LTD.**

Head Office, Bartholomew Lane, E.C.2.

The origin of the Alliance Assurance Company may be said to date from a casual meeting between Sir Moses Montefiore and Mr. Nathan Rothschild. Their conversation happened to turn on the subject of insurance, and it was mainly as the result of a suggestion made by Montefiore that the idea of forming a new insurance company took shape. The proposition appeared at that time to be an ambitious one, for it was decided that the share capital should be the largest, and the board of directors the most influential, of any insurance company that had hitherto been established. The company was, therefore, launched with a capital of £5,000,000, divided into 50,000 shares of £100 each, of which only £10 per share was to be called up immediately; and the presidents and directors included the most prominent financiers of the day. The prospectus stated that the

object of the institution was "to combine the highest public utility with the greatest individual benefit to the proprietors." It was further provided that "every shareholder, as a condition for holding his shares, will be required to insure a sum equal to the amount of his subscription in the fire, or £1,000 in the life department of the company." And it may have been this "alliance" between shareholders and policy-holders that suggested the company's very appropriate title.

Business was commenced on Tuesday, 23rd March, 1824, at a temporary office at No. 4 New Court, St. Swithin's Lane. With a board consisting of men of outstanding ability and high reputation in the world of finance and commerce, it was not surprising that the company's success was practically instantaneous. A wealthy and extensive clientele soon became attracted by a company with such obvious "backing" and undoubted stability. Working on soundly conceived principles, the business grew rapidly, and the names appearing on the list of directors were such as to inspire the utmost confidence and thus to facilitate the extension of the company's business connections.

Many important and old-established companies were absorbed from time to time. Amongst them may be mentioned the Provincial Fire in 1874 and Life in 1889, the Imperial in 1902, the Provident in 1906, and the Economic in 1911. But the company's activities were by no means confined to this country. Branches and agencies were established in the colonies and in foreign countries, and several colonial companies were absorbed. Moreover, the company has generally been amongst the first to liberalize the conditions attaching to life policies, and it was one of the first British offices to introduce a plan for providing disability benefits in connection with life policies. Group life assurances are also undertaken.

It may be added that the above details of the company's history were mostly obtained from its centenary volume, which was prepared by Sir William Schooling, K.B.E., in 1924.

#### **ALLIED COMPANIES.**

(For complete list, see the *Post Magazine Almanack*.)

#### **ALLOTMENT OF BONUS.**

Bonuses are allowances made by way of return to policy-holders out of the surplus disclosed at the periodical valuations of

life assurance offices. These bonuses may be reversionary additions payable along with the sum assured, or in cash, allowed as a deduction from the premiums payable. Of course, the present cash value of £1 of reversionary bonus will always be less than £1, since the date at which it will be payable is deferred to a more or less remote period, usually when the policy matures.

Depending mainly upon the methods by which they are calculated and allotted, bonuses are differentiated as follows—

**Uniform Reversionary Bonus.** In this case the amount of bonus is calculated as a percentage of the original sum assured, irrespective of any bonus that may be attaching already to the policy.

**Compound Reversionary Bonus.** Here, the bonus is a percentage of the original sum assured, together with all existing bonuses.

Evidently a compound reversionary bonus of, say, 1 per cent per annum is much more valuable than a uniform reversionary bonus at the same rate, since the actual amount of bonus declared will be increasingly greater by the former method at each successive valuation after the first.

**Contingent Bonus.** Some offices do not allow bonuses in the event of death or surrender during the first few years of a policy's existence, say, 1, 2 . . . 5. If, therefore, a valuation has taken place during this waiting period, bonuses may have been allotted, but are contingent upon the policy attaining the requisite duration before they possess a value.

**Vested Bonus.** The above-mentioned contingent bonuses are said to become "vested" when the waiting period has elapsed, and, of course, all other bonuses to which no conditions attach are vested also.

**Deferred Bonus.** It may be a condition of certain forms of policy that no bonuses will be credited until the lapse of a fixed duration, such as 10, 15, 20, or other definite number of years, or unless the premiums accumulated at compound interest amount to the sum assured, or until the age corresponding to the expectation of life at entry has been attained. Bonuses in such cases may be termed deferred. Such classes of assurance are usually at rates of premium scarcely in excess of those for non-participating assurances.

**Tontine Bonus.** Another system of bonus distribution formerly much favoured by American life offices, although now prohibited by the New York Insurance Law,

is that of tontine bonus (see TONTINES). Here a full with profit premium is charged, but no bonuses vest until the expiry of a fixed term—10, 15, or 20 years, say—when only those policies still in full force participate, and share not only the bonuses earned by their own premiums, but also by those on policies which have become claims by death or have been surrendered.

**Discounted Bonus.** Under a system that attained some popularity about a dozen years ago, the ordinary premiums for with profit policies were reduced by anticipating or discounting a proportion of the bonuses that the office expected to be able to distribute in the future. There were two main types, one in which the office finally exchanged the premium reduction against the prospective bonus, and the other where the exchange was only provisional. The distinction becomes clearer by supposing that at the next valuation the rate of bonus declared is less than that anticipated. In the former case nothing happens, except that the discounted bonus policy receives no new bonus, the loss incurred falling upon the general body of policy-holders. In the latter case the deficiency has to be made good out of the policy itself by a deduction from the sum assured.

Some offices made the discounting arrangement to run throughout the term of the policy, but others restricted it to the current valuation period.

**Guaranteed Bonus.** When "bonuses" at a fixed rate are guaranteed in the original contract, the policy is in effect an increasing assurance, and it is, strictly speaking, a misnomer to term the additions "bonuses," as they are not derived from the surpluses, but are charged for in the premiums as non-profit assurance. The description, however, has become customary.

**Interim Bonus.** As above stated, bonuses are declared usually out of the surplus disclosed at a valuation resulting from the operations of a past period, generally five years. Then another five years would elapse before the declaration of the next bonus. It was realized that this involved a hardship in the case of policies that terminated during a valuation period, especially, for example, during the fourth year, as they would fail to participate in profits earned. Accordingly, progressive offices introduced the practice of allowing a bonus in such cases, termed an intermediate bonus, mostly at a lower rate than that declared at the valuation, to be granted

as an anticipation of the next bonus declaration to policies terminating during the valuation period. Some offices even allow the full rate, while others restrict the concession to policies terminating by death or maturity—excluding surrenders.

**Commuted Bonus.** Commuted bonuses are reversionary bonuses which have been "commuted" or changed into alternative benefits such as (1) cash, (2) reductions of premiums, temporarily or totally, (3) alteration in the sum assured, such as changing a whole life policy into an endowment assurance.

(See **BONUS, SYSTEMS OF ALLOTMENT**, page 91.)

#### ALLOWANCES.

(See **INCOME TAX**.)

#### ALTERATION OF FORMS.

(See **ACCOUNTANCY DEPARTMENT**.)

#### "ALTERATIONS" BOOK.

(See **ENDORSEMENTS ON POLICIES**.)

#### AMALGAMATED COMPANIES.

(For complete list, see the *Post Magazine Almanack*.)

#### AMALGAMATION AND WINDING-UP.

(See **ASSURANCE COMPANIES ACT, 1909**.)

#### AMALGAMATIONS.

(See **BOARD OF TRADE, POWERS OF; INDUSTRIAL ASSURANCE ACT, 1923**.)

#### AMERICA.

(See **CLIMATIC RISKS**.)

#### AMERICA, INDUSTRIAL ASSURANCE IN.

(See **INDUSTRIAL ASSURANCE, HISTORY OF**.)

#### AMERICAN AGENT, REMUNERATION OF.

(See **AGENTS AND COLLECTORS**.)

#### AMERICAN INSURANCE PUBLICITY.

(See **ADVERTISING LIFE ASSURANCE**.)

#### ANAEMIA (Literally Bloodlessness).

It may be described as a disease due to poorness of blood, this being usually deficient in the oxygen-carrying substance haemoglobin. Common symptoms are pallor, general debility, breathlessness, and palpitation of the heart. Three forms of the disease

are known, viz., two forms of simple anaemia, (1) primary, and (2) secondary, and pernicious anaemia.

The latter is a progressive disease of which there is no known cause, and the presence of such a condition is a bar to any form of life assurance.

In the case of simple anaemia, if this is a primary condition, i.e. due to a primary deficiency in the blood and not due to any other organic disease, the case may be dealt with by postponement, in severe cases, for six to twelve months. In slight cases, if there are no other contra-indications, and the proposer is below the age of 30, a policy may be granted at ordinary rates. Such cases should, however, always be subject to a careful medical examination. In anaemia of the secondary type, i.e. where it is due to some other primary organic disease, the granting of a life policy depends entirely on the nature of the primary disease.

Common causes are haemorrhage (in females sometimes due to uterine abnormalities, which must be investigated), blood poisoning, chronic nephritis (Bright's disease) and chronic poisoning from lead, mercury, arsenic, etc.

#### ANALYSIS OF SURPLUS.

Each life office is compelled by law to make a valuation of its assets and liabilities at least once in every five years, the results, in prescribed form, being published as Board of Trade Returns. These valuations, based upon cautious estimates of the future, usually disclose surpluses, out of which bonuses, etc., are allocated to participating policy-holders. The surplus is derived from—

1. Interest earned above that assumed.
2. Mortality more favourable than that expected.
3. Expenses lower than provided in the premiums.

4. Miscellaneous sources, such as the profit made on policies surrendered or lapsed.

It is of importance to an office to know the proportions of the surplus to be ascribed to each of these heads. As time passes, conditions change, and alterations in various directions may become necessary, so that no one section of the business should be conducted at a loss, or receive a share of the surplus to which it is not entitled.

Of the above sources, the most difficult to calculate directly is that due to mortality. In *J.I.A.* xx, 153, Mr. C. D. Higham pointed out that the difference between the amount of policies which have become claims,

and the amounts expected to become claims according to the mortality table employed in the valuation was not the surplus, and explained that the actual cost to the office of the death of a life assured was the difference between the sum assured and the reserve value retained in hand to make such a payment, and that it is this balance which should be measured in any attempt to ascertain the strain of the mortality on the funds. As from the gross sum assured on the office books a certain proportion is detached, as it were, as the amount which may be expected to be paid away in claims; so from the gross liability shown by a valuation should that part be set aside, which is considered to be the reserve value of such an amount. The difference between these two segregated quantities is the true standard by which the strain of the deaths on the funds is to be measured, and according as the balance between sum assured and reserve value of the claims actually paid falls short of or exceeds this sum, is gain or loss to be attributed to the mortality experience. Thus, if to the reserve value of a policy at the end of any policy year the annual premium be added, and the sum of the two accumulated for a year at the valuation rate of interest, there will result a fund sufficient in amount both to pay in full that portion of the sum assured which is expected to become claimed through death, and also to provide the increased reserve value for

the balance; or otherwise expressed, the accumulation of reserve and premium will furnish the increased reserve for the whole sum assured, and in addition the difference between such increased reserve value and the full sum assured for that portion thereof which may be expected to drop, i.e.—

$$\begin{aligned}
 &({}_nV_x + P_x)(1 + i) \\
 &= \left\{ 1 - \frac{1 + a_{x+n}}{1 + a_x} + \frac{1}{1 + a_x} - d \right\} (1 + i) \\
 &= \left\{ 1 - d - \frac{a_{x+n}}{1 + a_x} \right\} (1 + i) \\
 &= \left\{ v - \frac{vp_{x+n}(1 + a_{x+n+1})}{1 + a_x} \right\} (1 + i) \\
 &= \left\{ 1 - \frac{(1 - q_{x+n})(1 + a_{x+n+1})}{1 + a_x} \right\} \\
 &= 1 - \frac{1 + a_{x+n+1}}{1 + a_x} \\
 &\quad + q_{x+n} \left[ 1 - \left( 1 - \frac{1 + a_{x+n+1}}{1 + a_x} \right) \right] \\
 &= {}_{n+1}V_x + q_{x+n}(1 - {}_nV_x)
 \end{aligned}$$

After describing how this theoretical demonstration should be modified in practice, Mr. Higham furnished schedules to illustrate the working-out of the process. In J.I.A. xxx, 196, Sir G. H. Ryan developed and shortened the operation by the introduction of continuous formulæ, *vide* specimen schedule as under—

VALUATION SCHEDULE, INCLUDING CALCULATION OF EXPECTED CLAIMS AND EXPECTED DEATH STRAIN

VALUATION.					EXPECTED CLAIMS AND EXPECTED STRAIN.		
Age at Valuation.	Sums Assured and Bonuses.	Net Premiums.	Value of Sums Assured and Bonuses.	Value of Net Premiums.	Expected Claims.	Value of Expected Liability Released by Death.	Value of Expected Loss of Premium Income by Death.
$x + n$	$\Sigma(S)_{x+n}$	$\Sigma P$	$\Sigma(S)_{x+n} \times A_{x+n}$	$\Sigma P \times (\frac{1}{2} + a_{x+n})$	$\frac{\mu_{x+n}}{\Sigma(S)_{x+n}}$	$\frac{\mu_{x+n}}{\Sigma(S)_{x+n} \times A_{x+n}}$	$\frac{\mu_{x+n}}{\Sigma P (\frac{1}{2} + a_{x+n})}$
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Total for all Ages.							

Then—

Expected claims =  $\Sigma$  col. (6)

Expected strain =  $\Sigma$  col. (6) -  $\Sigma$  col. (7)  $\times (1 + \frac{i}{2})$  +  $\Sigma$  col. 8.

In the discussion on this paper, Sir G. F. Hardy simplified the whole matter by dealing *en bloc* with the total accounts instead of going through the valuation schedules, as follows—

To the reserve at the commencement of the year, increased by a year's interest, add the difference between the net premiums and the claims of the year, increased by half a year's interest, and deduct the reserve at the end of the year; the result gives the

surrendered policies, as well as the reserves on claims, although it is not unusual to estimate the amount under this head more or less roughly.

This method of arriving at the mortality profit from the Revenue Account, with the aid of a few additional items, can be extended to the other sources of surplus. An example is given in the *Journal of the Institute of Actuaries Students' Society*, vol. ii, 134, by Mr. C. Carpmael, as follows—

REVENUE ACCOUNT			
Fund at beginning of year . . . . .	A	Claims and other outgo, excluding com- mission and expenses . . . . .	C
Premiums received . . . . .	P	Commission and expenses . . . . .	E
Interest (less tax) . . . . .	I	Fund at end of year . . . . .	B
		(= A + P + I - C - E)	
	A + P + I		A + P + I
$V_0$ = Reserve at beginning of year $V_1$ = " " end " "		$i$ = Interest rate assumed. $\pi$ = Valuation net premiums, corresponding to P, the office premiums received.	
Gross surplus at end of year . . . . . $B - V_1$ Deduct surplus brought forward . . . . . $A - V_0$ Surplus for the year to be analysed . . . . . $(B - A) - (V_1 - V_0)$			
to which should be added any interim bonuses paid during the year and not allowed for in the previous year's valuation.			
Interest profit . . . . .	$I - \frac{A + B - I}{2} i + (A - V_0)i$		
Loading profit . . . . .	$(P - \pi - E) \left(1 + \frac{i}{2}\right)$		
Mortality and miscellaneous profit . . . . .	$V_0(1 + i) + (\pi - C) \left(1 + \frac{i}{2}\right) - V_1$		

exact profit or loss from mortality during the year. The method can be easily extended to a quinquennium, by accumulating the total reserves at the commencement of the quinquennium for the five years, and adding the accumulated difference between the net premiums and the claims, deducting from the resulting total the reserve at the close of the period, or in terms of symbols—

$$V_0(1 + i)^5 \left\{ \begin{array}{l} + (P_1 - C_1)(1 + i)^4 \\ + (P_2 - C_2)(1 + i)^3 \\ + (P_3 - C_3)(1 + i)^2 \\ + (P_4 - C_4)(1 + i) \\ + (P_5 - C_5) \end{array} \right\} \times \left(1 + \frac{i}{2}\right) - V_5$$

where  $V_0$ ,  $V_5$  are the initial and final reserves, and  $P$ ,  $C$ , etc., the total net premiums and claims of each year.

These calculations lead to a numerical result representing the profit from mortality during the period, including profit from lapses and surrenders. To eliminate the latter items, it would be requisite to record separately the reserves upon lapsed and

There is given, further, a discussion of the question, and a numerical illustration, worked out in full, with an investigation into discrepancies arising in consequence of the assumptions made.

(See also SOURCES OF SURPLUS.)

**ANEURISM.**

A dilatation of a blood vessel, usually a main artery, due to arterial disease, sometimes associated with high blood pressure. Atheroma and syphilis are common causes. A patient suffering from this condition is uninsurable, owing to the possibility of sudden death at any time from rupture of the aneurism.

There is only one exception to this, and that is in the case of an aneurism due to injury in one of the smaller blood vessels. Such a condition may be cured by operation, and if this is done the case may be accepted at ordinary rates.

A proposer in whom aneurism appears in the family history must be subject to a careful examination to exclude inherited syphilis and arterio-sclerosis.

**ANGINA PECTORIS.**

This is an affection of the heart characterized by violent attacks of spasmodic pain in the left side of the chest. It is usually associated with an increase in the blood pressure and arterio-sclerosis. Cases in which a history of angina is given must be subjected to a careful medical examination.

If the disease is a true angina, the proposer is uninsurable, but sometimes the diagnosis is not correct, and a "pseudo-angina" may be present which may not be associated with sufficient other adverse symptoms to be uninsurable, at any rate for an endowment assurance. Such cases, therefore, should always be referred to a medical referee. Angina in the family history is important, as it may show an hereditary tendency towards high blood pressure.

**ANNUAL PREMIUMS.**

(See LIFE ANNUITIES AND ASSURANCES; also PREMIUMS.)

**ANNUAL REPORTS.**

Sect. 7 (3) of the Assurance Companies Act, 1909, provides that there shall be deposited with every revenue account and balance sheet of a company any report on the affairs of the company submitted to the shareholders or policy-holders in respect of the financial year to which the account and balance sheet relates. The Act does not direct that such report *shall* be prepared, but having been prepared, *shall* be deposited.

(See under ACCOUNTANCY DEPARTMENT.)

The preparation and submission of such a document is, however, generally provided for by the instrument constituting the office or by its regulations and by-laws, and is published with the accounts for the office financial year.

On examination of the reports issued by various companies, it will be seen that the points usually dealt with are as follows—

1. **Proposals for Assurance.** The number of proposals received, and the amount of assurances to be covered thereby are first quoted, followed by the number completed, the sums assured, and the resulting new gross and net premium income, both single and annual.

2. **Annuity Policies Issued.** The number and amount of new annuity policies issued.

3. **Claims.** Some offices merely state the total amount of the claims, including bonuses, arising under its contracts. Most, however, give fuller details separating in the first place those arising by death from those

payable upon survival. In each case the sums assured and the amount of bonus are shown, with perhaps the number of contracts involved and the total amount paid by the company since its formation. A statement embodying particulars of the mortality experience is nearly always given, and in the case of offices having a temperance section its experience in both categories is included. A few offices, it will be found, give particulars of the older policies which have become claims, such, for instance, as the sum assured, duration of contracts, and bonuses allotted, or amount paid in premiums, with the object of showing the satisfactory return under policies of assurance, even where the average duration of life is considerably exceeded.

Annuity contracts terminated during the year are referred to under this section, the number and amount being given. It is not the invariable practice of offices to give information on this last point, but where they do so it enables the reader to judge the position of this aspect of the year's working.

4. **Premium Income.** The total premium income should be quoted, with a reference to the increase on the year's working.

5. **Funds.** Attention is drawn to the movements in the accumulated funds of the office and a comparison with the amount at the end of the previous year.

6. **Expenses of Management.** It is customary for offices to mention the proportion which the total thereof bears to the premium income, and sometimes also to the total income, comparing the figures with those of the previous year, the object being to show that the business is economically managed, or, in some cases, is improving in this respect.

7. **Assurances in Force.** A few offices state the total amount in force, including bonus additions and after deducting re-assurances.

The report will conclude with the names of directors retiring and their eligibility for re-election where they are so offering themselves, and a similar paragraph relating to auditors. The report on the year's operations, at the conclusion of which a valuation is made, usually contains brief preliminary announcements pending the preparation of the Board of Trade Returns and the distribution of any surplus that may be determined upon. This is dealt with under ACCOUNTANCY DEPARTMENT, and BOARD OF TRADE, POWERS OF.

Referring to No. 4 above, except in the case of an office valuing annually, no comparison is usually possible in a valuation

year with the normal annual increases due to excess of receipts over expenditure, owing to the adjustments of book values on re-valuation of assets. On such an occasion the report will refer to the steps taken in ascertaining the value of the assets and the resulting effect on the amount of the funds, according as to whether appreciation has been taken credit for or depreciation provided for. The report will also furnish, unless embodied in a separate and more detailed document, information as to the basis on which the valuation of the liability under the policies in force has been conducted, the amount of surplus disclosed, and the proportion allocated for distribution amongst the policy-holders.

#### ANNUAL RETURNS.

(See BOARD OF TRADE, POWERS OF.)

#### ANNUAL VALUATIONS.

(See ACTUARIAL DEPARTMENT.)

#### ANNUITANTS, MORTALITY OF.

(See SELECTION; MORTALITY OF ANNUITANTS.)

#### ANNUITIES.

**Historical Note.** The whole subject of annuities is of historical as well as general interest, in particular the association of the status with the "length of life."

The earliest record of annuities is in A.D. 364, when the Falcidian Law necessitated some means of estimating the value of legacies determined upon death. In the Middle Ages, when "usury" was "penal," borrowers, in lieu of interest, were forced to repay by means of annuities, which were however for some time forbidden as amounting to usury, until the practice received Papal sanction in the fifteenth century.

Almost every Government has resorted at various times to annuities of some form or other to induce the public to part with their capital to replenish exhausted national exchequers, and in some cases exorbitant terms were offered dependent on the credit of such Government.

Annuities were granted "in perpetuity," in other cases for a term certain, or for a life, or, as in the famous Tontines, for the joint existence and until the last survivor of a number of lives.

**Consols.** In our own country for many years, Consols, an abbreviation for Consolidated Annuities, have constituted a large part of the National Funded Debt, and in

1752 various perpetual and lottery annuities were consolidated into annuities bearing 3 per cent, reduced to 2½ per cent in 1888, with provision for a further reduction to 2¼ per cent in 1903, the Government having the right, which has not been exercised, of repayment on or after April, 1923.

**Terminable Annuities.** Terminable annuities and annuities on lives are the chief method by which the Funded Debt has (until the war) been reduced, the larger definite income consequent upon a limitation of status being in many cases preferred to the small return secured on a perpetual annuity, coupled with a serious risk of fluctuation in its market capital value.

For a full and interestingly written history of the means of raising money in this country by the Government, by means of lottery bonds, perpetual annuities, annuities and annuities-certain and life annuities, the student should read *Stock Exchange Securities*, by Sir Joseph Burn, F.I.A. (C. and E. Layton).

**Explanation of Annuity.** The term "annuity" is derived from the Latin "annus" (a year) and is a series of payments made at uniform intervals during a given status or a definite period.

The annuity payment is more often payable by instalments, e.g. quarterly, half-yearly, or monthly, but the basis of calculation is a "sum per annum."

In some rare instances, such, for example, as in connection with a lease renewable subject to periodical fines, the fines constitute an annuity payable every time the lease is renewed, which would be at the end of every term of years it expires.

**Conversion of Capital to Revenue.** The whole subject of annuities is rendered more simple if one considers an annuity as a result of the conversion of capital into a maximum revenue.

A sum is sunk, and in return therefor a definite annuity or allowance is granted over a definite period, at the completion of which the recipient of the annuity is considered to have had the equivalent to the capital invested.

The difference between an annuity and an investment is that in the latter case the investor looks for an annual return or yield, and trusts to receive the return of his capital when he gives up his investment by sale or by reason of its redemption.

**Component Parts of Annuity.** In an annuity, however, the income includes both interest and return of principal or capital,

and this composite feature must be constantly borne in mind.

It matters not what class of annuity one is considering, the relation  $\frac{1}{a} = \frac{1}{s} + i$  holds consistently, which means that the annuity which a unit of principal will purchase is of two parts,  $i$ , the interest on the amount invested, and  $\frac{1}{s}$  the sinking fund or sum to be set aside to be accumulated so as to replace the invested unit by the time the annuity ceases, whatever may be the status or the period it has to run.

**Definition of Perpetuity.** It is only in the extreme case of a perpetual annuity—or a perpetuity—(see below) that the distinction between an investment and an annuity disappears.

In such a case the annuity never ceases, and in effect it resolves itself into a perpetual investment (in the above illustration), of a unit of money which produces  $i$  per annum (interest) for ever, so that  $\frac{1}{s}$  becomes zero and  $\frac{1}{a} = i$ . In other words, £100 at 5 per cent will provide £5 per annum if perpetually kept invested, so that at 5 per cent a unit invested in purchasing a pension is worth 20 years' purchase ( $\frac{1}{a} = .05$ , or  $a = 20$ ).

#### FORMULA

Throughout this article the following general notation, which is adopted in annuity calculations, has been used. The annuity payment has been generally treated as a unit and payable *per annum*, other amounts being in strict proportion, except in the case of a varying annuity (increasing or decreasing—see below).

(1) The number of years is symbolized by  $n$ , which, of course, in the case of a perpetuity is infinity.

(2) The present value of 1 due a year hence is symbolized by  $v$ , and  $v^n$  therefore represents the present value of a sum of 1 due  $n$  years hence.

(3) The effective rate of interest forming the basis of calculation is usually formulated "per unit" and is represented by  $i$  per annum.

(4) The nominal rate of interest per annum if interest is converted at periods other than annual, is symbolized  $j$  per unit per annum,

and if interest is converted  $m$  times a year it is obvious that  $i = \left(1 + \frac{j}{m}\right)^m - 1$ .

(5) In the case of life annuities the lives are generally symbolized as of age  $x$  or  $y$ .

Other symbols will be introduced as required, the Institute of Actuaries' Notation being adopted.

**Perpetuities.** The formula for the value of a perpetuity of 1 per annum  $= \frac{1}{i}$ , the formula for the value of a perpetuity due  $= \frac{1+i}{i}$ , and that for the value of a perpetuity to be entered on in  $n$  years' time  $= \frac{v^n}{i}$ .

The attraction of an annuity from a purchaser's point of view is that it produces over a fixed period a larger income for a given amount of capital, whilst for the purpose of financing a loan, an annuity operates automatically to repay such loan by easy instalments, for, as explained, a component part of each annuity payment constitutes a sinking fund for capital repayment.

The principal types of annuity are dealt with under the various headings, and, where it is possible, a simple formula given in each case and illustrations given with samples of rates if quoted for by life assurance companies.

(See ANNUITIES-CERTAIN; ANNUITIES DEPENDENT ON MARRIAGE; ANNUITIES DEPENDENT ON SICKNESS; ANNUITIES GENERALIZED TABLES; ANNUITIES GRANTED BY LIFE ASSURANCE COMPANIES; ANNUITY-CERTAIN; ANNUITY PROPOSAL AND POLICY FORMS; COMPOUND SURVIVORSHIP ANNUITIES; DEFERRED ANNUITIES; GOVERNMENT LIFE ANNUITIES; IMMEDIATE ANNUITIES; JOINT LIFE ANNUITIES; LIFE ANNUITIES (SINGLE LIVES); LIFE INTEREST IN POSSESSION; MORTALITY OF ANNUITANTS; PERPETUITY OR PERPETUAL ANNUITY; REVERSIONARY ANNUITIES; REVERSIONARY LIFE INTEREST; TEMPORARY LIFE ANNUITIES; THEORY OF ANNUITIES; TRUSTEES SAVINGS BANK AND FRIENDLY SOCIETIES.)

#### ANNUITIES AND INCOME TAX.

(See INCOME TAX.)

#### ANNUITIES-CERTAIN.

The word annuity means literally an annual payment, but has come to denote a series of payments at stated intervals.

The series may be uniform or varying, the intervals may be yearly or at shorter or even longer intervals. An annuity-certain is, as indicated by the name, one that is certainly payable, that is, its payment does not depend upon any external contingency such as life. Thus an annuity-certain has been defined as a series of payments made at equal intervals during a fixed term of years.

If  $a_{\overline{n}|}$  denote the present value of a series of  $n$  payments of 1, each due at the end of the 1st, 2nd, etc., up to  $n$  years, then  $i$  being the

effective rate of interest, and  $v = \frac{1}{1+i}$

$$a_{\overline{n}|} = v + v^2 + v^3 + \dots + v^n$$

this being a geometrical progression which

$$= v \frac{(1-v^n)}{1-v} = \frac{1-v^n}{i} \dots (1)$$

An alternative derivation of formula (1) is as follows: If a capital of 1 be invested for  $n$  years, the annual interest is  $i$ . As the present value of 1 due  $n$  years hence is  $v^n$ , the present value of the interest of  $i$  per annum is  $1-v^n$ , and hence the present value of 1 per annum is  $\frac{1-v^n}{i}$ .

For various purposes, such as premium payments, the value of an annuity commencing with a payment down is required. Let such an annuity be  $a_{\overline{n}|}$ , then

$$a_{\overline{n}|} = 1 + v + v^2 + \dots + v^n \dots (1)$$

$$= 1 + a_{\overline{n-1}|} \dots (2)$$

This form is termed an annuity due, the other in contradistinction being called an immediate annuity.

As  $n$  increases,  $v^n$  decreases. When  $n = 100$ , the value of  $v^n$  at 4 per cent is less than .02. When  $n$  is increased indefinitely, the value of  $a_{\overline{n}|}$  is  $\frac{1}{i}$ . This is termed

a perpetuity.

A deferred annuity arises where the annuity does not commence for a number of years. If the period of deferment be  $m$  years, then

$${}_m/a_{\overline{n}|} = v^m \cdot a_{\overline{n}|} \dots (3)$$

Formula (1) is true for all values of  $i$  or  $n$ .

Instead of the present value, it may be required to ascertain the amount to which the successive payments of an annuity would accumulate. Let  $s_{\overline{n}|}$  represent such an amount at the end of  $n$  years. The first payment, due at the end of 1 year, will accumulate for  $n-1$  years; the second for  $n-2$  years, and so on. Thus

$$s_{\overline{n}|} = (1+i)^{n-1} + (1+i)^{n-2} + \dots + 1$$

again a geometrical progression equal to

$$\frac{(1+i)^n - 1}{(1+i)} = \frac{(1+i)^n - 1}{i} \dots (4)$$

If an annuity-due is to be accumulated, the successive amounts are

$$(1+i)^n + (1+i)^{n-1} + \dots + (1+i)$$

which differs from the above in that each corresponding term is multiplied by  $(1+i)$ , and thus equals

$$\frac{(1+i) \left\{ (1+i)^n - 1 \right\}}{i} = \frac{(1+i)^{n+1} - 1 - i}{i}$$

$$= \frac{(1+i)^{n+1}}{i} - 1$$

$$= s_{\overline{n+1}|} - 1 \dots (5)$$

Formula (4) equally may be derived in an alternative manner--

Since the amount of 1 in  $n$  years is  $(1+i)^n$ , then  $(1+i)^n - 1$  represents the accumulation of  $i$  per annum. Therefore  $\frac{(1+i)^n - 1}{i}$

represents the accumulated amount of 1 per annum.

If interest is paid  $p$  times a year, then the present value of the first payment is  $\frac{1}{p} \times v^{\frac{1}{p}}$ ; of the second,  $\frac{1}{p} \times v^{\frac{2}{p}}$ , and so on.

The present value of an annuity so payable for  $n$  years is

$$a_{\overline{n}|}^{(p)} = \frac{1}{p} \left( v^{\frac{1}{p}} + v^{\frac{2}{p}} + \dots + v^{\frac{np}{p}} \right)$$

$$= \frac{1}{p} \times \frac{v^{\frac{1}{p}} \left( 1 - v^{\frac{np}{p}} \right)}{1 - v^{\frac{1}{p}}}$$

$$= \frac{1}{p} \cdot \frac{1 - v^n}{(1+i)^{\frac{1}{p}} - 1} \dots (6)$$

Analogously, the amount of such an annuity will be found to be

$$s_{\overline{n}|}^{(p)} = \frac{1}{p} \times \frac{(1+i)^n - 1}{(1+i)^{\frac{1}{p}} - 1} \dots (7)$$

If, alternatively, a nominal rate of interest  $j$  convertible  $m$  times a year has to be considered, then, since by definition (see COMPOUND INTEREST)

$$i = \left( 1 + \frac{j}{m} \right)^m - 1,$$

it is only necessary to substitute this value of  $i$  in the above formula, thus—

$$a_{\overline{n}|}^{(p)} = \frac{1 - \left(1 + \frac{j}{m}\right)^{-mn}}{p \cdot \left\{ \left(1 + \frac{j}{m}\right)^{\frac{m}{p}} - 1 \right\}} \quad (8)$$

$$s_{\overline{n}|}^{(p)} = \frac{\left(1 + \frac{j}{m}\right)^{mn} - 1}{p \cdot \left\{ \left(1 + \frac{j}{m}\right)^{\frac{m}{p}} - 1 \right\}} \quad (9)$$

An annuity, the successive payments of which are not equal, is called a varying annuity. Take the case of an annuity for  $n$  years, the first payment of which is 1, the second payment 2, and so on. Such an annuity is more particularly termed an increasing annuity, and its present value is

$$\begin{aligned} (1a)_{\overline{n}|} &= v + 2v^2 + 3v^3 + \dots + nv^n \\ \therefore v(1a)_{\overline{n}|} &= v^2 + 2v^3 + \dots + (n-1)v^n + nv^{n+1} \end{aligned}$$

and, by subtraction,

$$\begin{aligned} iv(1a)_{\overline{n}|} &= v + v^2 + v^3 + \dots + v^n - nv^{n+1} \\ &= a_{\overline{n}|} - nv^{n+1} \\ \therefore (1a)_{\overline{n}|} &= a_{\overline{n}|} + \frac{1}{i}(a_{\overline{n}|} - nv^{n+1}) \quad (10) \end{aligned}$$

In valuing an immediate annuity-certain, where income tax has to be taken into account, only the amount actually receivable should be valued, and that should be at a net rate of interest after allowing for income tax. (See *Principles of Compound Interest*, by H. H. Edwards, London, Pitman, c. viii.)

It must be noted that each payment of an annuity-certain can be split up into two parts, one representing the interest or yield on the purchase price of the annuity or its present value, and the other the sinking fund to be set aside and invested so as to reproduce the capital outlaid, for which the annuity-certain was granted, by the time it has run its course. (The symbol for the sinking fund to amount to 1 in  $n$  years is  $\frac{1}{s_{\overline{n}|}}$ ,  $s_{\overline{n}|}$  being the amount of an annuity-certain of 1 per annum for  $n$  years.)

It may be noted that the rate of interest included in such payment of annuity need not be the same rate at which it is assumed that the sinking fund, or capital contained in each annuity payment to repay the capital expended in the purchase of the annuity,

can be re-invested. In other words, in the formula for the value of an annuity-certain for  $n$  years, purchased by a capital of 1, viz.,  $\frac{1}{a_{\overline{n}|}} = \frac{1}{s_{\overline{n}|}} + i$ , it is not necessary that  $i$  must be the same rate per unit as that which  $\frac{1}{s_{\overline{n}|}}$  is calculated.

When two rates are employed, that at which the sinking fund is calculated is termed the *reproductive* rate of interest, and the rate realized, or to be realized, on the capital invested in purchasing the annuity is called the *remunerative* rate.

The analysis of each payment of an annuity-certain is of more than theoretical value, as in the case of loans repayable by equal annual instalments of principal and interest, i.e. by means of an annuity-certain, it is necessary to know for income-tax purposes what part represents interest on capital and how much is by way of capital repayment.

A simple form of schedule is given to illustrate the analysis of an annuity-certain, but in this case the same rate of interest is used throughout, i.e. the reproductive rate is taken to be the same as the remunerative.

ANNUITY-CERTAIN OF £100 PER ANNUM FOR FIVE YEARS

At 3 per cent interest the formula for the value is  $\frac{1-v^5}{\cdot 03} \times 100$ , where  $v^5 = \frac{1}{(1\cdot 03)^5} = \cdot 86261$ . The symbol for the value of an annuity-certain for  $n$  years is  $a_{\overline{n}|}$ , and in this case,  $100 a_{\overline{5}|} = 457\cdot 97$ . Alternatively,  $100 a_{\overline{5}|} = \frac{100}{\frac{1}{s_{\overline{5}|}} + i} = \frac{100}{\cdot 18835 + \cdot 03} = \frac{100}{\cdot 21835} = 457\cdot 97$ .

Year	1	2	3
	Outstanding Capital at beginning of each year.	Interest for year.	Capital repaid in year and included in annuity payment.
1	457·97	13·74	86·26
2	371·71	11·15	88·85
3	282·86	8·49	91·51
4	191·35	5·74	94·26
5	97·09	2·91	97·09

Total capital repaid . . . . . 457·97

NOTE that col. 2 + col. 3 equals £100 per annum for any year, being the annuity.

In order to make the matter quite clear, the value of an annuity-certain may be ascertained by an alternative method to that referred to earlier. Taking the same illustration, the investor will receive—

	Present Value at 3%
£100 due at end of 1st year . . . . .	£97-09
£100 „ „ „ „ 2nd „ . . . . .	94-26
£100 „ „ „ „ 3rd „ . . . . .	91-51
£100 „ „ „ „ 4th „ . . . . .	88-85
£100 „ „ „ „ 5th „ . . . . .	86-26

Present value of an annuity-certain  
for 5 years of £100 = £457-97  
as before.

In the same way the *amount* of an annuity-certain of £100 per annum for five years can be ascertained—

£100 due at end of 1st year accumulated for 4 years . . . . .	£112-55
£100 due at end of 2nd year accumulated for 3 years . . . . .	109-27
£100 due at end of 3rd year accumulated for 2 years . . . . .	106-09
£100 due at end of 4th year accumulated for 1 year . . . . .	103-00
£100 due at end of 5th year . . . . .	100-00
Amount of Annuity at end of 5 years =	<u>£530-91</u>

This is symbolized  $100s_{\overline{5}|}$ . Hence  $\frac{1}{s_{\overline{5}|}}$   
=  $\frac{1}{5.3091} = .18835$ , and obviously equals

the sinking fund or sum to be set aside at the end of each year to amount to 1 at end of 5 years. (These last three illustrations may be compared with advantage).

By way of recapitulation of the foregoing paragraphs, the first five items of the 3 per cent Table of Dougharty's *Interest and Annuity-Certain Tables* (Effingham Wilson) are reproduced in extenso at the end of this section.

It is scarcely necessary to give any specific examples of annuities-certain, as they are so well known. They comprise leaseholds and every form of loan redeemable by equal annual instalments, including principal and interest, and in particular one may refer to the "A" annuities of Indian railways, which are terminable annuities of £1 payable half-yearly until 1953, similar in character, except that the term of years may differ

in certain cases and a small deduction made in connection with management expenses and pension fund varying with different railways. Income tax is only payable on that part of the annuity representing interest, and the annuity warrant shows how this is arrived at.

The reader is referred to Sir Joseph Burn's *Stock Exchange Investments* (C. and E. Layton) for a full note on Indian railway annuities, and a table showing the points to be considered in ascertaining their yield.

Indian Railway "B" annuities are only annuities in form, as a deduction is made before payment towards a sinking fund, but there is no guarantee that such deductions will repay the capital entirely by the time the annuity ceases.

Annuities-certain can be purchased from certain insurance companies, although a very small amount of business is transacted in this direction.

In connection with educational policies for children, instead of a cash payment when such policy matures, it is customary and convenient for the purpose to pay this out by instalments, representing an annuity-certain for 4, 5, or 6 years, which option of settlement is also granted, if desired, under most life policies. Where it is desirable for purpose of the protection of the beneficiary to avoid the possibility of the policy moneys being dissipated, an annuity-certain over 15 or 20 years, securing a definite annual income, provides all that is required.

At the present time insurance companies would probably base a quotation for an annuity-certain on  $2\frac{3}{4}$  per cent to 3 per cent interest.

PURCHASE PRICE OF ANNUITY-CERTAIN  
OF £100 PER ANNUM (3%)

Years	Purchase Price
5	£458
10	£853
15	£1,194

For a fuller study of the valuation of annuities-certain the following references may be made—

1. *Interest (including Annuities-Certain)*, by R. Todhunter, M.A., London, C. & E. Layton (1915), c. iii.

2. Treated in a more elementary manner, *The Principles of Compound Interest*, by Herbert H. Edwards, London, Sir Isaac Pitman & Sons, Ltd. (1925), c. ii and iii.

1	2	3	4	5	6	7	8
Year or Interval.	Amount of 1.	Present Value of 1.	Amount of 1 per ann.	Present Value of 1 per ann.	Sinking Fund to amount to 1.	Annuity to repay 1 with interest.	Year or Interval.
$n$	$(1+i)^n$	$v^n = \frac{1}{(1+i)^n}$	$\frac{s_{\overline{n} i} = (1+i)^n - 1}{i}$	$a_{\overline{n} i} = \frac{1-v^n}{i}$	$\frac{1}{s_{\overline{n} i}}$	$\frac{1}{a_{\overline{n} i}} = \frac{1}{s_{\overline{n} i}} + i$	$n$
1	1.03000	.97087	1.00000	.97087	1.00000	1.03000	1
2	1.06090	.94260	2.03000	1.91347	.49261	.52261	2
3	1.09273	.91514	3.09090	2.82861	.32353	.35353	3
4	1.12551	.88849	4.18363	3.71710	.23903	.26903	4
5	1.15927	.86261	5.30914	4.57971	.18835	.21835	5
$n+m$	$\frac{(1+i)^n \times (1+i)^m}{(1+i)^m}$	$v^n \times v^m$	$\frac{(1+i)^m \times s_{\overline{n} i}}{s_{\overline{m} i}}$	$\frac{a_{\overline{n} i} + v^n \times a_{\overline{m} i}}$	$\frac{i}{(1+i)^{n+m}-1}$	$\frac{i}{1-v^{n+m}}$	Extension Formula.

NOTE. In the publication referred to, the Tables cover 50 years, and interest rates from 2 per cent to 5 per cent, proceeding by  $\frac{1}{4}$  per cent.

**ANNUITIES DEPENDENT ON MARRIAGE.**

It has been stated that an annuity might depend upon other contingencies than mortality, e.g. marriage, sickness, etc., and in connection with widows' benefit funds and provident and other societies, factors dependent upon combined mortality and marriage are invariably involved, and, in other cases, mortality and sickness.

The principle of calculation is the same, the only difference being the introduction of factors other than one simply involving survivorship, the additional factor being obtained from reliable data of "rate of marriage," or "rate of sickness," as the case may be.

The following values of benefits dependent on marriage are extracted from Alexander Fraser's *Scottish Bankers' Mortality and Marriage Experience*, 1903-23 (C. & E. Layton, 4s.), published in the *Transactions of the Faculty of Actuaries* (1925).

Age 40. Interest  $3\frac{1}{2}$  per cent. Value of annuity of 1 per annum, during status shown in the next column.

- (a) To a married man (including widowers) so long as he remains married . . . 17.414
- (b) To a male aged 40 taking the experience of all males (married or single) . . . 17.122
- (c) To a married woman aged 40 so long as she remains married . . . 18.904
- (d) To a widow aged 40 so long as she remains a widow . . . 18.744
- (e) Value of a sum of £1 payable on the marriage of a bachelor (aged 40) . . . .325
- (f) Value of a sum of £1 payable on the marriage of a widower (aged 40) . . . .699
- (g) Value of an annuity of £1 to widow by first marriage of a bachelor (aged 40) . . . 2.021

**ANNUITIES DEPENDENT ON SICKNESS.**

The value of a periodical sickness allowance of £1 per week for the whole of life, according to the Manchester Annuity Experience  $3\frac{1}{2}$  per cent Table—

Period.	1st 3 months.	2nd 3 months.	2nd 6 months.	2nd 12 months.	After 2 years.	All Periods.
Age 30	19.52	5.38	5.49	6.14	22.97	59.51
40	19.57	6.58	7.17	8.42	33.00	75.14
50	19.61	7.86	9.24	11.56	47.42	95.69

The division of the above values by an appropriate annuity would give the contribution payable in order to provide the sick pay referred to.

Formula  $c_x = \frac{s_x}{\bar{a}_x} =$  contribution per annum for sick pay of 1 per week over whole of life.

### ANNUITIES—GENERALIZED TABLES.

In J.I.A. xvi, 408, etc., W. M. Makeham showed how the values of all annuities could be derived without the aid of special tables for different rates of interest and of mortality by means of a table of the function

$$\int e^{-v} v^{n-1} . dv.$$

The Danish actuary, J. P. Gram, following principles laid down by Mr. Makeham (J.I.A. viii, 301) calculated a "universal table," whereby for any values of the constants in Makeham's formula for the rate of mortality, and for any desired rate of interest, the values of  $\bar{a}_x$  can be ascertained (Gram, *Aktuaren*, Part I, page 57, Copenhagen, 1904, also Jørgensen, *Lebensversicherung*, Gustav Fischer, Jena, 1904, page 200, etc., for a description, and page 394, etc., for the table itself). The table of Gram gives,  $\log \bar{a}_x$  for  $x = 21$  up to  $x = 70$ , and for  $s = 0$  up to  $s = 1$  by differences of .02.

The mortality table is determined by the relation

$$\delta + \mu_x = \frac{1}{s} + 10^{.043420 \dots x}$$

where  $\mu_x = a + \beta . e^{\gamma x}$ ,  
 $\delta + a = \sigma$ ,

$$\text{and } s = \frac{\sigma}{\gamma}$$

The method is not very quick in application, but affords facilities for calculating annuity values for different rates of interest.

### ANNUITIES GRANTED BY LIFE ASSURANCE COMPANIES.

Most life offices for many years past have been prepared to grant annuities of every description, and a large amount of business is annually transacted under this heading.

Of the more usual type of annuity, viz., immediate annuities, there are several attractive forms, to which reference may be now made, and in each particular case the current rate for the benefit is given.

Before, however, describing these various schemes, it is useful to recall the relation between an immediate life annuity and an

ordinary investment, viz. the life annuity consists of interest on the capital invested, or its purchase price, plus an annual sum, which theoretically should be sufficient to replace such capital by the time the annuity ceases, that is, on the death of the annuitant.

The following illustrations will now make this practically clear—

Taking a male life, aged 60, who proposes to invest £1,000 in an annuity *cum* assurance policy.

The single premium for £1,000 payable at death would cost him £647, from which, however, he could obtain income tax rebate at 2s. in the £ on £70 (7 per cent on £1,000), reducing the net cost to £640. With the balance of his capital, viz. £360, he could purchase a life annuity with the same office of £32 3s. 4d., so that in effect he has invested £1,000 at £3 4s. 4d. per cent for life, the capital being returnable at his death.

The same result could be obtained another way, by means of an annual premium of £56 15s. 0d., less income tax rebate of 2s. in the £, £5 13s. 6d., giving a net annual charge of £51 1s. 6d. The first premium he would pay to the life office out of his £1,000, leaving, say, £948 for investment in a life annuity, and such sum would purchase a life annuity of £83 14s. 9d., from which annuity payment he would have to pay to the office the said premium of £51 1s. 6d. This would leave him with £32 13s. 3d. per annum, or a return of £3 5s. 4d. per cent on his purchase money.

It will be obvious that at the present time, with the high yield obtainable on all forms of investment, such a transaction is perhaps of more general interest than practical use, but at one time one particular life office did a large business on these lines.

### ANNUITY-CERTAIN.

This is probably the oldest form of annuity. As implied, the annuity payments run for a definite period or term-certain, and are independent of any contingency. The annual payment may be made by half-yearly, quarterly, or monthly instalments, and in some instances one may have to assume that it is accruing and payable from day to day or, as it is termed, is a "continuous annuity."

If the first payment of the annuity is made immediately the annuity is entered upon, it is said to be an *annuity-due*.

If a period has to elapse before the annuity is entered upon, it is termed a *deferred annuity*.

Occasionally transactions involve an annuity under which the payments vary, either increasing or decreasing in arithmetical progression, e.g. 1, 2, 3, etc., or 3, 6, 9, etc., and sometimes in geometrical progression, 1, 2, 4, etc., or 3, 6, 12, etc., and such an annuity-certain would be termed a *varying annuity*.

(See also ANNUITIES-CERTAIN.)

#### ANNUITY-DUE.

(See ANNUITIES-CERTAIN.)

#### ANNUITY LEAFLETS.

(See CANVASSING LEAFLETS, page 123.)

#### ANNUITY PROPOSAL AND POLICY FORMS.

In order to effect an annuity with a life office, it is necessary to complete a short form of proposal, and to submit evidence of age, e.g. a birth certificate, in respect of the life or all the lives upon whom the annuity is to depend.

**Proposal Form.** This form requires—

1. The name, description, and address of the party effecting the annuity.

2. The class and amount of the annuity desired.

(a) Whether it is to be payable by yearly, half-yearly, or quarterly instalments.

(b) Whether it is to be apportionable or not.

(c) Date of birth and ages last birthday of proposed annuitant or annuitants, with their names, addresses, and descriptions.

(d) The name of the person or persons to whom the annuity is to be paid, and whether through a banker or otherwise.

*N.B.* Before any payment of an annuity can be made, a short certificate of existence and identity is required of the annuitant or annuitants upon whose life or lives the annuity is granted.

(3) Purchase money.

(4) If a *deferred annuity* is being effected, it is necessary to state whether the premium therefor is to be by single payment or by yearly, half-yearly, or quarterly payments.

(5) Age at which annuity is to be entered upon, or number of years before annuity is to be entered upon.

(6) If a reversionary life annuity is desired, a full life assurance proposal from the life at whose death the annuity is to commence must be completed, and such life will have to pass a satisfactory medical examination.

(7) Short form of declaration that the particulars given are correct.

In the case of an *annuity-certain* a very

simple form is all that is necessary, giving the name, description, and address of the persons effecting it, and to whom it is to be paid, with a statement of the amount of annuity and the period over which it is to be payable, and by what instalments per annum.

**Policy Forms.** Specimen forms of policy for immediate and deferred annuities will be found on the following pages, obvious modifications being necessary to meet the majority of other types of annuity usually granted by life offices.

Immediate annuity policy. See page 62.

Deferred annuity policy (with return of premiums in the event of death). See page 63

Deferred annuity policy (without return of premiums in the event of death). See page 65.

#### ANNUITY, RULE FOR VALUING.

(See WINDING-UP.)

#### ANTICIPATED ABATEMENT POLICIES.

In recent years those offices which have divided their surplus at the end of given periods and appropriated the proceeds to reducing the amount of premium payable each year, have added to their system a concession by which policy-holders from the beginning may anticipate as much as 25 per cent of the past abatements for the purpose of reducing the amount payable in the early stages of the lives of their policies.

#### ANTI-LOGARITHMS.

(See LOGARITHMS AND ANTI-LOGARITHMS UP TO 24 PLACES.)

#### ANTI-SELECTION.

(See SELECTION.)

#### APOPLEXY (Haemorrhage into the Brain).

A proposal is rarely made by any patient who has knowingly suffered from this. It happens sometimes, however, that apoplexy may affect some comparatively unimportant part of the brain, and after a short illness, with vague head symptoms, the patient may apparently be perfectly recovered. The haemorrhage is due to the rupture of a small artery, and this may be owing to the artery being diseased or the blood pressure being abnormally high, or to both these. Any case in which an attack of apoplexy has occurred, or which has suffered from symptoms making it a reasonable supposition, must be declined.

DRAFT OF IMMEDIATE ANNUITY POLICY

Consideration Money

No. \_\_\_\_\_

£ \_\_\_\_\_

THIS POLICY granted by the \_\_\_\_\_ Assurance Company Limited to the person or persons described in the Schedule hereto as the Purchaser or Purchasers for securing an Annuity payable during the lifetime of the person therein described as the Annuitant WITNESSETH that if the Consideration mentioned in the Schedule shall be paid to the Company on the date therein specified the Company will subject to the provisos hereinafter contained and to the Special Conditions (if any) stated in the Schedule pay to the Payees therein described at the Head Office for the time being of the Company the Annuity therein mentioned on the dates therein specified without any deduction whatsoever except Income Tax.

PROVIDED ALWAYS AS follows—

(1) The Proposal and Declaration made by the Purchaser or Purchasers dated as specified in the Schedule shall be the basis of the contract for this Annuity.

(2) No payment of the Annuity shall be made without production of proof to the reasonable satisfaction of the Directors for the time being of the Company of the title of the persons claiming payment and of the existence of the Annuitant on the date in respect of which payment is to be made or in the case of the final proportionate payment (if any) to the date of death of the Annuitant without production of a Registrar's Certificate of Death of the Annuitant.

(3) If the age of the Annuitant was at the date of this Policy less than the age specified in the Schedule this Policy and all matters and things herein contained shall be null and void.

(4) This Policy shall not confer the right to participate in Profits.

SCHEDULE

Purchaser.		Annuity	Payable by _____ equal payments in every year during the lifetime of the Annuitant on the _____ days of _____ a first payment of _____ to be made on the _____ day of _____ thousand nine hundred and _____ One
Annuitant.			
Payee.			
Consideration.	Due the _____ day of _____ Thousand nine hundred and _____ One		
Date of Proposal and Declaration.			
Age of Annuitant.	Not less than _____ years on the _____		

Special Conditions—

If the Annuitant shall die before any payment of the Annuity shall become due or between any two of the said \_\_\_\_\_ times of payment of the Annuity the Company shall be liable to pay to the \_\_\_\_\_ a proportionate part of the Annuity for so many days as shall have elapsed of the then current up to the date of death of the Annuitant including the day of h \_\_\_\_\_ decease.

Signed this \_\_\_\_\_ day of \_\_\_\_\_ One thousand nine hundred and \_\_\_\_\_ on behalf of the \_\_\_\_\_ ASSURANCE COMPANY, LIMITED.

DRAFT OF DEFERRED ANNUITY POLICY WITH RETURN OF PREMIUMS AT DEATH OR ON SURRENDER  
(ADDRESS OF OFFICE) WHERE ALL NOTICES OF ASSIGNMENT AFFECTING THIS POLICY MUST BE GIVEN

Policy No. Premium £ : :  
 Deferred Annuity £ : Due  
 Deferred Age Last Payment

THIS POLICY granted by the \_\_\_\_\_ ASSURANCE COMPANY LIMITED to the person or persons described in the Schedule hereto as the Purchaser or Purchasers for securing a Deferred Annuity on the life of the person therein described as the Annuitant in accordance with a Proposal made by the Purchaser or Purchasers dated as specified in the Schedule.

WITNESSETH that if the Premium or Premiums mentioned in the Schedule shall be paid to the Company on the dates therein specified or within thirty days thereafter the Company will subject to the provisos hereinafter contained and to the Special Conditions (if any) stated in the Schedule pay to the Payees therein described an Annuity of the amount therein mentioned during the remainder of the lifetime of the Annuitant after the attainment by the Annuitant of the Age specified in the Schedule as the Deferred Age without any deduction except Income Tax in  $\left(\frac{\text{two}}{\text{four}}\right)$  equal  $\left(\frac{\text{half-yearly}}{\text{quarterly}}\right)$  payments the first payment to be made  $\left(\frac{\text{six}}{\text{three}}\right)$  months after the attainment by the Annuitant of the Deferred Age.

PROVIDED ALWAYS as follows—

(1) If the Annuitant shall after the attainment of the Deferred Age die before any payment of such Annuity shall fall due or between any two of the  $\left(\frac{\text{half-yearly}}{\text{quarterly}}\right)$  times of payment the Company will pay to the Payees a proportionate part of such Annuity for so many days as the Annuitant shall have lived of the then current  $\frac{\text{half-year}}{\text{quarter}}$  \*

(2) Before any payment of such Annuity shall be made it shall be proved to the satisfaction of the Directors of the Company that the Annuitant was born on the date specified in the Schedule and no payment of such Annuity shall be made without production of proof to the satisfaction of the Directors of the title of the Payees and of the existence of the Annuitant on the date in respect of which payment is to be made or in the case of the final proportionate payment without production of a Registrar's Certificate of Death of the Annuitant.

(3) In the event of the Annuitant dying before attaining the Deferred Age or of its being desired to surrender this Policy to the Company before the attainment by the Annuitant of the Deferred Age the Company will within one Calendar Month of the receipt of proof of death or of notice to surrender as the case may be and in either case of the title of the Payees pay to the Payees a sum equal to all the Premiums received by the Company under this Policy (with compound interest on such Premiums at the rate of \_\_\_\_\_ per cent per annum calculated by yearly rests from the dates of payment thereof respectively) to the date of death of the Annuitant or the date of receipts of notice to surrender as the case may be.

(4) If so desired by the written request of the Payees such request to be made on or before but not after the attainment by the Annuitant of the Deferred Age the Company will if the Premium or Premiums mentioned in the Schedule shall be duly paid pay to the Payees in lieu of the Annuity to which they shall have become entitled as aforesaid the Equivalent Cash Value thereof at the Deferred Age mentioned in the Schedule such Equivalent Cash Value to be paid within one Calendar Month after production of proof to the satisfaction of the Directors of the attainment by the Annuitant of the Deferred Age and of the title of the Payees.

(5) This Policy shall not confer the right to participate in profits.

SCHEDULE

Purchaser	
Annuitant.	
Payees.	
Amount of Annuity.	
Deferred Age.	
Equivalent Cash Value of Annuity at Deferred Age.	
Date of Proposal.	
Date of Birth of Annuitant.	
First Premium.	To the _____ day of _____ One Thousand Nine Hundred and _____
Renewal Premium and when payable.	Payable Due the _____ day of _____ One Thousand Nine Hundred and _____ and every day of _____ thereafter during the lifetime of the Annuitant up to and inclusive of the _____ day of _____ One Thousand Nine Hundred and _____
Special Conditions.	

Signed this \_\_\_\_\_ day of \_\_\_\_\_ One  
 Thousand Nine Hundred and \_\_\_\_\_ on behalf of the  
 \_\_\_\_\_ ASSURANCE COMPANY LIMITED.

DRAFT OF DEFERRED ANNUITY POLICY WITHOUT RETURN OF PREMIUMS

All notices of assignment affecting this policy must be given to the Head Office.

Policy No. \_\_\_\_\_ Premium £ : :
Deferred Annuity £ \_\_\_\_\_ Due \_\_\_\_\_
(Without return of premiums)

Deferred Age \_\_\_\_\_ Last Payment \_\_\_\_\_

WHEREAS the person described in the Schedule hereto and therein and hereinafter called the \_\_\_\_\_
has made a Proposal and Declaration dated the \_\_\_\_\_

to the \_\_\_\_\_ hereinafter
called the Company for the purchase of a Deferred Annuity of the amount mentioned in the Schedule hereto
to be payable during the remainder of the lifetime of \_\_\_\_\_
after \_\_\_\_\_ attainment of the age of \_\_\_\_\_ years hereinafter called the
Deferred Age.

NOW THIS POLICY WITNESSETH that if the Premium or Premiums mentioned in the Schedule hereto
shall be duly paid on the dates therein specified or within thirty days thereafter the Company will subject to
the provisos hereinafter contained and to the Special Conditions (if any) stated in the said Schedule pay to
the Payees therein described an Annuity of the amount therein mentioned during the remainder of the lifetime
of the Annuitant after the attainment by the Annuitant of the Deferred Age without any deduction except
Income Tax in two equal half-yearly payments the first payment to be made six months after the attainment
by the Annuitant of the Deferred Age.

PROVIDED ALWAYS as follows—

(1) If the Annuitant shall after the attainment of the Deferred Age die before any payment of such
Annuity shall fall due or between any two of the half-yearly times of payment the Company will pay to the
Payees a proportionate part of such Annuity for so many days as the Annuitant shall have lived of the then
current half-year.

(2) Before any payment of such Annuity shall be made it shall be proved to the satisfaction of the Directors
of the Company that the Annuitant was born on the \_\_\_\_\_ day of \_\_\_\_\_ and no payment
of such Annuity shall be made without production of proof to the satisfaction of the Directors of the title
of the Payees and of the existence of the Annuitant on the date in respect of which payment is to be made or
in the case of the final proportionate payment without production of a Registrar's Certificate of Death of
the Annuitant.

(3) In the event of the Annuitant dying before attaining the Deferred Age no return of Premiums will
be made by the Company.

(4) If so desired by the written request of all parties interested in this Policy on or before but not after
the attainment by the Annuitant of the Deferred Age the Company if the Premium or Premiums mentioned in
the Schedule hereto shall be duly paid shall pay to the Payees in lieu of the Annuity to which they shall have
become entitled as aforesaid the Equivalent Cash Value thereof at the Deferred Age mentioned in the Schedule
hereto such Equivalent Cash Value to be paid within one Calendar Month after production of proof to the
satisfaction of the Directors of the attainment by the Annuitant of the Deferred Age and of the title of the
Payees.

(5) This Policy shall not confer the right to participate in profits.

SCHEDULE

Table with 2 columns: Description and Value. Rows include Annuitant, Payees, Amount of Annuity, Deferred Age, Equivalent Cash Value of Annuity at Deferred Age, First Premium, Renewal Premiums and when payable, and Special Conditions.

Signed this \_\_\_\_\_ day of \_\_\_\_\_ One
Thousand Nine Hundred and \_\_\_\_\_ on behalf of
the \_\_\_\_\_ Assurance Company Limited.

[NOTE.—Permission to use these forms kindly granted by the "Commercial Union."]

**APPENDICITIS (Inflammation of the Vermiform Appendix).**

It is characterized by pain in the abdomen (usually in the right lower quadrant, but it may occur anywhere), sickness and constipation. It may be acute or chronic.

The acute case is usually dealt with by operation, though, if the patient is in unsuitable surroundings or a surgeon cannot be obtained, recovery may occur without operation.

In chronic cases a history of chronic indigestion, associated with some pain low down in the abdomen and chronic constipation, is frequently obtained. In many cases a chronic appendicitis may remain undiagnosed until an acute attack develops. If an acute attack is not diagnosed and operated upon early, it may lead to abscess formation or general peritonitis.

It is clear, therefore, that a statement that a proposer has had appendicitis may be of the most varied significance.

It may mean, for example, that the proposer has not had appendicitis at all, but that an attack of dyspepsia, gastric ulcer, or even gallstones was so diagnosed. It may mean that a mild attack was cured by operation which has left a perfectly harmless scar, or that the patient nearly died of general peritonitis, and now has a bulging scar and an abdomen full of adhesions.

To sum up the matter, cases of appendicitis may be classified as follows—

1. Simple cases, in which there has been one attack only. If the case has been successfully operated on and the scar is sound, or if the attack dates back two years or more and there have been no gastrointestinal symptoms of any sort since, the case may be accepted at ordinary rates. If the attack is of recent date, the policy must be postponed.

2. Simple cases in which more than one attack has occurred. If the appendix has been removed and the scar is healthy, the case may be accepted at ordinary rates. If the appendix has not been removed, the proposal must be declined or postponed until after operation.

3. Cases in which abscess formation or peritonitis has occurred. An operation will almost invariably be found to have been performed in these cases, and the possibility of acceptance depends entirely on the result of medical examination, i.e. as to whether there are any adhesions present, or symptoms of intestinal trouble of any sort, and

also on the condition of the scar, which is often weak in these cases.

Such cases may have to be rejected or else an addition made to the premium.

Finally, in all cases of a history of appendicitis, the greatest care must be exercised in order to exclude the possibility of some other trouble, e.g. gastric ulcer (*q.v.*) being present as well.

**APPOINTMENTS, AGENCY.**

(See AGENCY DEPARTMENT.)

**APPORTIONABLE LIFE ANNUITY.**

(See LIFE ANNUITIES.)

**ARBITRATION CLAUSE.**

(See GROUP LIFE ASSURANCE.)

**ARCTIC REGIONS.**

(See CLIMATIC RISKS.)

**ARGENTINA.**

(See CLIMATIC RISKS.)

**ARMY, NAVY AND AIR FORCE EXTRAS.**

(See OCCUPATION RISKS.)

**ARTERIO-SCLEROSIS.**

A condition of thickening of the arteries associated with loss of elasticity and a high blood pressure.

It is a common, and sooner or later almost inevitable, concomitant of old age.

Senility is associated with loss of the elasticity of all tissues, but the loss in the case of the blood-vessel walls is of great significance, in that it may be the first sign of a gradual process of decay, and if marked is a danger signal of some urgency. From the point of view of life assurance, arterio-sclerosis is significant in three ways—

1. It indicates that the proposer is "growing old," perhaps in advance of his years.

2. If marked it indicates a risk of apoplexy, and therefore renders the life uninsurable.

3. It may be associated with other diseases causing tissue degeneration, e.g. chronic Bright's disease, syphilis, or chronic alcoholism.

It is rare, therefore, that a proposer suffering from this is insurable. It may in early cases be possible after medical examination to grant a short term endowment policy.

A patient suffering from arterio-sclerosis will, sooner or later, develop a high blood

pressure, and it is largely on this account that he is uninsurable, such an increase in blood pressure rendering him liable sooner or later to attacks of cerebral haemorrhage.

If the case is one in which arterio-sclerosis occurs in the family history, a medical examination should be insisted on.

### ARTHRITIS.

**Inflammation of a Joint.** This is a general term and under it are included several common forms of the disease.

**Rheumatoid Arthritis.** This is an inflammatory condition of the joints (particularly of the small joints of the fingers). It may be acute in its onset, but is often chronic in its course.

The cause is usually an infection from some organism circulating in the blood and coming originally from defective teeth, septic tonsils, or from the large bowel. Such patients are usually suffering from poor general health, although they may be organically sound. A full medical report is essential, therefore, and should deal with the primary cause. According to the result of this report, the case may either have to be refused altogether, or an addition made to the premium.

**Osteo-arthritis.** A chronic disease of joints associated with destruction of the articular cartilage and the outgrowth of bony prominences round the circumference of a joint.

It may be excited by injury and be confined to one joint, or there may be changes in all the joints, and in this case there are usually other signs of degenerative changes in the body, e.g. in the circulatory system.

It is a common condition associated with old age, and if occurring in its general form in comparatively young individuals, the probability is that it is an indication that they are older than their years. An addition is therefore required in most cases, and if other signs of approaching senility are present the proposal may have to be refused altogether. Cases where single joints are affected, and where there is a definite history of injury to account for the condition, may be accepted without addition.

**Gout.** Acute inflammation of one or more joints, associated with excess of uric acid in the blood.

This disease, though not so common now as it was, is still met with sufficiently frequently to be of great importance to life

offices. It must be considered from two main points of view, viz.—

1. *Family History.* Since gout is hereditary, a well marked history of gout in the immediate relatives of the proposer is of considerable importance. If the proposer is young, with a marked gouty family history, especially if his father died early and suffered from this disease, the proposal demands a slight addition to the premium. If the proposer is of advanced years and has not suffered from gout, he may be accepted without addition, provided the medical examination is satisfactory (particularly with regard to his blood pressure), even if there is a definite family history of gout.

2. *Personal History.* Cases in which there is a personal history of gout may be roughly divided into two main classes, according to the age. If the proposer is young, and there has been an attack of gout, the decision as to whether he may be accepted and on what terms, depends on the family history. Such a case, whose father died early and has suffered from gout, demands a substantial increase of premium.

If there is no such family history, a small addition is all that is necessary.

If the proposer is elderly and has had only one attack early in life, and is otherwise healthy, he may be accepted at ordinary rates, unless there is a very strong family history, when a small addition should be made. If there have been several attacks, the case must be decided entirely on the result of a medical examination to show whether any signs of arterio-sclerosis or albuminuria are present. If such be present, the proposal must be declined.

### ASCENDING PREMIUM POLICIES

These are similar in their working to the forms of contract known as Reduced Premium Policies (*q.v.*).

### ASIA.

(See CLIMATIC RISKS.)

### ASSESSMENT ASSURANCE.

Assessment assurance has never flourished to any appreciable extent in this country, and since the early years of the present century little has been heard of it here, although in some form or another it is in vogue with certain types of friendly and benefit societies. It secured a much greater hold in America and Canada, but even there its popularity is dwindling. The best actuarial opinion has generally condemned

the system. It is plausible, but not practical. It appears to the credulous and uninformed to be an equitable scheme, and for this reason business was attracted in its earlier years to organizations which endeavoured to popularize it. But when its essential weakness became apparent later on, then business fell away, and the organizations ceased to exist.

To understand assessmentism properly it is necessary to inquire in what essential respect it differs from the ordinary system of life assurance which is practised generally, and is known as the "level premium" system. That is to say, in calculating its premiums a life office averages them over the various ages, so that, at whatever age an individual insures, the premium charged him or her remains the same thereafter, however long the policy may continue in force. The premiums at the various ages are so calculated that they are adequate to meet all claims which may arise through mortality or maturity.

In assessment assurance, however, the premiums are "assessed" according to the attained ages of the policy-holders, and the amount required to satisfy the death claims of the year. That is to say, that the survivors, year by year, are called upon to meet the death claims in proportion to their ages and the total amounts required. It is claimed by advocates of the system, that their procedure is only fair and equitable, and, as the premiums charged for the younger lives on joining are lower than those usually charged in the ordinary way, assessment schemes may prove attractive to the uninitiated. But the premium does not remain uniform or "level," as it is called. The consequence is that as the members grow older their "assessments" increase, for, as the lives grow older, so do the deaths occurring among them increase in number. One result of this state of things is that as the premiums grow heavier the members naturally begin to lapse their contracts, with the result that to meet claims and necessary expenses the remaining members have to be assessed higher still. They are, therefore, faced with the alternative of paying what appears to be an exorbitant price for their life assurance or of losing the value of all their previous payments by lapsing, whilst the failure of the concern to carry on is in sight, if everyone does lapse. Nor is this the worst evil, because very many members of assessment offices, when they arrive at an age at which they cannot stand

the calls upon them and wish to turn to an ordinary "level premium" office for relief, are by that time uninsurable lives. The weakness of the system is evident in the working of some friendly society organizations whose members pay an "assessed" figure every year to secure sickness and small death benefits. They may pay for many years, and never require to draw benefit, but if they discontinue they have nothing to come. Every life policy in a "level premium" office, however, has a reserve held against it to meet the claim when it falls due. This reserve constitutes the basis of the surrender value of the policy which the member can receive in cash if he decides to discontinue. But the absence of any reserve in nearly all forms of assessment insurance is the most serious of its weaknesses.

As we have already said, assessment assurance obtained a greater hold in America and Canada than it has ever done in the United Kingdom, although its popularity has waned greatly. As a matter of fact, the Canadian Insurance Act of 1917 denies the right of any new assessment concern to be licensed or registered to carry on business after the passing of the Act. It contains special legislation for the carrying on of those already in existence, and exempts from its provisions only contracts entered into or policies issued by assessment companies prior to the 20th July, 1885.

As showing the official attitude adopted towards assessmentism, and the stringency of the law relating to it, it may be of interest to quote some special passages from the Act. Under Sect. 106 it is laid down that "after the passing of this Act no company of the class herein referred to as assessment companies, which carries on within Canada any business of life insurance by promising to pay on the death of a member of such company a sum of money solely from the proceeds of assessments or dues collected or to be collected from the members thereof for that purpose, shall be licensed or registered to carry on business under this Act; provided that a licence to any such company in force at the time of the passing of this Act may nevertheless be from time to time renewed, subject, however, to the requirements respecting such licences herein contained."

Existing companies which hold a licence are exempted from the provisions of the Act relating to the maintenance of a reserve which control ordinary life assurance companies, but their licence is only renewable

annually at the discretion of the responsible Minister, to whom they are required to make attested returns in a prescribed form. The Act, in addition, lays it down that no assessment company "shall assure to any of its members a certain annuity, either immediate or deferred, whether for life or a term of years, or any endowment whatever."

Anyone who enters into a contract with an assessment company also does so with his eyes wide open, as Sect. 111, which we quote fully, shows. It is as follows—

"It shall be a condition of the licence of every company licensed under this Act . . . whether such condition be expressed in the licence or not, for breach of which the licence may be cancelled or withdrawn by the Minister, that every policy delivered in Canada shall contain in substance the following terms or provisions—

(a) It shall have printed thereon, in a conspicuous place, in ink of a colour different from that of the ink used in the instrument, and in large sized type the words—

'This association is not required by law to maintain the reserve which is required of ordinary life insurance companies.'

This paragraph shall also apply to every application used in Canada, and to every application and policy delivered by a Canadian company outside of Canada;

(b) It shall contain a promise to pay the whole amount mentioned in the policy out of the death fund of the association and out of any moneys realized from assessments to be made for that purpose, and every such association shall be bound, forthwith and from time to time, to make assessments to an amount adequate, with its other available funds, to pay all obligations created under any such certificate or policy without deduction or abatement;

(c) If the policy is issued by a British or foreign company, it shall provide that an action to enforce the obligations of such policy may be validly taken in any court of competent jurisdiction in the province wherein the policy-holder resides or last resided before his decease;

(d) It shall have the words 'Assessment system' printed in large type at the head. This paragraph shall also apply to every application and to every circular or advertisement issued by any such company in connection with the business of an assessment company."

It is further enacted that "death claims shall be a first charge on all moneys realized

from assessments . . . and no deduction shall be made from any such death claims on any account whatsoever. No portion of any moneys received from assessments by such companies for death claims shall be used for any expense whatever; and every notice of any assessment shall truly specify the cause and purpose thereof."

That such stringent legislation has been deemed to be necessary for the protection of assessment policy-holders is, perhaps, the most adequate criticism of the system, and the position of such policy-holders does not appear to be particularly enviable.

#### ASSESSMENTISM.

(See ASSESSMENT ASSURANCE.)

#### ASSESSMENTS, LIFE OFFICE.

(See INCOME TAX; and TAXATION OF ASSURANCE COMPANIES.)

#### ASSETS, VALUES OF.

(See INDUSTRIAL ASSURANCE ACT, 1923.)

#### ASSIGNMENT.

At common law a life policy is not assignable as a legal chose in action, but is assignable in equity. Apart from statute, the assignor or his legal personal representative must be a party to any action on the policy; the assignee is entitled to bring the action in the name of the assignor on giving him an indemnity against all costs. The assignee of a policy acquires the rights of an assignor, and can, therefore, recover the amount assured, although he himself has no insurable interest. (*Ashley v. Ashley*, 1892, 3 Sim. 149). The form of assignment is immaterial, so long as it is clear that the assignee is to have the benefit of the policy; the language is also immaterial, if the meaning is plain.

The Policies of Assurance Act, 1867, provides that assignees of life policies may sue in their own names (Sect. 1). No assignment of a policy shall confer on the assignee any right to sue for the amount of the policy until written notice of the assignment has been given to the company, and the date on which such notice is received will regulate the priority of all claims under any assignment. Any payment made in respect of a policy before the date on which notice has been received will be valid against the assignee giving such notice (Sect. 3). There is to be specified on every policy the principal place of business of the company at which notices of assignment may be given (Sect. 4).

Every company to whom notice of assignment has been given must, upon the request of the person giving the notice, deliver an acknowledgment in writing of the receipt of the notice upon payment of a fee of 5s. Such acknowledgment will be conclusive evidence of the receipt by the company of the notice (Sect. 6).

*In re Williams* (1917, 1 Ch. 1), a life assurance policy was handed over by the assured to his housekeeper, he having indorsed the policy "I authorize A.M.B. my housekeeper and no other person to draw this insurance in the event of my predeceasing her, this being my sole desire and intention at the time of taking this policy out and this is my signature." He then signed his name over a penny stamp. No notice of the indorsement was given to the company. The policy remained in the possession of A.M.B. It was held that the indorsement was not a valid assignment, as there were no present words of gift, and the gift was conditional on A.M.B. surviving; and that the indorsement did not pass any right of action under the Policies of Assurance Act, 1867.

The Act of 1867 (*supra*) provides a simple remedy against a company, and also gives facilities to the company in settling claims, by enabling them to recognize as the first claim, the claim of the person who first gives notice as the Act requires, but the Act does not enable a person who has advanced money upon a second assignment with notice of prior charge to exclude the prior assignee by giving the statutory notice to the office. (*Newman v. Newman*, 1885, 28 Ch. D. 674.)

**Notice of Assignment.** Notice to the company is necessary in order to make the assignee's title effective as against the company. Such notice may be verbal, must be given to the proper officer of the company, and no assent on the part of the company is necessary.

If no notice is given to the company the assignee may be deprived of the benefit of the assignment by a surrender of the policy to the company, or may be postponed to a subsequent assignment of which notice has been given, provided the subsequent assignee does not know of the prior assignment at the time. But where the subsequent assignee at the time of the assignment has actual or constructive notice of a prior assignment, he cannot by giving notice to the company defeat the title of the prior assignee. When the first assignee of a

policy gives notice to the office then although he does not obtain possession of the policy, he takes priority to a subsequent assignee, who obtains possession without notice of the prior assignment. (*Mcux v. Bell*, 1841, 1 Hare 73.) The knowledge of the solicitor negotiating the mortgage of a policy and who is also local agent of the company is not sufficient to affect the company with notice of the charge, unless he has express authority to receive notice on behalf of the company (*Gale v. Lewis*, 1846, 16 L.J.Q.B. 119.)

The assignee only acquires the rights of the assignor, and assignment carries with it any bonus which may accrue to the sum assured. *In re* a policy of the Equitable Life Assurance Society (1911, 27 T.L.R. 213), it was held that certain options exercisable at a date subsequent to the assignment of the policy to a trustee for benefit of creditors could only be exercised for the benefit of the objects of the trusts of the policy.

Life policies belonging to a bankrupt vest in his trustee in bankruptcy. Where an assignment of a policy of a bankrupt has been obtained for value after the bankruptcy, but without notice of it, the assignee by giving notice to the company may obtain priority over a trustee in bankruptcy who has given none.

**Form of Assignment.** Sect. 5 of the Act of 1867 provides that any assignment may be made either by indorsement on the policy, or by a separate instrument in the words, or to the effect set forth in the schedule to the Act, such indorsement or separate instrument being duly stamped.

#### SCHEDULE

I AB of \_\_\_\_\_, in consideration of \_\_\_\_\_, do hereby assign unto CD of \_\_\_\_\_, his executors, administrators, and assigns, the [within] policy of assurance granted [here describe the policy]. In witness, etc.

#### *Form of Assignment of a Policy of Assurance on Own Life*

A = Assignor      B = Assignee      C = Assurance company.

**Parties.** THIS INDENTURE made the day of \_\_\_\_\_ Between A (*description*) of the one part and C (*description*) of the other part.

**Recital of Policy.** WHEREAS by a policy of assurance issued by C dated \_\_\_\_\_

and numbered the sum of £  
is assured to be paid on the death of the  
said A subject to the payment of the  
annual premium of £ .

**Recital of Agreement for Sale.** AND  
WHEREAS the said A has agreed with the  
said B for the sale to him of the said policy  
at the price of £ .

**Assignment.** NOW THIS INDENTURE  
WITNESSETH that in consideration of £  
now paid by B to the said A (the receipt  
whereof is hereby acknowledged) the said  
A as beneficial owner hereby assigns unto  
the said B the said policy of assurance and  
all moneys assured by or to become payable  
thereunder or by virtue thereof TO HOLD  
the same unto the said B absolutely subject  
to the payment of all future premiums  
thereon.

**Covenants.** AND the said A covenants  
with the said B that the said policy is now  
valid and in force, and that the said A will  
not do, omit, or knowingly suffer anything  
whereby the said policy may become void or  
voidable or the said B be prevented from  
receiving the moneys thereby assured or any  
bonus or addition thereto. AND that if he  
shall do, omit, or suffer anything whereby  
any additional premium shall become pay-  
able in order to keep in force the said policy  
then he will indemnify the said B there-  
from, and at all times thereafter punctually  
pay such premium.

IN WITNESS, etc.

The Schedule above referred to.

## ASSIGNMENTS, NOTICES OF.

(See ASSIGNMENT.)

## ASSOCIATED SCOTTISH LIFE OFFICES.

The Association of Managers of Life Assur-  
ance Offices in Scotland dates from the year  
1840, although for a considerable time before  
that the managers had been in the habit of  
meeting together more or less informally for  
the interchange of views and the adoption  
of concerted action on matters of common  
interest.

In 1873 the constitution was revised, and  
the object of the Association was stated to  
be "the advancement of the business of  
Life Assurance in Scotland—by promoting  
uniformity of practice among the offices in  
general administration; by watching over  
all legislative measures bearing upon Life  
Assurance with a view to joint action in  
regard to them; and by affording oppor-  
tunities for consultation and co-operation on

all matters affecting the common interests  
of the offices."

In 1917 the Associated Scottish Life  
Offices became federated with the Life  
Offices Association (*q.v.*) with a view to the  
two associations, in matters affecting the  
general interests of life assurance, acting  
together as far as possible simultaneously  
and in concert.

The officers of the Association are the  
Chairman and the Honorary Secretary.  
From the members, committees are appointed  
annually for General Purposes, Taxation,  
Foreign, and Assurance Companies Act. In  
addition, various special committees for  
specific objects are appointed from time to  
time. A change in the officers may affect  
the place of meeting and address of the  
Association, which at present is 3 George  
Street, Edinburgh, the office of the Standard  
Life Assurance Company.

## ASSURANCE COMPANIES ACT, 1909.

**Application of Act and Statutory Deposit.**  
The Life Assurance Companies Act, 1870,  
Sect. 3, established the principle of requiring  
companies to deposit with the Court the  
sum of £20,000 in order that the loss suffered  
occasionally by policy-holders from com-  
panies of small financial resources might  
be avoided. This principle was largely  
extended by Sect. 1 of the Act of 1909,  
which provides that this Act shall apply to  
all persons or bodies of persons not being  
registered under the Acts relating to friendly  
societies or to trade unions, whether estab-  
lished within or without the United Kingdom,  
who carry on, *inter alia*, within the United  
Kingdom life assurance business; that is to  
say, the issue of, or the undertaking of  
liability under, policies of assurance upon  
human life, or the granting of annuities  
upon human life.

Sect. 2 (1) of the Act of 1909 provides that  
every assurance company shall deposit and  
keep deposited with the Paymaster-General  
the sum of £20,000.

(2) The sum so deposited shall be invested  
by the Paymaster-General in such of the  
securities usually accepted by the Court for  
the investment of funds placed under its  
administration as the company may select,  
and the interest accruing due on any such  
securities shall be paid to the company.

(3) The deposit may be made by the  
subscribers of the memorandum of associa-  
tion of the company, or any of them, in  
the name of the proposed company, and,  
upon the incorporation of the company, shall

be deemed to have been made by, and to be part of the assets of, the company, and the registrar shall not issue a certificate of incorporation of the company until the deposit has been made.

(4) Where a company carries on, or intends to carry on, assurance business of more than one class, a separate sum of £20,000 shall be deposited as respects each class of business, and the deposit made in respect of any class of business in respect of which a separate assurance fund is required to be kept shall be deemed to form part of that fund, and all interest accruing due on any such deposit or the securities in which it is for the time being invested shall be carried by the company to that fund.

This statutory deposit is available for the costs of winding up and collecting the assets of the life assurance business (*re National Standard Life Assurance Co.*, 1917, 1 Ch. 193).

A firm of tea merchants, in connection with their business, had since 1897 offered to married women, who had bought their tea for a certain time before the death of their husbands, annuities of a certain amount so long as they remained widows. The firm was not registered under the Acts relating to friendly societies, and had not deposited £20,000 with the court. It was held that they were a company within the Life Assurance Act, and liable to a penalty for commencing business without making such deposit (*Nelson v. Board of Trade*, 1901, 17 T.L.R. 456.)

Sect. 28 (2) of the Act of 1909. This Act shall not apply to a member of Lloyd's, or of any other association of underwriters approved by the Board of Trade, who carries on assurance business of any class, provided that he complies with the requirements set forth in the Eighth Schedule to this Act, and applicable to business of that class.

The Eighth Schedule to the Act of 1909 provides—

1. Every underwriter shall deposit in such manner as the Board of Trade may direct a sum of £2,000, and such sum shall, so long as any liability under any policy issued by the underwriter remains unsatisfied, be available solely to meet claims under such policies.

2. The underwriter shall furnish every year to the Board of Trade a statement in such form as may be prescribed by the Board, showing the extent and character of the life assurance business effected by him.

#### What Is and What Is Not Life Assurance.

The contract of life assurance is one in which one party agrees to pay a given sum upon the happening of a particular event contingent upon the duration of human life, in consideration of the immediate payment of a smaller sum or certain equivalent periodical payments by another. A company, which, by its memorandum of association, was prohibited from carrying on the business of life assurance, issued policies in two different forms. By one it undertook, in consideration of a certain weekly premium, to pay the policy-holder the respective sums of £6, £7 10s., and £9 at the end of five, ten, and fifteen years respectively; but, in the event of his death before the end of the fifteen years, all premiums paid since the last payment made by the company were to be returned to his personal representatives. By the second policy it undertook, in consideration of a certain premium, to pay the policy-holder a certain sum at the termination of a certain number of years; but, in the event of his death before the end of the term, a certain percentage of the premiums already actually paid was to be returned to his personal representatives. It was held that policies made in either of these two forms were policies of life assurance, and therefore, as such, *ultra vires* the company (*Joseph v. Law Integrity Insurance Co.*, 1912, 2 Ch. 581). An industrial and provident society registered under the Industrial and Provident Societies Act, 1876, in 1911 amended their rules so as to provide that they should have power to carry on the business of insurance under a rule which, *inter alia*, empowered the committee of management to invest or appropriate out of investments or from the profits of the business "a fund for providing a sum to be paid on the death of a member, or the wife or husband of a member, such sum to be proportioned to one year's average purchases of the member from the society during the three years immediately preceding death." After the adoption of this rule the society advertised "free life assurances" and that it paid 4s. in the pound on the average twelve months' purchases on the death of a member or husband of a member, and 2s. in the pound on the death of a married woman member or wife of a member, and sums were, in fact, paid on the deaths of members and of the husbands and wives of members. Members of the society received share books, membership cards, purchase books, and copies of rules of the society.

A member of the society brought an action alleging that the society was carrying on life assurance business, and was an assurance company within the Assurance Companies Act, 1909, and that the business was *ultra vires*, and in any case could not be carried on without a deposit of £20,000 in accordance with the Act. It was held that the society was not carrying on life assurance business within the Act of 1909. The membership cards or other documents received by members did not constitute policies of assurance within the Act, which, by Sect. 30, provides that a "policy on human life means any instrument by which the payment of money is assured on death . . . or any instrument evidencing a contract which is subject to payment of premiums for a term dependent on human life" (*Hampton v. Toxteth Co-operative Society*, 1915, 1 Ch. 721).

**Accounts.** Sect. 3 of the Act of 1909 provides that in the case of an assurance company transacting other business besides that of assurance, a separate account shall be kept of all receipts of the assurance business, or of each class of assurance business, in which case a separate assurance fund shall be kept, but the investments of such fund need not be kept separate from any other fund.

Sect. 4 provides for the preparation of accounts and balance sheets in the form prescribed by the Schedules to the Act.

Sect. 5 provides that once at least in every five years an actuarial report shall be prepared as to the financial position of the company, and an abstract of such report must be prepared in the form as set forth in the Fourth Schedule.

Sect. 6 provides that every company shall prepare a statement of its assurance business in the form prescribed by the Fifth Schedule.

Sect. 7 provides that accounts, balance sheets, abstracts, and statements as in Sects. 4 to 6 shall be deposited with the Board of Trade.

Sect. 9 provides for the audit of accounts in accordance with either the Companies Act, 1908, or the Companies Clauses Consolidation Act, 1845.

**Rights of Policy-holders.** A policy-holder is defined by Sect. 29 to be "the person who for the time being is the legal holder of the policy for securing the contract with the assurance company"; and by Sect. 32(g), "where a sum is due, or a weekly or other periodical payment is payable,

under any policy, the expression "policy-holder" includes the person to whom the sum is due or the weekly or other periodical payment payable."

He is entitled to have a printed copy of the last deposited accounts, balance sheet, abstract, or statement; a copy of the "shareholders' address book" on payment of a sum not exceeding sixpence for every hundred words required to be copied; and a copy of the deed of settlement or other instrument constituting the company, on payment of a sum not exceeding 1s. Where it is proposed to amalgamate with or transfer the life assurance business to another assurance company, the Court is not to sanction the amalgamation or transfer in any case where it appears that the life policy-holders, representing one-tenth or more of the total amount assured in the company, dissent.

**Amalgamation and Winding-up.** Sects. 13 to 17 provide for amalgamation and transfer of business of one assurance company to another; for the winding-up of a company; the winding-up of subsidiary companies; and for the valuation of annuities and policies in the event of winding-up.

**Power to Reduce Contracts.** Sect. 18. The Court, in the case of an assurance company which has been proved to be unable to pay its debts, may, if it thinks fit, reduce the amount of the contracts of the company upon such terms and subject to such conditions as the Court thinks just, in place of making a winding-up order.

**Custody, Inspection, and Evidence of Documents.** Sect. 20. The Board of Trade may direct any documents deposited with them under this Act, or certified copies thereof, to be kept by the registrar; and any such documents and copies shall be open to inspection, and copies thereof may be procured by any person on payment of such fees as the Board may direct.

**Penalties.** Sect. 23 provides a penalty not exceeding £100 for non-compliance with any of the requirements of the Act; and Sect. 24 provides a penalty of £50 for falsifying accounts, balance sheets, etc.

**Service of Notices.** Sect. 26. Any notice which is by this Act required to be sent to any policy-holder may be addressed and sent to the person to whom notices respecting such policy are usually sent, and any notice so addressed and sent shall be deemed and taken to be notice to the holder of such policy: Provided that where any person claiming to be interested in a policy has

given to the company notice in writing of his interest, any notice which is by this Act required to be sent to policy-holders shall also be sent to such person at the address specified by him in his notice.

**Collecting Societies and Industrial Assurance Companies.** Sect. 36 of the Act of 1909, which related to collecting societies and industrial assurance companies, has been repealed by the Industrial Assurance Act, 1923, which by Sect. 7 requires a collecting society to keep deposited £20,000 in accordance with the provisions of Sect. 2 of the Act of 1909. Sect. 12 provides that industrial assurance business shall be treated as a separate class of assurance business, and a separate deposit shall be made of £20,000 as required by Sect. 2 of the Act of 1909.

In *Da Costa v. Prudential Assurance Co.* (1919, 120 L.T. 353), a son effected with the company two small policies on the life and in the name of his mother; the proposal forms were signed by her, but the policies were retained by the son, and he paid the premiums. Each policy contained the usual clause that the company would pay the amount assured to the executor or administrator of the assured, followed by a proviso that the production by the company of a receipt for any sum payable thereunder, signed by a relation by blood of the assured, should be conclusive evidence that such sum had been received by the person lawfully entitled to the same. On the death of the mother the son was paid by the company the sums assured, and he gave them a receipt. The executrix of the mother then sued the company for the policy money. It was held by the Court of Appeal upon the facts the policies ensured for the son's own benefit, and that even if he had not been paid the policy moneys, and the plaintiff had recovered them from the company, she would hold them only as trustee for him.

(See also BOARD OF TRADE, POWERS OF.)

### ASSURANCE FOR WOMEN.

(See WOMEN WORKERS' POLICIES; SURGICAL AND NURSING FEE BENEFIT POLICIES.)

### ASTHMA.

A disease of the respiratory system, characterized by shortness of breath and violent respiratory efforts, accompanied by a dry cough. The significance of asthma in life assurance lies in the chronic and recurrent nature of the malady, and in

the frequent association with it of other lung conditions, e.g. emphysema and bronchitis (*q.v.*), both of which are liable to develop in an asthmatic in the course of time. A medical examination is therefore essential in all cases with a history of asthma. If no complications are present, the case may be accepted for a short term endowment assurance. A life policy can only be granted in cases where there is no history of recent attacks, and will demand an increased premium.

### ATLAS ASSURANCE COMPANY, LTD.

Head Office: 92 Cheapside, London, E.C.2.

The Atlas Company was founded in 1808 at a meeting of city merchants at Wills' Coffee House, in Cornhill, in the midst of the Napoleonic Wars. The Bank of England had, at that time, suspended all specie payments, except for small sums, and paper money, then as now, was in general circulation. Traders made attempts to supplement the authorized issues. In the Isle of Man an Atlas agent issued and circulated 5s. notes stamped with the Atlas crest, and put into general use 1d. and ½d. metal tokens, also bearing the Atlas sign.

The original president was Sir Christopher Baynes. The Court consisted at first of eighteen members, and the directors decided to take no fees until the company paid a dividend. The first secretary was Mr. Henry Desborough, who received only a modest salary, but was given a residence and "coals and candles" in the Cheapside building. The capital was subscribed without difficulty. There is a curious advertisement torn from the *Sun* newspaper of 12th April, 1808, announcing the subscription of shares. The capital was almost wholly invested in the Three per cents. The deed of settlement was drawn up by Mr. Sugden, who afterwards became Lord Chancellor of England.

Great progress was made by the Atlas under the guidance of Charles Ansell, who became actuary in 1823, and held the position until 1864.

The famous Lady Hamilton assured her life in the Atlas so as to raise some money on the annuity left her by Nelson. Amongst other celebrities may be mentioned the names of J. M. W. Turner, the artist, Mrs. Kemble, the actress, Sir Walter Scott, Brunel, the engineer, and Daniel O'Connell.

In more recent years Mr. S. J. Pipkin was a famous manager, and did much to bring the company to its present important

position. Its life assurance business covers all the usual policies offered by the principal offices, including policies issued without medical examination on certain simple conditions up to an amount not exceeding £1,000.

The valuations of the company are made yearly, and profits are distributed triennially.

In November, 1929, the Atlas acquired a substantial interest in the Montreal Life Insurance Company, a Canadian office with over \$40,000,000 of insurance in force.

#### AUDIT OF ACCOUNTS.

(See ACCOUNTANCY DEPARTMENT.)

#### AUSTRALIA.

(See CLIMATIC RISKS.)

#### AUSTRALIAN MUTUAL PROVIDENT SOCIETY.

Head Office: 87 Pitt Street, Sydney, N.S.W. London Office: 73-76 King William Street, E.C.4. Founded in 1849.

The Society is the largest mutual life assurance society in the British Empire.

The Society was founded in a somewhat unique fashion, being the outcome of a conversation between several philanthropic gentlemen of Sydney. Their most ambitious aim, apparently, was to set up a modest life office "on the mutual principle," to make it possible for clergymen and other professional people, and those who were described as the "industrious poorer classes," to make some provision for their old age, or for their dependants at their death. At that time no such facilities were readily available in Australia.

At the end of the first year the Society had in force forty life policies, assuring about £10,000, in addition to two or three deferred annuity policies. By the end of the second year the business had more than doubled, and at the end of the third year it had doubled again. These are not impressive figures, but it must be remembered that the total population of Australia and New Zealand at that time did not exceed 400,000, and that facilities for travel between the various parts of the Colonies were either extremely primitive or non-existent.

As might be expected, the deferred annuity business did not prove popular. In the early years business was done principally under Whole Life and Children's Endowment Tables; it was not until the year 1855 that endowment assurance was added to the Society's prospectus.

In its early years the Society operated under the Friendly Societies' Acts, but in the year 1857 owing to various difficulties, and the necessity for obtaining powers for expansion, it obtained an Act of Incorporation, under which, with modifications, it is still operated. In this Act provision was made, for the first time in any country, for the protection within certain limits of the proceeds of life policies and annuities against the claims of creditors. In 1860 the Society appointed its first canvassing agent, thus inaugurating a system which has been carried on successfully to the present day. In 1872 a number of harassing policy restrictions were discontinued. About the same time, or a little prior, the automatic non-forfeiture system, whereby premiums in arrear are advanced against the surrender value, and the policy kept in force until the premiums together with accumulated interest exceed the surrender value, was inaugurated. Up till 1883 there had been a quinquennial division of surplus, but there were introduced at the end of 1884 arrangements for annual bonus distributions, which have been continued to the present day.

Confined at one time to the State (then Colony) of New South Wales, which in the very early days included the portions now known as Victoria and Queensland, the Society has had branches in all Australian states and in New Zealand since 1884, when the last branch office was opened in Perth, Western Australia.

An Industrial Department was established in 1905.

#### AUSTRIA.

**Regulations Affecting Insurance Companies.** In general, the same rights and privileges are extended to foreign companies in Austria as are granted to Austrians in the country represented. Before it can be legally recognized in Austria, a foreign company must prove that (1) it is established in the country of origin for the transaction of insurance business, (2) Austrian concerns will be permitted to enter that country for the purpose of transacting business of a similar nature under the same conditions as the home company.

According to an Imperial Ordinance of 29th November, 1865, R.C. B1. No. 127, and the law of 29th March, 1873, R.C. B1. No. 42, foreign insurance companies transacting business in Austria come under the general company acts as applied to insurance. Hence it is necessary to obtain a licence,

which may be granted by the authorities for a longer or a shorter period. A condition of the licence is that a representative resident in Austria must be appointed to take charge of the Austrian business, vested with full power of attorney in all matters concerning the company's business, as he is responsible to the Austrian State and to the third parties in Austria. By this means the foreign company is made subject to the Austrian courts when cases of litigation arise, and is treated according to the laws and provisions laid down for Austrian insurance companies. Violation of these laws may mean the withdrawal of the licence. The Austrian Government also reserves to itself the right to cancel a licence in instances when the home government of the foreign company does not accord Austrian companies equal treatment.

While the authorities are entitled to claim a deposit from a foreign insurance company, the fluctuating rate of exchange has hitherto prevented the fixing of a definite amount. Foreign companies have to pay the same taxes as home companies, and they are under State control, according to the provisions of the law of 7th March, 1921, B.G. Bl. No. 141. The Bundeskanzleramt, Abteilung Inneres, acts as supervising authority.

### AVERAGES.

An average is a figure which gives a composite representation of the varying sizes of some feature in a group or series of groups of phenomena. If the feature is height, and a group of men in question, the average will be that height from which collectively the group least differs. As in a composite photograph, those features which are displayed most prominently by a majority of the individuals included will appear most clearly in the result, so in an average the measurement, or frequency, of the largest sections will exercise the principal effect. There are several kinds of averages, arrived at in different ways—

**1. Simple Arithmetic Average.** This is obtained by dividing the sum of a series of values by their number. Thus the average of the numbers 4, 6, and 8 is  $4 + 6 + 8 \div 3 = 6$ . This is the simplest and most used. Of it there are various modifications. If, for example, the series is a fixed number of years, to show, say, the average annual coal production, then, as each new year's results are available, a new average is formed, by dropping the oldest figures and adding the

new ones. This is termed a moving average. Schedule D Assessment of Income Tax is another example. A slight variation is the progressive average. When observations first commence, it may be desirable to form new yearly averages by including all data up to date, without cutting off the oldest, so that each new average is based upon one more year's experience.

**2. Weighted Arithmetic Average.** Although useful in many cases, the simple arithmetic average fails in others. Thus, of a group of persons aged 20, 40, and 60, it would be quite incorrect to say that the average age was 40; clearly it would be necessary to know how many there were of each age in the group. An obvious step would be to weight each age by multiplying it by the number of persons at that age; add all these ages together, and divide by the number of persons. This would give a weighted average—an average of the ages, but it is well to point out here that it would not give a true average age. The reason for this is that the rate of mortality increases in an accelerating ratio with the age, and so the inclusion of a person aged 60 would not be counterbalanced by that of another aged 20. The correct method of weighting in this case would be to multiply the number of persons at each age by the force of mortality at that age, add, and divide the sum by the number of persons, thus obtaining a weighted average force of mortality, from which, by inspection of the column of the force of mortality for the table employed, the true weighted average age could be ascertained. Supposing the numbers at each of the three ages to be the same, such average age would be between 48 and 49, usually.

The two conditions, either of which calls for the use of a weighted average, are (a) when sections of the same group contain a varying number of items, i.e. in the above, differing numbers at each age; (b) when proportions change, i.e. the accelerating rate of mortality.

**3. Descriptive Average.** Sometimes the statistical data are incomplete. Averages compiled therefrom will be defective to an extent, though not necessarily valueless. If, for instance, the population of a country were recorded on the lines of the "standard million" (see standard population), where the numbers living are only tabulated in groups of 5 or 10 years of age, the numbers at each age could only be determined approximately. Any averages obtained in this way are termed descriptive.

**4. Geometric Average.** The geometric average or mean of  $n$  quantities is the  $n$ th root of their product, or, otherwise expressed, the logarithm of the geometric average of a series of quantities is the arithmetic average of their logarithms. The result is, of course, always less than the arithmetic average. The method is applicable for series that tend to increase by ratios, such as proportions, and has the characteristic of lessening the influence of any extreme variations. It has been employed in projecting the census population to forward or intermediate dates, i.e. let  $P(1921)$  be the population at the census of 1921, and  $P(1911)$  the population at the census of 1911, then  $P(1921) = P(1911) \times r^{10}$ , whence  $\log r = \frac{\log P(1921) - \log P(1911)}{10}$

With this value of  $r$ , the population can be estimated as at any date desired.

**5. Harmonic Mean.** The harmonic mean of a series of quantities is the reciprocal of the arithmetic mean of their reciprocals, i.e. form reciprocals of the quantities, calculate arithmetic mean of these, and the reciprocal of the result will be the harmonic mean. "If the prices of a commodity at different places or times are stated in the form 'so much for a unit of money,' and an average price obtained by taking the arithmetic mean of the quantities sold for a unit of money, the result is equivalent to the harmonic mean of prices stated in the ordinary way" (Yule, *Theory of Statistics*, page 129). The harmonic mean is always less than the geometric mean, and hence still less than the arithmetic mean.

**6. Median.** If the quantities in a series are placed side by side in the order of their

magnitude, they are said to be arrayed, and the middle term is called the median. If the quantities are even, the median is assumed to lie between the two middle terms. When the quantities are tabulated in groups, it may be necessary to interpolate to find the median. The process of arraying may be carried farther: thus the items situated halfway between the median and the extreme are called "quartiles," the one upper, and the other lower. Similarly, the items which divide an array into tenths are "deciles," and those which divide it into hundredths are "percentiles."

**7. Mode.** The mode is that group in the series which has the greatest density, the largest frequency. In a life table, for example, on examination of the numbers of deaths at all adult ages, it will be found that generally there are more deaths at age 73 than at any other age. Age 73 is then the mode for the deaths in such a table.

For fuller explanations of these various kinds of averages, their advantages and defects, see Boddington, *Statistics and their Application to Commerce*, Second Edition, London, 1923, and G. Udny Yule, *Theory of Statistics*, London, 1911. The latter gives a simple approximation to the relations between mode, median, and mean or average, namely,  $\text{Mode} = \text{Mean} - 3(\text{Mean} - \text{Median})$ , that is, the median lies one-third of the distance from the mean towards the mode. If so unevenly balanced a series be taken as the  $H^m$  (Textbook) table of  $d_x$ , the approximation gives 75 as the mode instead of 73. The  $O^m$  table yields the same result.

#### AVIATION RISKS.

(See OCCUPATION RISKS.)

**BABY GIRL POLICIES.**

This is a novel form of children's assurance which is finding some measure of popular favour. The policy provides in return for a small premium, which may be paid either annually, half-yearly, or quarterly, a capital sum as dowry for a female child whenever she may marry after the age of 18. Should she remain single the policy provides an annuity, payable quarterly, from the policy anniversary in the fifty-fifth year of age, or an immediate cash payment may be taken if preferred. Another option provides that, if the whole of the sum available as dowry be not taken, a fully-paid life policy will be granted on the husband's life, subject to medical examination. The contract thus secures three main benefits—a dowry on marriage, protection for the daughter in the event of the husband's death if a fully-paid policy on his life be taken, and provision for old age if the girl remains single. As liberal surrender values are also granted

The following example will show the working of the contract. In the case of a baby girl aged 1 next birthday, an annual premium of £10 would provide a dowry of £355 in cash if she married after the policy anniversary in her twenty-fourth year. If her husband were aged, say, 26 next birthday, and it was decided to take only £155 in cash, leaving £200 with the office, then a fully-paid up policy on his life for £642 would be granted, or assurance at the rate of £321 for each £100 of dowry not taken in cash. Should the girl remain single she would commence to receive an annuity of £88 2s. in her fifty-fifth year. If, however, she were to die or to discontinue the policy after twenty-five annual premiums of £10 had been paid, the surrender value would be £310; after 35 premiums £490, after 45 premiums £796, and after 50 premiums £1,074. The policy acquires a surrender value after two annual premiums. Specimen benefits for an annual premium of £10---

Age Next Birthday.	Amount payable on marriage in following years of age				Annuity commencing in 55th year.
	18th	21st	24th	27th	
	£	£	£	£	£ s. d.
1	233	292	355	419	88 2 -
2	215	272	334	397	84 16 -
3	197	252	313	376	81 14 -
4	180	233	292	355	78 14 -
5	164	215	272	334	75 14 -

in the event of the child's death or the discontinuance of the policy at any time during its currency, it constitutes a very useful and valuable investment, because the surrender values in their incidence soon exceed the premiums paid, and eventually show a favourable return on them. No medical examination is required and residence of the child or parent abroad does not affect the premium at any time. The policy is issued in the name of the person effecting it, and remains in his or her disposition until the child attains 21. Payment of claim is made on production of the marriage certificate and proof of title in the event of marriage, or on proof of title only in the event of discontinuance from any other cause.

**BACHELOR POLICIES.**

These policies are useful for unmarried men, who may have no present necessity for life assurance protection. In their most usual form they enable an annual sum to be set aside in order to secure a capital sum at the end of a fixed term of years. If marriage does not take place the capital sum is paid on survival of the term, but if they marry during the term then, subject to having passed a medical examination when originally effecting the policy, they have the option of converting their contract to a whole life or endowment assurance at the rate for their original age at entry. The policy-holder is thus able to effect his policy on subsequent marriage at a lower rate than

would otherwise be the case. If death occurs prior to maturity or conversion, all premiums paid are returned. After payment of two or more premiums the policy acquires a surrender value, or a fully paid up policy may be taken proportionate to the number of premiums paid. The policy may be effected without medical examination at the outset, and then carries the option of conversion to an ordinary whole life or endowment policy at any time at the premium for the original age at entry, subject to satisfactory medical examination. The premium, under this particular plan, for the original bachelor policy is not dependent on the age of the assured, but is based on the term of years for which the policy is effected. Specimen annual premiums per £100 assured are: Ten year term, £8 15s.; fifteen year term, £5 7s. 2d.; twenty year term, £3 13s. 9d.; twenty-five year term, £2 11s. 1d.

A second form of bachelor policy, which is perhaps more useful to the man who does marry subsequently, operates as follows: The premium varies with the age at entry of the policy-holder, and the term for which the policy has to run, but if the policy-holder marries, and within three months of marriage produces his marriage certificate, then he may have his policy converted into an ordinary whole life participating assurance for an increased amount, plus a guaranteed reversionary bonus of £2 10s. per cent for each year's premium previously paid, the policy thereafter participating in the ordinary bonuses of the office. For example, a man aged 23 next birthday would pay an annual premium of £20 16s. to secure a sum of £500 payable at the end of nineteen years. If he should marry when he was 32 he could convert to a with-profit whole life policy which would provide £1,250 immediate protection for his wife—i.e. £1,000 converted sum assured, plus £250 guaranteed bonuses on the premiums already paid, the bonus being calculated on the increased sum assured. This converted policy will be granted on request after marriage, no matter what the state of health of the life assured may be, and the bonus added to it may be surrendered for cash immediately on conversion, which is another very important privilege.

Where circumstances other than marriage may create a necessity for life assurance cover, the office is open to consider the conversion of the policy on production of evidence of continued good health. Should

the policy-holder remain single and the necessity for conversion not arise at all the policy—in the case of the example we have taken—would mature for £500 at age 42. In the event of death before conversion all premiums paid are returned, or the policy may be surrendered for the value of all premiums paid, except the first, accumulated at 3 per cent compound interest less a deduction of 7½ per cent. Medical examination may be waived where the sum assured does not exceed £2,000, where the proposer has not been declined or rated up, and where he is not engaged in an occupation of a specially hazardous nature. Specimen premiums are as follows—

Age next Birthday.	Annual Premium.	£500 payable at end of	
		Years.	Months.
20	£ 19 6 -	20	-
23	20 16 -	19	-
27	22 16 -	17	6
30	24 10 -	16	6
35	28 - -	15	-

#### BANKERS' CASH BOOK.

(See CASH DEPARTMENT.)

#### BANKRUPTCY.

On bankruptcy, life policies belonging to the debtor vest in the trustee in bankruptcy. By the Bankruptcy Act, 1914, the right of the creditor of the assured having a security on the policy in case of bankruptcy is to assess the value of his security and prove in respect of the balance, the trustee in bankruptcy having at any time before realization the right to redeem such security on payment of the assessed value.

There are often conflicting claims by the trustee in bankruptcy and the bankrupt's wife to policy moneys on the death of the bankrupt. Where a wife paid the premiums on her husband's policy until his death, and the official receiver was aware of the arrangement, the Court held that the wife was entitled to be repaid the premiums advanced by her before the bankrupt's estate could benefit (*re Tyler*, 1907, 1 K.B. 865), but where the life policy was not disclosed and the trustee was ignorant of its existence, the premiums being paid by the bankrupt, the Court held that the trustee was entitled to the policy moneys.

*In re Russell's Policy* (1872, L.R. 15 Eq. 26), a policy effected by A. on his life was mortgaged in 1860 without notice to the

office. A. became bankrupt in 1862, and in 1868 joined in a transfer of the mortgage to B., who had no notice of the bankruptcy. After the death of A., B.'s solicitor gave notice to the office that this policy was mortgaged. Subsequently notice of the bankruptcy was given to the office. It was held that this was sufficient to give priority to B. over the creditors in the bankruptcy of the assured.

*In re Leamouth* (1866, 14 W.R. 628), a bankrupt, after his bankruptcy, kept up the premiums on policies which he had mortgaged previously to his bankruptcy, and which his assignees had disclaimed. It was held that his representatives were entitled to the policy moneys, subject to the mortgage debt.

Policies of assurance being choses in action are excepted from the operation, Sect. 38(c) of the Act (*supra*), which provides that property divisible amongst creditors includes all goods being, at the commencement of the bankruptcy, in the possession, order, or disposition of the bankrupt, in his trade or business, by the consent and permission of the true owner, under such circumstances that he is the reputed owner thereof. It is, therefore, not necessary for the assignee for value of a life policy to give notice to the company in order to prevent the policy passing to the trustee.

A voluntary settlement of a policy on wife or children of the settlor of property which has accrued to the settlor after marriage in right of his wife shall, by the Act (*supra*), if the settlor becomes bankrupt within two years after the date of the settlement, be void against the trustee in bankruptcy, and shall, if the settlor becomes bankrupt at any subsequent time within ten years after the date of the settlement, be void against the trustee, unless the settlor at the time of the settlement was solvent without the aid of the property comprised in the settlement.

### BEARER BONDS.

(See INVESTMENT DEPARTMENT.)

### BELGIUM.

**Regulations Affecting Insurance Companies.** Applications from foreign insurance companies to transact business in Belgium must state the name and address of the representative, name and address of the head office of the company, also the names of the responsible officials. Information must be given concerning the classes of insurance

transacted, date of establishment of the company, and particulars of the Belgian agents as well as the domicile of the agency. Belgian representatives must be approved by the Belgian Government, and must be resident in Belgium. As they are personally responsible to the Belgian State for any liabilities the foreign company may incur, they are expected to be in possession of resources to meet these. This, however, does not release the foreign company from responsibility, for the State reserves the right to sue either party, or both.

Foreign companies may transact insurance business in Belgium without a special representative on payment of a duty of frs. 1,000. On the establishment of a branch office, or the appointing of an agent, additional duty must be paid, calculated on the following basis of the share capital issued—

Frs. 5,000,000 or less	.	Duty fee Frs.	2,000
" 5 to 10,000,000	.	" " "	4,000
" 10 to 20,000,000	.	" " "	8,000
" 20 to 50,000,000	.	" " "	20,000
More than 50,000,000	.	" " "	50,000

Taxes are paid at the same rate as for national companies. For fire business, the "Taxe d'Abonnement" is 5/100 francs per cent (0.05 per cent) of the sum insured. Other classes of insurance pay 6 per cent of the premiums received.

Workmen's compensation is the only form of insurance which comes under State supervision in Belgium, though a law is being prepared for the State control of life insurance. It proposes the inclusion of a clause under which licence will be refused foreign companies belonging to countries in which Belgian companies are not accorded corresponding privileges.

### BELL'S PALSY (Paralysis of Facial Nerve on one side of the Face).

It may be caused by a neuritis from cold, but may be the result of middle ear disease (titis media, *q.v.*), tumours, etc.

Simple cases may be accepted for life assurance at ordinary rates. Others must be assessed according to their causes.

### BINOMIAL THEOREM.

(See LOGARITHMS, THEORY OF.)

### BLACKBURN PHILANTHROPIC MUTUAL ASSURANCE SOCIETY.

Address: Mutual Buildings, Darwen Street, Blackburn. Established 1863.

This society is an industrial assurance society registered under the Friendly

Societies Act, and now subject to the provisions of the Industrial Assurance Act of 1923. It issues, in the ordinary branch, whole life and endowment assurances with or without profits, and also joint life endowment assurances.

#### **BLADDER, INFLAMMATION OF.**

(See CYSTITIS.)

#### **BLOCK SYSTEM.**

(See AGENTS AND COLLECTORS )

#### **BOARD MEETINGS AND MINUTES.**

The control of every office is vested in its board of directors, presided over by one of its members, usually designated Chairman.

Its functions are defined by the instrument constituting the company or society, and are carried out in board meeting assembled. The number of directors is specially provided for, and powers and authorities vested in them can be exercised at such meetings, always provided that a prescribed number, to form a quorum, be present. In the event of a quorum not being in attendance, the meeting is usually adjourned to some convenient day, an entry to this effect being made in the minute book.

Power is generally given to the directors to make by-laws regulating their own proceedings and for delegating various duties to a committee or committees, subject to ratification of its proceedings by the full board. The ordinary meetings of this body are held regularly on the same day or days in the week at the same hour, thus obviating the necessity of giving written notice to every director on each occasion the board meets. A resolution of adjournment to the next fixed date concludes the proceedings of each meeting.

Special meetings for specific purposes, for example, a meeting held for the purpose of filling a vacancy on the directorate, where such power exists, or for the consideration of an actuarial valuation report, must be specially convened by resolution and written notice given of the date and time of meeting. At every meeting of board or committee an attendance book should be provided and signed by each director present on assembly at the board table, and at any committee meeting which he may have to attend.

The minute book is then produced by the chief official, and the minutes of the last proceedings read over and signed by the chairman, subject to amendment, if any, that may be decided on by the board.

An agenda is next submitted, of which the following are typical items—

1. Statement of the position of the banking account, the disposition of any temporary surplus over immediate requirements, and the provision of funds, if necessary, to meet the more immediate commitments.

2. Execution of policies about to be issued, and sealing of any necessary documents.

3. Consideration of the proposals for assurance and the recommendations of the medical officers in connection therewith.

4. Appointments, resignations, and cancellments of agencies.

5. Admission of claims arising either by death or maturity.

6. Investments, etc.

Where any of the foregoing items are dealt with by a committee, this body makes a report to the board of its proceedings, and a resolution approving and confirming its recommendations—or otherwise—will be entered in the minute book. It is not customary to enter full particulars of the matters under consideration in detail in the minute book. Subsidiary books, which must be kept for the use of committees, will contain all essential particulars.

As an example, in the case of the item relating to new proposals submitted: the total amount of assurances proposed, and the number thereof, as detailed in the proposal book, are embodied in a formal resolution, which can be dealt with in a few lines.

In regard to cheques, a diary might be employed in which are entered particulars giving the number of each cheque drawn, its amount, the purpose for which it is to be issued, and the name of the payee. In some companies the board or committee require that a voucher is produced in due course for every cheque drawn, thus affording an additional check on all transactions passing through the banking account drawn on by the directors, apart from the ordinary audit. This procedure affords protection for the directors in the event of any questions arising thereafter.

The board will then proceed to deal with any special matters arising out of the foregoing reserved by the committee or the management, subject to the advice of the office solicitor, should it be required. Among the most important duties of the board are those concerning the investment of funds. Where the purchase of a Stock Exchange security is decided upon, it is usually only necessary, in drafting a minute, to quote its name, the nominal amount to be purchased,

and its price. In the case of desirable new issues, where no time is available in which to secure the approval of a full board, power is sometimes given to a committee or one of its number, in consultation with the chief official, to exercise discretion in the making of applications. Indeed the whole supervision of investment policy and dealings incidental thereto may in some companies of large dimensions be delegated to a finance committee, subject to ratification by the board.

In minuting other forms of investment which come before a board meeting, such as the purchase of ground rents and properties, and the granting of mortgages, the following particulars should be quoted—

1. Situation of the property.
2. Name of vendor or borrower.
3. Purchase price or amount of advance applied for.
4. The rate of interest involved.
5. The gross and net rental values per annum.
6. The ground rent payable, if any, concluding with a formal resolution embodying the decision of the directors to proceed further with the business or not, subject to any variation of terms in the former case, and the appointment, where necessary, of a surveyor to advise thereon. His report, together with that of the office solicitor on title and readiness to complete a transaction, will, of course, form separate items on the agenda at later meetings, and minutes dealing with them should be drafted to cover the special circumstances of each case.

Stress must be laid on the importance of accuracy in the framing of minutes and the exercise of care in conforming to such rules and regulations as govern the board's proceedings, since an office might at some time be challenged in a court of law, and its minute book produced in evidence. Any alteration or amendment of minutes should, therefore, be authenticated by the initials of the chairman of the board at which they are made. The officials in attendance on the board of directors at its meetings usually comprise the following—

The chief official, the actuary or secretary, and, in certain special circumstances, the company's solicitor, and/or its chief medical officers.

#### **BOARD OF TRADE, DEPARTMENTAL COMMITTEE.**

(See SEGREGATION OF LIFE ASSURANCE FUNDS.)

#### **BOARD OF TRADE, POWERS OF, IN RELATION TO LIFE ASSURANCE.**

The control exercised by the Board of Trade over the transaction of life assurance business in the United Kingdom is derived from the Assurance Companies Act of 1909. As this Act is the lineal successor of certain earlier statutes dealing with the same subject, it is necessary, in any attempt to secure a historical conspectus of the growth of the Board's powers, to survey the development of life assurance legislation in this country. This it is proposed to do in the first section of this article.

**I. The History of Life Assurance Legislation to the Year 1909.** (a) **The Position Prior to 1870.** The earliest event in the history of the subject to which reference need be made is the appointment, in the year 1841, of a Select Committee of the House of Commons to investigate the general position in relation to Joint Stock Companies. One of the chief duties of this Committee was to inquire into the financial situation of companies formed to transact life assurance and annuity business; for at that time a favourite form of speculation of the unscrupulous company promoter was the formation of a life assurance office. Little capital was needed at the outset of such an enterprise, and it was realized that between the commencement of business and the period when claims would begin to present themselves in any considerable volume there must elapse a halcyon interval during which the income from premiums could be utilized to the advantage of the founders of the concern if they were sufficiently lacking in scruples. When the financial position became too acute, the inevitable ultimate disaster could be staved off by amalgamation with another company.

As a result of the findings of the Select Committee, the Joint Stock Companies Registration Act was passed in 1844. This Act is of considerable interest and importance to the student of general company law; here, however, it is only necessary to mention that included within the scope of the Act were all life assurance companies not incorporated by statute or charter.

This attempt to impose some degree of regulation upon the transaction of assurance business proved, however, to be unsuccessful; and the position became sufficiently unsatisfactory to merit the appointment of a further Select Committee in 1853. This Committee reported that the existing law relating to assurance companies was extremely

defective, and that the provisions of the Joint Stock Companies Registration Act concerning them were very imperfectly carried out. The Committee recommended that, in view of its special character, assurance business should be dealt with in a separate Act, the provisions of the 1844 Act relating to such business being repealed; further, that all assurance companies should be registered and required to deposit a sum of £10,000 on their formation; that certain specified particulars regarding accounts, business transacted, calculation of premiums, etc., should be furnished every year; and that a thorough investigation of the affairs of each company should be made at least quinquennially.

For the ensuing fifteen years these recommendations bore little fruit. It is true that the Joint Stock Companies Act of 1856, which repealed the Act of 1844, gave effect to the suggestion that assurance companies should be excluded from legislation dealing with companies of a more general character; but beyond this rather negative action, and the extension to life assurance companies, by the Companies Act of 1862, of the privilege of limited liability, the only attempts to apply the remedies put forward by the Committee of 1853 were by way of private Bills, which died natural deaths before reaching the Statute Book.

The situation was at length forced into the limelight by the disastrous events of 1869. The failure of the Albert Life Assurance Company, followed by that of the European Life Assurance Company, was overwhelming evidence that immediate steps should be taken to regulate effectively the transaction of the business of life assurance. A Bill on the subject was accordingly introduced into the House of Commons by the Vice-President of the Board of Trade (Mr. Cave). This Bill does not seem to have been proceeded with, but in the following year there was introduced by the same member the Bill which ultimately passed into law as the Life Assurance Companies Act, 1870. In view of the importance of this enactment and of the fact that it formed the broad basis of existing legislation, its provisions and their object are examined in some degree of detail in the following paragraphs.

(b) **The Act of 1870.** Mr. Cave stated the main objects of his Bill to be—

1. To secure such publicity for the operations of assurance companies as would enable the public to compare the position

of one office with that of another, and to ascertain the nature and extent of the security offered to a policy-holder in any particular office. This end was to be compassed by the requirement that companies should make simple uniform annual statements of their business in a prescribed form, and that actuarial investigations should be made, and their results made available, at regular intervals of time;

2. To check the formation of companies merely for the benefit of promoters, by requiring a substantial sum to be deposited in safe custody before the transaction of assurance business was commenced;

3. To safeguard further the interests of policy-holders by requiring companies transacting other forms of business in addition to life assurance to maintain an entirely separate life and annuity fund;

4. To improve the legal remedies available to policy-holders in the event of any necessity arising for them to take measures in self-protection against the companies.

The following are the more important sections of the Act designed to secure the above objects—

Sect. 3 required a deposit of £20,000 from every company established in the United Kingdom after the passing of the Act, and from every company established out of the United Kingdom commencing to carry on life assurance business there, the deposit being returnable when the life assurance fund accumulated out of premiums amounted to £40,000.

Sect. 4 required "composite" offices (i.e. those in which life assurance was not the only form of business transacted) to carry receipts from life assurance and annuity contracts to a separate fund, such fund to be absolutely the security of the life policy and annuity holders.

Sects. 5 and 6 required companies to furnish annual returns in a specified form.

Sects. 7 and 8 required an actuarial valuation and report, and also a statement of life assurance business, to be made out every five years in the case of a company commencing to transact business after the passing of the Act, and every ten years in the case of an existing company, or at such shorter intervals as may be provided by the constitution of the company.

Sect. 9 gave the Board of Trade power to vary the forms in which the various statements required by Sects. 5 to 8 were to be made.

Sect. 24 directed the Board of Trade to lay

annually before Parliament the statements deposited with them during the previous year.

Other sections made provision for the disclosure to policy-holders of the terms under which amalgamations or transfers were effected, and for the winding-up of insolvent companies.

As indicated in the opening paragraph, the purpose of this first section of the article is to give a chronological account of life assurance legislation in this country. The general significance of such legislation, and of the powers conferred by it upon the Board of Trade, will therefore be examined as a whole in later paragraphs, after the historical side of the subject has been brought up to the legislation at present operative. We accordingly pass on to the alterations of the 1870 Act effected by two short amending statutes in the following years.

(c) **The Acts of 1871 and 1872.** The Act of 1871 was practically confined to a prescription of the methods by which the £20,000 deposit was to be dealt with when paid into Court, certain amendments being introduced into the original provisions of Sect. 3 of the 1870 Act.

The Act of 1872 was of rather more importance. The matter of the deposit was again dealt with, and power was given to the Board of Trade to make rules with regard thereto. Sect. 24 of the principal Act was extended by a provision requiring the Board of Trade to lay before Parliament the returns, etc., deposited with them, even if they considered that the returns were not such as were required to be made by the Act. The provisions of the 1870 Act relating to the separation of funds were clarified, and sections were added dealing with the winding-up of companies and the method to be employed in such circumstances for the valuation of life policies and annuities.

(d) **The Board of Trade Rules under the 1870-72 Acts.** As indicated above, these dealt with the making of deposits. A company wishing to commence life assurance business was required to apply to the Board of Trade for a warrant authorizing the Paymaster-General of the Supreme Court to accept the deposit of £20,000. Without such a warrant, no company could transact business. The depositors were allowed to deposit stocks or other securities in lieu of cash, and, on the other hand, the Court had power to direct the investment of the deposit in such manner as the applicants desired and the Court thought fit. The depositors

were entitled to interest on the deposit, and to its repayment when the life assurance fund accumulated out of premiums amounted to £40,000. The Board of Trade itself was not to be liable for the deposit or for the interest thereon.

(e) **The Events Leading up to the Act of 1909.** The generally satisfactory nature of the Acts of 1870-72 was indicated by an official of the Board of Trade who gave evidence before the Select Committee of 1906 (to which further reference will shortly be made) in the words: "The Act of 1870 . . . may be said to have been administered throughout without friction, to have been beneficial in its operation, and to have carried out the intention of its promoters." Nevertheless, it was not to be expected that such an important body of enactments could long continue in being without the advent of suggestions for its amendment; and by the end of the century certain defects in the Acts had been recognized. It is doubtful, however, whether any extensive changes would have been made in the existing statutes had the subject of life assurance not been brought into public prominence by certain events in America. In the early years of the century a comprehensive inquiry into life assurance was held by a Committee appointed by the Legislature of the State of New York, and concerned itself very largely with the transactions of certain American companies carrying on extensive business in this country. The facts disclosed by the Committee caused considerable anxiety as to the position of British policy-holders in companies not domiciled in the United Kingdom, and in 1906 a Select Committee of the House of Lords was appointed to consider what steps should be taken to provide such persons with adequate security. As the Report of this Committee is commonly regarded as the foundation-stone of the Act of 1909, its recommendations are of some importance to the present survey. They were, briefly, as follows—

1. The compulsory deposit of funds (other than the £20,000 required by the 1870 Act) by foreign companies transacting business in the United Kingdom was not desirable.

2. Foreign companies and British companies should be subject to the same legislative requirements.

3. The 1870 Act, while appearing on the whole to give general satisfaction, required amendment in certain respects, viz.—

(a) The deposit of £20,000 should not be

returnable in any circumstances. While this is only a nominal sum in relation to the liabilities of a company, its retention would enable policy-holders in a foreign company always to proceed, if necessary, against that company in a British Court.

(b) Full revenue accounts, balance sheets, and valuation statements, together with particulars of the expenses of management, should be submitted to the Board of Trade by all insurance companies, British and foreign.

(c) The Board of Trade should have power to vary the form of the returns which companies were required to make, and to insist upon the returns being complete and accurate in every respect. In these returns it should be made absolutely clear how far the funds of any foreign company were subject to preferential claims in any country where it transacted business.

(d) Although no actual separation of funds was necessary, the above returns should show separately the respective amounts of foreign business and business transacted in this country.

(e) All companies should state in their returns the market value of the securities held by them.

**II. The Act of 1909.** The Assurance Companies Act, 1909, is usually regarded as the direct outcome of the findings of the Select Committee of 1906; and although opinions differ as to the extent to which the position of the British policy-holder in a foreign company was improved by the new Act (a question which does not greatly concern us here), there can be little doubt that the general extension of previous legislation which was now effected was intimately connected with the recommendations of the Report summarized above.

As the 1909 Act continues to be the effective statute regulating the business of life assurance in this country, its main provisions will be set out in detail; and when this has been done, it will be possible to proceed to the specific subject under consideration—the nature and extent, as expressed in those provisions, of the control exercised by the Board of Trade over life assurance business.

Sect. 1 provides that the Act shall apply to all persons or bodies of persons, corporate or unincorporate, not being registered under the Acts relating to friendly societies or trade unions, whenever established, and whether established in or out of the United Kingdom, who carry on in the United Kingdom any or all of the following classes

of assurance—life (including the granting of annuities), fire, accident, employers' liability, and bond investment. Each of these classes of business is formally defined.

Sect. 2 makes provisions for deposits on the lines of the Acts of 1870-72. In the case of a composite company separate deposits must be made for each class of assurance business transacted; this provision, together with certain other requirements of the Act, is, however, subject to certain modifications which are set out in later sections. The Board of Trade is again empowered to make rules relating to the furnishing of deposits. (The rules subsequently made under this section follow the general lines of those originally made under the Acts of 1870-72.)

Sect. 3 requires that separate accounts and separate funds should be kept for each class of business, each fund to be as absolutely the security of policy-holders of that class as if no other business were transacted. The investments need not, however, be kept separate.

Sects. 4 to 12 require every company to prepare annual revenue accounts, profit and loss accounts, and balance sheets in a prescribed form, and to submit them to the Board of Trade within six months of the end of the year to which they relate. Whenever an actuarial investigation is made with a view to the distribution of profits or the results of which are made public, or at least once every five years, an abstract of the valuation and of the actuary's report must also be furnished to the Board in a given form, together with a quinquennial statement of the business. With the annual returns must be submitted any reports made to shareholders or policy-holders for the year to which the returns relate. The Board may require the correction of any inaccuracies and the completion of any deficiencies in the documents furnished to it. If the accounts are not statutorily subject to audit, they shall be audited annually as the Board may prescribe.

Shareholders and policy-holders are to be furnished on demand with copies of the most recently deposited annual returns and valuation statements.

Any published statement of the authorized capital of a company must state how much of such capital is subscribed and how much paid up.

Sects. 13 to 14 deal with the amalgamation or transfer of companies. Instructions are given as to the manner in which these are

to be conducted, and it is enacted that within ten days of the completion of the merger, the combined or purchasing company must furnish the Board of Trade with certified statements of the assets and liabilities of the companies concerned, the terms on which the amalgamation or transfer has been effected, the deed upon which it is based and the actuarial or other reports upon which founded, together with a declaration by the chairman and principal officer of each company that all payments arising out of the operation have been duly effected as set forth in the documents submitted.

Sects. 15 to 18 prescribe the manner and the circumstances in which companies may be wound up by order of the Court, and the method to be employed in valuing annuities and policies in the case of a winding-up.

Sect. 22 allows the Board of Trade, on the application or with the consent of a company, to alter the prescribed forms in which returns are to be made to meet the circumstances of that company.

Sects. 23 to 25 deal with the penalties for non-compliance, etc. It is provided that if default continues for three months after notice of default has been given by the Board of Trade, the Court may on that account order the winding-up of the company.

Sect. 27 requires the Board to lay annually before Parliament the accounts, balance sheets, etc., deposited annually; to these any notes or relevant correspondence may be appended.

Sects. 30 to 34 deal with the application of the Act to each of the classes of business specified in Sect. 1. Various modifications of the general provisions of the Act are made, and in the case of business other than life assurance the deposit is waived or made returnable in certain circumstances.

Sect. 35 provides that, in certain circumstances, the Board of Trade may extend the exemption contained in Sect. 1 to *un-registered* friendly societies and trade unions.

Sect. 36, which made certain provisions regarding collecting societies and industrial assurance companies, was repealed by the Industrial Assurance Act, 1923.

**Schedules.** The schedules to the Act set out the particulars which are to be specified in the annual returns and valuation statements, and the form in which the information is to be given. The main features of such of the schedules as relate to life assurance are as follows—

**Revenue Account.** Certain of the items

have to be specified separately for United Kingdom business and business out of the United Kingdom. Separate accounts are required for "ordinary" and "industrial" business. Particulars of new life assurances effected during the year of account have to be appended.

**Profit and Loss Account.** This does not require any special comment.

**Balance Sheet.** This is in a combined form covering all classes of business transacted by the company for which one investment account is kept. The *debit* side consists, of course, of the shareholders' paid-up capital and the various insurance funds, together with such outstanding liabilities as claims admitted but not paid. The *credit* side of the account requires the assets to be set out in some degree of detail. Eight different heads are specified for loans and mortgages; other investments fall under seventeen heads, excluding the deposit with the High Court, the securities in which this is invested being separately enumerated. Miscellaneous assets are required to be shown under a variety of heads.

When part of the assets is specifically deposited out of the United Kingdom under local laws, the place of deposit and the amount deposited must be shown for each class of business (subject to certain modifications).

A certificate must be attached stating that the provisions of Sect. 3 of the Act (relating to the separation of funds) have been complied with.

The balance sheet must state the method by which the Stock Exchange securities have been valued, and the assets must be certified as being in the aggregate fully of the value stated.

**The Valuation Statement** (to be made by an actuary) requires the date, general principles and basis of the valuation to be stated, together with a summary of the valuation and a valuation balance sheet in prescribed form. The principles on which the surplus is distributed, and the actual manner in which it has been distributed (with specimen bonuses) have also to be stated.

Separate returns are required for "ordinary" and "industrial" business.

**The Statement of Business** (to be signed by an actuary) requires particulars of the total sums assured, and premium income, in age or other statistical groups, for the different types of policies. The published tables of premiums in use must be specified. The average rate of interest earned by the

funds has to be stated, and illustrations given of the surrender values and paid-up policies granted.

Separate returns are required for "ordinary" and "industrial" business.

It would be interesting to proceed from this outline of the 1909 Act to a comparison of its provisions with those of its precursor of 1870 and, in particular, to examine how far the Act justifies the ostensible reason for its conception by providing efficient safeguards for the British policy-holder in a foreign company. Space does not permit of this; but the position may be summarized in the statement that the Act of 1909, while similar in general outlines to the earlier enactment, casts its net over a considerably wider field and extends the volume of the statutory requirements which an insurance company has to fulfil. With this brief statement we must pass on to the more exact consideration of the functions of the Board of Trade.

### III. The Powers of the Board of Trade.

The fundamental principles of life assurance legislation in this country have on many occasions been summed up in the words "freedom and publicity"; and in the implications of this phrase are to be found both the weakness and the strength of the position of the Board of Trade in its capacity of the agent of State control of assurance business. In this connection reference may be made to a statement by the Parliamentary Secretary to the Board of Trade at the time of the passage through the House of Commons of the Bill of 1870. He remarked that it could not be too widely known that the Government would not, under the Bill, back the solvency of any company or guarantee the accuracy of its accounts. The Government supported the Bill because it ensured the greater publicity of the companies' accounts, and gave the policy-holder better legal remedies as soon as he had ascertained the true financial position of the company in which he was insured.

It will be seen from the following paragraphs that these observations, although made in relation to the earlier enactment, could be applied with equal relevance to existing legislation.

The powers of the Board of Trade under the 1909 Act may be broadly described as twofold in character, for they derive from two distinct sets of provisions in the Act—those relating respectively to the deposit of £20,000 and to the periodical returns to be made by the companies.

In the first place, it has to be remarked that the enforcement of the deposit by the Board of Trade is absolute; no company can commence life assurance business in any circumstances without the issue by the Board of the warrant specified in the rules made in pursuance of the Act. But on the other hand, no power is given to the Board to refuse the warrant, or, in other words, to decline to allow the deposit to be made; and there is therefore no obstacle to prevent any company which can produce £20,000 from commencing business.

In this connection it is necessary to revert for a moment to the ideas underlying the original recommendation of a compulsory deposit made by the Select Committee of 1853, and again referred to during the passage through Parliament of the 1870 Bill. The stated object of the deposit has always been to prevent the formation of bubble companies by unscrupulous promoters for the purpose of securing substantial incomes with little or no immediate outgo. The deposit has never been intended to provide security for an individual policy-holder in the sense of guaranteeing the fulfilment of the contract between himself and the company; and it is, of course, immediately obvious that such an end as this could in no way be achieved by requiring the deposit of a fixed sum before the company had commenced operations and while the extent of the business to be transacted was yet unknown. In any other than an infinitesimally small concern, a sum of £20,000 would represent but a nominal proportion of the total liability of a company to its policy-holders; and no deposit could provide even a partial guarantee unless it were maintained at a figure bearing some relation to the liability of a company under its policies. Apart from the various difficulties which would be engendered by the fluctuations necessitated in the deposit on each occasion that the indebtedness of the company to its policy-holders was actuarially assessed, such a conception raises the fundamental issue of a Government standard of valuation, which, it may be at once remarked, is totally foreign to the former of the two principles of "freedom and publicity" referred to above.

Legislative systems designed to secure automatically the solvency of life assurance companies have received consideration by official bodies in this country on at least two occasions. The Select Committee of 1906, which, as previously remarked, owed

its inception largely to Governmental activity in relation to life assurance in the United States, devoted considerable attention to the question, particularly (as required by its terms of reference) in relation to the security to be provided for British policy-holders in foreign companies. The advantages and disadvantages of the systems of State control practised in America and elsewhere were fully discussed; but, as indicated in the summary of the Committee's report given in a previous paragraph, the conclusion arrived at was that any deposit of funds other than the statutory £20,000 was undesirable, and that while this sum was nominal only, its retention would provide the British policy-holder in a foreign company with a certain measure of security.

More recent attention was given to the feasibility of a Government valuation standard in the deliberations of the Parmoor Committee on Industrial Assurance in 1919, and in the discussions on the Bills which resulted in the Industrial Assurance Act, 1923; but although the effect of this enactment was to invest a Government official (the Registrar of Friendly Societies and Industrial Assurance Commissioner) with considerably greater powers than any possessed by the Board of Trade under the 1909 Act, the tradition of freedom to conduct their own affairs, so jealously guarded by the life assurance institutions of this country, was sufficiently strong to prevent the inclusion in the Act of any provision requiring the companies to conform to a set standard for the actuarial valuation of their commitments.

The Act of 1923 relates to collecting societies and companies transacting business of the "industrial" type; but since the powers of the Board of Trade under the 1909 Act are practically unaffected by its provisions, no account of them is required here. It may, however, be mentioned that the considerably greater powers of the Industrial Assurance Commissioner referred to above are manifest both in the sections of the Act dealing with deposits and in those relating to the periodical returns to be furnished.

We may now turn to the powers of the Board in relation to the statutory returns and accounts to be furnished by the companies, which exemplify the second of the two principles of existing insurance legislation, viz. "publicity."

The Act provides that certain particulars relating to the business of a company (which are set out in some detail in an earlier

paragraph) shall be supplied to the Board at certain regular intervals. Prescribed items of information have also to be supplied upon the occasion of an amalgamation or transfer of companies; but as the considerations involved in regard to both classes of returns are much the same from the point of view of the functions of the Board, and as, moreover, the effect of the provisions of the Act regarding amalgamations and transfers generally is, in the opinion of many members of the actuarial profession at any rate, to render such operations so difficult as to be but rarely practicable, it is proposed to confine attention to the statements required from the companies at annual or quinquennial intervals. The functions of the Board in relation to these are governed by the following provisions of the Act—

1. The deposit of the documents must be effected within a certain period after the date to which they relate.

2. The Board may require the correction of any inaccuracies and the completion of any deficiencies in the documents.

3. On the application of or with the consent of a company, the Board may alter the form of the returns to adapt them to the circumstances of that company.

4. The Board is to lay the returns annually before Parliament, and may append any notes or relevant correspondence.

It will be seen that while these provisions nominally carry out the intention of the Act (or at least of its precursor in 1870) to throw, for the benefit of the policy-holder and the public generally, a beam of publicity over the financial affairs of life assurance institutions, their efficacy in practice must depend upon the nature and extent of the action the Board of Trade is empowered to take if, after a scrutiny of the returns of a given company, some action is considered to be desirable. In this connection it has to be admitted that there is no specific provision in the Act to meet these circumstances; the only relevant section is that which deals with default in complying with the provisions of the Act generally, and the power of the Board to take definite action against a company with whose returns it is not satisfied depends upon whether a company which has sent in returns (however unsatisfactory) in the prescribed form can be said to have defaulted from the provisions of the statute. The view has always been taken that in such circumstances the remedy of the Board lies, not in an initiation of proceedings for non-compliance, but in the

provisions of (4), i.e. by displaying to Parliament not only the returns themselves, but also the correspondence on the subject between the Board and the company, or other memoranda which would exhibit the unsatisfactory state of affairs.

In effect then the position is that if a company omits to submit returns at all, financial penalties are impossible for default; but if returns are provided, the Board is to be regarded as powerless to enforce, by any means other than the moral suasion always at hand in the threat to expose the situation to Parliament, any alteration in the financial affairs of the company as indicated in the returns.

Thus the "freedom" of insurance companies against Government domination is again apparent; for it will be readily appreciated that the placing in the hands of the Board of Trade of unlimited power to demand the alteration of a company's accounts could without much difficulty be made the opportunity for an invasion of the sacred sphere of actuarial valuation. Even the possibility of such a development we have seen in an earlier paragraph dealing with the question of deposits to be anathema to life assurance institutions in this country.

Nevertheless, it is not to be denied that however desirable may be the preservation of the liberty of assurance companies from any fundamental measure of State interference, the consequences of such a position may by no means be necessarily in the public interest. Since the Board of Trade has no direct access to the Court even if it is convinced, as a result of examination of the returns and correspondence with the company concerned, that affairs have reached a stage when the only remedy seems to be the drastic one of a winding-up order, the only protection it can give to the existing policy-holders of the company lies in the possibility of its submissions to Parliament obtaining such publicity that the policy-holders will themselves realize the position and petition the Court. It is believed that since the war correspondence between the Board and assurance companies on the question of their returns has been laid before Parliament on some half-a-dozen occasions; but the general inadequacy of this measure of protection is apparent, if only by reason of its indirect character and the consequent delay that must occur before any definite steps can be taken to remedy the situation.

**IV. Conclusion.** In the circumstances outlined in the previous section, it is not

surprising that there is at present a general consensus of opinion that the life assurance legislation of this country is again ripe for revision. The suggestions advanced as to the respects in which, and the amendments by which, the present law stands in need of alteration are many and varied in character, and relate not only to the specific powers of the Board of Trade, with which we have been concerned in the previous paragraphs, but with such all-important questions as the methods to be employed, and the information to be given in the returns, with regard to the valuation of the assets of a company for the purposes of its balance sheet. The opinion held in certain quarters that the requirements of the returns need revision and improvement in this respect was exemplified by the introduction of Mr. Holmes' Bill a few years ago. This short Bill required a return to be furnished giving a description of every investment and security held and, in the case of mortgages, stating the name of each mortgagor. The Bill did not concern itself with any other aspect of assurance legislation, and did not reach the Statute Book.

Broadly speaking, the general opinion in interested quarters as to the amendment of the 1909 Act may be said to be that while a greater measure of State control over life assurance transactions is necessary in some respects, and is to be secured by investing the Board of Trade with powers rather superior to those it already possesses, some amendment of the forms of the statutory returns themselves is needed; and it is felt in some quarters that not only should more definite information be required in some respects (e.g. with regard to the assets as mentioned above), but that in other directions information at present furnished could be abbreviated, if not dispensed with, without prejudice to the interests of the policy-holder and the general public, and with resulting greater convenience to the companies. This latter view is particularly held by some sections of the actuarial profession with regard to some of the items in the returns comprising the valuation abstract and the statement of business on the books, but examination of the suggestions made to this end is not required here, and moreover the whole question of the revision of the 1909 Act is at present *sub judice*. The case for considering the amendment of assurance legislation, which was, of course, strengthened a few years ago by the unfortunate collapse of certain insurance concerns whose

names need not be specified, at length found concrete expression in the establishment of a Departmental Committee to examine the question of revision, whose report, which was issued in 1926, resulted in the drafting of the Insurance Undertakings Bill which is reproduced in the Appendix and discussed in the introduction to this work.

(See also STATE SUPERVISION.)

### BOILS.

(See DISEASES OF THE SKIN.)

### BOLIVIA.

(See CLIMATIC RISKS.)

### BOND CERTIFICATES.

(See HOUSE-PURCHASE BOND CERTIFICATES.)

### BONDS, REPAYMENT OF.

(See INVESTMENT DEPARTMENT.)

### BONUS.

**I. History.** Although the system of allotting bonuses to policy-holders is an almost invariable feature of life assurance, both in this country and abroad, it owes its introduction to accident rather than to design. The early attempts to assess the requisite premiums for life assurance resulted in much larger premiums being charged than were necessary to meet the risks. With the publication of the Northampton Mortality Tables in 1771 a more reliable measure of the requisite premiums was obtained than had existed hitherto, and the rates for new entrants into assurance were reduced. The Equitable Society reduced its premiums in 1782, the reduction operating both for new and existing members. In order to compensate the existing members for having previously contributed too much to the Society an addition was made of 30s. to every £100 in respect of every payment made prior to January, 1782. In this addition we have the origin of the bonus system.

The improvement in mortality which has gone on to the present day has constantly tended to make the premiums, which were no more than adequate at one date, become excessive at a later date, and similar conditions to those which led to the introduction of the bonus system have operated to maintain its usefulness if not its actual necessity.

The system has, however, conferred on life assurance far greater benefits than those implied merely in a ready means of adjusting the premiums on existing contracts to

improved mortality conditions. Bonuses have proved to be popular in themselves, and it is certain that they would be retained for this reason alone if no other existed. Since the primary object of all forms of insurance is to eliminate some of the elements of chance in our fortunes, to make us a little less the sports of fate, it may seem paradoxical that actuaries have chosen to reintroduce an element of uncertainty into the life assurance contract by deliberately making a part of its benefits depend upon profits. Possibly the truth is that in this form the contract answers better to the changing moods of the public; in hours of depression the mere insurance is a satisfaction, while when folks are elated, and hopes run high, they can take pleasure in the thought of their policies turning out better than they have done in the past, better than they expected.

From the point of view of the offices, the bonus system has been valuable in providing an additional margin of safety. Even if an office is unsuccessfully managed, it can meet a good deal of loss by passing its bonus before it is obliged to default on its contractual obligations. The strength and stability of British life assurance institutions are sources of legitimate pride, but it may help to save actuaries and managers from over-indulgence in self-satisfaction to remember that, viewing the matter historically, the mortality risk has always proved to be rather less than expected, and by the bonus system life companies have avoided the necessity of adjusting the premiums to the lighter mortality experienced. Actuaries have not yet had to face the problems of the fire or marine underwriter, who finds sometimes that the risk has been greater than he expected, and who has no bonus loadings in his premiums to help him in his difficulties.

It may well be that the actuary of the future will be put to a severer test, because the development of the life assurance contract has been for many years away from pure life assurance, as represented by the whole life policy, and towards investment, as represented by the endowment assurance policy. This development diminishes the importance of the mortality experience, and increases the importance of the rate of interest earned on the investments of the office. Policy-holders will be fortunate indeed if investment experience during the coming century proves as much more favourable than the expectations as mortality

experience has proved in the century which has passed.

**2. Earning of Bonus.** It is important to recognize the distinction between the earning of bonus and the emergence of surplus at successive valuations. As has already been indicated, bonus is earned primarily by a margin in the premium charged over and above what is strictly necessary to meet the risk and the expenses under the conditions prevailing in the office granting the assurance. Now these conditions, the most important of which are the experienced rates of mortality, interest, and expense, will, in a well-established office, be subject to evolutionary rather than revolutionary change, and our estimate, therefore, of the premium necessary to meet the risk and expenses over the whole duration of the contract would differ little from year to year. It follows that the margin which represents the real bonus earning power of the premium will probably change slowly and progressively. If the valuation basis followed closely the experience of the office, so that effect was given to the evolutionary changes in the rates of mortality, interest and expense, the bonus earning power of the premiums would be reflected in the valuation surplus. In practice, the valuation basis bears only a distant relation to the experience of the office, and little or no attempt is made to follow changes in that experience. The result is that the surplus at a valuation becomes in a large measure independent of the bonus earning power of the premiums in the particular valuation period. The premium margins of one period are held up as valuation reserves, to emerge as surplus at a later period, or even to be retained permanently so that the interest earned on them alone emerges as surplus.

This distinction between the earning of bonus and the emergence of surplus needs to be borne in mind in considering the equity of methods of profit distribution. Clearly, if a bonus system is to be equitable, the value of the bonuses allotted to each policy must represent the bonus earning power of the premiums, but if the valuation basis employed delays or prevents the emergence of part of the margins in the premiums as surplus in the valuations, the equitable distribution of the surplus which does emerge becomes an extremely complicated problem, and one which cannot be dealt with satisfactorily merely by considering the sources of profit within one valuation period only. The point will be made clearer by considering

the case of an office in which there are reserves which have been built up in the past out of the premiums on policies which have all now gone off the books. The interest on these reserves falls into the surplus at each valuation, but it is clear that considerations of equity can hardly give any guide as to the method in which this part of the surplus should be distributed. The present policy-holders have not contributed to it, and a distribution of the amount by methods which are based on an analysis of the surplus into the various sources, and which purport to make the distribution in proportion to the contribution of each policy is (so far as this part of the surplus is concerned) merely an elaborate deception.

**3. Systems of Allotment.** A valuation having been made and the surplus determined, the next step is to decide how much of the surplus is to be divided in the form of bonuses to policy-holders and dividends to shareholders, and how much is to be carried forward undivided. It then falls to divide the policy-holder's portion of the divisible surplus among the individual policies entitled to participate in the distribution.

The surplus is determined in the first place as a cash sum, but it is not necessarily or even generally distributed in the form of cash. The distribution may take the form of an addition to the sum assured under each policy, and be payable only in the same events as the sum assured. Such additions are known as reversionary bonuses. Again, the distribution may take the form of a reduction of the premiums, either during the period to the next distribution or throughout the remainder of the assurance. Whatever form the primary distribution takes, it is common to give the policy-holder the option of taking his allotment in an alternative form. Thus if the primary distribution is by way of reversionary bonus, the policy-holder will be given the options of taking the bonus in cash or by way of reduction of future premiums.

The method by which the primary allotment of surplus should be made to individual policies is subject to some general consideration, and also to particular considerations affecting the circumstances of different offices. What are sought are methods which are at once equitable and simple, and which satisfy the popular demand for increase in the amount of the bonus as the policy grows older. It has not always been thought that these qualities were compatible, and in the

effort to secure equity, simplicity has sometimes been sacrificed. To make a bonus system equitable, it is necessary that the surplus should be allotted to individual policies in the proportions in which it is earned, but we may either attempt such allocation at each distribution or, ignoring the question of equity in a particular distribution, aim at securing equity in the distributions over the duration of each policy regarded as a whole. In each case equity is the aim, but in one case it is reached immediately, and in the other the inequities of one distribution are adjusted by those of another, and the desired result is secured over the duration of the policy as a whole.

The efforts to make a distribution equitable within itself have led to methods which rest upon a more or less complete analysis of the surplus according to the various sources of profit. These methods are not simple, and can only by accident lead to bonuses increasing with the duration of the policy. They are open to the objection also that considerations of equity should commence earlier in the process of determining the surplus, since the choice of the valuation basis will make fundamental differences both to the amount of the surplus and to the proportions in which it is divided.

If we fix attention on the policy, instead of on the particular surplus, we can fairly readily achieve the objects of simplicity and increasing bonuses, but we are necessarily compelled to take a broader view of the question of equity. Over a long period of years the problem of assessing the profit-earning power of each premium becomes more and more complicated. The value of investments undergoes an almost daily change. Mortality and management expenses are variable. The valuation basis has probably been changed, and in any case stands in a different relation to experience rates from that in which it stood in the past.

Apart from these general considerations, there are sometimes circumstances in particular offices which influence or dictate the method of bonus distribution. The scale of premiums in use, the existence of exceptional sources of profit such as from other classes of business, a limitation in the instrument incorporating the office, a respected tradition: all these and other circumstances may influence the choice of method.

The following methods of bonus distribution, while they do not embrace all the systems employed by British offices, may

be regarded as the more important, either from the point of view of the number of their adherents, or their theoretic interest—

(a) Uniform simple reversionary bonus (*q.v.*).

(b) Uniform compound reversionary bonus (*q.v.*).

(c) Contribution method (*q.v.*).

(d) Reduction of premium (*q.v.*).

(e) Cash in proportion to premiums (*q.v.*).

(See also ALLOTMENT OF BONUS.)

#### *Uniform Simple Reversionary Bonus.*

Under this method the surplus is distributed in the form of an addition to the sum assured, and becomes payable in the same event or events as the sum assured. The amount of this addition is, for all policies, a uniform percentage of the sum assured in respect of each year the policy has been in force (or in respect of each premium paid) since entry in the case of policies participating for the first time and since the previous distribution in the case of other policies.

This method is employed by nearly one-half of the British offices, and its attraction lies in its great simplicity. In the first place, it is very easy in the ordinary processes of valuation to determine the cost of a uniform simple reversionary bonus of 1 per cent to all policies, so that as soon as it has been decided what proportion of the surplus is to be divided among policy-holders it is possible to announce the bonus in a form which can be understood by the policy-holders, and which conveys information as to the amount allotted to each policy in advance of the issue of individual certificates to policy-holders. British offices are not always appreciative of the value of publicity, but most offices which employ the uniform reversionary bonus methods avail themselves of this advantage of prompt and explicit announcement of their bonus results.

In the distribution of profits in the form of reversionary additions, the most troublesome and costly part of the process is the maintenance of the records of the bonuses allotted to each policy, and it is this trouble and expense, rather than any difficulty in making more frequent valuations, that stands in the way of the more general adoption of yearly distributions. It is hardly open to question that annual distributions are more popular, and that they make the task of the field staffs easier. The delivery of a bonus certificate provides an excellent opportunity for canvassing for further assurance and with "every year a

bonus year" the interest of policy-holders is more readily aroused and retained.

The uniform simple reversionary bonus system lends itself to the utmost simplification of bonus records, and by the adoption of what has been called the "bonus year method" some of the industrial offices, notwithstanding that they make annual distributions to a vast number of policies, small and large, are able to keep the cost of distribution down to a trifling figure. The following practices are adopted. A full year's bonus is given at the first distribution, notwithstanding that in half-yearly and quarterly cases less than a full year's premium has been paid. While the surrender of bonuses for cash or in reduction of premium is allowed in the usual way, policy-holders are required to surrender integral years' bonuses only, and to surrender first the first allotted bonuses. These latter practices constitute some slight limitation on the freedom of action of the policy-holders, but it is not found that any difficulty arises. It is thus secured that at any time the bonuses attaching to a policy are the full bonuses declared from a given year called the "bonus year" up to the present date. If no bonuses have been surrendered the "bonus year" will be the same as the year of entry. If any bonuses have been surrendered the "bonus year" will be some year subsequent to the year of issue. In this way it has been made possible to dispense with any record of the bonuses attaching to each policy, except the record of the "bonus year," and as the "bonus year" changes only on a surrender of bonus, the maintenance of the record is a light task. The preparation of bonus certificates giving a complete statement both of existing bonuses and the new bonus is also rendered very simple and expeditious. Such particulars as the name of the policy-holder, the policy number, the sum assured, and the bonus year having been written or addressographed on the certificates, they are next sorted so as to assemble all with the same sum assured and bonus year. For each of such groups the existing bonuses, the new bonus, and the total bonuses are identical, and the figures can be printed on the certificates, thus eliminating all calculation and writing and consequent checking.

If the rate at which a uniform simple reversionary bonus is declared is maintained, the amount of the bonus allotted to a given policy will be the same at successive distributions, but the cash value of the

bonus will increase steadily. The tendency is for the rate of bonus to increase also, so that many offices which distribute on this plan are able to point to increasing bonuses as well as to increasing cash values, and in this way succeeded in satisfying the popular demand.

In the discussion of the equity of this method, it has been almost a fashion to say that with the general run of office premiums the system will be equitable if there is a margin of about  $\frac{3}{4}$  per cent between the rate of interest assumed in the valuation and that earned on the funds. If the problem was ever so simple as this, it is certainly not so at the present time. For the first twenty years of this century the gross rate of interest obtainable on first class securities rose, and while the effect was not to increase the rate of interest earned on the aggregate funds to any extent, the old investments suffered very considerable depreciation, and the new investments were made at substantially higher rates of interest. The disturbance of the proportion of profit derived from policies of long and short duration was, therefore, much greater than is indicated merely by a comparison of the margin between the valuation and experienced rates of interest. In recent years, too, the matter has been complicated by the changes in the method by which life offices are assessed to income tax. Within certain limits, the expenses of management, including both new and renewal commission, may be deducted from the interest income in determining the liability for income tax on such interest income. The net rate of interest earned on the funds has thus come to depend in part on the amount of new business written (or more strictly on the expenditure on obtaining new business): to maintain a given rate of interest on the funds a certain rate of expansion of the business must be secured. When we attempt to unravel the equities of this or any other system of bonus distribution, these are but a few of the threads in a very tangled skein.

In recent years there has been a tendency to depart from the strict uniformity of the uniform reversionary bonus systems by declaring an additional uniform bonus to whole life policies. For example, if a uniform reversionary bonus of 45s. per cent per annum is declared, an additional uniform reversionary bonus of 5s. per cent per annum is granted to whole life policies. Where this is done, it may be taken as an indication that

it is thought that equity as between whole life and other classes of assurance can no longer be maintained by a strictly uniform bonus. It is unquestionable that very great improvement has occurred in mortality at early adult ages, and the premiums usually charged for whole life assurances at young entry ages permit of very generous additions to the sums assured by way of bonus. There is, however, nothing like so marked an improvement in mortality after middle age, and it is doubtful whether as good a case could be made for a higher rate of bonus for whole life assurances effected at late ages as for long-term endowment assurances effected at young ages.

*Uniform Compound Reversionary Bonus.*

This system of bonus allotment differs from the uniform simple bonus system in that the reversionary addition is for all policies a uniform percentage of the sum assured and existing bonuses, and not of the sum assured alone. Thus, if the rate of bonus be £1 10s. 0d. per cent, the allotment to a policy of £1,000 with £200 of bonus already standing will, under the compound plan, be 1½ per cent of £1,200, namely, £18, while under the simple bonus plan it would be 1½ per cent of £1,000, namely, £15. The effect is to give larger bonuses to policies

determined, and while the method does not lend itself to the extreme simplification which is possible with the uniform simple bonus system, its difficulties are not of such a character as to create an impediment to its use if on other grounds it is more suitable.

If the bonus rate is merely maintained constant, the method gives bonuses increasing in amount with the duration of the policy, and necessarily of increasing cash value.

The method is widely used by offices which distribute their profits quinquennially, and it is probably one of the circumstances standing in the way of the more general adoption of annual distributions that a more frequent compounding of bonus (without any change in the rate of bonus) disturbs the equities between new and old policies. The effect of compounding and at the different intervals will be readily seen by comparing the bonuses resulting (a) from a uniform simple reversionary bonus of £1 10s. 0d. per cent, (b) from a compound reversionary bonus of £1 10s. 0d. per cent allotted quinquennially, and (c) from a compound reversionary bonus of £1 10s. 0d. per cent allotted annually. An example is given of a £1,000 policy assumed to be effected in the first year of a quinquennium.

	(a) Simple reversionary bonus of £1 10s. 0d. per cent.	(b) Compound reversionary bonus of £1 10s. 0d. per cent allotted quinquennially.	(c) Compound reversionary bonus of £1 10s. 0d. per cent allotted annually.
Bonus in respect of first quinquennium . . .	75	75	77
"    "    " second " . . .	75	81	84
"    "    " third " . . .	75	86	89
"    "    " fourth " . . .	75	93	97
"    "    " eighth " . . .	75	124	130
"    "    " twelfth " . . .	75	166	175
Total at end of twelfth " . . .	900	1382	1443

of long standing, on which the bonuses have been allowed to accumulate instead of being surrendered for cash.

It is a very simple operation in the processes of valuation to determine the cost of a compound reversionary bonus of 1 per cent, and it is therefore possible, as soon as the amount to be distributed among policy-holders has been determined, to announce the bonus in a form which is understood by the public. The amount of bonus allotted to each policy is very readily

The more frequent compounding of the bonus favours the policies of long duration, as compared with those of short duration.

*Contribution Method.* The charter of the Mutual Life Insurance Company of New York prescribed that the officers "shall credit each member with an equitable share of the profits." Mr. Sheppard Homans, the actuary of the office, formed the opinion that the distribution of the large surplus which had arisen, in proportion to premiums paid or to sums assured, would not only

have been far from equitable, but in consequence a violation of the charter of the company. He accordingly devised an original method of distribution based on the contribution which each policy had made to the surplus. In describing his method, he says "the contributions, or over-payments of policies during a bonus period, may, in general, be found thus: Credit each policy-holder, first, with the amount actually reserved at the last preceding distribution of surplus as the then present value, or reinsurance of the policy; and, second, with the effective (or full) premiums paid since that time, both sums being accumulated at the actual current rate of interest to the date of the present distribution; and charge him, first, with the actual cost of the risk to which the company has been exposed during the interval, determined by means of a table representing the rates of mortality and interest actually experienced, and, second, with the amount now reserved as the present value of the policy. The difference between the sum of his credits and the sum of his debits determines the over-payment or contribution from the policy proper."

It has been remarked earlier in this article that the consideration of equity should begin earlier, namely, in determining the valuation basis. Mr. Sheppard Homans seems to have realized this, but he brushes the difficulty aside with the remark: "The reserve or present value being placed at the credit of the policy-holder will, even if too large, only increase by such excess his equitable share of surplus at the next distribution." In short, he looks to subsequent distributions to redress the inequities of the present distribution, and to this extent sacrifices the ideal upon the achievement of which so much labour is by his method spent. He recognizes also the existence in the surplus of a part "due to sources other than the over-payments of present members," the distribution of which is not governed by the same principles of equity, and his method of distributing this part is merely arbitrary.

The method is extremely laborious involving as it does elaborate calculations for every separate policy, and it has never been employed in this country.

More practical contribution methods have been devised by Dr. Sprague and Mr. T. G. C. Browne. Under Dr. Sprague's method the interest margin, that is, the excess of the rate of interest actually earned during the

valuation period over the rate assumed in the valuation, is first determined. To each policy in existence at the commencement of the valuation period is appropriated the excess interest which has been earned on the reserve as it stood at the previous valuation. The surplus remaining after all such appropriations have been made is then divided in proportion to the premiums paid during the valuation period. A variant of the method is to divide this latter part of the surplus in proportion to the premium loadings instead of the premiums themselves.

Mr. Browne's method rests on an analysis of the profits into three groups—(1) loading, surrender, and lapse profit, (2) interest profit, and (3) mortality, investment, and miscellaneous profit. The third group is then thrown into the other two in the proportions existing between those two. The augmented first group is divided in proportion to the premium loadings received during the valuation period, and the augmented second group is divided in proportion to the reserves at the end of the valuation period.

These two latter contribution methods are less cumbrous than that of Mr. Sheppard Homans, and have given satisfactory results in the cases in which they have been applied. It may be noted, however, that under both methods, if the valuation rate of interest is sufficiently depressed, the whole of the surplus becomes attributed to interest profit, and is divided in proportion to the reserves either as at the beginning or at the end of the valuation period. Conversely, if the valuation rate is raised sufficiently, the interest profit disappears, and the whole of the surplus is divided in proportion to the loadings. It seems, therefore, that the equity of the methods in any particular case arises from a peculiar conjunction of experience and valuation rates of interest, mortality, expense, etc., and that it is not a necessary or inherent quality of the results produced by the methods.

The distribution is primarily a cash distribution: a cash surplus is divided into cash allotments to individual policies. The form of the declaration of bonus will not, however, necessarily or usually be in cash. The cash allotments will be turned into reversionary additions, and the bonus declared in this form, with the usual options to take an alternative form, such as cash or reduction of premiums.

*Reduction of Premium.* The idea underlying this system is that if the valuation

shows that the funds in hand, together with the future premiums payable, will more than suffice to meet the claims as they fall in, there is scope for a percentage reduction of the future premiums. If a subsequent valuation shows that even these reduced premiums are more than is necessary, there is scope for a further percentage reduction. On the other hand, if subsequent valuation should show that the reduced premiums are inadequate, a percentage increase is called for. In its practical application the idea has been subject to modification, and instead of the percentage reduction of premium being fixed at the outset so that the future premiums shall be no more than will suffice with the existing funds to meet the claims as they arise, it is fixed at a moderate figure, so as to permit of its increase from time to time. By this means practically all risk of a percentage increase of the premiums being necessary is eliminated. It follows, however, that the percentage reduction can no longer be kept uniform for all policies; the percentage for recently effected policies must be less than that for policies effected earlier. What is done is periodically to close the existing series of policies, and to commence a new one, keeping the percentage reductions uniform within each series.

The method does not seem very popular, and the offices employing it adopt devices to bring its effect more into line with those of offices charging normal premiums and making reversionary additions.

*Cash in Proportion to Premiums Paid.*

This very simple method of distribution was formerly adopted by a number of offices, but has now largely fallen into disuse. It consists simply of the return to all policy-holders of a fixed proportion of the premiums they have paid during the valuation period. The cash distribution may, of course, for the purpose of declaration, be turned into reversionary additions. The tendency is for the method to give approximately uniform cash bonuses at successive distributions, and therefore, diminishing reversionary equivalents. Variants of the method are (1) to divide in proportion to the loadings instead of the full premiums, and (2) to divide in proportion to the premiums paid since the commencement of the contract instead of during the valuation period.

**4. Cash Bonus.** The surpluses disclosed at the periodical valuations of life offices are usually divided either wholly or partly among the holders of policies "with profits." This

division is known as bonus distribution, and where the bonus takes the form of a cash allotment or cash payment to the policy-holder it is described as a cash bonus. Under some systems of bonus distribution, for example, the contribution method, the bonus allotted to each individual policy is necessarily determined first in the form of a cash bonus. Under other systems, such as the uniform simple or compound reversionary bonus systems, the bonus allotted to each policy is determined first in the form of reversionary additions to the sum assured, and to pass to the cash bonus requires a separate calculation. In declaring bonus to the policy-holders, it is an almost invariable practice to announce the bonus in the form of reversionary additions to the sum assured, and in the absence of any special application by the policy-holder, the bonus remains attached to the policy in this form, and the alternative form of cash bonus, if it has not been determined originally in the allotment, may never be determined at all. The option to take the bonus in cash is, however, usually given, and the amount of the cash bonus may or may not be quoted in the bonus certificate. Sometimes a table is printed with the certificate whereby the cash bonus corresponding to the reversionary allotment may be calculated by the policy-holder for his own guidance.

In deciding whether or not to cash his bonus, the policy-holder will be influenced partly by his personal circumstances, but he may well ask whether any general considerations should guide his choice. In determining the present cash value of a reversionary bonus, certain assumptions have to be made as to the future rate of interest which the office would earn if the money were left in its hands, and as to the rate of mortality which will be experienced. The actuary in framing these assumptions will avoid, if possible, erring on the wrong side, and the natural tendency, therefore, will be for the cash sum given to be slightly less than the full value which subsequent experience proves the bonus to have had. To this small extent the balance of advantage, financially, lies with leaving a reversionary bonus attached to the policy. Where the compound reversionary bonus system is in use (so that bonuses are allotted both on the sum assured and existing bonuses) the cashing of a bonus results in all subsequent bonuses being of less amount than they otherwise would have been, and it is doubtful whether the fact that the bonus

participates in profits is fully allowed for in determining its cash value. Under this system of distribution, therefore, there will probably be a very definite advantage to the policy-holder in leaving all his bonuses attached to his policy.

It is a common practice among the agents of some offices which distribute annually to encourage policy-holders to cash their bonuses as they are declared, and to employ the proceeds in paying the premiums for a further assurance. The effect of this arrangement to the policy-holder is similar to, but usually more advantageous than, effecting a non-participating policy. For a given cash outlay each year a larger initial assurance cover is secured.

**5. Reversionary Bonus.** Where a division of profits among policy-holders takes the form of additions to the sum assured, and becomes payable only in the same event or events as the sum assured, these additions are described as reversionary bonuses. The earliest adjustments of the life assurance contract to give effect to the favourable mortality experienced took the form of a reversionary bonus, and to this day it is the most common and most popular method of dividing profits.

The methods by which the profit allotted to each policy is determined are many and various, and this subject is dealt with above. These various methods, however, come nearly all to a common point in the allocation of the profit in the form of an addition to the sum assured. This application of profit to increase the benefits of the policy without in any way altering the form or character of those benefits may seem at first sight the natural course, but it is a little surprising that the practice has held so long and with so few exceptions. Under somewhat similar circumstances in sickness benefit societies, in pension funds, and in the National Health Insurance scheme, the tendency is to apply surpluses to the granting of benefits different in form (though having similar objects) from those of the benefit primarily granted. Enterprise has embellished the life assurance contract with subsidiary benefits such as disability benefits, fatal accident benefit, periodical medical examination, health services, and payments for surgeon's fees and nursing in connection with surgical operations. These benefits are always part of the contract, their cost being met before the surplus is ascertained, and we have yet to see an application of surplus to the provision of such benefits.

The allocation of profit in the form of reversionary bonus has one obvious attraction in that it avoids any inquiry into the title of a person holding a policy. The bonus is added to the sum assured to the benefit of the legal owner of the policy, whoever that may be, and the office need not concern itself with questions of title until the sum assured and bonuses together become payable.

(See also SYSTEMS OF ALLOTMENT, page 91.)

**6. Reduction of Premiums.** When a valuation surplus has demonstrated that the premiums which have been charged are more than sufficient to provide the sum assured, an obvious alternative is presented of increasing the sum assured or reducing the premium. While the great majority of offices adopt the former plan, there are one or two which have specialized on the plan of reducing the premium. In addition to these offices, almost all offices allow the individual policy-holder the option of taking his allotment of profit in the form of reduction of future premiums.

The offices which specialize in the granting of bonus by way of reduction of premiums conduct annual valuations, and in theory the reductions declared operate for one year only. In practice, however, provision is made for the maintenance of the reductions throughout the remainder of the assurances, so that a premium once reduced is most unlikely ever to be increased again.

Where the application of bonus to reduce future premiums is one of the options granted to the policy-holder, such reductions are absolute, and in no way depend on subsequent surpluses.

It is perhaps not altogether a coincidence that the offices which specialize in this feature are among the few offices which pay no commission. In the ordinary case, where a percentage of the renewal premiums is allowed as commission to the agent, the question arises whether the commission should be on the reduced premium or on the full premium. There is no difficulty in calculating the amount of the reduction so as to allow for the payment of renewal commission on the full premium, but if this is done, and the premium is ultimately extinguished altogether by successive reductions, commission will continue to be payable after the premium has ceased, a somewhat anomalous position. Fortunately the statutory form of revenue account requires the full premiums to be taken as income, and the reductions to be shown as outgo. If the net premium were shown

as income, a very moderate expenditure for management might ultimately appear as an alarming ratio of the premium income.

(See also SYSTEMS OF ALLOTMENT, page 91.)

**7. Discounted Bonus.** By the middle of the nineteenth century the bonus system had become an integral part of life assurance practice. Two scales of premium were charged, the lower scale being for policies without participation in profits, and the higher scale (being sometimes the rates maintained from an earlier epoch) admittedly provided for a larger benefit than the sum assured, which larger benefit was given in the form of bonuses. Although these bonuses were in theory dependent on profits, reserves were set up to secure their maintenance in the future, and they became hardly less secure than the sum assured itself. From the point of view of the policy-holder, the with profit policy, although calling for a larger premium, was a considerably cheaper contract, the difference between the with and without profit rates being much less than the value of the bonuses. In these circumstances the discounted bonus policy was devised to combine the relative cheapness of the with profit policy with the low premiums of the without profit policy.

Future bonuses at a certain assumed rate, which is usually somewhat lower than the average rate declared by the office, are anticipated, and their value turned into reductions of premium. The discounted bonus premium is the full with profit premium reduced by this amount. For example, an office which had been declaring a reversionary bonus of £1 15s. 0d. per cent might discount £1 10s. 0d. per cent yearly in future. If the rate of bonus declared continues to be £1 15s. 0d. per cent, the discounted bonus policy, having already received the benefit of £1 10s. 0d. per cent by way of reduction of premium, will receive the balance of 5s. per cent.

As the reduced premium has only been reached by discounting a certain bonus, it follows that if the rate of bonus declared should fall short of that discounted, a reduction of the sum assured or existing bonuses, if any, or an increase in the premium will be necessitated. This want of complete security for the sum assured at the premium written in the policy is the unsatisfactory feature of the discounted bonus scheme. If the bonus discounted is well within the rate ordinarily declared, the risk of adjustment of sum assured or premium being necessitated will be

minimized. It is hardly possible that the rate of bonus declared will then permanently fall below the rate discounted, and a merely temporary fall or cessation of bonus (such as that occasioned by the War) will be tided over by reducing the additional bonuses previously attached to the policy.

In some cases a very high rate of bonus has been discounted, with the result that the premiums for discounted bonus policies have been less than the without profit premiums. When this is the case it is not easy to escape from the conclusion that the without profit rates are unnecessarily high. It is true that the discounted bonus policy is subject to adjustment if bonuses are deficient, while the benefits of the without profit are guaranteed; but if the risk of having to adopt such an unpleasant course as to reduce the sum assured or increase the premium under the discounted bonus policy is felt to be sufficiently serious as to justify a difference in premium, it would seem rather a reason for being more conservative in the rate of bonus discounted. The reduction of premiums in anticipation of future bonuses is not peculiar to any one system of distributing profits. The scheme has been employed in connection with both simple and compound reversionary bonus systems, and, what may seem at first sight surprising, in connection with the system of bonus distribution by way of reduction of premium. In this latter case, part of the future reductions of premium are anticipated to reduce the premiums during the period before the policy ordinarily participates in the reductions.

**8. Vesting of Bonus.** Considerable expense is usually incurred in connection with the issue of a policy, and if the policy goes off the books in the first few years after its issue, no opportunity will have been afforded to recoup this expense. For this reason it is a fairly common practice to delay the benefits of a bonus distribution until the policy has been in force for a certain period, which varies up to six years. This delaying of the benefit of the bonus additions is expressed in some such statement as " Bonus vests after three years' premiums have been paid." The policy participates in the first distribution of profits following its issue in the usual way, and the bonus is allotted. It does not, however, " vest " until the stated period has expired, so that if a claim arises during the period the sum assured only would be paid; if the policy is surrendered, no value will be allowed in respect of the bonus, and if the policy

becomes paid-up, the bonus will not be added to the paid-up policy. Sometimes exception is made in the case of claims, and the statement is qualified by the addition that bonus vests immediately in the event of death.

Many offices allow bonuses to vest immediately on declaration, and many more after one year's premium has been paid. The longer periods of three, five, and six years are more rarely met with.

While it is usual to admit all policies in force on the valuation date to participation in the distribution, it is not an invariable practice. Some offices do not admit policies which have paid less than a year's premium, or which have been less than a year in force, into participation. The effect of this exclusion, of course, goes farther than merely delaying the benefits of the bonus for a short period: the loss may be permanent.

**9. Interim Bonus.** In the early days of life assurance, when premium rates were somewhat experimental, a valuation surplus had something of an accidental character. With increase of knowledge of mortality rates, and improvements in the science of their application, valuation surpluses lost their accidental character, and became calculable in advance with approximate accuracy. When this stage was reached, it came to be recognized as a hardship that policies which became claims should lose all benefit of the surplus to which they had contributed since the last distribution. This hardship became even more glaring with the growth of the endowment assurance policy, for policies which had run their full course to maturity were deprived of participation in a surplus to which they had undoubtedly contributed. Two methods of removing this hardship are open to adoption, one the shortening of the interval between distributions, and the other the granting of a bonus in respect of the period since the last distribution at some rate fixed arbitrarily. The former method has much to commend it, and the number of offices which make annual distributions is already considerable, and tends to increase. With offices distributing at triennial or quinquennial intervals, the practice of allowing interim bonuses, as they are called, is general.

As interim bonus is allotted only to policies which have already become claims, it necessarily takes the form of a cash payment. If an office ordinarily allots its surplus in the form of a cash bonus, it will grant its interim bonus in a similar form.

The result will be that the interim cash bonus will, in the case of whole life policies, be very much smaller than the reversionary bonuses which are ordinarily declared as the result of the cash allotments. If the ordinary allotment is in the form of reversionary additions to the sums assured, the interim bonus will be granted in the form of addition to the sum assured.

The methods adopted at ordinary distributions are not always followed identically in granting interim bonuses. For example, an office which ordinarily distributes on the uniform compound reversionary bonus plan may declare its interim bonus on the uniform simple reversionary bonus plan, i.e. may grant interim bonus on the sum assured only, and not on the sum assured and existing bonuses.

The rate at which interim bonus is granted tends to approximate to the full rate last declared. At one time it was the practice to keep the rate of interim bonus well below the rate last declared, and even below the average rates declared over a long period. The pressure of competition with offices which distribute annually and dissatisfaction with the disparity in the benefits secured by endowment assurance policies for similar terms effected only two or three years or even a few months apart, have led to the margin between the rates of interim bonus and ordinary bonus being greatly diminished or discarded altogether. Some offices which still retain the margin in the case of claims arising by death grant the full rate last declared to endowment assurance policies which have matured.

**10. Tontine and Deferred Bonus.** A tontine fund is one which is contributed to by a number of persons on the understanding that it is to become the property of the last survivor of the contributors, or is to be divided among the survivors when their number has been reduced to an agreed figure. Tontine funds have been conducted apart from life assurance, and they have also been employed as a method of distributing the surplus arising in a life assurance fund. In this case surplus is allowed to accumulate in the fund for a certain period, and at the end of the period the whole fund is applied to the benefit of the surviving policies, various options as to the form in which the surplus is taken being granted. To employ the method it is necessary to close the existing series of policies periodically, and to open a new series, keeping the funds for each series separate.

The tontine method of distributing surplus had a considerable vogue in North America, but the abuses to which it lent itself caused great dissatisfaction among policy-holders, and led to its abandonment. Since the surviving policy-holders take not only the profit which they have contributed, but also the whole of the profit contributed by the policies which have fallen out by reason of lapse, surrender, death, etc., it is possible for the profit to be enormous in relation to the premiums paid. This possibility led to great expectations being raised in the minds of intending proposers, and very liberal estimates of the profits which would accrue were freely given by agents and officials of the offices. No declaration of profits was called for during the working out of the fund, and the promoters, left to conduct their operations in secret, succumbed sometimes to the temptation to use the whole of the surplus in the early years of the tontine period in administration expenses.

A method of distribution which is in some respects analogous to the tontine method, but which is free from the serious defects attaching to the latter, is the deferred bonus system. If we could foretell exactly at what rate policies would fall out by reason of lapse, surrender, death, etc., we should be able to say in advance what would be the amount of the bonus to the survivors in respect of any surplus already realized. Under the deferred bonus system, our knowledge of the probable mortality which will be experienced is employed in this way, and the surplus is at once allotted to all policies, the benefit of the bonus accruing, however, only to those policies which survive the period of deferment. The surplus having been declared and allotted as deferred bonus, the actuarial liabilities of the office are increased by the amount of the surplus so allotted, and the requisite reserves for the deferred bonuses are held as a matter of course. The temptation to ignore a distant liability is thus removed. In converting the surplus into deferred bonus no account will have been taken of probable lapses and surrenders, but lapses and surrenders when they take place will release a certain amount of reserve which had been held against the deferred bonus allotted to the policies. The reserve so released will fall into surplus, and will be allotted as further deferred bonus to the survivors at the next distribution. By following this course with a closed series of policies, we should arrive

at exactly the same results for last surviving policies as would have been reached by a tontine fund with no ascertainment of surplus or allotment of bonus until the closing of the fund. The deferred bonus system does not, however, necessitate the grouping of policies in series.

Various methods of determining the period of deferment are used. For whole life policies the period may be selected arbitrarily, or may be fixed at the expectation of life at the entry age, or may be the period during which the premiums paid accumulated with compound interest are less than the sum assured. For endowment assurance policies the period of deferment will usually be the whole of the endowment period.

**11. Guaranteed Bonus.** Such is the popularity of bonus by way of additions to the sum assured that offices have been led to grant what are, strictly, increasing assurances at level premiums, under the name of guaranteed bonus policies. For example, a policy will be issued under which the sum assured is increased by 2 per cent of its original amount in respect of each year's premium paid.

A number of offices made a feature of such policies after the War. The strain of war mortality, the depreciation of investments, the rising costs of administration and uncertainties of the future had led to the reduction or suspension of bonuses, and the agency staffs of the offices were in difficulty in securing business at with profit premiums. The non-profit policy was not popular, and the guaranteed bonus policy was found in many cases to meet the desires of the proposer. With the resumption of bonus distributions at rates often better than those of the pre-war period, the popularity of the guaranteed bonus policies waned and they do not at present constitute a very important part of the business transacted by British offices.

This type of policy has also been found useful by newly established offices which have no bonus record to point to, and which cannot hope at their first few valuations to be able to declare bonuses which will compare favourably with those of their older competitors.

If, as is usually the case, the bonus guaranteed is absolutely fixed, the contract is a non-participating one, and no part of the bonus will be provided out of surpluses. The bonus may, however, be guaranteed to be not less than at a certain rate, but

otherwise to depend on the profits of the office. In this case the policies would, for the purpose of statutory returns, be included in the "with profits" groups, but the question as to whether the whole or any part of the guaranteed minimum bonus should be reserved for, before determining the surplus, is somewhat difficult to answer. In a mutual office the question might not be important, but in a proprietary office the profits due to proprietors would be affected.

Not the least of the difficulties attending the granting of guaranteed bonus policies is the fixing of the scale of premiums so that they shall appear consistent both with the ordinary non-profit premiums and with those for "with profit" policies. If the premiums are calculated on bases similar to those for non-profit premiums, and the rate of guaranteed bonus is near that declared on with-profit policies, the tendency is for the cost of the guarantee to appear excessive. To avoid this difficulty the bonuses guaranteed are sometimes fixed at a rate well above that declared on with profit policies, the cost of the guarantee being then obscured by the larger amount of bonus.

#### **BONUS DISTRIBUTION, ROUTINE OF.**

(See DISTRIBUTION OF PROFITS.)

#### **BONUS, LOADING FOR.**

(See LOADINGS.)

#### **BONUS NOTICES, SPECIMENS.**

(See DISTRIBUTION OF PROFITS.)

#### **BONUS OPTIONS.**

(See DISTRIBUTION OF PROFITS; also BONUS.)

#### **BONUS PAYMENTS.**

(See DISTRIBUTION OF PROFITS.)

#### **BONUS, SURRENDER OF.**

(See BONUS.)

#### **BONUSES.**

(See LIFE OFFICE VALUATIONS; also PROSPECTUS, PREPARATION OF.)

#### **BRANCH ACCOUNTS WITH HEAD OFFICE.**

#### **BRANCH BANKING ACCOUNTS.**

#### **BRANCH, LOCATION OF.**

#### **BRANCH OFFICE ACCOUNTS.**

#### **BRANCH OFFICE PAYMENTS.**

(See BRANCH OFFICE SYSTEMS.)

#### **BRANCH OFFICE SYSTEMS.**

In considering the various branch office systems now in vogue, it is essential to understand and keep in mind the fundamental purpose for which branch offices were brought into being, namely, the production of new business. This is still the main objective, the main reason for their existence, although actually, in the course of producing new policies to replace the business lost to a life office as the result of deaths, maturities, and other causes, branch officials carry out a series of duties, the proper performance of which is only less vital to the well-being of their company than the replacement of the policies going off the books.

Until comparatively recent times the responsibilities of branch officials were, in practice, confined to securing proposals. The administrative and clerical side of the work pertaining to life assurance used to be transacted almost entirely through the head offices, where it was customarily regarded as of such importance that it could hardly be delegated to the branch or subsidiary offices; indeed, that view still persists in some quarters.

Generally speaking, however, there is an entire change of attitude in the matter. The work that is done on behalf of a policyholder after the issue of his policy embraces the whole range of duties which may be regarded as the rendering of service to the policyholder, and is now looked upon by most managements as of such paramount importance that it ought not to be centralized in a head office, but should be distributed among the branch offices, so that it may be given, as far as practicable, the personal attention which the intimate nature of life assurance work so often calls for.

**Service to Policy-holders.** One of the most striking features in the great development which life assurance has undergone in the last two decades, is the recognition of the necessity of rendering efficient service to policy-holders. A life policy is an instrument which, in return for the regular payment of premiums, provides not only the principal benefits set forth in the schedule, but a large number of other privileges which the holder is entitled to call for and exercise at need. The terms of a policy must necessarily be fixed in advance for the considerable period of years for which the policy is to run, and they form the basis of the contract between the company and the holder. No man, however, can foresee

what his own circumstances will be throughout that period. Changes in his circumstances may bring new needs into being, and make changes of various descriptions desirable in his policy, and notwithstanding the fixed nature of a life assurance contract, such needs and changes are met and facilitated in every possible way by the companies.

The establishment of branch offices has been very largely responsible for the great improvement in the quality of the service of this character which life companies render to their constituents. Extension of time in which to pay premiums, a loan on the security of a policy, the conversion of a policy into a fully paid one, its surrender for cash, the variation of the term of a policy with the object of securing the proceeds at an earlier date than originally determined—these are everyday instances of changes in requirements which arise after the issue of policies in connection with which it is clear that a company can render its policy-holders considerable service.

The latter cannot know the best methods which are open to them of giving effect to their wishes, and it happens very often that they are not even aware of the alternatives that can be adopted. In the old days, when requests for accommodation were invariably attended to by the head office, there was undoubtedly a tendency for replies to be inelastic. No attempt was made to answer more than the precise question asked, and that probably in a stereotyped form.

But a request of this character passing through a branch office can be dealt with on very much broader lines. In many cases a personal interview is arranged, and the circumstances of the particular applicant are made known to the official, who is thus enabled to prescribe the best course available, often making a suggestion to the policy-holder which meets his case in a very much better way than would have been possible had the policy-holder been left to his own devices.

In short, the branch official is able to act in much closer accord with the public than his confrere at the head office. There can be little doubt that the development and growth in popularity of life assurance are largely attributable to the decentralization of work of this character. This has been made possible by branch office organization.

Thus, although the principal function of the branches is to provide new business, the efficiency with which the branch officials have been able to handle their duties—duties

which were really diverted to them in order that they should be brought into touch with policy-holders and agents, and thus have wider opportunities of working on these connections for further business—has not only been successful in producing more business, but has resulted in a marked improvement in the relations existing between policy-holders and company. Duties hitherto treated in a purely routine manner at the head office now receive more or less individual attention, with the result that the public has a much wider knowledge and appreciation of the facilities afforded by life assurance, and on the other hand the companies, as a result of the extended use of the branch offices, have acquired a clearer conception of the needs of the public.

The development of the branch office system is still in progress: it may be, indeed, that it is only in its infancy. The question of expense is perhaps the greatest consideration in the matter, and this presents a much more difficult problem to companies which confine their business entirely to "ordinary" life assurance, i.e. to policies assuring not less than £100, than it does to companies which transact industrial assurance or general insurance business in addition. Where the expenses of a branch can be shared with other classes of business the percentage of cost borne by each class is obviously very much lighter than where a complete establishment has to be maintained for "ordinary" life business. Economy of management has long been regarded in this country as one of the essentials of a successful company. In the earlier days of life assurance certain offices used to urge as one of the points likely to make a favourable impression on the public that they did not incur the expense of maintaining branches. Even the small group of non-commission paying life offices, however, now find it desirable to have branches, and although the expenses are somewhat heavy in relation to income in the early years of their establishment, there is no doubt that the better service rendered to policy-holders justifies this expense until such time as the increasing business transacted renders the branch self-supporting.

**Location and Accommodation.** One of the first points to consider in regard to a branch is its location. It must be in an important thoroughfare in the right quarter of the city or town, for preference in the district where other insurance branch offices are found. A poor situation will not create the right impression in the minds of either

agents or public, for it must be remembered that the branch office, if it is to be effective, must uphold the importance and the position which the company itself occupies in the insurance world. A good position is, therefore, imperative. The office should be well furnished and well kept, evidencing prosperity, but being in no way suggestive of luxury or extravagance. The days of criticism by ill-informed people that premiums are squandered in palatial office buildings are almost passed, but it is nevertheless well to keep in mind that the money spent on offices is provided indirectly by policy-holders, and that anything in the nature of ostentatious display is out of place. Perhaps it may be mentioned in this connection that some of the finest investments ever made by insurance companies have been the freeholds which they have purchased in the past, the whole or part of which has been used for the accommodation of their office staffs. The majority of companies own their head offices. Many of them have purchased important buildings or sites in the chief provincial cities, and have either converted the existing premises to their purpose or built new premises affording high class office accommodation for merchants or traders, the building often being named after the companies, thus securing them a fine advertisement. Their own requirements may have called for no more than two or three rooms in the building—a public office with a good counter, behind which are the clerks' desks or tables, a private room for the manager, and a separate room which is not overlooked in which to conduct medical examinations, being ample. The remaining rooms are let off on lease, and bearing in mind the steady and continuous improvement which has taken place in the values of properties of this description, such investments, as already stated, have proved extremely profitable.

Now the company is a permanent institution, its business is ever growing, and as years pass it will need increasing accommodation. The ownership of an entire building enables it to satisfy its own requirements on the falling in of the leases it has granted, whereas in the case of a company which only holds its branch office on a lease it would generally have to find new quarters, probably at a much increased rental. There is also possibility of a lease not being renewed by the owners of the property, should they require the premises for their own occupation or for sale, or other reasons.

**Staff Personnel.** Of even more importance than the type of premises and their location is the question of staff.

In the case of a purely life office this will consist of a manager, a cashier, and a clerk or typist, as a minimum, and there will probably be an outdoor staff of one, two, or more inspectors. Whereas, in the early days of life assurance, the only qualifications called for in a company's local manager were that he should be a capable organizer and a skilled producer of new business, the manager of a branch office must possess, in addition, an all-round knowledge of life assurance business so that he may be able to deal efficiently with the various points that arise in the course of the day's work. Preferably he should be a man who has had some head office training, but this is perhaps a counsel of perfection. His assistant, either the cashier or the senior inspector, as the case may be, must also be a competent life official, as the manager's special duties in connection with the procurement of new business will often absent him from the office and necessitate the second official taking charge. In many offices it is considered desirable that the cashier should take responsibility in the manager's absence, as the inspector's duties are almost wholly outdoors, and very probably in the event of some particular matter arising for decision the inspector also would not be available when required. In fact, many companies arrange that their inspectors do not work direct from the branch office, but reside some distance away from it, and work the outlying districts, of which their own home forms the centre. On the branch manager being away on vacation the senior inspector would then attend the office, and cover the more important of his agency and new business duties.

In a composite office the position is very different. The manager of a branch is usually an official who has been trained in fire insurance, and is not an experienced life man. In such circumstances he is frequently given a life manager as an assistant, the latter being regarded as the chief of the life department of the branch. In his absence the branch manager would naturally take the responsibility of his work. The position is sometimes different too, in regard to the inspectors, of whom there are usually several. In some companies special life inspectors are appointed who devote the whole of their time to securing life business, but often the inspectors are what are known

as general inspectors, all of whom are expected to secure a certain amount of life assurance in addition to other classes of business, the life manager assisting them with the more difficult of their prospective cases. The keen competition for life business and the necessity of expert knowledge of the subject is, however, leading composite offices to appoint more and more purely life inspectors.

**Local Boards of Directors.** At the more important branches many companies establish local boards of directors, thus securing for themselves many of the advantages that attach to local association. A company established in London and desirous of doing business, say, in Lancashire, will obviously be benefited if it has Lancashire representatives on its governing body. There is no question that the names of men of position carry great weight locally in matters relating to life assurance. So many members of the public are not accustomed to forming judgments on financial matters, especially when they are of such a specialized character as are dealt with in a life company's balance sheet or valuation report. The fact, however, that men of standing and repute and of recognized business acumen act as local directors of a company is a sufficient guarantee to such persons of the status of the company in question.

Here again the composite offices have a considerable advantage over the purely life offices, the volume of business transacted by them enabling them to support more easily the expenses incidental to a local board. This drawback is surmounted by many of the purely life offices—and especially the mutual offices—by the appointment of honorary directors or referees. The policyholders of life offices recognize that they are directly interested in the welfare and the successful development of the companies to which they entrust their premiums and when, as usually is the case, they are well satisfied with the returns they are getting on their policies, the more influential among them are frequently found willing to give the use of their names in an honorary capacity.

The duties of local boards are not very onerous, being chiefly concerned with recommendations regarding the terms of acceptance of proposals made to the company, but they give very considerable assistance to the branch managers in connection with the procurement of new business.

In the case of honorary directors or

referees they naturally undertake no official duties, but it is in the latter direction that their names and influence are so valued.

**Clerical, Office Routine and Organization.** The clerical and book-keeping work of a branch office is always, of course, co-ordinated with that of its head office, and is usually conducted on precise regulations laid down by the head office. In the following description of branch office organization, it is supposed that a new branch of a company conducted on progressive lines is being opened. This method of relating the procedure that becomes necessary will give a consecutive account of the work, and, where it can be done with clearness, alternative courses will be described to show the variation in practice that is found in different offices.

When a branch office is opened the company almost always has a certain amount of business in existence in the area to be operated from it, which forms a nucleus to work out from. The agents in this area are advised by the head office of the new arrangements that are being made, a letter on the following lines being sent to them—

Dear Sir,

I have the pleasure to inform you that with a view to developing our business more extensively in the West of England, the Directors have decided to open a branch office in Exeter at 8 Anchor Buildings, High Street. It will be under the management of Mr. John Jones, who has been in the service of this company for many years past, and who has had a long and successful experience in procuring life business. He will be happy to co-operate with you in the working of your agency, and I trust that you will frequently have occasion to avail yourself of his services.

He will be assisted by our present inspector at the Bristol Branch, Mr. Herbert Robinson, who is already known to you.

You will in future receive your renewal notices, receipts, and account statements from the Exeter Branch, and I shall be glad if you will remit there and carry on all your correspondence from this date with Mr. Jones, instead of with the Bristol Branch as heretofore.

In thanking you for your past services to the company, may I express the hope that during the next few months you will assist us as far as you can, and thus give our new branch a good start with new business.

Yours faithfully,

-----  
*General Manager.*

A modified letter on similar lines must also be sent to the non-collecting agents in the

district, telling them that their policy-holders are being asked to pay their premiums to the new office in future—and a letter must be sent to these policy-holders and to any other policy-holders in the district who may be affected, notifying them of the new arrangements. The opportunity would naturally be taken to ask their co-operation in promoting the interests of the company.

It will be necessary for the head office to supply the branch with particulars of all the policies in its area, giving the full names of policy-holders, address, occupation, agency, number of policy, class, amount, details of premium, and loans (if any), and the date of birth, and date of maturity of policy, also the name, address, and occupation of the agents on the books.

From these particulars the branch office must proceed to set up machinery for the collection of premiums and other work and duties.

There will be required, amongst other records to be described later on—

1. An alphabetical list of policy-holders on a card system, containing on one side

(a) Full name. (b) Address. (c) Occupation. (d) Policy No. (e) Class. (f) Sum assured.

On the other side, the agency and an indication as to whether there is any loan on the policies should appear.

2. A numerical index of policies, containing

(a) Policy No. (b) Name. (c) Class. (d) Sum assured. (e) Amount of premium. (f) Due date. (g) Date of birth. (h) Maturity date (if endowment assurance).

3. A set of Agency Renewal Registers, containing alphabetically a sheet for each *collecting* agent, together with his address. A specimen is appended—on account of its size it should be kept in two sections, each covering a half-year, but it is unnecessary, of course, to repeat the address.

4. A similar set of registers for *non-*

*collecting* agents, excluding the interest column. These need not be divided.

5. A numerical card record of policies, premiums on which are collected direct, whether non-collecting agents are interested or not. Specimens are appended. They run in quarters to take quarterly premiums where necessary—

JANUARY	APRIL	JULY	OCTOBER
No.	Name.		
Prem.			

January.	April.	July.	October	} coloured white red blue for con- venience.
February.	May.	August.	November	
March.	June.	September.	December	

By the use of date tabs on the cards, it is easy to tabulate on sheets provided for that purpose, and bound into a book known as the "Direct Renewal Premiums Journal," the amounts of the premiums due in any one month, together with policy numbers, thus providing a check against the notices and receipts sent down from head office.

6. A numerical card record of interest due under *all loans* on policies for which the branch is accountable. Similar procedure is taken with regard to tabulation. The card should show the amount of loan, gross amount of interest and tax for time being, the net amount of interest being carried to the Agency Renewal Registers in the case of payments receivable through agents and to the Direct Interest Journal in the remainder, as and when payable.

Policy No.	Name.	January.		February.		March.		Apr., May & June
		Premium	Interest net.	Premium	Interest net.	Premium	Interest net.	

Many companies prefer interest to be paid direct to head office, and there is much to be said for such practice, except where interest is required to fall due at the same date as the premium, as is the custom of some companies.

7. A similar set of cards for rents showing—

(a) Name of property. (b) Amount of rent. (c) Income tax allowable. (d) Other permissible deductions. Provision can be made on these cards for recording payments, usually few in number, thus avoiding the necessity for journalizing.

Careful attention must be paid to the importance of withdrawing cards or cancelling entries in the registers in cases where no further premiums are payable. The same

treatment must be applied in cases where the assured has failed to pay the premium when due, but cancellments of this nature in the registers should be made in pencil until they become final, thus avoiding reinstatements in ink over the original entries.

In most companies it is the practice to prepare all renewal and interest notices and receipts at the head office, and to send them each month to the branches for issue, and some companies include a list of the whole. The branch office, on their receipt, must check them against the list accompanying them and with their renewal and interest cards or register, getting into touch with the head office should any discrepancies be

ANCHOR INSURANCE COMPANY  
39 Reliance Street, London

Branch Office \_\_\_\_\_ Anchor Buildings, Exeter

Agent \_\_\_\_\_

Renewal List for August, 19..

Address \_\_\_\_\_

Date Due.	Policy No.	Assured.	Premium.	Interest.	Date Received.		Premiums Received.	Interest Received.
					Prem.	Interest.		

(The first five columns are filled in by the branch before issue).

It is particularly requested that the agent will fill in each column accurately.

The column headed "Premium Received" should be totalled by the agent at the end of the month, the commission due to him deducted, and the details entered in the account overleaf. Loan interest received should be totalled and entered in full in the space provided in the account, no commission being allowed thereon. New premiums received during the month, if any, should also be included in this account.

ANCHOR INSURANCE COMPANY  
39 Reliance Street, London

Branch Office \_\_\_\_\_ Anchor Buildings, Exeter

Agent T. Mix.

Account for August, 19..

Address. 2 High Street,

Plymouth.

	£	s.	d.		£	s.	d.
Remittances . . . . .	154	1	11	Renewal Premiums	117	10	—
				Commission . . . . .	2	18	9
				First Premiums . . . . .	41	—	10
				Commission . . . . .	10	—	—
				Outstanding Premiums			
				received . . . . .	7	—	10
				Commission . . . . .		4	6
Postage . . . . .		6	6	Loan Interest . . . . .			
						6	16
						2	—
	£154	8	5		£154	8	5

This account must be returned to Anchor Buildings, Exeter, not later than the 5th Sept., 19.., with the receipts for any unpaid premiums and a cheque in settlement, crossed "Lloyds Bank, Ltd."

discovered. The direct renewal notices should first be called over, and the total amount of the premiums due under them checked against the numerical list of premiums, and interest extracted from the branch records (see 5 and 6). A list of premiums and interest due and a form of account must be prepared for each collecting agent as follows. It will be noticed that the account includes items not yet referred to, but these will be explained in due course.

The renewal lists should be prepared from the Branch Agency Renewal and Interest Registers, and then called over against the notices and receipts.

The procedure regarding the new premium which has been entered in the account to make this complete is dealt with on page 109.

Before issuing the documents to the agents the branch will enter in the Agents' Renewal Premium and Interest Journals, prepared as below, a list of the agents to whom accounts for the month are sent, and the total premiums due in each agency. When the account is returned by the agent it must be checked to see that he has made no errors or omissions in completing it, and this being so, the various items must be posted from it to the Journal, thus—

suitable abbreviations which will be referred to in more detail at a later stage.

These ledgers will contain an account for each agent in alphabetical order, and any convenient sub-division may be used according to the number of accounts open. The table given at the foot of this page is a typical example—

The sources from which the postings are derived are—

1. On the debit side—

(a) Renewals : from the Agents' Renewal Premium Journal.

(b) Firsts : from the First Premium Journal.

(c) Voids : from the Unpaid Premium Journal.

(d) Loan interest : from the Agents' Policy Loan Interest Journal.

2. On the credit side—

(a) Cash : from the Agents' Remittance Cash Book.

Unpaid Premiums. A record of policies not renewed must be set up. The individual items are extracted from the agents' accounts, care being taken to see that the receipt is returned by the agent.

The specimen rulings as a suitable basis are given on the next page.

COLLECTING AGENTS' RENEWAL PREMIUM JOURNAL

Date.	Agent.	Premiums Due.			Arrears collected.	Unpaid Premiums.			Commis- sion.		Postages.	Net Debit.					
		£	s.	d.		£	s.	d.	£	s.		d.	£	s.	d.		
19.. Aug.	T. Mix	117	10	--		Nil			2	18	9	--	6	6	114	4	9

The First Premium and Outstanding (or Unpaid) Premium items will be entered in the appropriate Journals, which are dealt with under those heads on pages 109 and 108, respectively.

COLLECTING AGENTS' POLICY LOAN INTEREST JOURNAL

Date.	Agent.	Net Interest.			Arrears Collected.	Unpaid.	Net Debit.		
		£	s.	d.			£	s.	d.
19.. Aug.	T. Mix	2	--	--			2	--	--

The agents' ledgers, containing collecting agents' accounts, may now be considered, although several books are introduced by

Generally. Policies which become finally void and are not kept in force automatically by surrender value are written off and advised

Dr.		T. Mix					Cr.		
		£	s.	d.			£	s.	d.
19.. Aug. 1	Renewals . . . . .	114	4	9	19.. Sept. 10	Cash . . . . .	154	1	11
" 7	Firsts . . . . .	31	--	10					
" 10	Voids . . . . .	6	16	4					
Sept. 1	Loan Interest . . . . .	2	--	--					
		<u>154</u>	<u>1</u>	<u>11</u>			<u>154</u>	<u>1</u>	<u>11</u>

(1) UNPAID PREMIUMS JOURNAL—COLLECTING AGENTS<sup>1</sup>

Pol. No.	Due.	Name.	Period.	Premium.	Date Renewed.	Agent.	Premium.	Fines.	Commission Paid.	Postages.	Net Amount Received.	Commission Unpaid.	H. O. Account Date.

(2) UNPAID PREMIUMS JOURNAL DIRECT<sup>2</sup>

Due.	Pol. No.	Name.	Period.	Premium.	Date Renewed.	Agent.	Premium.	Commission.	H. O. Account Date.

<sup>1</sup> The Agents' Ledger Account will be debited with the premiums and fines as and when received, and the account credited with the cash from the agent's remittance book. When payment is received gross, and this necessarily happens when the policy-holder remits direct, the agent must be advised to take credit for commission in his next account. His Ledger Account is credited at the same time through the column "commission unpaid." See note on page 110 as to passing direct payments from policy-holders, ordinarily received from an agent, through the Agents' Remittance Book. <sup>2</sup> As these items are entered here, those relating to policies in the agencies of non-collecting agents must be pencilled out in the Renewal Register under the agent's name in order to ensure that commission is not credited in advance of payment. Commission on outstanding premiums, when paid, is credited by posting the amount shown in the column "Commission" to the credit of the agent's commission account.

to head office, and similarly in the case of policies surrendered, the receipts being returned to head office in each case.

**Unpaid Policy Loan Interest Journal.** The subsequent payment of arrears is usually effected direct with the branch, and a detailed record of amounts unpaid is unnecessary. The following will suffice—

Due.	Policy.	Name.	Amount.	Paid.

**First Premiums** on new assurances, including those to be issued for collection through agents, will all be entered as shown in the table at the top of the next page.

(a) An account will be issued to the agent with a letter somewhat on the following lines, the notice of acceptance, of course, accompanying it.

ANCHOR INSURANCE COMPANY

39 Reliance Street, London

Branch Office \_\_\_\_\_ Anchor Buildings, Exeter

Agents *T. Mix.* Account for August, 19..

Address *2, High Street,  
Plymouth.*

PROPOSAL—T. JONES

I enclose acceptance of above gentleman's proposal, and statement of account is rendered below. On receipt of your advice that the premium has been received by you, I will ask my head office to proceed with the preparation of the policy. Kindly note that any postages incurred by you in securing the business should be charged, where practicable, through your Renewal Premiums Account.

Date.	Proposer.	Sum Assured.	Premium.
20 Jul.	T. Jones . . . . .	£ 1,000	£ s. d. 41 - 10
	Less Commission . . . . .		10 - -
	Net amount payable . . . . .		<u>31 - 10</u>

It is immaterial whether the agent makes a separate remittance or not. If he includes first premiums with his renewal

FIRST PREMIUM JOURNAL

Name.	Agent.	Premium.			Net Premium Due from Agent.			Commis- sion.	Date of Payment or Advice.	Direct Premium.			Commission on Direct Premium.					
		£	s.	d.	£	s.	d.			£	s.	d.	£	s.	d.			
1	2	3			4			5	6	7			8					
(a) J. Jones	T. Mix	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.		
(b) F. Smith	H. Hughes	41	-	10	31	-	10	10	-	-	1	Aug.	15	-	-	10	-	-
(c) B. Robinson		10	-	-							1	"	10	-	-			

account settlement, he should be instructed to enter such in the space provided, giving particulars, or enclosing the first premium account already issued by the head office.

Columns 1, 2, and 3 will be completed before parting with any acceptances; Nos. 4, 5, and 6 on receipt of the agent's advice of payment, and the Agents' Ledger Account debited at the same time.

(b) Columns 1, 2 and 3 are, as before, completed before parting with acceptances; Nos. 6, 7, and 8 on receipt by the branch of the premium. This class of case arises out of non-collecting agencies, and the commission shown in column 8 is thereupon credited to the agent's account in the Commission Ledger.

(c) Direct business on which no commission is payable. Columns 1, 2, and 3 are treated as above: Nos. 6 and 7 are completed on payment of the premium.

*Generally.* When making up the periodical account for transmission to head office, the payments received can be extracted from the Journal, and agreement obtained with the cash by casting the "Firsts" column of the Agents' Remittance Book, and adding thereto the direct payments recorded in, the first premiums column of the Cash Book, see page 111.

**Commission Ledger.** Non-collecting agents. Accounts are opened in the names of all non-collecting agents, and commission payable is credited from time to time. These credits consist of—

1. Commission on renewal premiums.
2. " " " first " "
3. " " " void policies renewed.

Dealing first with 1, it will be necessary to refer to page 105, item (4). Any premiums overdue are pencilled through in the register in order that commission shall not be credited on unpaid premiums. In cases where the initial fee on introduction of business is not final (e.g. half-yearly and quarterly cases) a note thereof must be made in the Agents' Register, so that the proper amount of commission is credited

I. AGENTS' REMITTANCE BOOK	
Cash.	
Com.	
Post- age.	
Fines.	
Net Interest.	
Firsts.	
Voids.	
Re- newals	
Name.	
Date.	

1 Distinguish between current interest and arrears.

2 and 3. RENEWAL PREMIUMS AND INTEREST—DIRECT

Date.	Name.	Pol. No.	Prem.	Interest.	Due.

(4) (5) (6) DIRECT: VOID POLICIES RENEWED, FINES, ARREARS OF INTEREST

Date.	Name.	Pol. No.	Prem.	Net Interest. <sup>1</sup>	Due.	Fine.	Agent.

<sup>1</sup> Distinguish between current interest and arrears.

as and when due. With these preparations completed, the way is now clear for us to make up each agent's commission account by going through the registers alphabetically, casting the premiums for the particular month in question, and applying the appropriate rate of commission. The result should be recorded in a book kept for that purpose, and the individual accounts credited therefrom. Note that by casting the items in this book, the total commission payable for the month or any longer period may be ascertained. On the renewal of a policy included in a non-collecting agent's account, commission is credited to his account through the medium of the Unpaid Premium Journal. Some offices make a periodical remittance, thus clearing the account, while others make a settlement only when requested to do so by the agent.

A Cash Received Book is required, so ruled as to record receipts of the following nature. In a branch of any size it will, of course, be necessary to have separate books, but in either case the various daily totals will have to be carried to a summary, as indicated hereafter. It is assumed here that separate books are kept.

1. Agents' remittances to credit of renewal account current or in arrear and for first premiums.

2. Current renewal premiums payable direct to branch.

3. Interest on policy loans payable direct to branch.

4. Void policies renewed, payable direct to branch.

5. Fines payable in respect of (4) above.  
6. Interest in arrear payable direct to branch.

7. First premiums payable direct to branch.

N.B. In respect of items 2 to 7, it must be pointed out that any payment received at the branch which should have been remitted to an agent must be entered in No. 1.

8. Rents.

9. Miscellaneous.

10. Summary.

The amounts of premium and interest received will be ticked as paid in the Direct Renewal Premium and Interest Journals referred to above, any remaining unpaid being transferred to the Unpaid Premiums Journal and a similar journal kept for the purpose of recording unpaid interest.

The items appearing in this book will be posted as paid against the corresponding entries in the "Unpaid Premiums Journal—Direct" or to the Interest Unpaid Journal. Fines need not be so posted.

(7) FIRST PREMIUM

Date.	Name.	Agent. <sup>1</sup>	Amount.

<sup>1</sup> Non-collecting agent, (also see note after (7) above.) Where no agent, leave blank.

(8) RENTS

Date.	Property.	Rent.	Income Tax.	Other Deductions.

(9) MISCELLANEOUS (such as policy loans repaid, interest to date of repayment, etc.)

Date.	Total.

All cheques, money orders, and postal orders should be examined immediately on receipt. With the exception of any which it may be necessary to return for correction, they should then be stamped with the office stamp without delay, and entered in the appropriate cash book, endorsed, and during the day paid into the bank—and, of course, receipts issued. It should be a rule that when money is paid over the counter, it should be entered in the Cash Book before the receipt is handed over. An invariable rule to this effect will prevent any omission to make the entry after the receipt has been parted with. It may be pointed out, too, that where moneys are sent by hand under cover, the receipts for the same should also be enclosed in an envelope. Payments are occasionally tendered to a branch office of which nothing is known there. In such cases a non-committal receipt should be given in which it should be stated that the amount is held at the payer's disposal pending inquiry. The head office or a branch office which may be stated to be concerned in the payment should be advised the same day, and instructions asked for. A cheque should not be paid into the bank until the matter is cleared up, as its endorsement and ultimate collection by the branch office's bankers might be construed as being tantamount to acceptance.

As regards post-dated cheques, it is undesirable to accept them, but, where this is done, no receipt should be issued for three days after paying-in to allow ample time for clearance by the bankers, as there must

CASH BOOK SUMMARY

January

Agents.	RENEWAL PREMIUMS.												Loan Interest in arrear.	Fines.	Voids.	First Premiums.	Rents.	Miscellaneous.	Total.
	Jan. Apt.	Feb. Mar.	Apr. May.	June Sept.	July Oct.	Aug. Nov.	Dec.												

The total for the month is the actual amount of cash received and paid into the bank.



also payments and allowances of commission, postages, etc. On the other side of the account are placed all the items for which the branch is responsible, and which have been debited against it in the head office books.

A specimen form of account follows, and the notes below should be studied together with it.

is shown, and must agree with the total of the receipts sent down to the branch for the month in question.

8. A list, giving details, particularly the renewal date, is appended.

9. First premiums must be listed, and it is usually sufficient to quote policy number and amount of premium only. Agreement may be made by reference to the same column in the First Premium Journal and the Agents' Remittance Book and Direct First Premium Cash Books.

10 and 11. Void policies renewed and fines. These

ANCHOR A-SURANCE CO., LTD.

----- Branch in account with Head Office

Dr.	SUMMARY		Cr.
1. Remittance . . . . .		7. Gross Renewal Premiums for month of { Agents' Direct	
2. Commission . . . . .		8. Gross Renewal Premiums paid in advance . . . . .	
3. Postages . . . . .		9. First Premiums . . . . . { Agents' Direct	
4. Premiums Paid to H.O. . . . .		10. Void Policies Renewed . . . . . { Agents' Direct	
5. Premiums included in (7) already accounted for.		11. Fines . . . . . { Agents' Direct	
6. Credits advised by H.O. . . . .		12. Policy Loan Interest Current { Agents' Direct	
6a. Unpaid Premiums . . . . .		13. Policy Loan Interest Arrears { Agents' Direct	
6b. Unpaid Interest . . . . .		14. Loans Repaid . . . . .	
6c. Unpaid Rents . . . . .		15. Interest thereon to date of repayment	
		16. Rents . . . . .	
		17. Annuity Purchase Money . . . . .	
		18. Miscellaneous Receipts (to be specified)	

Certified Correct

-----  
Branch Manager.

Date -----

NOTES

Dr.

1. This will correspond with the amount or amounts the branch instructs its bank to remit to head office.

2 and 3. Commission and postages are extracted from the Agents' Renewal Premiums and Interest Journals (postages only in the latter case, if any) and agree with the monthly totals of the same columns in the Agents' Remittance Book.

4. These will have been advised by head office. A list must be attached giving the date of the advice for identification purposes at head office.

5. Premiums paid in advance. These are extracted from a suitable record set up for the purpose and in which, for example, the items included in (8) will have been entered in order that credit may be taken for them in the appropriate account later on.

6. See (4) above.

6a, 6b, and 6c. A list must be submitted and the receipts returned, unless the branch is allowed to retain them for a limited period in order to obtain payment.

Cr.

Statements are annexed in support of each of the items appearing on this side of the account, and are dealt with as under—

7. The gross amount of both classes of premium

may be extracted from the Collecting Agents and Direct Unpaid Premium Journals, and agreed with the cash in the Agents' Remittance Book, and Direct Void Policies Renewed Cash Books.

12. This is treated on lines similar to No. 7.

13. These are extracted from the same sources as in 10 and 11.

14 and 15. From Miscellaneous Cash Book.

16. A detailed statement for the use of the investment department at head office should accompany the account.

17 and 18. From Miscellaneous Cash Book.

This completes the work in connection with the accounts, and we must now consider the question of building up the branch business, appointing new agents, securing proposals and preparing them for head office, and collecting the first premiums preparatory to the issue of policies.

The branch manager and his inspector will first map out the district and take the earliest opportunity of calling to see the policyholders and agents already on the books.

Some new business is sure to arise as a result and in all probability they will be able to obtain a few agents from amongst policy-holders and introductions to other people in the localities who may be suitable persons to approach to act on behalf of the office. A good net-work of agents is the first essential to the successful working of a district.

In most offices there are two types of agents—collecting and non-collecting. In the case of collecting agents, it is of importance to make quite sure that the proposed representative is a responsible person, fitted to be entrusted with the office's moneys. Definite inquiry should be made as to his standing. Later on, should he build up a big business, the question of effecting a guarantee bond may have to be considered, but this will usually apply only in a few cases.

Where the agent is to be a non-collecting agent, such inquiries are not essential, but it is eminently desirable to appoint only such gentlemen as will do the office credit. Although agents are drawn from almost every rank of life, the branch manager must take care that those individuals who are accredited to represent the office shall be men of character and repute in their stations.

It is customary to ask for a formal agency application which is usually drawn up somewhat as follows—

Name.	Date of birth.
Address.	Are you a representa-
Occupation.	tive of any other in-
	surance office ?

I beg to apply for an agency of the Anchor Assurance Company.

.....  
Signature.

and in the case of collecting agents the form may ask for a reference. The application, together with the branch manager's recommendation, must be sent to the head office, and in due course a letter of appointment will be issued by the head office. The new agent should have a supply of prospectuses, proposal forms, and leaflets sent to him, and should be notified of the names and addresses of authorized medical examiners for the company in his town and district.

A full list of examiners should be kept alphabetically in order of towns at the branch office, and where removal or death occurs, the head office should be asked to appoint a successor, so that no delay shall occur

in arranging the medical examination on securing a proposal.

A card index of agents must be kept, and it is desirable to have this in duplicate, one set being kept alphabetically in order of towns and the other alphabetically in order of names. The card should be drawn up thus—

Name.	
Business address.	
Residence.	
Occupation.	
Date of birth.	
If a policy-holder.	Remarks.
If not, where assured.	

On the back of the card the business completed year by year should be entered.

The set of cards to be kept in order of towns should have the town entered at the head. It is desirable also to keep a record of prospective assurers in order of towns, so that when making a visit to any particular place the record of all possible business in hand will be readily available. A birthday record should also be kept of present and prospective policy-holders, so that where desirable they may be interviewed or communicated with just before the birthday.

On the receipt of proposals at branches, the whole of the requirements in connection therewith are attended to at the branches. Report forms must be issued to the personal references named in the proposal, to the agent, to the medical examiner and, sometimes, to the medical attendant. In the case of the two last-named, the fees must be paid on receipt of the reports, which should, however, be carefully examined, and any information which may not have been given in reply to the questions asked should first be applied for. The information given in these reports being strictly confidential, secrecy in connection with them must be enjoined on the staff. In some companies it is customary for all reports to be returned direct to the head office to prevent any leakage locally, the necessary stamped addressed envelopes being enclosed.

Where there is a special class for total abstainers, an abstainer's declaration must be obtained. If the policy is to be issued under the Married Women's Property Act, the necessary request must be obtained and, if possible, the certificate of birth, so that the age may be admitted as correct on the policy at the time of issue.

No notes of any description should be written by the office on the proposal itself

after it has been signed by the proposer, and any alterations required to be made subsequently should be obtained in writing over the proposer's signature, either on a new form or in a letter.

It is desirable to keep a copy of the particulars of each proposal for future reference, and this can be conveniently done on the following lines.

**Extract of Proposal dated** \_\_\_\_\_

Name \_\_\_\_\_  
 Bus. Address \_\_\_\_\_  
 Res. \_\_\_\_\_  
 Occupation \_\_\_\_\_ If married \_\_\_\_\_  
 Already assured \_\_\_\_\_  
 Illnesses or defects \_\_\_\_\_

Deaths in family \_\_\_\_\_

Ages of --  
 Father. Mother. Brothers. Sisters.  
 Medical attendant \_\_\_\_\_  
 Private friends 1. \_\_\_\_\_  
 2. \_\_\_\_\_

<i>Requirements.</i>	<i>Applied for.</i>	<i>Received.</i>
Fr's Reports 1. _____	_____	Sent H.O. _____
2. _____	_____	_____

Agent's Report \_\_\_\_\_  
 Birth cert. \_\_\_\_\_  
 Med. Ex. Report \_\_\_\_\_  
 Name. \_\_\_\_\_  
 Address \_\_\_\_\_ Fee paid. \_\_\_\_\_ Fee ackd. \_\_\_\_\_  
 Remarks. \_\_\_\_\_

**Acceptance particulars.**

Born \_\_\_\_\_ Age n.b.d. \_\_\_\_\_  
 Amount \_\_\_\_\_ Class \_\_\_\_\_  
 Accepted \_\_\_\_\_  
 Tabular Prem. \_\_\_\_\_  
 Extra Prem. \_\_\_\_\_  
 Abstainer's Reduction \_\_\_\_\_

Acceptance sent to \_\_\_\_\_  
 First Prem. or counterfoil received \_\_\_\_\_  
 Receipt No. issued to \_\_\_\_\_  
 Policy No. \_\_\_\_\_  
 Issued on \_\_\_\_\_  
 Ackd. \_\_\_\_\_  
 Amount of commission paid \_\_\_\_\_  
*Cards Prepared.* \_\_\_\_\_ *Particulars entered.* \_\_\_\_\_  
 Agents' card. \_\_\_\_\_  
 Birthday card. \_\_\_\_\_ Debit Journal. \_\_\_\_\_  
 Commiss. " \_\_\_\_\_  
 Policy " \_\_\_\_\_ New Bus. Book. \_\_\_\_\_  
 Agency. \_\_\_\_\_  
 Scale of commission. \_\_\_\_\_

The particulars given on the form indicate the course of work in connection with a proposal. On the notice of acceptance arriving from head office it must be sent either to the agent, so that he may collect the first premium, or direct to the proposer. In the latter case it is desirable wherever possible for an official either to deliver the acceptance personally or to call shortly afterwards and collect the first premium.

On receipt of the first premium the counterfoil must be sent to head office, when the policy will be prepared. Where an agent collects the premium he will return the counterfoil with the first premium receipt to the branch, and this must be forwarded by the branch to head office. In some companies the first premium receipt is not issued until the premium has been received by the head office from the branch, a practice which may make the collection of a premium difficult. On the other hand, some companies prepare the policy in advance, so that it can be exchanged for the premium, thus assisting collecting, but this course has very decided drawbacks in practice.

In cases where the premium is collected with the proposal, a form of receipt should be given at the time on the following lines—

Received of \_\_\_\_\_ the sum of £..... to be applied on acceptance by the directors of his proposal dated .....

In the event of the proposer not being accepted at ordinary rates the amount will be returned.

In this case the first premium receipt will be issued with a notice of acceptance, the counterfoil of the receipt being retained at head office, which should already have been advised of the payment of the premium, so that it may go on the risk automatically upon acceptance.

The proposal has now become the policy, particulars of which must be entered in the various records as already described, and thus the round of work at the branch is maintained.

**BRANCH OFFICES.**

(See BRANCH OFFICE SYSTEMS ; also AGENCY DEPARTMENT.)

**BRANCH OFFICIALS, RESPONSIBILITIES OF.**

(See BRANCH OFFICE SYSTEMS.)

**BRAZIL.**

(See CLIMATIC RISKS ; and LICENCES TO TRAVEL OR RESIDE ABROAD.)

**BRIGHT'S DISEASE.**

Acute or chronic nephritis. (Inflammation of the kidney.)

The cardinal sign is either blood or albumen in the urine. The cause of the disease is not known. In its acute form, the urine is scanty, and large quantities of

blood may be passed. In the chronic form large quantities of urine may be passed per diem of a low specific gravity, but containing albumen. The albumen is found under the microscope in the form of casts (*vide* ALBUMINURIA). The chronic form is usually associated sooner or later with arterio-sclerosis (*q.v.*), high blood pressure and general degeneration of the circulatory system. Such patients' lives are very insecure, death from apoplexy being a very real risk. They are, therefore, uninsurable.

(See also ALBUMINURIA).

#### BRITANNIC ASSURANCE COMPANY, LTD.

Head Office: Broad Street Corner, Birmingham. Founded 1866.

This company's original title was the British Workman's Life Assurance Company. Its earliest office building was a little six-roomed house at 159 Great Francis Street, Birmingham; its present building is one of the finest of its kind in this country. The directors must be men who have distinguished themselves in the service of the company. There is in consequence a very close touch between them and the staff.

The company's life business is transacted in two branches—ordinary and industrial—and a progressive policy is pursued in both these branches. In the ordinary branch policies are normally world-wide, free of restriction as to occupation or warfare, and aviation as a fare-paying passenger is permitted without extra charge. Paid-up policies and surrender values are liberal, and the amounts are guaranteed. There is a non-forfeiture scheme, and policy loans are granted. Special facilities are offered for the purchase of houses under the house purchase scheme, and advances on mortgage may be either immediate or deferred. The mortgage is automatically discharged by maturity of the policy or the earlier death of the assured.

For a number of years the financial strength of the company has steadily increased and both branches are now valued annually by the net premium method at 3 per cent interest though the net rate of interest earned is over 5 per cent. The expenses of management in the industrial branch have been reduced between 1920 and 1928 by over 11 per cent. Bonuses on participating policies in the ordinary branch have been very satisfactory, and in the industrial branch though no policies have the right to participate in profits additional

payments have voluntarily been made on policies becoming claims.

The transaction of fire and accident business was commenced in 1925, and a small sinking fund business is also transacted.

In 1927 the company absorbed the British Legal Life Assurance Company—an office established in Scotland in 1863—and that company thereupon ceased to function under its own name. The interests of policy-holders of the office are protected by the maintenance of separate closed funds as well as the guarantee of the Britannic.

#### BRITISH EQUITABLE ASSURANCE COM- PANY, LTD.

(See ROYAL EXCHANGE ASSURANCE.)

#### BRITISH GENERAL INSURANCE COM- PANY, LTD.

(See COMMERCIAL UNION ASSURANCE COMPANY, LTD.)

#### BRITISH LEGAL LIFE ASSURANCE COM- PANY, LTD.

(See BRITANNIC ASSURANCE COMPANY, LTD.)

#### BRITISH OFFICES' ANNUITY EXPERIENCE.

(See MORTALITY OF ANNUITANTS, p. 341.)

#### BRITISH OFFICES' EXPERIENCE MODEL OFFICE.

(See MODEL OFFICES.)

#### BRITISH OFFICES' LIFE TABLES, 1893.

(See MORTALITY TABLES FOR ASSURED LIVES, p. 352.)

#### BRITISH OFFICES' MORTALITY EXPERIENCE.

(See MORTALITY TABLES FOR ASSURED LIVES, p. 352.)

#### BRITISH WIDOWS' ASSURANCE COMPANY, LTD.

Head Office: 1 Old Street, London, E.C.1. Founded 1902.

This company transacts both ordinary and industrial assurance, and is rapidly feeling its way into a competitive position.

It attached maternity benefit advantages to some of its policies even prior to the introduction of National Health Insurance, and still issues policies covering that benefit after the policy has been one year in force.

It has many interesting special schemes

of assurance, and is prepared to provide policies to cover any class of risk.

Cash bonus tables, the bonus being payable either every five or ten years, suitable to all ages and classes of policy-holders, are offered. The cash bonus—generally equal to one-half the premiums paid in the period—gives these tables a very great appeal.

With profit policies are not issued as such, but guaranteed bonus policies for both whole life and endowment assurances are provided.

#### **BROKERS.**

(See CORPORATION OF INSURANCE BROKERS; also INSURANCE BROKER, FUNCTIONS OF.)

#### **BROKER'S COMMISSION.**

(See COMMISSION.)

#### **BRONCHIAL ASTHMA.**

(See ASTHMA.)

#### **BRONCHITIS.**

An affection of the lungs, characterized by the formation of excessive mucus in the lungs, and a consequent cough. It may be acute or chronic. The acute form may follow simple catarrh or influenza, and pass off without leaving any bad effects.

With recurring attacks or in the chronic form, where the chest is always more or less "wheezy," definite changes occur, leading to dilatation of the small air sacs and diminished range of movement of the chest wall. Such a condition is known as emphysema (*q.v.*), and in cases where this co-exists with bronchitis the case is uninsurable.

A history of one or two attacks of bronchitis, provided several years have elapsed with complete freedom, may be accepted at ordinary rates, subject to a medical examination. Other cases may be accepted for short term endowment assurances, or for life policies with increased premium, subject to a satisfactory medical examination, i.e. one which shows that the lungs are perfectly clear at the time of the proposal, and where the family history is good. Cases in which bronchitis has been and still is present in a chronic form are uninsurable.

It must also be remembered that bronchitis is a term loosely used to cover many chronic lung diseases, and may, in a family history, mean tuberculosis. The greatest care must therefore be exercised in considering a case with such a history, and full medical references should be obtained.

#### **BRONCHO-PNEUMONIA.**

An acute inflammation of the small air passages. It is a frequent complication of the infective fevers of childhood. Being an acute disease, it is usually followed by complete recovery or by death.

In some cases, however, the child remains permanently weak, and in a case in which the disease is followed by repeated "colds on the chest" tuberculosis (*q.v.*) must be suspected.

(See also PNEUMONIA.)

#### **BULK PAYMENT OF PREMIUMS.**

(See POST OFFICE LIFE ASSURANCE.)

#### **BUTCHER'S EXTRA PREMIUM.**

(See PROPOSAL FORM, page 434.)

**CALCULUS, RENAL.**

(See RENAL CALCULUS.)

**CALEDONIAN INSURANCE COMPANY.**

Head Office: 19 George Street, Edinburgh.

The Caledonian is the oldest Scottish insurance company, having been founded under a contract of co-partnership in 1805. The life department was instituted under a separate contract in 1833. The company was incorporated by Royal Charter in 1810, and was further empowered by special Acts of Parliament in 1846, 1880, and 1892. It has recently been re-incorporated with extended powers by the Caledonian Insurance Company's Act, 1923, which annuls and repeals the Royal Charter and all the previous Acts, and grants the fullest powers and facilities for the carrying on of the company's business in all departments.

The company has long enjoyed a high reputation for financial strength. An annual audit of the accounts is made by a professional accountant appointed by the shareholders, and the loans and investments are examined annually by a committee of the directors. All the principal classes of life policies are issued. The Caledonian Company, since 1891, has encouraged life assurances without medical examination under a special double endowment scheme. The principle has been extended to whole of life and endowment assurances where the proposer is between 20 and 50 years of age.

Participating policy-holders take 90 per cent of the profits of the life department, including those earned on without profit insurance. Intermediate bonuses are paid on policies becoming claims between one valuation period and the next. The prospects of future bonus are good. The expenses of management are moderate.

**CANADA LIFE ASSURANCE COMPANY.**

Head Office for the United Kingdom: St. James's Square, London, S.W.1.

The Canada Life Assurance Company is the oldest Canadian life office. It was established in the year 1847. The company is able to take advantage of the great investment opportunities of the Dominion, and has enjoyed a favourable mortality experience.

The Canada Life complies fully with the requirements of the Board of Trade, and the Act of 1909. Policies issued by it in Great Britain are, by their terms, payable in sterling at its office in London, the company being answerable to the British Courts should any dispute arise. The company grants assurances on all approved plans, and also issues annuities on both male and female lives.

The option extended to all policy-holders to have the sum assured paid out in any designated number of equal annual instalments is noteworthy. The policies become non-forfeitable provided that the cash surrender value allowed exceeds the amount of premium. A particular feature of the company's policies is that after three full years' premiums have been paid, and then payment of premium is discontinued, the company will grant term assurance for the full sum assured to continue for the full number of years and months stated in a table written into the policy issued; and whole of life assurances, with or without profits; endowment assurances, with or without profits, and whole of life assurances by a limited number of payments, are issued, in which there is the provision that the policy, if continuous, is entitled to bonus even after the whole of the premiums have been paid. This company issues a particular form of policy, called the Capital Return Policy, applicable to young people, under which the assured has valuable options at the end of 20 or 30 years from its date of issue. If cash is needed it may be taken in the form of an endowment, or in the form of a partial endowment, and the policy kept in force for the sum assured, or it may be continued in force as a whole life policy for an increased amount. Bonuses are, of course, payable in addition to the sum assured.

The foregoing options offered by this policy make it very attractive either as an endowment or life proposition.

The above figures are exclusive of bonuses.

Policies without medical examination are confined to those on lives under 45 and for sums not exceeding £1,000. Another form of insurance, which carries with it what is called double indemnity benefit, is that which, for a very small addition to the ordinary premium, provides for a payment

of double the sum assured in the event of death by accident at any time during the currency of the policy, if such death occur before age 60 is attained, and within three months of the accident.

#### CANADIAN INSURANCE ACT, 1917.

(See ASSESSMENT ASSURANCE; also SURRENDER VALUES AND LAPSED POLICIES.)

#### CANADIAN LIFE ASSURANCE ADVERTISING.

(See ADVERTISING LIFE ASSURANCE.)

#### CANCER.

(See TUMOURS.)

#### CANVASSER.

(See AGENTS AND COLLECTORS; also COMMISSION.)

#### CANVASSING LEAFLETS.

As many inquiries are simply for rates for a particular class of policy, it has become the practice to issue what are known as abridged prospectuses or leaflets, which will only contain rates and short particulars of individual classes of policies, with reasons why a certain policy will suit a certain need. It is usual to produce the rates for what are known as the ordinary policies on one leaflet, i.e. whole life with premiums payable throughout duration of life, and also by limited payments and endowment assurances either for quinquennial terms of years or maturing at quinquennial ages, both with and without profits. But special classes of policies are dealt with on separate leaflets, and we may now indicate the points to make if producing a leaflet on these lines.

To take the ordinary class of policies first, there is no doubt that the successful life assurance institutions have built up their great position by the issue of whole life policies, and in later years endowment assurances. In fact, almost any insurance need can be met by these classes of policy and all other suggestions are variations on the same theme.

**Whole Life Assurance Leaflets.** A leaflet quoting *whole life* rates should be supported by an argument favouring family protection at the cheapest rates. Attention should be directed to limited payment policies by offering the inducement that the maximum amount payable in premiums is known at the outset, that no premiums are payable when the assured's earning capacity wanes, and the guaranteed paid-up policy values

are easy to calculate and comprehend. In fact, it is probably considered by the insurance vocation at large that for the average proposer the whole life policy, with premiums ceasing at age 60, is the most useful policy to effect, although it is understood that individual needs vary considerably.

**Endowment Assurance Leaflets.** The value of endowment assurance policies should be urged by making the point that they offer a combination of family protection and provision for old age, those for short terms being offered as an excellent investment medium coupled with life assurance. This point has had considerable force during the years of the Great War and since, because of the relief from income tax offered by the various Finance Acts, and it is well to bring this rebate of tax prominently to the notice of the intending assured by giving an example showing the actual amount saved each year, assuming the present rate of income tax continues. All sums paid as premiums on life assurances effected by a person on his own life or on the life of his wife, and securing a capital sum at death, are exempt from liability for income tax to the aggregate extent of one-sixth of the total income. In respect of any particular premium, the exemption is limited to a maximum of one half the standard rate of income tax for the time being on so much of the premium as is not in excess of 7 per cent of the sum assured.

**Death Duties Assurance Leaflets.** Many offices produce a separate leaflet advocating the value of death duty assurance, and generally rates for whole life non-profit policies with premiums payable throughout the whole duration of life are quoted, although a whole life policy with premiums ceasing at an advanced age, such as 70 or 75, might possibly be a better policy to effect.

A table showing the rates of estate duty payable should be given in the leaflet, and examples of the actual amount claimed by the Inland Revenue in estate duties for various sized estates. It should then be indicated that the depletion of the estate by this large amount is a very serious matter which might well be provided for out of income, the most satisfactory method being by effecting an insurance policy, and securing the income tax rebate as a set off.

**Single Premium Policy Leaflets.** Some offices issue separate leaflets quoting the rates for whole life and endowment assurance policies by single premiums. They are submitted as an advantageous investment

for men of means, at the same time giving valuable assurance cover. Capital invested in such a policy, if not tied up in a settlement, forms a fund of credit increasing in value year by year, the bulk of which fund may at any time be borrowed at a moderate rate of interest. It should be shown that policies are also specially suitable for family settlements. For instance, a young man can for a total outlay of, say, £4,500, provide at once a settlement fund of £10,000 for his widow and children. The advantage of this plan as an alternative to withdrawing the whole £10,000 from the settlor's business capital and keeping it invested in trustee securities for the remainder of his life, will be obvious, and there is no risk of depreciation to face.

Of recent years, owing to the high rates of both income and super-tax, there has been activity in single premium endowment assurance policies, on which the maximum loan is obtained from the office at the moment of issue of the policy. The writer has not seen any leaflets advocating this class of policy, but a few advertisements have appeared offering the suggestion to the public. Certain insurance brokers have issued circulars on the subject, and indeed there seems no reason why the leaflet should not draw the attention of super-tax (now sur-tax) payers to a means of obtaining relief from what is, after all, a very heavy burden laid on the shoulders of one particular portion of the community.

It should be shown that the attraction of the scheme lies in the fact that the periodical payment is made in the form of interest on the loan. This payment ranks as a charge on income for purposes of the calculation of statutory income. The leaflet writer must point out that relief may be obtained on the amount of the interest. The whole transaction can be shown to be a very attractive investment, apart from the valuable assurance cover obtained.

**Convertible Policy Leaflets.** A leaflet illustrates this class of policy, which is issued by most offices in slightly varying form, but the main idea is to offer a whole life policy with an option at the end of a certain period to convert into an endowment assurance. The scheme is useful because of the objection that an endowment assurance may carry a high rate of premium, which presses harshly on a young man, although later it may suit him well.

It is, in fact, specially suitable for young professional and business men who require immediate assurance for as large an amount

as can be secured for a moderate premium, and whose means will probably admit of the payment of a higher premium after a few years. This point should be stressed in the special leaflet. The policy-holder is free to deal with the policy as may suit him at the end of the fixed term, generally five years, as he is not forced to convert. The leaflet should point out that the option is against the office since, if the assured's health should have deteriorated by the time the option is to be exercised, he will elect to continue his whole life policy, and thus in effect obtain the same death benefit at the smaller premium.

**Long Term Assurance Leaflets.** Leaflets should be prepared to advocate policies which are offered at less than the whole life rates with an option of continuance, and known as convertible term or long term assurances. The points to make are that the policy meets the same needs as described under "Convertible Policy Leaflets," and applies in cases where it is essential to obtain the protection at the absolute minimum of cost, and that the premium is slightly more than the term rate, because the assured has the option of effecting another class of policy, whatever his state of health at the time the option has to be exercised. Since the rates of premium are very low, the policy is attractive from the public point of view, although it may not be the ideal assurance protection. Written up in an attractive manner, a prospectus quoting these rates is very useful from an advertising point of view to obtain inquiries, which is half the battle as far as the insurance salesman is concerned.

**Short Period Policy Leaflets.** Leaflets should be prepared to advocate short term policies, as protection is often required for a temporary period only. The needs covered should be clearly stated, e.g. a special business trip, during which death might seriously affect a business, or if loss would be incurred in the event of death taking place within a specified time—as where a sum of money under a will is payable only if the beneficiary attain a certain age, or in the case of a contract, where successful completion depends upon the life of the contractor. The usual practice in preparing rates for publication is to quote for definite terms, such as 1, 3, 5, or 7 years, but it should be stated that rates can be obtained on application for any odd period. As the premiums are small, unless the policy required is for a large sum assured, the expense of the medical examination is often charged to

the proposer, and evidence of age is generally required before issue of the policy. If this is so, in the particular case, it should be clearly stated.

**Guaranteed Option Policy Leaflets.** There is plenty of scope for attractive leaflets to advertise policies of this class, and there is a public demand for them. The usual points, as for whole life and endowment assurances, should be made, and in addition great stress should be laid on the 8 or 10 or even more options which may be offered, pointing out that whatever the need of the particular individual may be at the time the options can be exercised, there is an option to suit every case. Probably the policy lends itself to advertisement better than any other because of the variety of the options, and the prospective assurer is generally of the opinion that he gets more for his money in consequence. It certainly meets two objections frequently urged against insurance on the ordinary whole life tables, viz. (1) that the premiums will be a burden in old age, and (2) that it is difficult to determine at the time the policy is effected which class of insurance will best meet the circumstances of the assured in later years, and this should be clearly stated.

Another point to elaborate is that the annuity option has proved to be valuable to those assured who effected these policies years ago, and now find themselves suitable lives to accept that option, as the rate of annuity per £100 of purchase money endorsed upon their policies is greater than can be obtained now, since all the offices have altered their rates recently in view of the lower rate of mortality of annuitants, as shown by the new tables of the British offices. In all these cases the option will always be against the office.

It should also be stated that if the option to continue payment of premium is exercised (in order to obtain a larger sum assured at death) the office will require satisfactory evidence of health.

**Partnership or Joint Life Assurance Leaflets.** Since this form of assurance is useful for many purposes, and is increasing in popularity, it should have a distinct leaflet. One of the advantages to advocate is that it is specially applicable in the case of a partnership, as it provides the necessary funds to replace capital which may have to be withdrawn on the death of a partner. In this case the premium can be provided out of the profits of the firm, and the loss of capital occurring through the death of either

partner is met by the assurance company. Point out that in the event of the dissolution of the partnership, the office generally undertakes to exchange the policy without further medical examination of either life for two separate whole life policies, one on *each* life, each policy being for one-half the sum assured, and subject to the same premium as would have been charged by the company had the policy been effected on the single life at the same time as the original policy.

The rates of premium should be quoted for joint whole life assurances, and if the office in question issues joint life endowment assurances (a form of partnership investment assurance), under which contracts a sum of money is secured at the prior death of either life or on a fixed date provided both lives have survived to that date, rates for these policies can be quoted on the same leaflet. It should also be stated that occasionally business arrangements are entered into for a fixed number of years, and a form of partnership term assurance is useful in such cases, the great advantage being the low rate of premium involved compared with the ordinary partnership policies.

**Double Endowment Assurance Leaflets.** Because these assurances provide a certain sum assured in the event of death during a special term, and in the event of the life surviving the term, double the sum assured is payable, they are suitable for the class of person who does not require a large life assurance, but requires provision for old age; and this is a suitable policy to advertise and for which an attractive leaflet could be prepared. They can also be advocated for under average lives or persons exposed to climatic risks, who cannot be accepted for ordinary life assurance without payment of extra premium. It should be stated that the rates vary very little with the difference in age, and, therefore, in most cases, proof of age need not be furnished. It should be indicated that for an individual who is prepared "to back himself" to survive the term of the policy, it provides a very attractive investment, when the rebate of income tax is also considered.

**Children's Assurance Leaflets.** Policies for the benefit of children have grown in public favour of recent years, and there is no doubt that they are the means of building up connections for the future. The policies issued by the ordinary offices (apart from industrial business) fall under two headings

—(1) deferred assurances, and (2) endowments or series of endowments, and all classes lend themselves well to advertising by means of attractive leaflets. It is well to state clearly that many persons, on arriving at maturity, have realized some of the difficulties in the way of effecting assurance policies of adequate amount. It may be that the premium cost proves to be too great a burden, which in some cases may be relatively heavier through personal illness, residence abroad, occupation, or death of near relatives. Or it may be that it is impossible to effect an assurance at all because of impaired health. These are the main reasons to impress upon parents and guardians why they should effect deferred assurances for the children they are interested in. Deferred assurance policies confer the full benefits of assurances effected at age 21 or 25 (or any other age as may be selected) irrespective of the health of the life assured, and in most offices the policies entitle the assured to a number of valuable options, all of which are guaranteed by the office from the outset, and should be clearly set out in the leaflet, in addition to the fact that if the child dies before reaching the age selected all the premiums paid are returned in full, as is the case of most offices. It is also important to state the position as regards surrender values, which vary as between different offices, but generally all the premiums paid (excluding the first) are allowed—in some cases with compound interest at a moderate rate, say  $2\frac{1}{2}$  per cent.

Much attractive matter can be written about the children's endowment policy, which provides a fixed sum at age 14 or 21, or any other desired age in order to meet the requirements of parents, etc., who wish to make provision for the education of their children or for their entry into some business or profession, or as a dowry on the marriage of a daughter; and by payment of a small additional premium it can be arranged for premiums to cease being payable should the parent, etc., die before the end of the term. All the above needs served by this policy lend themselves particularly well to illustrated leaflets.

As a special type of this policy the children's educational annuity policies have been devised. In these cases the benefit is paid in a series of endowments at successive intervals. The points to make in preparing a leaflet for this particular policy are that it is the general experience that the family expenses increase as the children grow up;

and at the time when it is of great importance that income should be available to secure a public school education and for a University career, it is often only with the greatest difficulty that this can be managed. It is, therefore, very desirable that parents should spread the cost over a series of years, and this is possible by making provision in advance to meet these special outlays. The leaflet should state when benefits are payable, i.e. from ages 14, or 16, or 18, or any other age as selected, and for varying periods, generally 3, 4, or 5 years at termly intervals. As in the case of the ordinary child's endowment, a small additional premium will ensure that premiums are no longer payable should the parent who has effected the policy die before the benefits are to be received, and the amount of such premium should be quoted. It should also be stated that in the case of death of the child all premiums are returned less any payments of the annuity which may have been made.

Some offices issue a policy which will find favour with the man who will have no difficulty in meeting the educational expenses of his family, providing he is alive at that time. This policy provides an annuity for a fixed term of 5 years, say from age 16, only if the parent or guardian effecting the policy dies before the child has finished his education. The premium is small, assuming the parent to be of a normal parent's age at the time the policy is effected, and thus it is a useful policy to advertise bringing out the above-mentioned points.

#### Contingent Survivorship Assurance Leaflets.

Most policies of this description are likely to be introduced to the office by solicitors, and as there will be no popular demand for them it is not necessary to issue a leaflet of an advertising nature.

Should it be decided, however, to issue one, it should be stated that policies of this class are of a special nature, providing the payment of the sum assured on the death of a person if this occur in the lifetime of another specified person. They are specially adapted for the protection of contingent reversionary interests in property secured under wills or settlements, as the premiums payable are considerably lower than those for an ordinary whole life assurance on the life of the first mentioned person. It is desirable to protect a contingent reversionary interest by a policy of this kind, even where there is no immediate likelihood of such interest being sold or mortgaged, as this

not only eliminates the element of risk to the owner, but also renders the reversion a marketable security. The omission to effect such a policy may mean that later on, if it is required to deal with the reversion, either by sale or mortgage, such a transaction could not be carried out in consequence of the life to be assured having deteriorated in health. The counter-life does not have to be medically examined, as obviously the worse state of health of this life the less likely is the sum assured to be payable.

There are other policies of a similar special nature, such as issue risks, name and arms risks, etc., but it is not necessary to have anything but a special proposal form to issue when requested.

**Annuity Leaflets.** Annuities fall under two main headings—immediate and deferred, and separate leaflets should be prepared for each class. In the first it should be stated that *immediate annuities* are specially suitable for persons whose main object is to obtain a large return for their money by way of income, and for whom there is no necessity to retain the capital intact after their death. Assuming they are of advanced age they attain this object, and at the same time avoid the trouble and risk of investing it in the ordinary way.

There are a few minor variations in the way the annuity is paid, and these should be clearly stated. Where no proportion of the annuity is paid at death, this may be obtained by payment of a small addition to the purchase money. In addition, the payments can be guaranteed for a term of years, thus preventing a severe loss to the annuitant should he or she die soon after the policy has been effected. Although the large proportion of the business is effected on single lives, it should be stated that annuities can be granted on any number of lives, the payments ceasing at the first or any subsequent death as required.

*Deferred annuities* are commonly referred to as pensions, and the benefits are obvious. They are the cheapest provision for old age and the best when it is not necessary or desirable to combine this provision with life assurance, and thus form a good subject for a leaflet. It should be stated that policies can be had of two classes, either with or without return of premiums in the event of death before the selected age at which the annuity is to commence, the latter, of course, being effected at the smaller rate of premium. The greater number of policies effected are

on the "with return" principle, and in these cases there are generally guaranteed values both on death or surrender. This should be clearly stated. Frequently the option is given to take a cash payment at the selected age instead of the annuity, and this option may prove exceedingly valuable in many circumstances, apart altogether from considerations of health at the time, but especially is this the case if health be failing. This option should be brought very forcibly to the notice of any reader of the leaflet. Some offices also allow the assured the option to continue payments of premium beyond the selected age, and to receive in exchange a higher cash option or rate of annuity later; and if this is so, it is another valuable point to bring out in the leaflet.

**Leasehold or Capital Redemption Assurance Leaflets.** A leaflet is required for policies of this nature (sometimes described as sinking fund policies), since they are capable of being put to many useful purposes. It should be clearly stated that the contract is one for the unconditional payment by the office of a fixed sum of money at the expiration of a definite term of years, in consideration of the receipt of an annual or single premium. Being free of contingency, complication, and conditions, it obviously must be of great advantage in connection with numerous financial transactions. Some of the requirements which can be met by means of this useful application of the principles of assurance are as follows, and should have a prominent position in the leaflet—

1. The replacement of the capital invested in leasehold property at or before the termination of the lease, and the provision of funds to meet dilapidations on such expiry.

2. The reinstatement of capital which would otherwise be lost through depreciation in redeemable stocks standing at a premium.

3. The redemption of debenture issues at fixed dates.

4. The creation of a fund in any case where accumulation of capital is desirable.

5. The repayment of loans with the advantage that each premium paid by the borrower increases the security for the loan, the lender at the same time being saved from the loss and trouble attending the acceptance of repayment of principal by instalments.

6. The investment of large or small sums at compound interest.

Point out that the creation of sinking funds has always been a matter of great difficulty for a private individual because of the fluctuation in the market rates of interest from time to time, and a sinking fund policy with a life office admirably meets the situation. They are specially suited for holders of leasehold property for the following reasons. The chief drawback to such a security is the constantly depreciating capital value, not only from a purely investment point of view, but it also becomes an inconvenience if it is desired to borrow on the security of the property at any time. It is generally known that a lender would probably advance less on security of a leasehold of a certain value than on security of a freehold of the same value. Further, whatever sum he advanced would have to be repaid by fixed amounts over a limited number of years. With a leasehold policy in the security in addition, all these objections are removed. The lease and the policy together constitute an investment of unfluctuating principal amount, and if necessary there would be no difficulty in borrowing on their security on much more favourable and convenient terms than would be possible on security of the leasehold alone.

The policies carry a guaranteed surrender value, generally consisting of a return of all the premiums paid, with the exception of the first, accumulated at a low rate of compound interest, and the exact conditions of the office in question should be stated clearly.

**House Purchase Scheme Leaflets.** Since the Great War there has been a shortage of housing accommodation, and many persons have been driven to purchasing houses instead of renting them. To meet the obvious demand for loans, a number of the offices have issued some form of house purchase scheme. The main part of the transaction is the loan (see HOUSE PURCHASE SCHEMES), but included in the security is a policy which is in most schemes a short term (10, 15, or 20 years) endowment assurance policy. The important points to make in advocating an endowment assurance policy in such a case are that the annual charge for interest and repayment remains constant, and that in the case of the early decease of the mortgagor, the loan is repaid out of the proceeds of the policy, and the house can thus pass to the beneficiary free of mortgage.

In addition, there are the advantages of house ownership to advocate, and altogether an attractive leaflet should be easy to prepare.

**Decreasing Term Assurance Leaflets.** In connection with many of the loans granted by building societies, a life policy is stipulated, but in order to keep down the cost to the borrower they are generally prepared to accept the absolute minimum of cover and that is given by a decreasing term assurance—a policy which provides a fixed sum if death occurs within a fixed period, the sum assured decreasing periodically as the loan principal outstanding decreases. These policies will also be subject to a decreasing premium, but a recent development is to effect them by means of a single premium, a proportion of which is advanced by the building society. This class may, therefore, form the subject of a special leaflet, in which the above facts are clearly stated, and, apart from house purchase, a policy of this nature will meet the case of the man who believes that by keeping his money in his own business he can do better than by insuring his own life, and who consequently will not pay the premium for an ordinary policy, even though he will admit that his scheme will fall to the ground if he were to die within a few years. He will estimate that he can save so much a year in his business until in twenty years, say, he will have sufficient for family protection. It should be indicated that a policy for the balance which he requires at any moment, decreasing by the amount he can save yearly, will guarantee that the sum required to protect his family will be available should he die at any time during the period.

There are many other special classes of policies, but the number of policies of each kind issued is very small, and unless the office makes a special feature of any of them it is not worth the trouble and expense of preparing a separate leaflet. New policies are issued from time to time with fanciful names, but they consist of a combination of two or more of the simple types of contract, and it is a fact that any need can be met by one or other of the main classes of policies.

**Non-Medical Scheme Leaflets.** Of recent years some life offices have met a demand which has arisen for policies to be effected without medical examination. There are a certain number of people who put forward the excuse that they have not the time to attend for the usual examination, and others

have objections to going before the doctor, and a leaflet should be written to meet these objections. The usual proposal form is extended in such cases, and includes many more searching questions intended to bring out information which would in the ordinary way be discovered by the medical examiner. It is difficult to write generally on such schemes as some offices will not accept business on ordinary tables, but only special policies, such as guaranteed bonus policies. Where ordinary policies can be effected it is generally specified that lives over a certain age, such as 50, will not be accepted, and only a limited sum assured on any one life will be taken, some offices limiting this amount to £500, while with others the maximum is considerably larger; but the conditions of the office in question should be stated clearly.

**Incapacity Benefit Leaflet.** This is another recent development. The leaflet writer should have in mind that many professional men and others, whose income depends solely upon their ability to pursue their occupations, desire to effect policies under conditions which provide for the cessation of life assurance premiums in the event of their becoming incapacitated, either by illness or injury, from continuing to earn their livelihood. This is the first step in this development, and a few offices are prepared to go further than this, and allow certain temporary annuities during disablement in addition. It is not usual to grant these policies to female lives, and, if so, state this fact clearly in order to save useless inquiries. (See also INCAPACITATION BENEFIT POLICIES.)

**General Life Assurance Literature.** Insurance is very difficult to sell, and is even more so if the agents and inspectors are not supplied with the right type of literature to raise interest in the first place.

Taken as a whole, the output of advertising literature of the various companies is not impressive. There is, of course, the old type of director or actuary or manager still in charge of some of the offices who adopts the conservative view, and considers modern advertising to be outside the pale as far as insurance offices are concerned, and on the other hand we have the specialized salesmanship and advertising in the United States, which in any case is probably most unsuited to this country. A line somewhere between the two views would seem to be the course to take, and there is ample scope for increased business in life assurance which can easily

be realized if the undoubted merits of the subject are duly impressed upon the populace.

Leaflets will fall under two headings—

1. General advertising of insurance with the particular office, and
2. Special advertisement of a particular class of policy.

Those of the first section should make a feature of the security offered by life assurance policies in companies of the highest class, and the need of the average individual for the protection offered. The man in the street is a man of income and not of capital, and points should be made in terms of income rather than capital. In other words, it is easier to impress a man with the inadequacy of the sum assured provided by his policy, if it is translated into income produced by such sum assured. For example, it is found that one thousand pounds impresses the ordinary man as being a large amount, but if it is pointed out that invested in a first class security it will not produce more than £1 per week for the widow to live upon, it is at once realized that the sum assured is not quite so large as it might be.

Then the investment value of an endowment assurance should be shown and the rate realized, after allowing for the income tax rebate brought out. This rate is expressed as so much per cent per annum compound interest. It should be pointed out that this is a net rate of interest, and the fact that it is compound allows for each premium to be immediately invested at the same rate as soon as it falls due. This is a happy state of affairs which cannot be obtained by any other investment method, and in addition there are no brokerage expenses to pay. This is an important point if comparing with investments in stock exchange securities.

Above all, if the leaflet is not to reach the waste paper basket as soon as it is received, it must be attractive in appearance, and have such a cover that the recipient is anxious to read the contents. Most people consider insurance to be a very uninteresting subject, and if the cover can get the mind to comprehend the result to be attained rather than the means of attaining it, so much the better.

Notwithstanding the excellence and suitability of the ordinary policies, they do not afford the opportunity for introducing the subject or the means of interesting clients in it to anything like the same extent as policies which embrace some specially attractive feature, and much attention must,

therefore, be paid to leaflets dealing with a particular class of policy which must also be attractive in appearance, and must emphasize the special features of that policy, giving examples of premium and benefits for an average age, if not for all. The main point to bear in mind is to raise the interest of the public, after which the agents and inspectors can go into the matter more thoroughly. Very few policies are effected from perusal of the leaflet only, insurance being not at all easy "to sell," but if propaganda work is done by the issue of attractive leaflets, inquiries result, and the company's officials then have a number of people who at least are interested in the subject upon whom to concentrate.

Leaflets should not be reprinted in the same form time after time, but should contain fresh ideas. The benefits should be made to appear in a new light to the agents and prospective assured.

An excellent example of this type of leaflet was issued by one of the companies a few years ago. The two-colour cover had for its main feature a small baby girl about twelve months old gazing into a crystal with a background of a bride and bridegroom leaving the church. In large type is printed "BABY GIRLS," and below the child the words "LOOKING AHEAD." The cover certainly fulfils its object of arousing curiosity as to the nature of the matter contained therein. The contents are equally attractive, first showing the advantages to be obtained from certain benefits, and secondly showing how these benefits can be obtained by means of a policy issued by the office concerned. The whole was decorated by artistic sketches of babies in the nude to break the monotony of the letterpress.

The policy is the ordinary pure endowment with return with the option of continuing payment of premiums and extending the term, thus obtaining an increased sum assured. The option of applying the sum assured as a single premium on the life of the husband if the child marries in due course, is a very good point, which seems to have been neglected in the past.

The leaflet probably costs a little more than is generally expended on such productions, but the extra money has, no doubt, been very well spent.

The prospectus and kindred leaflets are absolutely essential to any office, not only to provide general information concerning it, but as producers of new business, without which no office can survive.

**Monthly Premium Schemes.** In recent years the privilege of paying premiums monthly with only a moderate extra charge (in some cases none) has been extended to individual proposers, and most offices will now accept monthly premiums by banker's order for whole life and endowment assurances and in some offices for children's deferred assurances. Naturally this lends itself to effective advertising. The leaflet writer should stress the fact that in many cases proposers find it difficult to meet the comparatively heavy annual premium. The complete absence of trouble, once the banker's order has been given, should be emphasized, and the sums assured that can be obtained for a nominal £1 per month should be shown clearly.

### CAPITAL, PUBLICATION OF.

(See ACCOUNTANCY DEPARTMENT.)

### CAPITAL REDEMPTION ASSURANCE.

(See SINKING FUND ASSURANCES; also CANVASSING LEAFLETS, page 123.)

### CARBUNCLE.

A local inflammation of the subcutaneous tissues, which frequently slough. Its cause is infection by septic organisms. It is of significance in life assurance for several reasons. If there is a history of recurrent carbuncles or of a recent carbuncle, it may indicate an unusually debilitated condition of the proposer. It may be associated with general mal-nutrition. Perhaps the most important consideration is that it may be due primarily to a glycosuria (*q.v.*) or true diabetes.

A past history dating back several years need not affect a proposal, but a recent history must always be carefully investigated to exclude glycosuria. If this is present, the proposal must be treated accordingly. If it is absent, the case should be postponed until the carbuncle is completely healed, and a satisfactory medical report on the proposer's constitution obtained.

### CARCINOMA.

(See TUMOURS.)

### CARD POLICY RECORD.

(See LIFE OFFICE VALUATIONS.)

### CARLISLE MORTALITY TABLE.

(See MORTALITY TABLES.)

**CASH BONUS.**

(See BONUS, page 96.)

**CASH BONUS ACCOUNT.**

(See DISTRIBUTION OF PROFITS.)

**CASH BOOK.**

(See CASH DEPARTMENT, and BRANCH OFFICE SYSTEMS.)

**CASH DEPARTMENT.**

The machinery for dealing with a company's receipts and disbursements forms not the least important part of its organization. The larger proportion of receipts reach the office by post in the shape of cheques, and the cashier's daily duties commence with attending to the mail. All remittances are passed over to the department, and, generally speaking, it is desirable not to detach any enclosures, leaving it to the cashiers to hand on anything concerning another department. Thus the risk of cheques being mislaid or lost is minimized.

After entry in the departmental books, as indicated later, the cheques are carefully scrutinized in order that any irregularities in drawing them may be discovered. Post-dated cheques are kept out for special treatment. They may be (a) returned for correction where a mistake has been made, (b) retained for presentation when payable, or (c) refused if the circumstances warrant it. In no case is an official receipt transmitted until a post-dated cheque has been met, and some companies always return them.

The cheques are then enfaced with the company's stamp crossing them to its account with its bankers, and on the back is placed an endorsement stamping, which is completed by the signature of the official (who is frequently not a member of the cash department) duly authorized to endorse cheques. After endorsement they are dealt with on the lines set out in the following paragraphs.

In the meantime receipts have to be procured and issued,<sup>1</sup> and, where the remittance covers more than one item, the amount split up into the proper proportions and the enclosure accompanying the remittance clearly marked. Similarly, where deductions are made these must be accounted for.

Payments are also received over the office

<sup>1</sup> The receipts for premiums and interest on policy loans, ground rents, and rents, are usually passed over as the amounts become due to the cash department, which is held responsible for them or their cash equivalent.

counter and the necessary change kept to facilitate the work. The officials dealing with this branch of the work are provided with a till, and their due proportion of the necessary change, for which they are individually responsible.

At this stage it would perhaps be as well to draw attention to the various books used in the department in dealing with money received and consider them in the order in which they are likely to be used—

1. Post Remittances Received.
2. Counter Cash Received.

The total receipts for any one day may be ascertained by adding the daily totals of 1 and 2. Both are what are known as rough books.

3. Cash Receipts Book.
4. Banker's Cash Book.

**Post Remittances Received Book.** Cheques, money orders, postal orders, etc., are entered herein directly on receipt, together with the name of the bank and that of the sender. The total, plus any money received over the office counter, should agree with the total payments in for the day, as shown in the Banker's Cash Book referred to later. By this means each cheque can be traced and any question arising thereon after it has passed out of the company's hands can be dealt with.

**Counter Cash Received Book.** All cash received over the office counter is entered here before parting with a receipt and the departmental books posted therefrom as convenient. It should be noted in passing that if a remittance is handed in under cover, the receipt must be treated in the same way.

**Cash Receipts Book.** Remittances from policy-holders in payment of premiums, loan interest, fines, etc., normally collected direct from head office are recorded in books kept for that purpose, and the totals entered in a column provided in the summary of Office Cash Receipts Book.

A large proportion of the daily receipts comprise remittances from branch offices and agents in settlement or part settlement of their various accounts, and are dealt with on similar lines.

Receipts not treated by the summary method are dealt with as individual items in a miscellaneous Receipts Book, and the total carried to a column of the same name in the Summary Book. Taken together (and they may be combined in one book of two sections), these books form the basis of the accountancy work performed by the accountancy department, and, what is of equal

importance, it provides a complete check upon the receipts and the amount paid into the bank day by day.

The reader should refer to the remarks regarding Banker's Cash Book, on page 129.

subsidiary accounts financed from the main account.

Payments out of the main account are usually those relating to the investments of a company's funds, the settlement of claims,

MISCELLANEOUS.

Date.	Ledger Account.	Amount.		Total.	
		£	s. d.	£	s. d.

SUMMARY

Date.	PREMIUMS.					Agents	Policy Loan Interest.	Assign-ment Fees.	Ground Rents, Rents, etc.	Fines.	Policies Re-ceived.	First Pre-miums.	From Mis-cellan-eous section	Total.				
	Jan. July	Apr. Oct.	Feb. Aug.	May Nov.	Mar. Sep.										June Dec.			
	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.

It will be realized, of course, that columns can be provided in the summary section applicable to payments other than those specified, thus reducing the detailed work in making separate entries in the miscellaneous section.

It should here be observed that where remittances are made less a deduction, e.g. commission, it is far more convenient to treat such payments as being made gross, drawing a cheque at the end of the day's work and paying it in with the other remittances.

Disbursements. To this department is allocated the duty of drawing the cheques required in the course of business upon requisitions and production of accounts and vouchers duly authenticated by the various other departments in which the liability arises. Most companies find it convenient in practice to keep at least two head office banking accounts, a main account into which all receipts are paid, and one or more

and the larger and more important disbursements. They are generally signed by one or more directors, and countersigned on payment away by one of the titled officials.

The operation of the subsidiary accounts is usually entrusted to the senior officials by way of signature and counter-signature, and from them are disbursed such fixed and/or recurring items, as rents, rates, taxes, ground rents, commission payments, fees, salaries, wages, annuity payments, etc.

Reference has already been made to the authority required prior to the drawing of a cheque. In the case of claim payments the policy duly receipted is the ultimate voucher, obtained from the claims department. To facilitate the prompt payment of claims, however, some companies draw a cheque in advance upon the liability being admitted by the directors. Notification that the claim has been admitted having been received by the cashier, he puts forward a cheque for signature. Cheques for surrender

values are usually drawn on production of the receipted policy, and loans on policies upon the executed deed.

Investment cheques are drawn upon production of contract notes, brokers' accounts, and applications for funds made by the office solicitor, properly certified by the investment department.

Subsidiary account cheques are vouched for mainly from the accounts department, others, such as payments for medical fees from the policy department, printing and stationery from the department giving the order, and agency expenses from the agency department.

Among the payments requisitioned by the accountancy department may be mentioned particularly those relating to annuities under the company's contracts. A cheque is sent to each annuitant, with a form of receipt for the annuitant's signature, and it is the departmental duty to scrutinize the completed receipt in order that any irregularities do not occur. It is essential that a receipt should be witnessed by a person of known position and responsibility, and from time to time the signature of the annuitant should be verified against the office records as a precaution against fraud. It sometimes happens that the office is not advised of the death of an annuitant at the time it occurs, and not until a cheque for the next payment is sent and returned does it become aware of the event. This position does not arise where an office requires evidence of existence before payment. In other cases the signature is taken as proof of existence. The general practice, however, is to send off a cheque in time to reach the annuitant on the due date. In view of the risk of the cheques getting into wrong hands, receipts must be procured as soon as possible.

All payments away by cheque are recorded in a book kept for that purpose, which may be termed a Remittance Book (Payments) and ruled as under—

Date.	Name.	Address.	Receipt Received.

The payments may be classified and the book divided into sections. Any failure on the part of a payee to acknowledge receipt can easily be traced by reference to

the "Receipt Received" column, and the date of any reminder that may be sent can be noted where convenient.

**Banker's Cash Book.** The position of the company's account with its bankers can be ascertained by reference to this book, and a comparison with the Pass Book will disclose any errors that may be likely to arise in either book.

The company's bankers are debited in an appropriately ruled book with the separate daily payments in. Only the total of the cheques comprising a particular payment need be entered, and they are arrived at by listing the cheques upon an adding machine and checking them against the totals of the paying in slips. These latter are left with the bank as a record of the cheques so deposited, and its acknowledgment is usually stamped on the counterfoil of the paying in book where such is in use.

In addition, any sums received direct by the bank on behalf of the company, as shown by the pass book and supported by vouchers, are entered on this side of the account.

Conversely, the bank is credited with cheques paid away, together with any disbursements made direct by the bank on its customer's authority without the issue of a cheque. At the top of the next page are given specimen rulings for a Banker's Cash Book, followed by a specimen subsidiary account.

Section B is entered up first, and contains a record of all cheques drawn. When the cheques are paid away they are entered in the payments column of Section A.

The Office Cash Paid Book, kept in the accountancy department, see page 130, can be written up by ascertaining from Section B the appropriate column in which a payment should be entered. Thus on the 1st Jan., 1930, cheque No. 1024 appears as paid. On reference to Section B, it appears that this amount must be entered in the claims column of the Office Cash Book. It will be seen that the total payments recorded in Section A at any given date deducted from the total receipts discloses the position at the bank less any adjustment in the pass book balance for cheques already paid away but not presented for payment. The cashier is in a position to agree the total of the cheques he has in hand at any time by keeping a list of cheques not paid away, and marking them off as he parts with them.

**Subsidiary Accounts.** These accounts are opened by the payment in of cheques drawn on the main account. Combined office and banking Cash Books may be used in these

MAIN ACCOUNT

Receipts.			Payments. (Section A)		
Date.	Payments into Bank or credited in Pass Book.	Daily Totals.	Date.	No. of Cheque.	Amount.
		£ s. d.	1-1-30	1024	£ 500 s. d. - -

Payments. (Section B)

Date	No. of Cheque.	Amount.	Payees.	Ledger Account.
1-1-30	1024	£ 500 s. d. - -	J. Smith	Claims

cases or the accounts may be treated on similar lines to the main account, except that the receipts entered herein are merely the amounts represented by the cheques drawn on the main account as indicated. Specimen rulings for the payments side of this account are given below—

up the total will be placed in the proper columns and agreed with the cheque.

As the cheques are cleared they are ticked against the pass book, the unticked items being listed. The total thus discloses the amount of cheques paid away and not presented for payment, and this sum,

SUBSIDIARY ACCOUNT

Date.	Receipts.	Paid by cheque No.	Payee.	Amount. <sup>5</sup>	1 Conn.	2 Medical Fees.	3 Printing, etc.	4 Wages.	Mi c.
	£ s. d.			£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
	5000 - -	1010	I. Smith	10 - -	10 - -				
		11	T. Jones	40 - -	20 - -		20 - -		
		12	I Brown	100 - -	30 - -	30 - -			40 - -

The columns numbered 1, 2, 3, 4 should be headed with the names of the different accounts to which the items are to be posted, and the amount of the cheque extended into the appropriate column. In practice, more than four columns would be needed. Where the cheque is made up of more than one payment, each item making

deducted from the Pass Book balance, enables agreement to be made with the Cash Book.

Petty Cash Book. Payments out of this account are usually of a trivial nature, and are made by the cashier on production to him of duly certified vouchers and accounts which reach him either directly or through

the other departments. Funds are supplied him by cheques drawn against the account, which he will usually convert into money, the funds being replenished from time to time as occasion demands.

#### CASH RECEIPTS BOOK.

(See CASH DEPARTMENT.)

#### CAUSALITY.

The law of causality is the assumption that everything that exists, and everything that happens, exists or happens as a necessary consequence of a previous state of things. It cannot be proved, but must be believed; if denied, all observation must be repudiated, and particularly all prediction based on past experience, as useless and misleading. This law then evidently is an indispensable assumption for life assurance.

If the law of causality be acknowledged as valid, every observation assists in revealing Nature's laws. In inanimate Nature the relation of cause and effect is clear, and the problem can be solved by a tabular arrangement of the results. When human life, however, is involved, many complications arise.

Moreover, for every observation there is generally a multiplicity of causes; in practice it is necessary to neglect all except a few which must be regarded as essential—even although some of those neglected are known to exercise an appreciable influence. For instance, in mortality observations of general population, where the age at death can be considered to be the observed phenomenon, the sex is usually recorded as essential, and possibly place of residence and occupation, although obviously many other factors have played a part.

Then a perfect observation demands absolute accuracy of record, but our senses can take account only of approximations while practical convenience impels us to employ round numbers, involving some amount of error.

Thus applications of the law of causality are extremely apt to be tinged with inexactitude, although methods have been evolved to test the probable limits and to restrict errors.

Reference: *The Theory of Observations*, by T. N. Thiele, London, C. & E. Layton.

#### CAUSALITY, LAW OF.

(See PROBABILITIES.)

#### CAUSES OF DEATH.

(See MORTALITY INVESTIGATIONS.)

#### CENTRAL AFRICA.

(See CLIMATIC RISKS.)

#### CENTRAL AMERICA.

(See CLIMATIC RISKS.)

#### CENTURY INSURANCE COMPANY, LTD.

(See FRIENDS' PROVIDENT AND CENTURY LIFE OFFICE.)

#### CEREBRO-SPINAL FEVER (Spotted Fever).

An infectious disease, characterized by pain and stiffness of the muscles of the back of the neck and severe headache.

Its significance for life assurance purposes is not great, but it may be followed by pneumonia and otitis media, both of which may affect the patient's expectation of life. The reader is referred to the sections dealing with these two diseases.

#### CERTIFICATES OF GROUP ASSURANCE.

(See GROUP LIFE ASSURANCE)

#### CESSATION OF PREMIUMS LEAFLET.

(See CANVASSING LEAFLETS, page 119.)

#### CHARTERED INSURANCE INSTITUTE.

Situated somewhere about half way between Edinburgh and London, Manchester doubtless has had to dispense with certain advantages enjoyed by the capitals, but, by way of compensation, has developed initiative and resource in various directions. Insurance affords a good instance. From the middle of last century these cities had their actuarial bodies, and there was practically nothing else of the kind in the country. Following the movement on the part of insurance offices to establish branches in the principal centres, Manchester in 1873 formed the Insurance Institute. The object of this was to afford opportunity for the informal exchange of views on subjects of common interest, and for the promotion of good business relations through personal intercourse. Educational matters soon assumed prominence, papers were read, prizes offered for essays, and a library formed, covering all branches and aspects of insurance, although in the early days fire was of primary importance. The example set by Manchester was followed ultimately by other places, until in 1896 there were ten such institutes. The cotton city now again gave a lead by proposing that these local institutes should co-operate to form a central

organization, which resulted in the foundation of the Federation of Insurance Institutes in 1897. The various institutes, while maintaining their separate existences, worked on harmonious lines, and in particular provision was made for—

(a) The production of papers on fire, life, and accident insurance and other branches of insurance business.

(b) The production of an annual volume in which suitable papers which had been read before institutes might be published.

(c) A joint scheme of certificates for junior officials for efficiency in examinations and for essays.

(d) To consider the desirability of founding an Insurance Clerks' Orphanage (which came into being in 1902).

The first President of the Federation, Mr. James Ostler, made the following remarks at the initial Conference in Manchester—

"It may be well that at the outset we should remind ourselves what are the principles which guide the efforts of the Insurance Institutes, and what the limits to be observed. We recognize that neither as isolated nor as affiliated societies have we any concern in the regulation of business by our head offices, or by such bodies as the Fire Offices' Committee, the Institute of Actuaries, or the Faculty of Actuaries in Scotland. Our object is, at all times and under all circumstances, to preserve and stimulate loyalty to the regnant powers. The membership of our institutes includes representatives of all branches of insurance business, and, frequently, officials of all ranks. With so broad a constitution it is not to be expected that these societies will ever be recognized in a formal way by the authorities, nor is it desirable. Informal encouragement we may with confidence anticipate. Our sphere of influence, though distinct and subordinate, is still an honourable one, and by strict regard to the proper limits of our endeavours, we may well hope to render, as we believe we have in the past rendered, useful service."

An important development, apart from the local arrangements made to conform to a common standard, was the inauguration of a comprehensive system of examinations under the auspices of the Federation, in connection with which extensive series of classes were held. The Federation progressed rapidly, new local institutes were formed which became units of the Federation, and institutes in the Dominions were affiliated.

In due course it was felt that the Federation should endeavour to obtain such formal and legal recognition as would ensure permanent stability. To this end, a Royal Charter was secured in 1912. This involved some re-arrangements, and at the same time the name of the Federation was altered to the "Chartered Insurance Institute." Moreover, in order to facilitate the working of the new organization, the headquarters were removed from Manchester to London. With an amplified sphere of operations, the Institute has expanded greatly, especially during the last few years. Classes and lectures are held in all relevant subjects, and an extensive library provided. So onerous has the work become that it has been found necessary to appoint a salaried secretary, namely, Mr. Victor Dover, himself a Fellow of the Chartered Insurance Institute, in addition to sundry sub-committees, etc.

The examinations consist of a preliminary test as to general educational qualifications, from which certain candidates may be exempted; an Associateship examination, held in four branches, viz., fire, life, accident, and marine, the examination in each branch consisting of a preliminary examination and an examination in two parts, I and II. Qualification in Parts I and II in one of the four branches is required of a candidate for admission as an associate. The Fellowship consists of only one part, and calls for a knowledge of the general principles of all branches (the associateship in one branch having been secured already), and, further, a thesis on one of various subjects to be announced in the examination room.

The number of candidates sitting for examination in 1929 was 477 for the Fellowship, and 5,793 for the Associateship, the examinations being held in 55 centres at home and 9 abroad.

The total membership of the Institute at 1st January, 1929, was 18,948, as compared with 16,839 a year previously, and 6,176 in 1914, when 23 local institutes were included, as against 39 in 1929.

The assets of the Chartered Institute amount to nearly £50,000. In his Presidential Address of 1926 to the London Insurance Institute, Mr. W. W. Otter-Barry said—

"The vision in the mind of more than one past president of the Chartered Institute has certainly included a building in London which would be the centre of the activities of all the institutes. I myself foresee a day

—and that not far distant—when the influence and activities of the Chartered Insurance Institute will be co-extensive with British insurance interests, and when, as was said by an eminent past president, that institute will embrace the views and energies of all local institutes and work for the advancement and betterment of insurance men throughout the world.”

(See also INSTITUTE OF ACTUARIES.)

**CHEQUES, TREATMENT OF.**

(See CASH DEPARTMENT.)

**CHICKEN-POX.**

In a vast majority of cases this disease has no influence on a patient's longevity, but it may be followed by nephritis, and if the proposer has had a recent attack the absence of this complication must be settled before a policy can be granted. If nephritis is present, it will probably clear up, and the policy may then be granted after postponement.

**CHILD-BIRTH RISKS.**

(See ISSUE RISKS.)

**CHILDREN AND OLD PERSONS.**

(See INDUSTRIAL ASSURANCE, HISTORY OF.)

**CHILDREN'S ANNUITIES.**

(See EDUCATIONAL ENDOWMENTS FOR CHILDREN, and BABY GIRL POLICIES.)

**CHILDREN'S ASSURANCE LEAFLETS.**

(See CANVASSING LEAFLETS, page 121.)

**CHILDREN'S ASSURANCES.**

(See INDUSTRIAL ASSURANCE ACT, 1923 ; BABY GIRL POLICIES ; EDUCATIONAL ENDOWMENTS FOR CHILDREN ; DEFERRED ASSURANCES FOR CHILDREN ; CHILDREN'S ENDOWMENT POLICIES ; GROUP SCHOOL FEE POLICIES ; "PRESENTATION" POLICIES ; SCHOOL FEE POLICIES ; PROPOSAL FORM, page 420.)

**CHILDREN'S DEFERRED ASSURANCES.**

(See DEFERRED ASSURANCES FOR CHILDREN.)

**CHILDREN'S ENDOWMENT POLICIES.**

These policies are very useful for parents or guardians who may desire to provide out of income a capital sum for a child on its attaining a certain age. The sum thus secured may be utilized for finishing off education, or for providing capital for entry

into a business or profession. In the case of a girl, it may be utilized to provide a dowry on marriage, and so on. The terms and conditions under which such policies are issued vary a good deal. Under some schemes in the event of the child dying before the endowment age is reached all premiums paid are returned without interest. In other cases interest from 2 per cent to 3½ per cent compound is paid on the returned premiums, while under other policies in the event of the parent or guardian who effects the policy dying before the end of the term the payment of further premiums ceases. Again, under some forms of policy no medical examination of the parent or guardian may be required, while under others it is necessary. Some policies are for the payment of a fixed sum on the attainment of the age selected ; others for payment on the expiration of an agreed term of years. Others carry the option of not taking the capital sum on survivorship, but of converting the policy into an endowment assurance or whole life policy, thus being in the nature of a child's deferred assurance (*q.v.*).

*Following are specimen rates under several schemes*

Annual premiums to secure £100 payable at the end of a fixed term, all premiums, with 3½ per cent per annum compound interest, being returned in the event of the child's death before maturity.

Endowment Term—Years.	Annual Premium
	£ s. d.
5	18 3 11
7	12 12 1
9	9 10 -
12	6 15 8

On the next page are shown annual premiums to secure £100 payable to a child at the end of a fixed term, all premiums with 3 per cent per annum compound interest being returned in the event of its death before reaching maturity. Premiums payable during the joint lives of parent and child, but ceasing on death of parent.

Medical examination of parent is required for sums assured exceeding £400.

Policies issued under the next scheme secure an endowment payable upon the expiration of a term of years, selected at the outset, if the child survive. If the child

Endowment Term—Years.	Age of Parent, nearest birthday.			
	25	30	35	40
	£ s. d.	£ s. d.	£ s. d.	£ s. d.
5	18 3 3	18 13 8	18 14 5	18 15 6
10	8 15 9	8 16 4	8 17 2	8 18 6
15	5 10 -	5 10 6	5 11 5	5 13 -
20	3 15 5	3 16 -	3 17 -	3 18 8

should die before attaining age 10 the premiums paid will be returned; and if death should occur between that age and the expiration of the original term the full sum assured, with accrued bonus, becomes payable. These policies are entitled to share in profits from their inception, but the bonus declared does not become an effective addition to the sum assured until the policy has been two complete years in force and the child has attained the age of 10. The following premiums are for the assurance of £100, payable at the end of the selected term or at death after age 10. They are for all ages under 10.

Term of Years.	Single Premium.	Annual Premium.
	£ s. d.	£ s. d.
15	78 17 10	6 18 2
16	76 14 8	6 8 -
17	74 14 5	5 19 2
18	72 16 7	5 11 4
19	71 - 4	5 4 5
20	69 5 8	4 18 3

The following are the yearly premiums without profits under another scheme to secure £100 payable should the child survive the stated term of years. In the event of the child's previous death, all premiums paid are returned. In event of parent's death occurring before the end of stated term, no further premiums are payable.

Term of Years.	Age of parent (or guardian) next birthday.			
	Not exceeding 25.	26-30	31-35	36-40
	£ s. d.	£ s. d.	£ s. d.	£ s. d.
20	3 17 11	3 18 6	3 19 4	4 - 9
19	4 3 4	4 3 10	4 4 9	4 6 1
15	5 12 4	5 12 10	5 13 7	5 14 10
14	6 2 3	6 2 9	6 3 6	6 4 8
10	9 2 -	9 2 5	9 3 -	9 4 1
9	10 5 6	10 5 11	10 6 6	10 7 5

Medical examination under this scheme is generally dispensed with.

The following are specimen annual premiums for each £100 payable on a child attaining the age of 21 or 14. In the event of the child dying before the endowment age is reached all premiums paid are returned in full, without interest, or the surrender value at the date of death is allowed, whichever is the greater. If it be desired to discontinue the policy the surrender value will be the amount of all premiums paid (after the first), with 3 per cent compound interest from the dates of the respective payments.

ENDOWMENT AT AGE TWENTY-ONE

Age Next Birthday of Child.	Annual Premiums.	
	Amount.	No. Payable.
	£ s. d.	
1	3 12 4	20
2	3 17 4	19
3	4 3 -	18
4	4 9 3	17
5	4 16 4	16

ENDOWMENT AT AGE FOURTEEN

	£ s. d.	
1	6 4 4	13
2	6 16 10	12
3	7 11 8	11
4	8 9 5	10
5	9 11 2	9

CHILE.

(See CLIMATIC RISKS.)

CHINA.

(See CLIMATIC RISKS.)

CHOLECYSTITIS (Inflammation of the Gall-bladder).

The cause of this may be gall stones (*g.v.*) or an infection spreading from the bowel. A proposer is not likely to give a history of this disorder, unless an operation has been performed. If no operation has been performed and the attack is of recent date, the proposal must be postponed or declined.

If an operation has been performed, a full medical report must be obtained from the operating surgeon, and this submitted to the company's medical adviser.

In the event of such report being satisfactory, i.e. showing that there were no other abnormalities present and a successful operation was performed, the proposal may be accepted at a slightly increased rate if the attack is recent, or at ordinary rates if the attack is two years or more old, and there have been no symptoms since.

### CHOLELITHIASIS.

(See GALL STONES.)

### CHOREA (St. Vitus's Dance).

A disease characterized by jerky involuntary movements of the muscles of the limbs and face, chiefly affecting children. In itself this condition has no influence on the longevity of the patient, but it is recognized that it is frequently associated with a rheumatic tendency, and may, therefore, be followed by heart trouble. Any proposal in which this disease figures in the history must, therefore, be subject to a special medical examination, and dealt with according to the condition then found. If no after-effects in the heart are discovered, the proposal may be accepted at ordinary rates.

### CIRRHOSIS OF THE LIVER.

A degeneration of the liver tissue which is partly converted into fibrous tissue. Its causes are usually either alcohol or syphilis. It sometimes follows malaria, and may be associated with heart disease. A proposer with a history of this condition must be declined.

It sometimes happens that it is only discovered during a routine medical examination. In such cases, even if the proposer has had no symptoms, he cannot be accepted.

### CITY OF GLASGOW FRIENDLY SOCIETY.

Head Office: 200 Bath Street, Glasgow.

Founded in 1862 for the purpose of transacting industrial assurance as a collecting society by Mr. John Stewart, who had previously been connected with the Royal Liver Society. The novelty of his idea was that members of any friendly society should be entitled, not only to payment of a claim when it emerges, but also, whilst membership continues, to a voice in the management of the society. Mr. Stewart himself worked desperately hard in the early

days to bring in new business. The report of the first nine months' working shows that, after meeting its liabilities, the company's cash in hand only amounted to about £100. In 1866 the Board of Management suspended Mr. Stewart, and there was a great fight waged in Glasgow to secure his return. In 1869 he was restored by a meeting of members to the management, and a resolution was carried that he should not again be liable to suspension or dismissal save by the members at a meeting called for the purpose.

On the death of Mr. John Stewart his son, Mr. James Stewart, was appointed manager, and another son, Mr. Alec Stewart, M.A., became secretary to the Approved Society, which had been established after 1911.

The Society is a mutual institution. It is claimed as one of its distinguishing features that members in all districts have an equal voice in the management. The Society has been making considerable progress during recent years, and has now efficient branches throughout almost all parts of Scotland, and in very many parts of England and Ireland.

### CIVIL AVIATION.

(See OCCUPATION RISKS.)

### CLAIM FORM.

(See CLAIMS.)

### CLAIMS.

The principal function of a life office is to pay claims, and it is the aim of every office to effect settlement with as much expedition and as little trouble to its clients as possible. Nothing would be more agreeable to the offices than that they might confidently assume all claims to be in order, and issue cheques in settlement immediately on receipt of notice of death, for in this way much tedious and often expensive investigation would be eliminated. Unfortunately, this is not possible. Experience has proved that even with the deterrent knowledge that proof is required in support of every claim, and that the most searching inquiries may be instituted, there have not been wanting persons of misdirected enterprise to endeavour to exploit the life offices to their own advantage, and the knowledge that sooner or later a similar attempt will again be made necessitates the greatest care in the handling of every case.

The usual terms of the contract contained in the policy may be shortly stated as

follows: "Subject to the payment of premiums as specified in the policy the company will, on receipt of proof satisfactory to the directors (1) of the correctness of the age of the life assured as stated in the proposal, (2) of the happening of the event upon which the sum assured under the policy is payable, and (3) of the title of the claimant or claimants, pay the sum assured, together with any bonus that may be due if the assurance is with participation in profits." There are, therefore, three things that the claimant must establish before he may obtain payment—the age of the life assured, the happening of the event assured against, and his legal title to receive the policy moneys.

In the vast majority of cases life policies are issued before the age of the life assured has been proved, the premium being assessed on the age as stated in the proposal, and the assurance being conditional on the correctness of the age stated. Consideration of this point will, however, be taken up in detail later.

Claims arise by reason of the death of the life assured, or by survivorship. It is evident that to prove the claim the identity of the deceased or surviving person must be established. Moreover, in the case of a claim by death it is not sufficient for the office to be satisfied that the life assured is dead. The cause and date of death are both factors of importance, while the place of death has sometimes a material bearing on the terms of settlement.

On the date of death will depend whether the last premium due has been paid. In some cases, such as decreasing assurances, or policies subject to contingent debts, the amount payable may depend on the date of death; and, in cases of temporary assurance, whether there is a claim or not, for in that class of assurance, death must take place on or before a specified date if a claim is to be sustained. The cause of death, and the duration of the last illness may indicate the possibility of a question in the proposal form or in the medical report having been incorrectly answered. For instance, suicide, or an early death from, say, phthisis, suggest that there may have been concealment of material information as to family or personal history. Further, it may be necessary, in some classes of assurance, to establish that certain other lives have predeceased or survived the life assured, and if the former, the order of their failing may be material.

The place of death may be important in cases where the area of free residence and

travel is restricted, for it may sometimes happen that death has taken place in a part of the world requiring the payment of an extra premium to keep the policy in force, and that no such extra has been paid. In such an event a great deal would depend on circumstances. The usual course in such a case would be to ascertain the length of time the life had exceeded the "free limits," and to deduct the unpaid extra with interest from the amount payable. In exceptional cases more drastic action might be required, but the responsibility for decisions of this nature would in general rest with the directors. Similar remarks apply where the life assured died whilst engaged in a hazardous occupation not permitted under the policy, without first having obtained the permission of the office and paid such extra premium as might be considered reasonable in view of the enhanced risk.

With the exception of mis-statements of age, which are fairly frequent, irregularities in claims other than in title, which are considered later, seldom occur. Nevertheless every case must be scrutinized with all these possibilities in view. Most offices adopt a regular routine which is designed to cause specific inquiry into all points of possible controversy.

**Notification of Death and Maturity.** Unlike other contracts of insurance, a life policy imposes no time limit within which intimation of a claim must be lodged. Prompt notification is not of vital importance, for there is not that necessity for immediate investigation on the part of the office which figures so prominently in fire, accident, third party, and other casualty business. Intimation of death is generally received by letter from some relative of the deceased or other party interested in the policy. In the case of claims by survivorship, notification of the forthcoming maturity of the policy is generally issued by the office shortly before the maturity date, with particulars of the various requirements for proving the claim. This serves the double purpose of expediting settlement, and making an opening for possible new business.

**Claim Form.** As soon as a policy becomes a claim by death, or where it is about to mature, it is usual to prepare a claim form. In it all particulars necessary for a settlement are brought together from the various office records. Such a form will generally be something as shown on the next page.

The items in this form, for the most part, explain themselves. Attention is directed

CLA]

DICTIONARY OF LIFE ASSURANCE

[CLA

CLAIM No..... BRANCH OR AGENCY.....

POLICY No. .... Advice to

ASSURED..... ACCNTS. DEPT. ....

LIFE ASSURED..... BRANCH.....

DATE OF POLICY..... DATE OF BIRTH.....

AGE AT ENTRY..... AGE AT EXIT..... DATE OF { DEATH or } MATURITY { .....

CAUSE OF DEATH.....

SUM ASSURED, (.....) . . . £ : :

BONUS . . . . . £ : :

INTERIM . . . . . £ : :

TOTAL . . . . . £ : :

LOAN ON POLICY, . . . . . £ : :

INTEREST FROM .....

TO..... £.....

LESS TAX . . . . .

REASSURED.....£ £ : :

LAST PREMIUM PAID ?..... LOAN No.....

AGE PROVED ? .. PAYABLE TO ..

NOTICES OF ASSIGNMENT .....

CLAIM INTIMATED BY ..... DATE .....

FORMS SENT TO ..... DATE .....

YEARLY PREMIUM OF £ : : PASSED FOR PAYMENT.....

Director

Classification by Medical Officer, and Remarks.

N.B.—It is the practice of some companies to print the above on a large, stout envelope, which thus serves the purpose of holding all the policy papers and correspondence, and at the same time shows at a glance the exact position of the claim. Details of Assignment Notices, particulars of Probate or Letters of Administration, and the dates on which the various proofs of death and title have been received can be entered on the other side of the envelope. The system is found extremely convenient in practice.

to points that might easily be overlooked were it not for the routine thus followed, such as notification of the branch and cashier, whether there are any other policies on the life, whether any loan exists, and, if so, the amount of interest to be deducted at settlement, whether there is any reinsurance, whether the last premium due has been paid, whether the age has been proved, and whether any notices have been received affecting the title to the policy. A record is also here kept of the settlement as it proceeds—the date the forms required to prove the claim are issued, to whom they were sent, the dates when the claim is admitted, and when the title is proved. If any reinsurance has been effected, the guaranteeing office will be notified, and the terms of the guarantee will be examined to ascertain which office's conditions apply. If the reinsurance follows the principal assurance in all respects, nothing but the bare intimation need be sent to the guaranteeing office at this point, but if the guaranteeing office's conditions apply, it will be necessary to obtain the approval of the guaranteeing office to the action that the principal office is contemplating.

**Certificates Necessary to Prove Claims.** The claim form having been prepared, the next step is to send out the forms required by the claimant to prove the claim, and these will depend on whether the claim arises by maturity or by death.

**Claim by Maturity.** As already stated, it is the usual practice to issue notification of the forthcoming maturity of a policy shortly before the maturity date. A printed letter is generally employed for this purpose which will generally state the number of the policy and name of the life assured, the date of maturity, the amount of the sum assured, and bonus, if any, the amount of any loan outstanding, with interest thereon to the date of maturity, and the net sum payable. It is usual also to give directions for obtaining payment. These will generally include—

1. Instructions how to prove the age, if this has not already been done.

2. Intimation that if the policy has been assigned, or otherwise dealt with, all deeds and other documents necessary to prove the title must be sent in to the office.

3. A statement that claims are payable immediately after the requisite proofs have been submitted, and the policy discharged according to a form of discharge that will generally be given. The following is a form of discharge that is in use by some offices:

“Received this ..... day of ..... 19.. from the ..... Assurance Company the sum of ..... (*in words*) ..... being in full discharge of all claims or demands under or by virtue of the within policy, which is now cancelled.”

Age, identity, and existence having been established in the case of a claim by maturity, settlement could be made immediately the title of the claimant had been proved.

**Claim by Death.** When intimation of a claim by death has been received, and after the claim form has been completed, a letter is issued to the claimant stating what certificates are required for the claim to be considered. These will be—

1. A certificate identifying the deceased with the person assured under the policy, a form for which will generally be enclosed. The information called for is usually as follows—

(a) How long have you known the deceased ?

(b) What was his occupation and usual residence ?

(c) What was the date of death ?

(d) Where did he die ?

(e) Can you state to your knowledge that he was the person described in the policy as ..... ?

and the certificate should be completed by a trustworthy person, qualified to speak with authority on the facts required, who is not a member of the family, and not interested in the assurance. Difficulty is sometimes experienced in finding such a person. Then, of course, the office must be satisfied with the best evidence available. But, as a general rule, it is surprising how readily persons can be found to certify to facts often dating back many years.

2. A registrar's certificate of birth (if the age has not been already admitted by the office and a certificate of such admission issued).

3. A registrar's certificate of death.

The letter will generally state the amount payable under the policy, subject to the certificates being in order, as this information is required by the solicitor acting for the executors or administrators of the estate of the deceased, for purposes of obtaining probate or letters of administration.

In addition to the above-mentioned certificates, some offices require a certificate from the medical man who attended the deceased during the last illness, stating how long he had known the deceased, the cause of death, for what other illnesses he had

attended him and when, the duration of the last illness, and any other information that would tend to throw light on its origin. The chief object of this form is to satisfy the office that there has been no withholding of material information when the policy was effected. For instance, should death have been due to general paralysis of the insane, there would be more than a suspicion of syphilis. If no mention has been made of this disease in the proposal papers, it would be a matter of some moment to discover whether it had been contracted before

the circumstances indicated special reasons for so doing, such as *prima facie* indications of fraud.

**Admission of Claim.** When all the required certificates have been submitted and found to be in order, the claimant is notified that the claim has been admitted and that, on proof of title and production of the policy discharged, the sum assured, less any sums due to the office, such as loans and interest (amounts specified), will be paid. This letter will generally contain instructions for proving the title, something as follows—

**DIRECTIONS FOR OBTAINING PAYMENT OF THE AMOUNT OF THE POLICY**

(1) If the Policy has been Assigned or otherwise dealt with, all the Deeds or other Documents of Title must be sent to the Office for examination.

(2) If the Claim is made by or on behalf of heirs, executors, or administrators, the Probate or Letters of Administration (if in England, Ireland or abroad), or the Confirmation with relative Inventory (if in Scotland), must be produced.

(3) If the Policy was effected under *The Married Women's Property Act, 1870*, a Trustee should be appointed by the Court, and an Official Copy of the Order making such appointment should be furnished.

(4) If the Policy was effected by the deceased under *The Married Women's Policies of Assurance (Scotland) Act, 1880*, or *The Married Women's Property Act, 1882*, the Document by which a Trustee of the Policy has been appointed—or, if there has been no appointment of Trustee, Probate, Letters of Administration, or Confirmation of the personal representatives of the deceased—will be the proper evidence of Title.

(5) The Policy must be delivered up to the Office, with a Discharge in the following Form and signed by the person or persons entitled to receive the Policy money.

**FORM OF DISCHARGE**

RECEIVED *this*                      *day of*                      19                      , *from the*                      *Assurance Co.*  
*the Sum of* [in words] *being in full discharge of all Claims or Demands under, or by virtue of, the within Policy, which is now delivered up cancelled.*

£                      :                      :

WITNESS

*Signature* .....

NOTE. When the discharge is granted by a Bank or other public Company, it should be executed in the manner in which such Bank or Company is authorized to execute Deeds.

or after the proposal had been completed. The medical attendant might be able to throw some light on this point. Other causes of death that might suggest non-disclosure in the proposal have been already mentioned, but these by no means exhaust the possibilities. In deciding whether inquiries of this nature are necessary, offices will generally be guided by their medical advisers, and the majority of offices would probably not call for such a certificate unless

Difficulties in proving claims are sometimes experienced—

1. Where the cause of death suggests possible non-disclosure of material information at the time the policy was effected, and in this matter the office will be guided by its medical adviser.

2. Where the place of death or the occupation followed at the time of death indicates that the terms of the policy have been infringed, as explained above.

3. Where death has taken place in a foreign country and the ordinary registrar's certificate of death is not forthcoming. In such cases everything will depend on the circumstances. In many countries systems of registration exist that are as effective as those in this country. Where this is the case such certificates will be accepted in proof of death. The procedure in other cases will vary, but it will often be found convenient to enlist the services of the nearest British Consul, and to call for declarations by disinterested parties to be made in his presence and certified by him.

4. Where satisfactory evidence of age is not forthcoming, or where age has been mis-stated, as to which see AGE, PROOF OF.

5. Where the title is complicated or out of order, see TITLE, PROOF OF, and TITLE, INVESTIGATION OF.

**Fraudulent Claims.** Frauds on life offices are attempted from time to time, and it is desirable that all who have to do with claim settlements should be aware of different ruses adopted by the thieves, and the daring manner in which their attempts have been conceived and carried out. There have been cases of pretended death followed by elaborate funerals, forged certificates, collusion between doctor and claimant and, probably the most common of all, cases of alleged drowning where the bodies have not been recovered. In a large number of such attempted frauds there has been nothing to arouse suspicion in the early stages of the claim settlement negotiations. It has been due to fortunate accident more than anything else that the offices have not been victimized. It seems safe, therefore, to assume that offices suffer as the result of fraudulent claims which have passed undetected. It is certain that many claims are lodged where the circumstances are not altogether satisfactory, and the offices have no option but to pay and look pleasant for want of any evidence wherewith to test their suspicions.

These are the more tangible forms of fraud. The less tangible forms, and therefore the most difficult to detect, have to do with concealment and misrepresentation in the proposal papers, and the medical and various other reports which were received when the policy was effected. These may have to be re-examined in the light of the information contained in the certificates submitted in proof of claim, and the office must be satisfied that there is nothing in the one that is inconsistent with the other. Irregularities of this nature are exceedingly awkward. It is one thing to suspect fraud, and quite another to prove it, and an office must be very sure of its ground before it can take action. One thing, however, stands out clearly in nearly all cases of detected fraud, that exposure has resulted chiefly from local inquiries, and in pursuing such inquiries it is not necessary to mention that it is well for the office to remain in the background.

(See also CLAIMS DEPARTMENT; AGE, PROOF OF; DEATH, PRESUMPTION OF; DEEDS, PRESERVATION OF; DEEDS, STAMPING OF; LETTERS OF ADMINISTRATION; TITLE, INVESTIGATION OF; TITLE PROOF OF.)

#### CLAIMS ACCOUNTS.

(See CLAIMS DEPARTMENT.)

#### CLAIMS DEPARTMENT.

A full account of the technical work involved in the settlement of claims will be found under the heading of CLAIMS, but a brief description follows of the routine work of this department, which deals also with advances on the security of policies, with the surrender of policies, and with the approval of title when a policy is being altered or dealt with in any way.

All notices of assignment and dealings in policies must be recorded, and the essential details of notices received entered either in a book or on cards, ruled with the following headings—

#### ASSIGNMENT PARTICULARS

Policy No.	Policy-holder.	Assignee.	Assignee's Residence.
Date of Deed.	Date of Notice.	Date Notice Received	Remarks.

Room should be left for a number of assignments, as there may be several during the currency of a policy. It is by no means unusual to record particulars of assignments in the policy register. In many ways it is much more convenient than keeping separate books or cards for the purpose.

The actual notices are carefully preserved for future reference, either with the proposal papers or in a separate file, and each policy card marked so that it indicates that notices have been received affecting a policy. Where an acknowledgment is asked for the company is entitled to a fee of 5s., and, in giving it, it is advisable to ask if any alteration is to be made in the issue of premium notices. In order to save future trouble some companies notify policy-holders and assignees that assignments and reassignments and other documents of charge and discharge will be required for any future dealings with the policy, as also when the policy becomes a claim—and that they should therefore be carefully preserved.

An office is constantly being asked by banks and others holding the assured's authority if it has received notice of any charge on a policy. In giving information the office will expressly disclaim all liability in respect of inaccuracies or omissions.

On receipt of an application for loan or surrender value,<sup>1</sup> reference to the recorded particulars will show what documents, if any, must be called for in the first place.

together with the policy, when the cash department is authorized to draw a cheque and a remittance is made. The policy card must be marked "surrendered" and withdrawn from the index, and the necessary alterations put through the office books. A cheque with a receipt at foot is sometimes issued in lieu of a separate receipt for surrender value.

In the case of an application for a loan, on the title being ascertained to be satisfactory, the borrower is sometimes requested to sign a formal application and declaration that the policy is his absolute property, free from encumbrances, and that he is able to give the company an absolute first charge thereon. On receipt of this document a form of charge is prepared, sent to the borrower for his signature, and on this coming duly to hand, together with the policy, a cheque is requisitioned and dispatched. The borrower may be asked to pay the necessary stamp duty, which varies with the amount advanced and the form of charge used. The executed charge will then be handed to the accountancy department who will set up machinery for the collection of interest, and will then be sent to the Stamp Office to be impressed with the necessary stamp.

A record must be set up of all advances on policies, either in book or card form, giving the following information, room being left for entries relating to any subsequent advances that may be made—

Policy No.	Name.	Date of Deed.	Amount of Loan	Remarks.	Date of Repayments.

The policy must be valued (by the actuarial department)—except where definite loan and surrender values are guaranteed in the policy—and an intimation is sent to the applicant of the amount available, the date to which the offer holds good, and, in the case of a loan, of the terms on which it can be granted.

In the case of the proposed surrender of a policy, on the title being ascertained to be satisfactory, a form of receipt is sent to the person entitled for signature; this must be returned duly signed and witnessed,

<sup>1</sup> A great many applications are received which are not proceeded with.

On the repayment of a loan with interest to date the policy is returned to the borrower, together with the charge cancelled. The book or card entry must be marked "Repaid," the accountancy department picking up the repayment from the cash books.

In connection with maturing endowment assurances, particulars are usually taken out in advance, and policy-holders and others concerned communicated with, so that, except in cases where there is delay on the claimant's part in connection with proving title, settlement may be made on the due date.

Claims by death can only be dealt with

as they arise, and the procedure in connection with them and maturing endowments is dealt with under CLAIMS.

#### CLASS BOOKS.

(See LIFE OFFICE VALUATIONS.)

#### CLASS SELECTION.

(See SELECTION.)

#### CLASSES OF LIFE POLICIES.

(See under separate headings.)

#### CLASSIFICATION OF LIVES.

(See PROPOSAL FORM.)

#### CLERGY MUTUAL ASSURANCE SOCIETY.

(See LONDON LIFE ASSOCIATION, LTD.)

#### CLERGY PENSION FUND.

(See ECCLESIASTICAL INSURANCE OFFICE, LTD.)

#### CLERICAL, MEDICAL, AND GENERAL LIFE ASSURANCE SOCIETY.

Chief Office: 15 St. James's Square, London, S.W.1.

Founded 1824 for life assurance and annuity business. Over 99 per cent of the capital is now held by the Employers' Liability Assurance Corporation, Ltd.

Every agent of the Clerical, Medical and General Life Assurance Society is now enabled to transact all other forms of insurance business through the medium of the Employers' Liability Corporation.

At the time the Society was founded, no assurance protection was available for those under-average lives over whom hung the threat of a shortened span of life, although they, of all people, most needed protection for their dependants. It was to satisfy this need that the Clerical, Medical, and General came into existence. The first prospectus stated that "the premium on the lives of persons deviating from the common standard of health will be regulated according to the amount of hazard." As the presence on the Board of Directors of a number of eminent medical men has always been a feature of the Society, the succeeding words "the risk being calculated upon a minute investigation of each individual case by the Directors" are no mere formality, but have very real meaning and significance.

From the first bonus, declared in 1832, until the present time, the individual allotments have always been calculated as a

percentage of the premiums paid during the quinquennium.

The success of the Society is self-evident, but it may well be pointed out that the success and satisfaction which have attended its invalid business are due to its equitable method of allotting bonuses. "Extra premiums mean extra bonuses" was the slogan of the Clerical. A time-honoured phrase which has appeared for years in the Society's publications is true in substance and fact . . . "the bonus system as applied to these policies has been devised to ameliorate, and, should the life be prolonged beyond the estimate, ultimately to nullify the original surcharge."

The Clerical has, in the main, sought to perfect the basic form of life assurance. It relies, therefore, on the whole life and the endowment assurance policy for its principal source of business. A system known as the "Prime Cost System" is the most popular form of policy in these days of reduced incomes. This prime cost policy is in effect a discounted bonus policy, under which only 76 per cent of the full profit premium is paid, the balance being a charge against future profits. The scheme has been in force for a great many years, and the arrears of premium have always been wiped off at each bonus distribution. The premiums under this table must be low—they compare, as a fact, very favourably with the average non-profit premium. As there is every probability of a margin of bonus gradually accruing to a prime cost policy after repaying the arrears, it follows that where bonus is maintained on the scale adopted in this society, such a policy must be superior to the ordinary non-profit policy.

The bonus history of the Clerical is very remarkable: even depreciation of investments due to the War failed to shake the record of the Society. In 1916, and again in 1921, the Society was in the enviable position of being able to distribute the usual "Bonus." At the same time the stringent 2½ per cent valuation was maintained. The actuary of 1891 did not foresee the war of 1914, but caution directed his steps, and those of a few of his contemporaries in other offices, and thus was laid the basis of the structure which stood the strain of the disastrous years from 1914 to 1918.

#### CLIMATIC RISKS.

A life assurance premium may be briefly defined as the average cost per member of

assuring a group of lives. This must clearly depend on the class of lives included in the group and the risks which they normally run. Now the premiums charged for ordinary life assurance are usually based on the mortality experience of assured lives in British offices, as shown in one or other of the existing standard tables, or, possibly, in a table constructed from the experience of a particular office. This indicates the type of group which ordinary assurance premiums will be sufficient to assure—namely, a type similar to that included in existing life office mortality experiences.

It is the general practice, when constructing a mortality table which is to be used for office premiums, to exclude all lives which do not conform to some normal standard, and lives which have been charged an extra premium for residence outside the usual free limits are commonly excluded. It therefore follows that if any similar lives present themselves for assurance, the tabular rates of premium do not apply to them, and it must be considered whether an additional charge is necessary.

The above remarks crudely express the position as regards foreign residence, but it is to be observed that they do not fully cover many of the cases which arise in practice. For instance, as indicated under the heading FREEDOM OF POLICY FROM RESTRICTIONS, numbers of lives have been permitted to proceed beyond the normal free limits without any additional premium being charged, and as these are always included in the mortality experience on which the premiums are based, the extra risk is charged for in the normal premium. It should be noted, however, that it is only in certain circumstances that lives are permitted to travel abroad without extra charge, and when these circumstances are not applicable an extra premium is required. Briefly, it may be said that the "ordinary rates" group is somewhat enlarged in practice, so that all such lives contribute a small sum towards the extra cost of assuring the few who proceed beyond the free limits of travel, but are yet permitted to remain in the group.

The expression "ordinary rates," as used above, is intended to indicate the rates published in the ordinary prospectus for the home business of a British life office. It is clear that the rates appearing in the prospectus of an Indian life office for assuring native lives would also be called "ordinary rates," since they would be the rates applicable

to the normal lives with which the company would have to deal. Bearing this idea in mind, it is clear that there is another and a better way of dealing with lives who are permanently resident in an unhealthy country, namely, to publish a table of "ordinary rates" applicable to Europeans (say) who are resident in that country. In order to do this it would be necessary to base the rates on a table of mortality constructed from the experience of lives similarly situated. This, however, presents a difficulty, since it is but rarely possible to collect the necessary volume of data for the construction of the table. Except, therefore, in the case of those places (such as India) where a large volume of data is available, some other method must be adopted in order to assess the charge which must be added to home rates in order to cover the extra risks incidental to foreign residence.

In practice, it often happens that an office is asked to quote for residence in a part of the world in respect of which there are absolutely no data whatever. In such circumstances it is necessary to refer to the climatic conditions, as these will indicate the nature of the extra risks to be run. Weight must also be given to any known peculiarities of the particular place under consideration, as local conditions, such, for instance, as sheltering hills, will sometimes have considerable effect. More particularly must attention be paid to the sanitary conditions, which in many instances are as important as the situation. In addition, in the wilder parts of the world the absence of a doctor within a reasonable distance is an important factor. This point is included in what may be called the "pioneer" risk, namely, the special risk which is attendant upon residence or travel in uncivilized parts.

Opportunities and facilities for sport and healthy recreation must also be considered; and the length and frequency of leave are other important factors in regard to maintaining health.

Climate is the condition of a region with respect to its heat and moisture, and is determined chiefly by latitude, inclination of the earth's axis, elevation above sea level, winds, proximity to the sea, ocean currents and sheltering hills. Full information on these points is not often available, but a good deal of information may be obtained from an atlas, geography book, gazetteer, or guide book, and, in many instances, from textbooks on insurance.

Latitude must receive the first consideration, since this indicates the amount of direct heat received from the sun and the duration of day and night throughout the year. Broadly speaking, the nearer a place to the Equator the hotter will be the climate. The Torrid Zone is that part of the world which lies between  $23\frac{1}{2}^{\circ}$  N. lat. (the Tropic of Cancer), and  $23\frac{1}{2}^{\circ}$  S. lat. (the Tropic of Capricorn). This area is called "The Tropics" and usually commands an extra premium. The Temperate Zones lie between  $23\frac{1}{2}^{\circ}$  N. lat. and  $66\frac{1}{2}^{\circ}$  N. lat. and between  $23\frac{1}{2}^{\circ}$  S. lat. and  $66\frac{1}{2}^{\circ}$  S. lat. The Frigid (or Polar) Zones lie north of  $66\frac{1}{2}^{\circ}$  N. lat. and south of  $66\frac{1}{2}^{\circ}$  S. lat., thus commencing at the Arctic and Antarctic circles respectively.

Altitude is next in importance to latitude in determining climate, and there are many instances in which it entirely vitiates conclusions drawn solely from the latter. For instance, Bogota, in Colombia, and Quito, in Ecuador, are nearly 9,000 ft. high, and although they are situated almost on the Equator they enjoy a climate of perpetual spring. This is due to the fact that every rise of 300 ft. above sea-level lowers the temperature about  $1^{\circ}$  F. In addition, it is to be noted that some of the disease-carrying insects are not found at great heights, as, for instance, the African tsetse fly, which cannot live above about 4,000 ft. On the other hand, when considerable heights are reached the air becomes very rarefied, and is liable to affect the action of the heart.

Having considered the climate of a place from all available points of view, it is possible to form some opinion of its healthiness for Europeans relatively to other places in respect of which statistics are available. This enables an estimate to be made of the requisite extra charge, and it is hardly necessary to point out that this estimate should be on the safe side in the interests of the remaining policy-holders.

Before coming to a final decision, however, regarding an extra premium, the proposer's occupation must receive due attention, as this is often important in indicating the exact nature of the risks to be incurred, and even the districts which he is likely to visit. For instance, a railway engineer proceeding to East Africa to survey with a view to railway development, would cover most of the country, both high and low, and would not be deterred from visiting unhealthy parts merely on account of their reputation. In addition, he might well meet with big game at times. As another

example, a big-game hunter proceeding to India would visit the jungles, which are undoubtedly the most unhealthy parts of the country, a fact which should be considered in addition to the normal risks of such an occupation. Finally, it may be mentioned that the dangers of visits to the Arctic regions depend very much upon their object. A fish merchant proceeding to Lapland would be a much less serious risk than an explorer endeavouring to reach the North Pole.

The seasons, also, are a factor in the case. The West Indies, for example, are fairly healthy in our winter months, but during the rainy season (about June to December) the climatic risks are more serious. India, also, is more healthy as a whole, from about October to May, although this varies to some extent in different parts.

It will be seen from the above considerations that it is no easy matter to fix the amount of extra premium for a particular place, and life offices do not generally attempt to make any fine distinctions. In some instances, it is true, considerable subdivisions are made, but in most cases very large areas are grouped together for the purpose of extra premiums. For instance, although a few offices make a distinction between residence in different parts of India, the majority charge the same extra premium for the whole of India and even, in some cases, for the whole of the tropical east. Proposers are commonly of the opinion that their particular place of residence is unusually healthy, but even if it should appear that they are correct, it is hardly practicable to make exceptions, and they must pay the extra premium which, in the opinion of the office, is applicable to the large group to which they belong.

**Extra Premiums for Various Countries and Latitudes.** The extra premiums charged for residence in different parts of the world vary so considerably between the different life offices, that it is quite impossible to state definitely what is the extra premium for any particular place. The figures given below must, therefore, be considered to be the annual extra premiums most commonly charged, and to be subject to considerable variation in practice.

It should also be observed that in some cases a slightly lower extra premium would be quoted for endowment assurances. In the case of double endowment assurances, it is the very general practice to waive extra premiums for residence where they do not

exceed (say) 20s. per cent per annum, but, usually, some limit is placed on this regulation. For instance, it would not usually apply to cases where the age at maturity exceeds 65.

Refunds of extra premium are usually allowed for periods spent within the free limits, and the extras are commonly removed on permanent return to a healthy climate. Smaller extras are sometimes quoted, in respect of which refunds are not allowed.

In the matter of extra premiums consideration must also be given to political conditions, and where these are unstable the extras quoted would no doubt be increased.

It is the practice of some offices to limit the total number of years' extra premiums payable in respect of any one policy, and when the maximum amount has been paid, further residence is permitted free.

#### The Continent of America.

UNITED STATES. Usually free, but 10s. per cent sometimes charged for parts of *California, Arizona, New Mexico, Texas, Louisiana, Mississippi, Alabama, Georgia, South Carolina, and Florida.*

MEXICO. Lowlands, 20s. per cent to 40s. per cent. Tablelands, 20s. per cent.

CENTRAL AMERICA. 25s. per cent upwards.

SOUTH AMERICA. *Guiana, Venezuela, Colombia, and Ecuador*, about 25s. per cent. *Exceptions*.—*Bogota* (Colombia), 10s. to 20s., in view of altitude; *Barranquilla* (Colombia), up to 40s., in view of heat; *Quito* (Ecuador), as for *Bogota*. Special terms for pioneers.

*Peru*. 20s. per cent (but *Arequipa* about 10s. per cent, in view of altitude).

*Bolivia*. 10s. per cent for occupied parts. Heavy extra for pioneers.

*Chile*. Free south of 30° S. lat. (say *Coquimbo* southwards). North of 30° S. lat., 10s. per cent.

*Argentina*. Free south of 30° S. lat. North of 30° S. lat. free to 10s. per cent.

*Paraguay*. 10s. per cent, but more for pioneers.

*Brazil*. South of 30° S. lat. (including *Porto Alegre*) free. From 13° S. lat. to 30° S. lat. about 10s. per cent. *Rio de Janeiro* is sometimes free.

North of 13° S. lat. 20s. per cent, but more is sometimes charged for *Para* and *Manaos*.

(NOTE. The extras for *Brazil* apply to the big towns only. Inland the conditions are sometimes very bad and the extra would depend upon circumstances).

THE WEST INDIES. General extra from 15s. to 20s. per cent.

*Exceptions*—*Barbados*, 10s. per cent; *Bahamas*, 10s. per cent; *Haiti* and *San Domingo*, 20s. per cent.

The remaining parts of the continent are usually free, but an extra premium might be required in special circumstances, such as an exploration of the remoter parts.

#### The Continent of Africa.

NORTH AFRICA. *Morocco, Algeria, Tunis, and Tripoli*, free.

*Egypt* north of 22° N. lat. (or north of second cataract) free. South of this limit about 20s. per cent.

*Anglo-Egyptian Sudan*, 20s. per cent.

*Abyssinia* and *British Somaliland*, 20s. per cent.

EAST AFRICA. *British East Africa* (*Kenya, Uganda and Tanganyika Territory*). *Nairobi* and near surrounding highlands, and *Uasin Gishu Plateau*, free to 10s. per cent. Remainder, 20s. to 40s.

*Zanzibar* and *Pemba*, 40s. per cent upwards. *Portuguese East Africa*. 40s. per cent, except, perhaps, *Beira*, 20s. per cent, and *Lourenço Marques*, free.

CENTRAL AFRICA. *Nyasaland*. *Nyika plateau, Mlanje plateau, Zomba plateau* and *Blantyre district*, 25s. per cent upwards. Lowlands, 40s. per cent upwards.

SOUTH AFRICA. *Northern Rhodesia*, 40s. per cent. *Southern Rhodesia*, chief towns free; remainder 20s. per cent to 40s. per cent, according to conditions.

*Union of South Africa*, free.

*South-West Africa* (formerly German South-West Africa), usually free.

WEST COAST. *French Senegal, Gambia, Portuguese Guinea, French Guinea, Sierra Leone, Liberia, French Ivory Coast, Gold Coast Colony, and Ashanti Protectorate, Togoland, French Dahomey, Nigeria, The Cameroons, French Congo, Belgian Congo, and Spanish West Africa*. Maximum extra £10 10s. per cent, most common extra probably £4 4s. per cent. A few offices vary the extra according to the district. Lowest extra, £3 3s. per cent, limited to 5 years' payments.

SOUTH-WEST COAST. *Portuguese West Africa*, £3 3s. to £4 4s. per cent on coast and lowlands. Uplands, 20s. per cent to 40s. per cent.

#### The Continent of Asia.

ASIA MINOR, i.e. *Anatolia, Armenia, Georgia, and Azerbaijan*, usually free.

TRANS-CAUCASIA, free.

SYRIA AND PALESTINE. Usually free, but occasionally only from November to April or May.

IRAQ (or IRAQ), formerly Mesopotamia, 15s. per cent and sometimes 20s. per cent for ports on Persian Gulf.

ARABIA. 20s. per cent.

PERSIA. 15s. per cent to 20s. per cent, but 40s. per cent for Persian Gulf ports.

AFGHANISTAN. 15s. per cent to 20s. per cent.

INDIA, etc. About 12s. 6d. per cent; or 20s. per cent, limited to five years' payments. Hill stations and Northern India, sometimes free. *Assam* and *Burma*, probably 20s. per cent.

CEYLON. About 15s. per cent or same as India.

INDO-CHINA (or FURTHER INDIA). *Siam*, *Straits Settlements*, *Lower Cochín China*, *Cambodia*, *Annam*, and *Tongking*. 15s. per cent to 20s. per cent.

MALAY ARCHIPELAGO. 15s. to 20s. for British and American islands, 20s. upwards for remainder. Sometimes limited to five years' payments.

CHINA. Treaty ports (*Hong-Kong*, *Shanghai*, *Canton*, *Amoy*, *Fuchow*, *Ningpo*, *Wei-hai-wei*, *Tientsin*, *Hankow*, *Macao*, and a few others of less importance), 10s. per cent, but *Shanghai* sometimes free. Remainder 20s. per cent, except *Pekin*, which would be 10s. per cent, or free.

MANCHURIA AND KOREA. Usually free.

TIBET. Quotations rare; not less than 20s. per cent.

MONGOLIA, CHINESE OR EASTERN TURK-ESTAN, SIBERIA AND RUSSIAN CENTRAL ASIA (TURKESTAN), about 20s. per cent.

JAPAN. Free.

FORMOSA. 20s. per cent.

#### The Continent of Australia.

Usually all free, but sometimes north of 20° S. lat., or north of Tropic of Capricorn, about 20s. per cent.

OCEANIA. *New Guinea*, 20s. per cent upwards; *Thursday Island*, 20s. per cent.

*Melanesia* and *Polynesia* (groups of islands in Pacific Ocean, including Fiji). About 20s. per cent.

**Arctic and Antarctic Regions.** It is hardly possible to quote extras, as each case would depend on circumstances.

#### CLOSED FUNDS.

A closed life assurance fund may be defined as a fund which is relieved of the necessity of seeking new members—or new

business, as is more usually said—and is therefore solely concerned with the collection of premiums from existing members or policy-holders, and in paying claims, and otherwise meeting the liabilities under existing policies, until such time as every contract has been satisfied, when in theory the fund should exactly be exhausted, no deficiency having been experienced in completely meeting the obligations, and there being no surplus remaining from the assets after the obligations had been provided for.

The final extinction of the fund without surplus or deficiency would, however, be dependent on the rates of interest, mortality and expenses experienced being precisely those provided against, and upon there being neither loss nor gain on the invested funds; and these are conditions which in practice are virtually impossible. Rates of interest and expense, and the values of securities are subject to variations resulting from causes quite beyond control; and mortality, which in normal conditions may be relied on to conform with reasonable approximation to a mortality table suitably selected, is, as will presently be seen, influenced by unusual conditions in a fund that is being worked out as a closed account.

Life assurance, in common with all other classes of insurance, is based upon the combination of the interests of a sufficient number of individuals to secure the smooth working of the principle of average. It is essential that this equilibrium should be maintained, and normally it is a necessary part of the business of a life office to be continually seeking new members to replace the wastage occurring among its policy-holders as the result of claims, surrenders and lapses. Should it for any reason be found necessary to cease writing new business, the separate existence of the office would sooner or later involve the probability of violent fluctuations in the mortality experienced as the number of persons assured diminished and the principle of average ceased to function properly; and while it is possible that these fluctuations might ultimately work out in favour of the fund, allowing of a margin or surplus after all obligations had been fulfilled, it is at least as likely that the reverse would be the case, and that those policy-holders whose policies were the last to determine might have to submit to a reduction in the amount of payment to which they were properly entitled.

The matter is further complicated by the

indefinite nature of the contract of a participating policy-holder under which bonuses, though not specified in amount, are contemplated as an inherent condition of assurance. In such contracts it is generally provided that the assured shall be entitled to a specified percentage of such surplus as the directors may consider available for distribution from time to time, the total surplus in any event being dependent on the basis of valuation adopted by the actuary in assessing the liabilities. While, therefore, fluctuations arising from dwindling numbers, variations in interest and expense rates, and appreciation and depreciation in the value of securities, might operate in favour of the fund, it is clear that at the best the question of which way the balance would eventually lie must remain in uncertainty until the majority of policies had determined, and the fund had been almost worked out to extinction; so that the actuary in selecting his basis of valuation, and the directors in deciding how much of the surplus disclosed should be divided, would be compelled to retain substantial sums in hand against possible eventualities, and this would reduce the bonuses that could be allowed. It is evident, therefore, that the question of closing a life fund is closely associated with that of the bonuses to be allowed to participating policy-holders, and with the basis of valuation adopted in arriving at the surplus.

The circumstances that might lead to the closing of a fund may be broadly classified into those rendering the step necessary and those making it expedient. A fund may be reduced to the condition where the only alternative to seeking protection for its policy-holders in closing the fund would be insolvency, or it may receive offers from another company for the transfer of its business which are too tempting to be declined. Reasons of necessity may arise through insufficiency of premium charges, faulty underwriting, losses on investments, excessive expenditure, and ineffectual management. The first two of these may be dismissed as of little account. Very seldom indeed has it happened that a life office has found itself in difficulties for either of these reasons. Losses on investments though not primarily a cause of any frequency, may indirectly have considerable influence, for with serious reduction in bonuses that may easily result in this way will come increased expenditure in securing new business, and excessive expense is the main cause for life

offices having been compelled to cease operating as separate units. Lack of vitality in the management has sometimes led to a curious condition of stalemate, when increasing difficulty has been experienced in maintaining the reputation of the office. Reasons of expediency may arise from a combination of circumstances under which an opportunity presents itself for securing exceptionally favourable conditions for existing policy-holders in exchange for handing over the assets and liabilities to another company; or when through increasing competition an office is finding it hard to maintain its prestige, and it may well be to the advantage of the policy-holders for the funds to be closed before a serious set-back has taken place, while still the office is in a position to demand favourable terms.

From what has already been said, it will be clear that to close a fund without providing outside support to tide it over difficult periods which may be encountered during the time it is being worked out, and which though possibly purely of a temporary nature may yet have serious results, would be a proceeding of very doubtful wisdom, if not of impossibility. Consequently, the closing of a fund is arranged by transferring the assets and liabilities to an assurance company that is still active.

Transfers are to be distinguished from amalgamations in that the assets and liabilities transferred are retained by the accepting company entirely separate from its own business, so that the fund is worked out as a closed account possessing, in the event of its assets proving insufficient to meet its obligations, the additional protection of the resources of the company to which it is transferred.

The interests of the policy-holders in matters of this kind are protected by the Assurance Companies Act, 1909, which provides that before any transfer can be effected the directors of one or other or both of the companies involved must make petition to the Court for its sanction to the proposal, and that before such application can be made notice of the intention must be published in the *Gazette*, and a statement of the nature of the transfer, together with an abstract containing the material facts embodied in the proposed agreement, with the actuarial reports upon which the proposal is based, and a report from an independent actuary must, unless the Court otherwise directs, be sent to each policy-holder in both of the companies; also that

the agreement or deed under which the transfer is to be effected must be open for the inspection of the policy-holders and shareholders at the offices of the companies for a period of fifteen days after the publication of notice in the *Gazette*. These conditions fulfilled, the Court will hear the arguments of the directors and any person whom it considers entitled to be heard upon the petition, and, if satisfied that no sufficient objection to the proposal has been established, may sanction the transfer. Policy-holders have thus the right of appearing before the Court and raising objection to the transfer if they so desire.

Normally the rights of the participating policy-holders are determined by the Articles of Association or other document under which the constitution of the company is effected, where the percentage of available surplus to which they are entitled will generally be stated, as also the discretionary powers of the directors in determining the basis of valuation, how much of the surplus shall be divided, and the form which the distribution shall take. When the business is transferred to another company the effect of the transfer on the rights of the participating policy-holders will be embodied in the agreement or deed under which the transaction is carried through. The policy-holders would therefore be parting with their original rights in exchange for an entirely new arrangement, and the terms which they would obtain on the exchange would be a matter for negotiation between the two offices, and would largely depend on the financial strength of the office to be transferred and the value of its "goodwill."

Apart from the condition of the fund at the time it was transferred—that is, the relationship between its assets and its liabilities—the future prospects of the policy-holders would depend mainly upon the terms which had been accepted from the company to which it was transferred. So far as the meeting of the bare liability, i.e. the sum assured and any attaching bonus at the time of transfer, is concerned, if the assets handed over to the accepting company are sufficient to provide adequate reserves, it may be assumed that the result of the transfer will be to leave the position of the policy-holders at least as strong as it was before. If, on the other hand, adequate reserves were not forthcoming, the situation might be dealt with in a variety of ways; unpaid capital (if any) of the company to be transferred might be called up to make

good the deficiency, or the accepting company might make up the reserves, balancing the value of goodwill against the cost of so doing, or possibly the contracts might have to be scaled down.

Assuming that adequate reserves were handed over, and the bare liability was therefore at least sufficiently provided for, the interest of the policy-holders in the office to be transferred would centre chiefly in the effect of the transfer on the future bonus prospects, and bonuses being dependent on the experience in mortality, interest, expenses, and the profit or loss on invested funds, it will be convenient to examine this question under these headings.

**Mortality.** As already remarked, one effect of ceasing to write new business is that eventually, with reducing numbers, serious fluctuations in mortality experience might be expected. This, however, does not of itself mean that the mortality experience would be adversely affected by the transfer, but only that the number of policy-holders remaining would be insufficient to secure the smooth working of average. As a general rule, it may be assumed that this difficulty would be got over by merging the few remaining policies with those of the accepting company, and frequently this is provided for in the transfer agreement, the opinion of an independent actuary sometimes being required to decide when the merger should take place. The terms on which this final step would be carried through cannot very well be determined in advance, as they would, to a great extent, depend on the conditions existing at the time.

Such phrases as "on an equitable basis," etc., would therefore generally be employed in the transfer agreement to cover this point, and this necessarily leaves the ultimate position of the policy-holders rather poorly defined. This point will be considered later.

The closing of the fund would, however, tend to reduce the profit from mortality owing to the loss of profit from the lighter mortality of new policy-holders during the few years following their entry into the fund; but normally this loss would be comparatively insignificant, and more than counterbalanced by reduction in expenses, as to which see below.

If, however, the transfer was necessitated by unsatisfactory conditions involving the prospect of reduced bonuses for a time at least, or actual reduction of the face value of contracts, it is possible that young and

vigorous lives might seek assurance elsewhere, the proportion of lives in impaired health remaining assured being thus increased with a consequent adverse effect on the mortality experience. Such a state of things could only be expected under unusual conditions. Generally speaking, therefore, the effect of a transfer would be to tend slightly to diminish mortality profit, but the effect would be comparatively unimportant.

**Interest.** Interest profit would not be materially affected. So far as existing funds were concerned, no change would result so long as the basis of valuation remained unaltered (see below), and the only disadvantage in respect of any accumulating funds would be that should interest rates obtainable rise, the fund would not have so much money coming in wherewith to take advantage of the more profitable investments. Interest rates, on the other hand, might fall.

**Expenses.** Excessive expenses in conducting the business being one of the main reasons for an office seeking to transfer its risks and close its funds, it is natural that this item should figure very prominently in the conditions of transfer arranged between the two offices. As a rule, one of the terms of such agreements is that the accepting company undertakes to administer the business of the transferred fund at a cost equal to a fixed percentage of the premiums collected each year after deducting re-assurance of premiums. Taking a few examples at random for the purpose of illustration, a fund in which expenses had averaged 16 per cent for a number of years, and which was faced with a strong probability of an increase rather than a decrease in this item, was transferred on the understanding that it should be worked out at a level rate of 10 per cent. Another, in which the expenses had averaged 17 per cent, was taken over on the same terms, an immediate economy of £14,000 per annum being thus effected; while yet another secured in this way a saving of £10,000 a year.

The reason for this is sufficiently obvious: the expenses of prosecuting the search for new business, involving branch offices and other costly organization, as well as the payment of heavy initial commission to agents and fees to medical examiners, are avoided, the accepting company incurring no expense in working out the fund other than in the collection of premiums from existing policy-holders and in the payment

of claims and surrender values; and the staff for handling this work in many cases is available in its own office. Overhead charges, such as rent, rates, and taxes, would be materially reduced. The benefit of these economies would for the most part go to the policy-holders of the transferred fund, and would be reflected in improved conditions with larger surpluses.

One other aspect of this question must be mentioned. Except in a few minor classes of assurance, which may here be ignored, a level premium is charged throughout the period set for premium payments. The expenses incurred in connection with the policy are, however, much heavier in the first year of assurance than in any other year. The large initial commission, the fee to the medical examiner, the stamp duty, and the proportion of the new business salaries that may be debited against the policy, all make up a heavy charge at the inception of the policy, which at best will absorb a large part of the first year's premium. For reasons which need not here be considered, the majority of life offices have adopted the system of valuation known as the "net premium valuation," which necessitates the setting up of high initial reserves. In the first year of assurance, therefore, the company is faced with a doubly difficult situation; on the one hand, it has to meet expenses which absorb the greater part of the premium, often leaving little or nothing to cover the risk that is to be undertaken, and on the other hand it has to set up a substantial reserve out of the first premium received. This creates a considerable strain upon the office, which is met by payments out of the funds or income accruing from policies already in force, and these payments are in the nature of advances without interest, which are eventually to be repaid out of the premiums received from those policies in respect of which the advances have been made. Thus a company transacting new business has constantly considerable funds employed, which would otherwise be taken into account in ascertaining the amount of surplus available for distribution. This, of course, tends to depress the bonuses allotted, and one of the questions that has been attracting considerable attention of recent years is the effect of new business in thus reducing profits. The immediate effect of ceasing to write new business is to put a stop to further advances of this nature. This of itself is a material relief to existing policy-holders,

making for increasing bonuses, and as with the passing of time the sums already advanced are repaid out of premiums, other things being equal, the position would tend still further to improve.

**Profit or Loss upon Invested Funds.** Whenever a valuation is made to determine the amount of surplus for distribution, it is essential that the securities in which the funds are invested shall be reviewed in the light of market prices. In this connection it is important to observe that whereas it has always been considered sound policy to write down (or otherwise provide against) the value of securities to existing market values, should it happen that the valuation was being made at a time when book values had depreciated, the contrary practice of writing values up when they have appreciated has always been looked on with very general disfavour. In this way it will often happen that a life office has a hidden reserve in respect of the amount by which the market values of its assets exceeds the value at which they are included in the balance sheet. Normally, in a company continuing a separate existence, this hidden reserve will gradually be set free for distribution amongst the policy-holders as securities are sold or redeemed, but the process would be a very slow one; or it might eventually be reduced or even altogether wiped out by changes in market conditions resulting in falling values. The point is of especial importance in view of the disturbance arising during the European War of 1914-1918 and in the years immediately following the cessation of hostilities. In this period the experience was altogether abnormal: the fall in values of securities occurring during the war was exceedingly heavy, necessitating the withholding of large sums from surplus in order to provide against the depreciation: the recovery in values in the years following the cessation of hostilities was remarkably rapid and complete, and this sudden drop in values followed by an almost as sudden recovery, arising out of altogether unprecedented conditions in the world's affairs, resulted in a very unusual state of things, wherein the holding of substantial hidden reserves became the rule rather than the exception.

What, then, is the position under a closed fund which is transferred with an existing hidden reserve of this kind, or which by reason of the increase in value of its investments acquires one after having been transferred? Once the fund is closed, the length

of time over which a forecast of the future is required is immediately reduced. Instead of having to look forward indefinitely, aiming at providing against any eventualities that may arise, it is only necessary to consider the period covered by the possible duration of the youngest whole life policy-holder on the books; and while this at the outset might still be considerable, it would be constantly decreasing. To hold up the hidden reserve until only a few policies remained would obviously be inequitable; for, assuming that no serious depreciation occurred in security values in the interim, the surplus resulting in the later years might be out of all proportion to the number of policies amongst which it would be divided. Moreover, the surplus would principally have arisen in respect of the contributions of the older policies, the greater number of which would have determined before receiving any benefit from the exceptional surplus that they had created. On the other hand, depreciation in security values would still be a possibility that would require to be faced. Under such circumstances the tendency would be to take a less conservative view of the future than would be taken if the fund were still active, and the hidden reserve would presumably be realized and distributed as rapidly as circumstances would permit. That at any rate would be the ideal to be aimed at. Indeed, where the fund had reached the stage where outgo in claims, surrenders, and expenses was no longer covered by income in premiums and interest, realization of securities would be essential, with the consequent setting free every year of part of the hidden reserve. This is a point of the first importance in the administration of closed funds, and the spectacular bonuses which have been allotted in some cases in recent years have largely resulted from recovery of security values which had been drastically written down during the war period, the money withheld from surplus to effect this writing down being suddenly and rather unexpectedly returned, so that it became necessary to hand it back as far as was possible to those policy-holders from whom it had originally been taken.

**Basis of Valuation.** The basis of valuation has already been touched on indirectly, and it is now necessary to consider it in rather more detail. The valuation reserves held by a life office against its liabilities are determined not only with the purpose of securing the solvency of the fund, but also

with an eye to the maintenance and possible increase of bonus rates and provision against adverse conditions that may be experienced, such as a falling rate of interest on invested funds, heavier mortality, and the comparatively heavy expenses incurred in running the business as a separate concern. It is customary, therefore, to employ in the calculations of the reserves an aggregate table of mortality and a rate of interest substantially below that which is being earned on the average on the fund, while when the net premium method is followed, as is very generally the case, no credit is taken for the whole of the difference between the valuation premium and the premium actually received from the policy-holder.

Taking this last item first, and assuming for the sake of simplicity that the assets handed over on transfer were sufficient to provide the reserves brought out by a net premium valuation, such as would normally be made by an independent life office, the provision made for future expenses would be larger than would be required after the fund had been closed. If it were decided to maintain the valuation at the same basis after the closing of the fund, the large reserves thus brought out by the operation of interest would tend to increase bonuses. If, on the other hand, it were decided to adopt a less stringent basis of valuation, the excess provision would immediately be set free, and could be utilized, subject, of course, to the discretionary powers conferred on the directors of the accepting company under the transfer deed, either in immediately providing increased bonuses or as a reserve fund for the benefit of policy-holders, to be employed in such manner as circumstances should render desirable.

This last point is more readily seen if the effect of the net premium valuation is briefly considered. The system of valuation most generally adopted, and virtually necessitated by the nature of the returns called for under the Assurance Companies Act, 1909, is known as the prospective method. It consists in balancing the present value of the payments to be made by the office under its policies, according to the rates of interest and mortality adopted, against the present value similarly determined of the valuation net premium that the office may expect to receive in the future in respect of those policies, the latter deducted from the former giving the amount that the office must retain in hand. If the premium payable by the policy-holder be represented by

$P$ , and the valuation net premium by  $\pi$ , the office in making its valuation would assess the present value of the future premium payments by crediting itself with the net premium only in respect of every policy on the books. In symbols the reserve under a policy would then be expressed —

$$(S + B)A - \pi \times a$$

where  $S$  is the sum assured,  $B$  the bonuses attaching at the time of valuation,  $A$  the present value of a unit of the sum assured on the basis of interest and mortality adopted, and  $a$  the present value on the same basis of an annuity of unity commencing at once and continuing during the remaining currency of the policy.

Now it is clear that the office here has not taken credit for  $S(P - \pi)a$ , this sum being held against future expenses, and part provision of bonuses in the case of participating policies. But, as has already been explained, one of the immediate results of closing a fund by transfer to another company is a material reduction in expenses, so that if  $S(P - \pi)a$  was sufficient provision before the fund was closed, something less than this, possibly something very much less, is all that would be required afterwards. If the reserves were to be maintained at the same level relatively to the demands to be made upon them, as they were before the closing of the fund, it would therefore be necessary for the office to take credit for more than the bare net valuation premium. In other words, smaller reserves could be held without in any way affecting the provision made for maintaining bonuses and providing against possible adverse conditions; and the difference between the reserves that had formerly been held and the reserves on the new basis might be at once liberated if the basis of valuation were changed. If it were not so liberated, it would merely remain in the reserves, and as the demand to be made upon the reserves would not be affected by the basis of valuation adopted, it follows that the sum would be accumulating at interest, the interest in excess of the rate assumed in the valuation going to the immediate increase in surplus, while the excess reserves would, in the long run, be set free, either by an alteration in the valuation basis nearer the exhaustion of the fund, when the surplus released would have an accentuated effect upon the bonuses by reason of the reduced number of policies then remaining, or else be absorbed into the funds of the accepting company on the

merger of the interests of the two funds, in which case the remaining policy-holders of the transferred fund should receive adequate compensation, or else, if the transfer agreement so stipulated (see below), would become the property of the accepting company.

As regards the rate of interest employed, there would be no reason for any alteration. The excess interest earned, over and above that assumed in the valuation, is mainly required for bonus purposes, and would still be necessary, excepting in so far as the reduced expenses might permit of a less provision in this respect.

Mortality, as has been seen, would tend to deteriorate, so that no alteration would be likely in the table employed.

With the closing of a life assurance fund there is necessarily an alteration in the point of view of the management. The scope becomes limited, the objective definite, and attention is centred on the task of working out the fund to the best advantage of all concerned and the maximum of equity to the policy-holders. It is important then to observe the provisions in the transfer agreement covering the period of final extinction, and the discretionary powers of the directors of the accepting company in this respect and in the general management of the assets. The point has already been mentioned, but is deserving of some further consideration. An examination of a number of such agreements suggests that though classification is far from easy, they may be roughly divided into those which apparently assume there will be little or no surplus remaining over on settlement of the final claim or which are so drafted that the presumption is that, if any such surplus is likely, it is to be considered the property of the policy-holders of the closed funds, and must be so treated in any arrangement for the merging of the few remaining policies with the business of the accepting office; and those which either expressly or by inference contemplate the possibility of a surplus, and provide for its becoming the property of the accepting company. So many varying factors must be taken into account in drafting the conditions of such agreements that any great uniformity of practice is out of the question. It may, however, be assumed that with the protection of the policy-holders' interests that is provided under the Assurance Companies Act, 1909, which entails a report by an independent actuary on the terms of any

agreement proposed, whichever form the final step in the extinction is to take, the probable result, so far as that can be foreseen at the outset, would be much the same, provided the accepting company conscientiously endeavoured to effect the extinction with strict equity. With the passing of time and the changing of conditions, however, it is, of course, possible that the two arrangements might work out very differently.

In any event, it is not possible to lay down conditions in the transfer agreement to cover every set of circumstances that may be experienced in working out the fund, and wide discretionary powers must, for this reason, be conferred on the directors of the accepting office. The proportion of divisible surplus to be taken by the participating policy-holders will almost certainly be specified. Frequently it is the same as before the transfer; sometimes it has been increased; but the decision of the directors of the accepting office as to how much of the surplus is to be considered divisible will generally be final. Sometimes one or two of the directors of the transferred office are appointed to the board of the accepting company as a protection to the transferred policy-holders, but their usefulness must be very much restricted, as they would generally be very much in a minority. In any event, this representation of the transferred policy-holders may disappear by death or retirement. Under such circumstances it would seem that in agreements of the second category mentioned above there is a conflict of interests between the policy-holders of the two companies, presided over by a board composed wholly or mainly of the directors of the accepting company; and, while the standard of equitable treatment that is maintained by the management of life offices is a matter of common knowledge, and reflects the greatest credit on the business as a whole, it may be doubted whether such an arrangement is to be commended on principle.

Discussion of the position of the shareholders (if any) of the transferred fund is not contemplated here. It is essentially a question of finance rather than insurance, and involves so many different and varying problems that adequate treatment is impossible in the space available. The principle underlying the arrangement must, of course, be that appropriate compensation must be awarded for any loss occasioned, and, vice versa, the cancelling of any liability

must be taken into account in arriving at the terms to be offered. Frequently the arrangement is carried through by an exchange of shares.

The subject has now been largely covered ; but much necessary explanatory detail has so far disconnected the thread of the inquiry that a summary of the more salient features is advisable.

The most obvious results of closing a life fund by transfer of its business to another company may be set down as follows—

1. Difficulties in connection with fluctuations in mortality experience arising from diminishing numbers is avoided. In this connection it is to be noted that cessation to write new business, or at any rate sufficient new business to replace wastage to the full, may result involuntarily through inability to obtain it except at a prohibitive cost.

2. The security may be improved.

3. Expenses would be materially reduced.

4. The strain upon the fund occasioned by the writing of new business would cease, and money advanced in this way would gradually return to the fund.

5. Distribution of any hidden reserve, such as would arise through appreciation in security values, or the holding of unnecessarily large reserves, would be accelerated.

6. A less stringent basis of valuation than was previously employed might be possible ; failing which excess interest earned over and above the rate assumed in the valuation would go to swell surplus, and the excess reserves would eventually be set free either for the benefit of the few remaining policy-holders or for the accepting company, according as it was provided in the transfer agreement.

7. By limitation of the scope of the fund and definition of objective, a forecast of the future is facilitated, with the result that a shorter and less conservative view is possible in valuing both assets and liabilities.

8. Mortality will normally tend to deteriorate slightly owing to the cessation of the writing of new business, but if the transfer were occasioned by unsatisfactory conditions existing in the fund, involving the prospect of reduced bonuses for a time at least, and possibly a reduction in the face value of contracts, the mortality experience might be seriously affected by the withdrawal of young lives who could obtain assurance elsewhere on more advantageous terms. •

9. The balance of the fund on extinction may become the property of the accepting office.

10. There is a possibility of conflict of interests between the policy-holders of the closed account and those of the accepting office, and this would be presided over by a board composed mainly, if not entirely, of directors of the accepting office.

11. Should investment rates of interest rise, a closed fund would be largely restricted in its means of profiting thereby.

Points 1 to 7 inclusive are all arguments in favour of closing funds, indicating benefits to policy-holders of the transferred fund. Points 8 to 11 are contrary arguments, which have no bearing on the immediate situation, and in any event do not appear to carry a great deal of weight. So far as deterioration in mortality is concerned that is, deterioration caused by withdrawals, it may safely be said that if a fund were to get into such a bad state that the transfer could only be negotiated on such terms, the result would hardly be improved by attempting to maintain a separate existence. True, the terms of transfer, by emphasizing the unhealthy condition of the fund, might accelerate withdrawals, but against that must be reckoned that if a separate existence were maintained the difficulty and added expenses of securing new business could hardly fail to aggravate the situation, so that in the long run the loss would be greater than if the difficulty were squarely faced in the first instance.

It is clear, then, that normally the closing of a life fund will operate in favour of its policy-holders, with a consequent increase in bonuses, and examination of the results that have been achieved in this way confirms this ; for not only has this promise been generally fulfilled, but sometimes the results have been spectacular. For example, a company which, valuing on the O<sup>m</sup> table, with 3½ per cent interest in 1916, disclosed a very trifling surplus, from which no bonus could be declared, and which according to the independent actuary's report could not hope to hold its own in the field of competition for new business, except at such cost as would make that business a disadvantage rather than an advantage to existing policy-holders, and which, further, in pre-war conditions had twice had to pass its bonus within a space of twenty years, within the comparatively short time of ten years after being transferred as a closed fund had so far improved that it was able to declare a simple reversionary bonus of no less than £6 per cent per annum. Another company valuing by the O<sup>m</sup> table with 3 per cent

interest in 1915, and making no bonus declaration at that time, within eleven years after transfer declared a bonus on the compound basis of £4 per cent per annum. These are, of course, exceptional results, arising largely from a recovery in security values; but it is safe to say that had separate existence been maintained, bonuses at these rates would not have been possible, and the truth of this is forcibly illustrated when it is considered that offices which in 1915 and 1916 respectively were in a very much stronger position than either of the two companies referred to above have not declared bonuses even nearly approaching those which have been allotted to the policy-holders in the two funds that have ceased to be active.

Here, then, is a somewhat paradoxical state of affairs which might well lead one to conclude that the cessation of the writing of new business and the closing of funds are generally to be advocated, and this undoubtedly is an argument that is not easy to dispose of in theory. It must, however, be remembered that the wisdom of taking such a step in regard to any particular company must depend upon the situation existing at the time the step is contemplated, and there being several factors to be considered in summing up the position, a proper decision must rest on the outcome of balancing them one against the other, with an eye not only on the immediate future, but also on the results that may be expected perhaps many years after the transfer had been carried through. For example, an office that had been passing through a difficult time and had just turned the corner could probably obtain better terms for its policy-holders by maintaining a separate existence for a time at least, than if it were to accept an offer for immediate transfer; and in such matters the decision must presumably be made in the interests of the majority of the policy-holders in number and amount of sum assured. Moreover, in all that has hitherto been said the relative skill of the management of the two companies involved in a proposal for transfer has been disregarded. But in practice it is very necessary to remember that the management of the assets of the transferred company would pass to the directors of the accepting office, and that the skill with which it was handled would have a great bearing on the benefits that the policy-holders would receive. While, therefore, from a purely theoretical examination of

the question the closing of a life fund must generally result in improved conditions for its policy-holders, it is clear that other practical considerations may largely qualify this conclusion. Besides which, because an office can obtain improved conditions for its policy-holders by agreeing to a transfer, it does not follow that it would be acting wisely in so agreeing. It is quite possible that better terms might be obtained at a later stage in its history.

One other aspect of this matter requires to be stated. Life offices have a duty to perform to the State. They are not purely trading concerns, and their existence unfettered or practically unfettered by government control depends on that duty being carried out. The public in Great Britain is very largely under-insured, and anything that would tend to diminish the campaign for a greater appreciation of life assurance as a primary necessity is very much to be deplored. Wholesale closing of life funds is in any event impractical. The terms to be obtained on transfer depend on the demand for funds to be taken over, and if the supply were unduly augmented the conditions on which the transfers could be effected would become less advantageous, so that the disease would itself provide the cure.

#### COLITIS (Inflammation of the Large Bowel.)

This may be due to irritation from bacterial or other poisons.

The symptoms are tenderness along the line of the bowel, and diarrhoea, sometimes alternating with constipation. The passage of mucus in the stools is very common.

It is only in cases where the attack of colitis dates back for two years or more, and there has been no recurrence of symptoms, and the medical examination is satisfactory, that the proposal may be accepted.

Such cases do not, as a rule, demand any increase in the premium.

More recent cases must be postponed, or, if the condition, as is frequently the case, has been chronic for many years, declined altogether.

#### COLLATERAL SECURITIES.

Collateral securities, e.g. policies of life assurance, for a mortgage debt must be assigned expressly; they do not pass under general words, giving the transferee the benefit of the mortgage security. Unless the transferor has agreed to hold them for the

transferee he will, on being paid off in full by the transferee, hold them in trust for the mortgagor.

Policies effected by a mortgagee are not redeemable unless the debtor is charged with the premiums, and the policies are treated as part of the security; but where there is a contract that the policy may be redeemed, the mortgagee cannot dispose of it. In *Pennell v. Millar* (1856, 23 Beav. 172), it was held that a mortgagor of policies of assurance or the vendor of a reversionary interest, who had assigned policies to the purchaser which the mortgagee or assignee had kept on foot at his own expense, has no claim upon them, or the produce of such of them as have been sold, when the security or sale had been set aside, on the ground that, the contract under which they were kept up having been declared void, no obligation arose out of it between the parties, and the result was the same as if the mortgagee had kept up the policies for his own pleasure.

A mortgagor has no claim to policies kept up by the mortgagee if the mortgage is set aside. A mortgagor may be entitled to the policy on discharge of debts by agreement expressed or implied.

Where a mortgagee of real estate holds a life policy by way of collateral security for a debt, the proper course is, first, to realize the collateral security and then to proceed to foreclose the mortgage for the balance of the debt; otherwise the mortgagee might retain the benefit of the collateral security (*Dyson v. Norris*, 1842, 1 Hare 413).

Where by a mortgage deed, realty and a policy of assurance were conveyed and assigned respectively to the mortgagee as one indivisible security for the mortgage debt, and subject to one and the same proviso for redemption, then, when the mortgagor's right to redeem the realty has been barred by the Statute of Limitations, his right to redeem the policy has also gone, because the security being one and indivisible, he cannot redeem part without redeeming the whole (*Charter v. Watson*, 1899, 1 Ch. 175).

### COLLECTING AGENTS.

(See BRANCH OFFICE SYSTEMS; also AGENTS AND COLLECTORS.)

### COLLECTING SOCIETIES.

(See ASSURANCE COMPANIES ACT, 1909.)

### COLLECTIVE ADVERTISING.

(See ADVERTISING LIFE ASSURANCE.)

### COLLECTOR.

(See INDUSTRIAL ASSURANCE ACT, 1923; also AGENTS AND COLLECTORS.)

### COLONIAL COMPETITION.

(See HISTORY OF LIFE ASSURANCE.)

### COLONIAL MUTUAL LIFE ASSURANCE SOCIETY, LTD.

Chief Office in the United Kingdom: 4 St. Paul's Churchyard, London, E.C.4. Founded in 1873 for mutual life assurance.

The Society was formed in Victoria, Australia, and registered at the end of the year 1873, and business was actively commenced at the beginning of the following year. It is registered in accordance with the Life Assurance Acts of Great Britain and Ireland and of the various Australian States, New Zealand, and South Africa.

The Society is conducted upon purely mutual lines. The whole of the profits are divided amongst its members. Annual investigations are held and bonuses distributed each year. Bonuses may be applied to increasing the amount of assurance, to the reduction of future premiums, or may be received in cash.

The objects of the Society are life and endowment assurance, pure endowments, endowments for children, annuities (immediate and deferred) and personal accident and sickness insurance.

The Society is established throughout the whole of Australia, Tasmania, New Zealand, South Africa, and Fiji. In the year 1886 the directors obtained authority to transact business in the United Kingdom, and secured the warrant of the Board of Trade empowering them to do so.

The Colonial Mutual was thus the first Colonial life assurance office authorized to carry on the business of life assurance in Great Britain and Ireland.

The Society was a pioneer in developing welfare work as one of the activities of life assurance offices. Its nurses carry on the ministrations of healing amongst its numerous policy-holders, and have rendered sympathetic and useful service.

The favourable rates of interest derived from the investments of the Society are aided by the opportunities afforded by its Federal Constitution to secure good investments, and to watch them closely from each centre.

Claims are paid immediately on proof of death and title at the office of the Society nearest to the residence of the deceased at the time of his or her death, or at any

other office of the Society throughout Great Britain and Ireland or the British Empire, as desired by the claimant. The business of each branch is supervised by a local Board of Directors, who are empowered to accept risks, issue policies, pay claims, and transact all the business.

#### COMBINED LIFE, ACCIDENT, AND DISEASE POLICIES.

It is always wise for the holder of a life policy to effect a personal accident and disease contract as well, because his permanent or temporary disablement might endanger the keeping on foot of his life cover. Where policies with incapacitation benefits (*q.v.*) have been effected, this contingency is largely safeguarded against. Where an ordinary form of life policy is being effected, however, it is best to select one which may be combined with accident and disease benefits. This may be done in a number of offices for a small extra on the premium, the combined cost of which would be lower than the annual charge for two separate policies. It has to be remembered, too, that a larger percentage of the total premium will then rank for income tax rebate, a point which indirectly still further cheapens the cost of the accident and disease cover.

#### COMMERCIAL UNION ASSURANCE COMPANY, LTD.

Head Office: 24 Cornhill, London. E.C.3.  
Founded in 1861.

The Commercial Union has from time to time absorbed a number of offices transacting life assurance. The principal associated life offices are the following: West of England, in 1894; Hand-in-Hand, in 1905; Union, in 1907; Liverpool Victoria, in 1913; Edinburgh, in 1919; British General, in 1926. The funds relating to the life policies issued by the absorbed offices before the respective amalgamations are kept as separate funds.

Every description of life assurance policy is issued, but the two most interesting are the policies known as the "Jubilee" and the "Special Deferred Annuity Scheme." The first is really a without profit policy issued at ordinary rates, which contains: (1) Facilities for cancelling future premiums by odd payments, which may be made whenever convenient. (2) Facilities for making the sum assured payable in the policy-holder's lifetime, also by odd payments to be made at the policy-holder's convenience.

The deferred annuity scheme enables annuities to be purchased by payment at irregular intervals, and of irregular amounts, to suit the convenience of the purchaser.

The Commercial Union was one of the first offices to introduce guaranteed bonus policies, which are in fact without profit life policies, increasing year by year by the guaranteed sums added, all of which are taken into account in fixing the original premium.

The ordinary method of distribution of bonus by the Commercial Union is under a compound cash bonus system, by which the divisible cash profits for the quinquennial period are allotted as a percentage of the premiums paid by each with profit policy-holder during the quinquennium, with an additional allowance in respect of all reversionary bonuses attached to the policy.

The cash bonuses may, if desired, be converted to equivalent reversionary bonuses payable with the sum assured.

A very strong feature of the Commercial Union Life Department has been a deferred assurance scheme for children.

Edinburgh Assurance Company, Ltd.  
Head Office: 26 George Street, Edinburgh.  
The original constitution was by contract of co-partnership dated 29th Aug., 1823. The company was incorporated by Act of Parliament (3 Will. IV. Chap. 65) in 1833, and a fresh Act was obtained in 1845 (8 & 9 Vict. Chap. 76).

Founded in 1823, chiefly by lawyers and accountants, this company was originally The Edinburgh Life Assurance Company. Its activities are now of a composite character embracing fire, accident, and marine business as well as life.

The company's first meeting was held in the Waterloo Hotel, Edinburgh, on the 29th August, 1823, during the period when Sir Walter Scott, an extraordinary director of the company from 1824 to 1827, and one of the original proprietors, was writing some of his most brilliant novels, and putting up his fine fight with adversity.

Up to 1919 the "Edinburgh" transacted life and annuity business only, but in that year fire and accident departments were opened, and in 1920 the directors decided to transact marine business also.

In connection with the re-organization as a composite office the company was registered in 1919 under the Companies Acts as The Edinburgh Life Assurance Company, Ltd., and all the shares were acquired by

the Commercial Union. The name of the company has since been changed to Edinburgh Assurance Company, Ltd.

**British General Insurance Company, Ltd.** Head Office: 66 Cheapside, London, E.C.2. Founded in 1904. The shares of the company were acquired by the Commercial Union Assurance Company, Ltd., in 1926.

The British General Insurance Company was successful from the first, probably because it was exceedingly cautious in sanctioning expenditure until it gained strength as time progressed. Its offices are built on an historic site in Cheapside, where before the great fire of London, the "Feather Tavern" stood, which ran right round behind the houses to Queen Street. Later on the house was converted into a restaurant, and after various changes was acquired by the company.

The British General Insurance Company has taken in various companies from time to time, and on more than one occasion has come to the rescue of the life policyholders of certain offices which had been forced into liquidation. It opened offices in the United States in 1919, and is now doing satisfactory business in that great country. It also has an important business in Australia. It has a special reputation for promptitude in handling new business and claims.

A valuation of the life department is made every three years, and nine-tenths of the surplus goes to the with profit policyholders. Bonus is calculated upon the original sum assured and upon all existing bonuses, and is declared in the form of an addition to the sum assured. This addition may be converted into cash after the policy has acquired a surrender value, or applied in temporary or permanent extinction of premium.

An interim bonus is declared relating to the payment of each premium. The conditions of the policies represent the latest practice in such matters.

#### COMMISSION.

In life assurance the expression "Commission" may be taken to mean the sum of money paid by an insurance company to the persons who procure or introduce to it assurance policies or annuity bonds. It is usual to pay for annuities £1 per cent on the purchase money, but this figure has been known to have been exceeded.

The normal rate of commission for life assurance was formerly 10 per cent of the

first premium and 5 per cent of the second and subsequent premiums during the duration of both policy and agency. Some years ago, in response to the wish of many agents, who complained that the initial payment of 10 per cent barely covered their expenses, the rate was altered to £1 per cent on the sum assured, payable during the first year of the policy's duration, and a further commission of 2½ per cent per annum upon the annual premium during the duration of the policy and of the agency. Unfortunately, there is no agreement and no definite rule as to how much commission may be paid, and we find different rates prevailing in different offices.

Averaged over the total premiums, the sum of £1 per cent upon the sum assured is roughly equivalent to 25 per cent of the first premium, but there is in existence a practice by which offices which do not adopt the method of organization freely prevailing in this country, namely, the inspector and the agents working under him, substitute pure commission contracts for whole time canvassers. The agent under the British system derives the commission referred to already and the inspector a salary and travelling expenses. Those offices which prefer to organize a direct canvass of the public without troubling for introductions from any agent, are willing to pay an expert canvasser as much as 50 per cent, or half of the first premium on the business he introduces, and a certain commission for renewal, either during the duration of the policy or for a given number of years following. This is the practice usual in the United States. Unfortunately, owing to the absence of agreement on the subject, to which we have already referred, there are many British offices who have broken away from the £1 per cent arrangement, and are prepared to pay larger sums of commission, especially to agents who are able to produce larger volumes of business or especially large policies.

It may be said that the ordinary insurance broker, as distinct from the agent, may get as much as 30s. per cent for the introduction of a life policy, but the broker would fairly argue that the additional 10s. per cent helps to cover the costs of his office and staff, which the ordinary agent has not to incur, and that his expenditure under these heads really saves the company head office expenses of an equivalent amount. We have to some extent reached the position that there are certain companies of the highest

standing whose policies are so advantageous, and consequently so easy to procure, that they can maintain the commission rate of £1 per cent on the sum assured, whereas there are other offices which from the necessity of the case are willing to pay more. The whole matter is in a state of flux, and is really a question of individual bargaining between such companies and the offices concerned.

There are, unfortunately, from time to time serious disputes over the question of commission between the offices and the agents. The most frequent cause is the right reserved by most companies to terminate the agencies if they think fit. The usual reason for termination is that the agent is not trying to do business for the company he is supposed to represent. Most often that trouble arises because the inspector who first appoints the agent suggests to him that his work as agent would be facilitated if he himself were to become a policy-holder. That, of course, is perfectly true, but the agent, as often as not, is content with getting that little advantage on his own policy, and does not strive to introduce other policies. That means he is a continual source of cost to the office, and is enjoying preferential terms over other policy-holders. Moreover, as long as his name is on the agency register he has to be visited from time to time by the company's officials at considerable cost, and those visits are frequently fruitless. When the question of terminating the agency arises, such a man usually says that he never intended to be an agent, and that he was induced to apply for the agency at the instigation of the company's official, who, in order to procure his assurance, held out the advantage of agency terms, and if his agency is terminated he considers he is being very badly treated, and sometimes goes around injuring the company's reputation.

It is a pity that no means has yet been found to get over this difficulty by agreement between the offices. The most we can say is that the ultimate prosperity of an office depends on its results, and that if it is paying too much commission its expenses are apt to become too high, and its reserves too low for competition with other offices. All that can be said in favour of the accepted system of procuring business by the majority of our assurance companies is that it has been tested by time, and it does produce results, whereas it is by no means certain that any drastic change in procedure would be for the better. (See AGENCY DEPARTMENT.)

It remains to deal with the canvassing agent who gives his whole time to his company, and is remunerated solely by commission. It is obvious that, as such a man has a living to get, he cannot be content with the £1 per cent paid for what is really a casual introduction. If his "business" be good and more than sufficient, he is certain, in time, to claim a larger rate of commission or a longer extension of years during which a renewal commission is payable. Any sum he is paid in lieu of salary is represented by the excess of his commission over the usual £1 per cent. This system has the advantage of saving the office from paying money by way of salary for which no return is obtained if, after a few months' trial, the agent is a failure. But there are obvious disadvantages. A commission agent is not under control to the same extent. He is not so interested in the character of the business he introduces. He throws the burden of acceptance or refusal on the office, considering his job done when he hands in the proposal. Worse still, as his commission is large he may rebate some of it to the policy-holders. Both in Canada and the United States the adoption of the British method has been frequently discussed, and it may possibly come in time.

It is worth noting that in most of the States of the American Union no person is allowed to canvass for or procure insurance business without being duly licensed by the appropriate State authority. The licence carries with it a number of conditions. On a breach of any of them the licence may be withdrawn, and in certain cases penalty of fine or imprisonment or both may be inflicted. One of these cases is where a licensed agent divides his commission, or offers any part of it, to the person he has introduced to his insurance company. Whether this is an effective prohibition is doubtful, since such a transaction is necessarily one between two people only and as both are criminals, under the law, neither is likely to disclose what has happened.

In this country the Corporation of Insurance Brokers, through the Insurance Parliamentary Association, has a Bill on the stocks for licensing of insurance agents. In view of the strong opposition of the insurance offices, it will be a very difficult matter to get it passed into law within a measurable time. But some system may be devised to prevent the own-case agent from deriving a preferential advantage as a policy-holder

from a greater display of smartness than the average man. It is quite certain that the insurance companies would welcome any means of attaining this end, especially those who have a greater regard for equitable treatment all round than for large new business procured anyhow.

It only remains to add that three great offices, the London Life and Clergy Mutual, the Metropolitan (now amalgamated with the London Life), and the "Old Equitable," have never paid commission to any one, but rely on their connections to send them new assurances.

**Commission Rates.** The following are typical specimen rates of commission to agents for the introduction of new business—

**COMMISSION LEDGER.**

(See BRANCH OFFICE SYSTEMS.)

**COMMISSION RATES.**

(See COMMISSION; BRANCH OFFICE SYSTEMS.)

**COMMUTATION SYMBOLS.**

**History.** As soon as actuarial science commenced, the utility of prepared tables of annuities and assurances was realized. The preparation of such directly from a life table was found to involve heavy work.

Thus to evaluate an annuity at age  $x$ ,

$$a_x = v p_x + v^2 p_x + v^3 p_x + \dots$$

$$= \frac{v l_{x+1} + v^2 l_{x+2} + v^3 l_{x+3} + \dots}{l_x} \quad (1)$$

With and Without Profit Policies.	PREMIUMS BY UNIFORM PAYMENTS.		Premium by Single Payment.
	First Year of Assurance.	On Renewal Premiums after the First Year.	
Whole Life Assurances . . . . .	} £1% to £1 10s. % on Sum Assured.	} 2½%	} £1% to £1 10s.% on Sum Assured or 2½% on the Premium, whichever is the greater
Joint Whole Life Assurances . . . . .			
Endowment Assurances . . . . .			
Double Endowment Assurances . . . . .			
Whole Life Assurances by Low Premiums for the first 5 years . . . . .	} 10s.% on Sum Assured	}	
Deferred Assurances on Children's Lives . . . . .			
Short Term Assurances . . . . .	} 5% on Premium	} 5%	} 5% on Premium
Survivorship Assurances . . . . .			
Endowments With or Without Return of Premium and Educational Endowments (term not less than 10 years)			
Leasehold Redemption or Sinking Fund Policies (term not less than 10 years)			
Deferred Annuities (term not less than 10 years)			
Reversionary Annuities . . . . .	5% on Premium	5%	2½% on Premium
Immediate Annuities . . . . .	—	—	£1% on Purchase Money
Any other kind of Policy . . . . .	By special arrangement		

<sup>1</sup> The remaining 10s. % is payable to the agent when the first premium at the higher rate has been paid.

When the annual premium exceeds £10% the initial commission is limited to £1%.

**NOTES**

1. On sums assured payable by instalments the initial commission will be reckoned on the cash option.
2. No commission is paid on extra premiums, or on interest or fines.
3. When the premium is payable half-yearly or quarterly instead of yearly, the commission is payable in instalments of 10s. or 5s. per cent on the sum assured for the first year.
4. Liberal terms will be quoted for commuted commission in respect of individual policies. Where it is desired to take commuted commission on all full premium business introduced, the rate of 1½ per cent on the sum assured will be paid where the first year's commission is at the rate of 1 per cent, and 15s. per cent where it is at the rate of 10s. per cent, a further 15s. per cent being payable when the first premium at the higher rate has been paid. Where the annual premium is less than £2 per cent, the commuted commission will be payable in equal instalments spread over the first two years, one falling due on each payment of premium. When premiums are payable more often than yearly, the commuted commission applicable to any year will be payable in equal instalments falling due on each payment of premium.

to the limit of life ; with similar expressions for every age. About the middle of the eighteenth century the idea of abbreviating had evidently arisen, for in 1772 appeared an *Introduction to the Study of the Doctrine of Annuities* by William Dale, who gives values of  $l_x \cdot v^{x-50}$ . Then about 1786 George Barrett started to calculate tables of  $l_x \cdot v^{w-x}$  described by Francis Baily in 1812. In 1785, however, Professor Tetens of Kiel, a distinguished writer and computer, had devised the form  $l_x \cdot v^x$ , although it was not until 1850 that his work was described in English by Mr. F. Hendriks, J.I.A. i.1

Meantime, in 1825, Griffith Davies published commutation tables in this form, which immediately displaced Barrett's, being far superior. Reverting to Tetens, Professor Goldschmidt, at the Berlin Congress, 1906, III 232, observed. " It might interest the Englishmen present to know it was not impossible that the method (of commutation symbols) hailed from England, perhaps from Simpson, one of the most prominent of her mathematicians who had dealt with this question." Probably Tetens's keen mind developed an idea from Simpson.

**Rationale.** Considering formula (1), it is clear that to construct a complete set of annuities, each value of  $l_x$  would have to be valued by the successive values of  $v$  from 1 to  $w - x$ , where  $w$  represents the limit of life. Then the summation of these values and division by  $l_x$  has to be repeated at each age. If, however, numerator and denominator of the formula be multiplied by  $v^x$ , its value remains unaltered, and we have—

$$a_x = \frac{v^{x+1}l_{x+1} + v^{x+2}l_{x+2} + v^{x+3}l_{x+3} + \dots}{v^x l_x}$$

wherein  $v$  varies in the same way as  $l$ . Let then  $v^x l_x = D_x$ , and we have

$$a_x = \frac{D_{x+1} + D_{x+2} + D_{x+3} + \dots}{D_x}$$

And as this is true for all values of  $x$ , a column of  $D_x$  can be prepared, commencing at the lowest age, and will enable all values of  $a_x$  to be calculated at once. By a preliminary summation of  $D_x$ ; namely, by the formation of a column  $N_x = \Sigma D_{x+1}$  where  $\Sigma$  means the summation of  $D_x$  for  $x+1$  and all higher values, we have

$$a_x = \frac{N_x}{D_x}$$

The principle thus established can be

carried further, by summing the  $N$  column,

$$S_x = \Sigma N_x$$

and then  $\frac{S_x}{D_x}$  will be the value of an increasing annuity.

Equally it may be extended to assurances. In the equation

$$A_x = \frac{vd_x + v^2d_{x+1} + v^3d_{x+2} + \dots}{l_x}$$

if we multiply the numerator and denominator by  $v^x$  we get

$$A_x = \frac{v^{x+1}d_x + v^{x+2}d_{x+1} + v^{x+3}d_{x+2} + \dots}{v^x l_x}$$

Let  $C_x = v^{x+1}d_x$  then

$$A_x = \frac{C_x + C_{x+1} + C_{x+2} + \dots}{D_x}$$

Writing  $M_x = \Sigma C_x$ , this becomes

$$A_x = \frac{M_x}{D_x}$$

By means of prepared columns of  $M_x$  and  $D_x$  the value of  $A_x$  can be calculated for any value of  $x$ .

The column of  $M_x$  may also be summed and then  $\frac{\Sigma M_x}{D_x} = \frac{R_x}{D_x}$  will give the present value of an increasing assurance—suitable for the valuation of uniform reversionary bonuses, for example.

Suppose now it were desired to exchange a sum of money due to a person ( $x$ ) in  $n$  years for a present payment, how much should be paid? Of  $l_x$  persons aged  $x$ ,  $l_x + n$  will survive  $n$  years, and the present value of the sum is thus  $\frac{v^n l_x + n}{l_x}$ . Multiplying num-

erator and denominator by  $v_x$  we have  $\frac{v^x + n l_x + n}{v^x l_x}$  which equals  $\frac{D_x + n}{D_x}$ . Thus the

column of  $D_x$  enables us to "commute" the value of a sum payable at one age into an equivalent amount due at any other age, and that is the origin of the term commutation symbols by which these functions are generally known.

They lend themselves with equal facility to the calculation of temporary and deferred benefits.

### COMMUTED BONUS.

(See ALLOTMENT OF BONUS.)

### COMPANIES ACT, 1929.

(See WINDING-UP.)

**COMPANY'S LIABILITY FOR AGENTS.**

(See AGENT, AUTHORITY AND RESPONSIBILITY.)

**COMPANY'S LIABILITY FOR INCOME TAX.**

(See INCOME TAX; and TAXATION OF ASSURANCE COMPANIES.)

**COMPLETION OF CONTRACT.**

(See PROPOSAL FORM, page 437.)

**" COMPOSITE " OFFICES.**

(See BOARD OF TRADE, POWERS OF; also LIFE ASSURANCE COMPANIES' SHARES AS INVESTMENTS.)

**COMPOUNDING OF BONUS.**

(See BONUS.)

**COMPOUND INTEREST.**

Interest is the consideration paid by a borrower for the use of capital. It is convenient to regard both capital and interest in terms of money of the same denomination, since the study of the subject largely depends on resolving the relationship between capital and the interest earned by it when the factors involved are allowed for. And, while in ordinary language, 100 units of capital are usually spoken of, in theoretical investigations one unit of capital is preferred. The rate of interest is the proportion between the interest consideration for a unit of time on a unit of capital. When the unit of time is taken as a year, the interest so earned receives the special designation of " the effective rate of interest." The effective rate of interest is then the total amount of interest earned upon one unit of capital during a year. Thus, if in ordinary terms, the rate is said to be 5 per cent per annum, that means that a unit of capital will earn .05 during a year. To the effective rate the symbol  $i$  is attached, and so the capital with its interest becomes  $(1 + i)$  by the end of the year, the corresponding totals for other capital amounts being proportionate.

Now the  $(1 + i)$  accumulated may be reinvested on the same terms. Each unit of the  $(1 + i)$  will earn  $i$  during the ensuing year  $= i(1 + i)$ , and will itself remain intact, so that at the end of the second year the accumulation is  $(1 + i) + i(1 + i) = (1 + i)(1 + i) = (1 + i)^2$ . In a similar manner it may be shown that the amount of capital and interest at the end of any number of years, say  $n$ , is  $(1 + i)^n$ . As the original

capital was 1, the total interest earned during the period has been  $(1 + i)^n - 1$ .

Looking now backward instead of forward, if 1 amounts to  $(1 + i)$  at the end of a year, then  $\frac{1}{1 + i}$  amounts to 1 at the end of a year,  $\therefore \frac{1}{1 + i}$  is the present value of 1

due a year hence, i.e. if  $\frac{1}{1 + i}$  were lent for a year at the effective rate of  $i$ , it would amount to 1. Similarly  $\frac{1}{(1 + i)^n}$  is the

present value of 1 due  $n$  years hence.  $\frac{1}{(1 + i)^n}$  is symbolized as  $v$ , so that  $v^n$  is the present value of 1 due  $n$  years hence.

If we have a capital (or principal)  $P$ , and the amount to which it will accumulate in  $n$  years is  $S$ , then

$$S = P(1 + i)^n \quad \dots \quad (1)$$

$$\text{and equally } P = S \cdot v^n \quad \dots \quad (2)$$

If  $n$  or  $i$  be unknown it can be ascertained as follows—

$$n = \frac{\log S - \log P}{\log (1 + i)} \quad \dots \quad (3)$$

$$i = \left( \frac{S}{P} \right)^{\frac{1}{n}} - 1 \quad \dots \quad (4)$$

Suppose  $n$  to be fractional, say equal to  $\frac{1}{m}$ , then the question arises as to the value to be assigned to the interest corresponding. For a discussion see J.I.A., iii and iv (references under " Fractional Interests of a Year " in the index to the first forty volumes) and a summing up in King's *Theory of Finance*, 3rd edition, page 7. It is now generally agreed that in theoretical calculations that

value is  $(1 + i)^{\frac{1}{m}} - 1$ , although in practice  $\frac{i}{m}$  is often taken.

This point suggests a study of interest applicable to shorter periods than a year. Supposing interest to be convertible into capital half-yearly, then the amount could be reinvested and earn further interest during the remaining half year. If the rate per unit per half year were  $\frac{j}{2}$  then capital and interest at the end of the first half year would be  $(1 + \frac{j}{2})$ . This amount reinvested would accumulate to  $(1 + \frac{j}{2})^2$  by the end of the year—analogously to formula

(1), the interest earned being  $(1 + \frac{i}{2})^2 - 1$ .

By definition, however,  $i$  is the effective rate of interest earned in a year. Therefore, when the interest is convertible half-yearly

$$i = (1 + \frac{i}{2})^2 - 1$$

and, more generally, if interest be payable and convertible  $m$  times a year,

$$i = (1 + \frac{i}{m})^m - 1 \quad (5)$$

$j$  is termed the nominal rate of interest, and represents the amount of interest applicable to each interval, multiplied by the number of intervals in a year. Again, from formula (5)

$$j = m [(1 + \frac{i}{m})^{\frac{1}{m}} - 1] \quad (6)$$

so that, being given any two of the three  $j$ ,  $m$ , and  $i$ , the third can be obtained.

If in formula (5)  $m$  becomes greater and greater,  $(1 + \frac{i}{m})^m$  increases, until when  $m$  is infinitely large, it equals the series

$$[1 + 1 + \frac{1}{2}! + \frac{1}{3}! + \dots] = e^i$$

and, at this limiting value,  $j$  is termed  $\delta$ .

We then have  $i = (1 + \frac{i}{m})^m - 1 = e^{\delta} - 1$  (7)

$$\text{or } (1 + i) = (1 + \frac{i}{m})^m = e^{\delta}$$

Similarly when the period is  $n$  years instead of 1,

$$(1 + i)^n = (1 + \frac{i}{m})^{mn} = e^{n\delta}$$

Another aspect of financial transactions is that of discount. Discount is the deduction made from a sum of money due at a future date, the balance consequently being the present value—or otherwise regarded, the consideration for the immediate payment of a sum due at a future date.

By analogous nomenclature, let  $d$  be the effective rate of discount corresponding to the effective rate of interest  $i$ , then  $1 - d =$

$$\frac{1}{1 + i} = v, \text{ whence } d = 1 - v = 1 - \frac{1}{1 + i} \\ = \frac{i}{1 + i} = iv.$$

Thus the discount  $d$  represents a year's interest on the present value of 1 due a year hence.

Likewise there may be a nominal rate of discount corresponding to a given effective rate of discount, and vice versa. Let that nominal rate be  $f$  per annum convertible  $m$  times a year, then,

$$(1 - \frac{f}{m})^m = 1 - d, \text{ whence}$$

$$d = 1 - (1 - \frac{f}{m})^m$$

$$\text{or } f = m \left[ 1 - (1 - d)^{\frac{1}{m}} \right]$$

When  $m$  is increased indefinitely,  $f$  becomes equal to  $\delta$ , since

$$(1 + i) = (1 + \frac{i}{m})^m = e^{\delta}$$

the interest formulae equal the discount formulae, viz.—

$$(1 - d)^{-1} = (1 - \frac{f}{m})^m = e$$

raised to a power that can only be  $\delta$ , to maintain the equality. For an interesting verbal demonstration see Text Book of the Institute of Actuaries, Part I, page 11, edition by R. Todhunter, M.A., F.I.A., which likewise affords the fullest reading for students. A more elementary work is *The Principles of Compound Interest*, by H. H. Edwards, F.I.A., London, Pitman's, 1925. Reference should also be made to the *Theory of Finance* above quoted.

**COMPOUND REVERSIONARY BONUS.**

(See BONUS; and ALLOTMENT OF BONUS.)

**COMPOUND SURVIVORSHIP ANNUITIES.**

In addition to the single and joint-life annuities, which are straightforward from an actuarial point of view, one meets in connection with reversionary transactions a more complicated type, which depend not only upon the future of a life or lives, but involve conditions as to the order in which the lives die. Their valuation necessitates in most cases a knowledge of higher mathematics, and the student must be referred to the *Institute of Actuaries Text Book, Part II*, 1922 edition, which is divided into two parts, one mathematical, and the other applied and practical.

The following is an illustration of such a type of annuity—

The value of an annuity of 1 per annum at 4 per cent to a life aged 30, to commence on the failure of a life aged 60, provided a life now aged 45 be then alive, is 6.99, which can only be found by a formula of approximate summation, such as Lubbock's, or by using the integral calculus.

**COMPULSORY WINDING-UP.**

(See WINDING-UP.)

**CONCEALMENT.**

(See CONTRACT, PARTIES TO.)

**CONDITIONS OF POLICY.**

(See PROPOSAL FORM; POLICY FORM AND CONDITIONS.)

**CONFEDERATION LIFE ASSOCIATION.**

Head Office for Great Britain: Bush House, Aldwych, London, W.C.2. Established 1871.

The Confederation Life Association is doing a substantial business in Great Britain, and is managed with considerable energy. It grants insurance without medical examination to applicants over 10 and under 45, provided that the policy does not exceed £1,000. Arrangements are made for the immediate payment of claims for British policy-holders in sterling.

Distribution of surplus may be either quinquennial, which is the ordinary practice of British companies, or under an accumulation plan, by which bonuses are payable at the expiration of 15, 20, or 25 years, according to the desire of the policy-holder at the time of effecting his insurance.

Policies include a statement of values at every year after the third, which gives cash surrender value and loan value, paid up value or extended term assurance guaranteed in case the insured should desire to surrender his policy for any reason. The Association, with its high rate of interest, is able to grant very substantial annuities. Total disability benefit, now so popular in Canada and the United States, is also available.

**CONFIDENTIAL MEDICAL REPORT.**

(See PROPOSAL FORM.)

**CONGENITAL SYPHILIS.**

(See VENEREAL DISEASE.)

**CONSECUTIVE ASSURANCES.**

(See SCHOOL FEE POLICIES.)

**CONSTITUTIONS, LIFE OFFICE.**

(See LIFE OFFICE CONSTITUTIONS, TYPES OF.)

**CONTINGENT BONUS.**

(See BONUS, and ALLOTMENT OF BONUS.)

**CONTINGENT REVERSIONS.**

(See REVERSIONS AND LIFE INTERESTS.)

**CONTINGENT SURVIVORSHIP ASSURANCE LEAFLETS.**

(See CANVASSING LEAFLETS, page 122.)

**CONTINGENT SURVIVORSHIP POLICIES.**

These policies are used mainly to complete contingent reversionary interests, and thereby render them negotiable. For example, a person, A, aged 30 next birthday, may be entitled in reversion provided he is living at the death of another person, B, aged 60 last birthday, to £1,000. If A should desire to sell or mortgage his reversionary interest, a purchaser or mortgagee will require a contingent survivorship policy for £1,000 to be effected to cover the risk of A dying before B, as otherwise the fund will be lost to the heirs of A. It is desirable to protect a contingent reversionary interest by a policy of this kind even where there is no immediate likelihood of the reversionary interest being sold or mortgaged. The omission to effect such a policy may mean that later on, if it is required to deal with the reversion, either by sale or mortgage, the transaction could not be carried out in consequence of the life of A having become uninsurable. The person A alone requires to be medically examined. The annual premiums are payable until the first death of the two lives, but policies can also be obtained by single premium. They carry no surrender value. Specimen annual premiums to secure each £100 assured on the death of A, if occurring in the lifetime of B—

Age of Assured Life (A)	Age of Counter-life (B)			
	65.	60.	55.	50.
30	£ s. d. 1 4 1	£ s. d. 1 5 8	£ s. d. 1 7 5	£ s. d. 1 9 3
40	1 15 1	1 18 1	2 1 1	2 3 11
50	2 18 8	3 3 5	3 7 6	3 10 8

**CONTINUOUS ANNUITY.**

(See LIFE ANNUITIES, SINGLE LIVES.)

**CONTRACT, ACCEPTANCE, AND COMPLETION.**

(See PROPOSAL FORM.)

**CONTRACT, PARTIES TO.**

A contract of life assurance may be defined to be that in which one party agrees to pay a given sum upon the happening of a particular event contingent upon the duration of human life, in consideration of the immediate payment of a smaller sum or certain equivalent periodical payments by another. This consideration is termed the *premium*,

usually payable yearly. When the premiums are periodical, as, for example, reserved yearly, their due payment is, as a rule, a condition precedent to the continuance of the contract, and if the condition is not performed in any year the contract is at an end (*re Anchor Assurance Co.*, 1870, L.R. 5 Ch. 63). The party receiving the premium and giving the security is termed the *assurer or insurer*, i.e. the company; the party paying the premium, and to whom or to whose representatives the security is made, the *assured or insured*; the contingency insured against, the *risk*; and the written instrument evidencing the contract, the *policy*.

All contracts of assurance are contracts *uberrimae fidei*, i.e. contracts of the highest good faith. Good faith forbids either party, by concealing what he privately knows, to draw the other into a bargain from his ignorance of the fact and his believing the contrary (*Carter v. Boehm*, 1766, 1 W.B.1 593). If the contract is entered into by an agent, non-disclosure by the agent, even though the principal did not know of the particular fact which ought to have been disclosed, will render the contract void (*Blackburn & Co. v. Haslam*, 1888, 21 Q.B.D. 144).

The principle is now firmly established that the misrepresentation from mistake, ignorance, or accident, of any material fact, however innocently made, will avoid a policy quite as much as in cases where such misrepresentation arises from a wilful intention to deceive, and non-disclosure, apart from fraud, negligence, or want of knowledge, may avoid a policy if the truth of a particular statement has been made the subject of a warranty (*Thomson v. Weems*, 1884, 9 App. Cas. 671).

The first step towards effecting an assurance is to make a statement in writing of facts relating to the age and health of the person whose life is to be assured. This statement is called the *proposal*. It is generally, either expressly or by reference, embodied in the policy; and the terms of it, where unconditional and stated as facts, are then warranties, and must be strictly and literally true. Their correctness is a condition precedent to the responsibility of the insurers; and it is competent to parties to make their contracts dependent upon any conditions they please. It is sufficient to avoid the policy that any one thing warranted is not true. Where a proposer signed a declaration with a reply untrue in fact

(though not known to him to be so, and though there was no presumption that he had any reason to believe it was incorrect), and the policy made the truth of the declaration a condition of its validity, the mistake was treated as fatal (*Macdonald v. Law Union*, 1874, L.R. 9 Q.B.D. 671).

The assured is under the necessity of making full disclosure of all material facts known to him; he must observe the utmost degree of good faith. The materiality of a fact is not dependent upon the opinion of the assured, and the innocent concealment of material facts by the assured or his agent vitiates the assurance. A policy is avoided by concealment or misrepresentation, however innocent, of a material fact, whether or not it caused, or was in any way connected with, the death of the assured. The question whether the matter concealed or misrepresentation is material is a question of fact, viz. whether the matter misrepresented or concealed was such as would influence the mind of a reasonable and prudent assurer in accepting or declining a risk. In *Mutual Life Insurance Co. v. Ontario Metal Products Co.* (1925, 41 T.L.R. 183), an assured stated that no medical man had prescribed for or treated him during the previous year. As a matter of fact, he had consulted his doctor when he was run down, and was given a tonic. It was held by the Privy Council that this was not a material misrepresentation in the circumstances.

If a man purposely avoids answering a question, and thereby does not state a fact which it is his duty to communicate, that is concealment. Concealment properly so called means non-disclosure of a fact which it is a man's duty to disclose, and it was his duty to disclose the fact if it was a material fact. It is not sufficient that the statements made in the proposal are true at the time when they are made; if any new material fact becomes known to the proposer before the completion of the contract, it must be communicated to the company (*re Marshall*, 1902, 85 L.T. 757).

Where equity cancels a policy on the ground of innocent misrepresentation, the general rule is that the party in whose favour the decree is made shall return the premiums unless there is an express declaration for the forfeiture of premiums on avoidance of the policy (*Thomson v. Weems, supra*). Usually, if the risk has once accrued, there is no apportionment or return of the premium afterwards when a policy is void *ab initio*.

**CONTRACT, THE LIFE ASSURANCE.**

(See DEFINITION OF LIFE ASSURANCE ; LACHES ; PROPOSAL FORM ; CONTRACT, PARTIES TO.)

**CONTRACTS, POWER TO REDUCE.**

(See ASSURANCE COMPANIES ACT, 1909.)

**CONTRIBUTION METHOD.**

(See BONUS.)

**CONTRIBUTORIES, LIABILITY OF.**

(See WINDING-UP.)

**CONVERSION.**

(See ENDORSEMENTS ON POLICIES ; also INDUSTRIAL ASSURANCE ACT, 1923.)

**CONVERSION OPTION.**

(See GROUP LIFE ASSURANCE.)

**CONVERSION TABLES.**

Very frequently in actuarial and insurance work, being given, say, the annuity value, it is desired to ascertain the single or annual premium corresponding. Now if *a* denote the present value of an annuity of 1 payable during the continuance of any status (i.e. not merely one life but equally any combination of lives, or also for a limited period), and *A* the single premium for an assurance of 1 on the *same* status, the assurance being payable one year after the last payment of the annuity, then

$$A = 1 - d(1 + a) \dots \dots \dots (1)$$

a mechanical relationship whereby if either *A* or *a* be known, the other can be determined, given  $d = \frac{i}{1+i}$ —in effect, knowing the rate of interest.

Then, also, if *P* be the annual premium for an assurance of 1 on any status, the corresponding annuity value being *a* as above,

$$P = \frac{1}{1+a} - d \dots \dots \dots (2)$$

It is clear that were tables available giving the single and annual premiums corresponding to successive fixed annuity values at various rates of interest, it would always be useful, being applicable whatever the status or the mortality table.

Such a table was published in Scotland about the middle of last century by William Wood, being followed almost immediately

by the better known publication of W. Orchard, the second edition of which contained a thorough disquisition on the use and purpose of such tables by Peter Gray. This work has long been out of print, but essential explanations are given in the Institute of Actuaries Text Book, Part II c, viii, by Mr. George King, together with tables in abbreviated form. Tables still further restricted in scope are supplied in the *Short Collection of Actuarial Tables*, published by the Institute of Actuaries, London—both being adequate for most purposes. Fortunately, however, the entire ground of Orchard's calculations and more (with the exception of the 7 per cent table) was covered again by Messrs. Rothery and Ryan (now Sir Gerald Ryan) in their *Premium Conversion Tables for finding Single and Annual Premiums corresponding to given Annuity Values at certain Rates of Interest*. (London, C. & E. Layton). They embrace all rates of interest from 2½ to 6 per cent, proceeding by quarters.

The above formulæ (1) and (2) apply to what is known as the annual premium method. Increasing use, however, is being made of continuous functions in life assurance and friendly society work, the corresponding formulæ being

$$\bar{A} = 1 - \delta \bar{a} \dots \dots \dots (3)$$

and

$$\bar{P} = \frac{1}{\bar{a}} - \delta \dots \dots \dots (4)$$

Rothery and Ryan's Tables duplicate all the calculations for the annual premium method by giving also those required for the continuous method.

Among the uses of such tables may be mentioned briefly—

- (1) To find the annual or single premium corresponding to any given annuity value, and vice versa.
- (2) To find the market value of a life interest.
- (3) To find the sinking fund to redeem a debt in a given number of years.
- (4) To find the reciprocal of a number.
- (5) To calculate the adjustment for the immediate payment of claims in endowment assurance valuations.

**Method of Construction.** For single premiums, formula (1), namely  $A = 1 - d(1 + a)$ , is an equation of the first degree, and values of *A* corresponding to equidifferent values of *a*, will also be equidifferent. If then *a* increases by a constant

quantity  $\Delta a$ , then  $A$  becomes  $A + \Delta A$ , and we have

$$A + \Delta A = 1 - d(1 + a) - d\Delta a$$

$$\therefore \Delta A = -d \Delta a.$$

If now the constant  $\Delta a$  be taken equal to  $\cdot 01$ ,

$$\Delta A = -\cdot 01 \times d; \text{ and, starting with } a = 0,$$

$$A(0) = 1 - d = v$$

$$A(\cdot 01) = 1 - d(1 + \cdot 01) = v - d(\cdot 01)$$

$$A(\cdot 02) = 1 - d(1 + \cdot 02) = v - d(\cdot 02) = A(\cdot 01) - d(\cdot 01),$$

and so on, the values of  $A$  being obtained by continuous subtraction of  $\cdot 01 \times d$  from the initial value  $v$ .

Again, for annual premiums, in formula (2), namely  $P = \frac{1}{1+a} - d$ , let  $a$  vary by the constant difference  $\Delta a$ , then

$$P + \Delta P = \frac{1}{1+a+\Delta a} - d, \text{ whence by subtraction,}$$

$$\Delta P = \frac{1}{1+a+\Delta a} - \frac{1}{1+a} = \text{say}$$

$$\Delta \left( \frac{1}{1+a} \right)$$

Hence by differencing a table of reciprocals and by successive subtraction of the results from the initial value of  $P$  corresponding to  $a = 0$ , that is,  $v$ , the series of values of  $P$  can be formed. It will be observed that  $\Delta P$  is independent of the rate of interest.

For Rothery and Ryan's Tables, values of  $d$  were computed to 12 places, the single premiums being deduced by setting  $d$  on the arithmometer true to 8 places, and deducting continuously  $\cdot 01 \times d$ , starting from the initial value  $v$ . For the annual premiums a table was prepared giving the differences of the reciprocal of  $(1 + a)$  for each value of  $a$  from 32 downwards, the continuous addition of these yielding the values required. Each tenth value was independently calculated from the formula as a check, and the whole cut down to five places. There were several checking processes to ensure accuracy.

**CONVERTIBLE POLICY LEAFLETS.**

(See CANVASSING LEAFLETS, page 120.)

**CONVERTIBLE TERM POLICIES.**

In the case of ordinary forms of short term policies, especially where life cover is the object of the policy-holder, the disadvantage exists that the policy-holder is left uninsured on the expiration of the

agreed term for which the policy was issued. He may be anxious then to effect further assurance, but for a variety of reasons have become an uninsurable life. The convertible term policy meets the case. It is an ordinary short term contract at a slightly larger premium, but carrying the important option that the policy-holder may, within any agreed time during its currency, convert it into an ordinary whole life or endowment assurance, either with or without profits. On exercising his option to convert, the policy-holder has to pay for the new contract the normal premium required at the age attained. The important point, however, is that he is in a position to provide substantial life cover for a few years at a nominal premium, and when he finds he can afford to "convert" his term policy to the contract he desires he can do so without the necessity of undergoing further medical examination. He may have merely effected his convertible term policy in the first instance as a means of covering some temporary transaction, but the fact that his health has become impaired in the meantime does not debar him from obtaining life assurance cover should he desire it. Convertible term policies have no surrender value until after conversion.

Specimen annual premiums to secure each £100, payable only if death occur within the term selected, with the option of conversion at any time during the term into an ordinary whole life or endowment assurance at the corresponding premium for the advanced age, without further medical examination—

Age not exceeding	Annual Prem. for Five Years.	Annual Prem. for Ten Years.	Annual Prem. for Fifteen Years.
30	£ s. d. 1 3 4	£ s. d. 1 5 8	£ s. d. 1 7 4
40	1 10 0	1 13 8	1 17 8
50	2 7 -	2 15 -	3 3 4

(See also PARTNERSHIP POLICIES.)

**CONVERTIBLE TERM POLICIES WITH PREMIUM REBATE.**

This policy carries a valuable extension of the usual form of convertible term contract, as the premiums paid in respect of the term policy prior to conversion are credited in reduction of the future premiums on the new contract. The term contract

is for a five-year period only, and the minimum policy issued is for £500. At any time during the five year term the policy may be converted, without further medical examination, to an endowment assurance for fifteen years or longer. The equivalent of the amount paid in premiums is then allowed off the new premium in the following way, taking an example with a round-figure premium for convenience. A man aged 25 next birthday, effecting a five-year term policy for £1,000 would pay, say, £15 annually. At the end of the term, his age then being 30 next birthday, the normal yearly premium for a fifteen-year endowment of £1,000 with profits would be £72 ls. 8d. If he exercises his option he will receive a reduction of £5 per annum on his endowment premium, or £75 in all over the fifteen year term. This amount is the total paid to secure his five years life cover of £1,000 under the term policy. If he were to convert earlier—after three years, for instance—he would have paid £45 in all for his term cover of £1,000, and this, spread over a fifteen-year endowment term, would give him a rebate of £3 per annum off the new premium. In effect, his payments for the term cover before conversion are returned in rebate. To this extent he ultimately has secured his term protection free of charge, with the advantage of a lighter premium on his endowment than would otherwise be the case.

Specimen annual premiums per £1,000 (five-year term)—

Age next birthday	£	s.	d.
30 . . . . .	16	—	—
40 . . . . .	20	—	—
50 . . . . .	28	10	—

### CONVEYANCE.

(See LEGAL CONVEYANCES; ASSIGNMENT.)

### CO-OPERATIVE INSURANCE SOCIETY, LTD.

Chief Office: 109 Corporation Street, Manchester. London Office: 42 Kingsway, W.C.2. Founded in 1867.

The annual Co-operative Conference, representing the Co-operative Societies of Great Britain, resolved in 1866 to form an insurance institution for the benefit of these societies and their members. As the business of insurance could not then be legally undertaken by an industrial and provident society, a company for the purpose was registered on 29th August, 1867. Its objects

were fire and life insurance and fidelity guarantee, but it was decided to postpone undertaking life business. In 1886 the directors decided to undertake life assurance, the profits to be divisible exclusively with the policy-holders. It was decided to transact ordinary business only. The slow growth of the business at that time, however, indicated that members of co-operative societies could not generally afford to pay for their assurances at quarterly, half-yearly, or yearly intervals, whilst their wages were paid weekly, and it was then decided to prepare tables of benefits for small sums assured, the premiums for which could be paid at weekly or monthly intervals. This class of business was first undertaken in 1899, but, prior to any actual transaction taking place, the company was converted into a society, and authority obtained "to carry on the business of insurance in all its branches."

In 1904 the Society originated a form of collective or group insurance, which enables a distributive society to insure the whole of its members against death at a comparatively small cost. The societies which have adopted it speak highly of its value as a means of increasing their membership and sales, while greatly benefiting the members.

In 1914 the Co-operative Insurance Society was taken over by the English and Scottish Wholesale Societies, and rapid progress was at once made by the more extensive employment of agents.

The Society is prepared to issue insurances of many types excluding marine, and the house purchase scheme is an important innovation in the life department.

### CO-OPERATIVE PUBLICITY.

(See ADVERTISING LIFE ASSURANCE.)

### CO-PARTNERY OFFICES.

(See LIFE OFFICE CONSTITUTIONS, TYPES OF.)

### CORPORATION OF INSURANCE AGENTS: AIMS AND OBJECTS.

The Corporation of Insurance Agents was originally the Agents' Section of the Corporation of Insurance Brokers and Agents, but it was separated from the Corporation of Insurance Brokers (*q.v.*) in 1919, because it was felt that while the aims of brokers and agents are common on many points, the interests of both would be better served by forming separate organizations working

on a friendly basis. The principal objects of the Corporation as set out in the Memorandum of Association are as follows—

To provide a central organization for insurance agents, and generally to do all such things as from time to time may be considered calculated to elevate their status and safeguard and advance their interests and procure their general efficiency and proper professional conduct, with a view to ensuring for the community the existence of a class of insurance agents who can be relied upon as being trustworthy and duly qualified to perform their responsible duties.

To provide opportunities for intercourse amongst the members, and to collect and disseminate amongst the members information in regard to all matters relating to insurance or to the practice, duties, and obligations of insurance agents, by affording facilities for the reading of papers and by the delivery of lectures, the circulation of a journal or other publications, the formation and maintenance of a library, or otherwise.

To watch over legislation affecting insurance agents, and to promote, or support and assist in any legitimate manner the carrying into effect of, any legislation having for its object the common good of such agents, or of such agents and the general public, and to oppose any legislation considered harmful, and generally to watch over, promote, and safeguard the common interests of the members of the Corporation and the general public.

To afford means of arbitration on, or for settling, disputes or questions between members of the Corporation, or between members and third parties.

To ascertain the law and practice relating to insurance, and to register cases for information of members, and to take steps to obtain or to assist any person to obtain legal advice upon, or the judicial determination of, any question of general importance or interest to insurance agents, or the members of the Corporation. Provided that the Corporation shall not commit any breach of the law relating to maintenance or champerty.

The definition of "Insurance Agent" given in the Articles of Association of the Corporation is—

One who adds an insurance agency as an adjunct to his other ordinary profession or occupation, and who is the accredited

agent of one or more insurance companies, and whose agency business is not confined to, nor does it mainly consist of, his own insurances or the insurances of the firm or persons by whom he is employed.

At the present time the attention of the Corporation is largely directed towards efforts to bring an end to the promiscuous appointment as agents of persons who do not really intend to take up agency work, but who merely receive the appointment in order to secure commission on their own insurance, and perhaps that of a friend; particularly those persons who are only "own case" agents; that is, those who do not introduce any other business at all beside their own insurance. The Corporation, while not desiring to prevent anyone who is a *bona fide* agent from continuing to carry on business, is anxious that appointments should only be made of persons who are really desirous of working as insurance agents, and who are reasonably qualified to do so. To that end the Corporation strongly supports the Insurance Parliamentary Association, Ltd., in its attempt to secure legislation for the licensing and registration of insurance brokers and agents. It is felt that this would protect the public against fraudulent or incompetent agents, and would provide a class of agents who were acquainted with insurance, and able to give good service to the insured as well as to the companies.

The Corporation also desires to secure an acknowledgment of the insurance agent's legal right to renewal commission on business introduced by him to a company, instead of the agent having to depend upon the goodwill of a company, if occasion arise, to transfer business to his successor. The Corporation, in fact, desires to establish the position of an insurance agent as a serious worker in the business, sufficiently qualified to assist both company and insured, and to ensure that when he has built up an agency by hard work he should not be liable to lose his connection to persons who, without knowledge or experience of the business or any intention of obtaining such knowledge, casually take an agency in order to secure commission on some particular insurance in regard to which they may be interested.

Briefly summarized, the aim of the Corporation is to improve the status of insurance agents, and to form a representative body by which effective influence can be exercised in all matters connected

with the interests of insurance agents. The offices are at 3 St. Helens Place, London, E.C.3.

#### **CORPORATION OF INSURANCE BROKERS: AIMS AND OBJECTS.**

The central object of the Corporation of Insurance Brokers, as set out in the Memorandum of Association, is—

To provide a central organization for insurance brokers, and generally to do all such things as from time to time may be considered calculated to elevate their status and safeguard and advance their interests, and procure their general efficiency and proper professional conduct, with a view to ensuring for the community the existence of a class of insurance brokers who can be relied upon as being trustworthy and duly qualified to perform their responsible duties.

The means proposed in the Memorandum, among others, to carry out this aim are—

To provide for the better definition and efficiency of insurance brokers by a system of examinations or other actual and practical tests, and by the issue of certificates, and by establishing some system of registration of the holders of certificates so issued. Provided that every such certificate shall contain on its face a statement to the effect that it is not issued under, in pursuance or by virtue of, any statutory or Government sanction or authority, but by the authority of the Corporation only.

To provide opportunities for intercourse amongst the members, and to collect and disseminate amongst the members information in regard to all matters relating to insurance or to the practice, duties, and obligations of insurance brokers, by affording facilities for the reading of papers and by the delivery of lectures, the circulation of a journal or other publications, the formation and maintenance of a library, or otherwise.

To watch over legislation affecting insurance brokers, and to promote, or support and assist in any legitimate manner the carrying into effect of, any legislation having for its object the common good of such brokers, or of such brokers and the general public, and to oppose any legislation considered harmful, and generally to watch over, promote, and safeguard the common interests of the members of the Corporation and the general public.

To afford means of arbitration on, or for settling, disputes or questions between members of the Corporation, or between members and third parties.

To ascertain the law and practice relating to insurance, and to register cases for information of members, and to take steps to obtain or to assist any person to obtain legal advice upon, or the judicial determination of, any question of general importance or interest to insurance brokers, or the members of the Corporation.

To apply, petition for, or promote any Act of Parliament, Royal Charter, or other authority with a view to the attainment of the above objects or any of them.

The Corporation succeeded the Association of Insurance Brokers and Agents, formed in 1906, and was incorporated in 1910 as the Corporation of Insurance Brokers and Agents. The agents' section having reached sufficient importance, and in order to secure a better definition as between brokers and agents, a separate Corporation of Insurance Agents (*q.v.*) was formed in 1919, and the title of the original Corporation was changed to "The Corporation of Insurance Brokers."

The Articles of Association of the Corporation as revised in 1926 give the following definition of an insurance broker as—

"Insurance Broker" means (i) an individual whose sole business consists in placing or arranging insurance on commission whether he does so on his own account or as a partner in a firm or as a director of a corporation; and (ii) an individual who, although carrying on some other business, which is in the opinion of the Council incidental to or consistent with carrying on the business of placing or arranging insurance on commission, devotes so much the greater portion of his time to placing or arranging insurance on commission that in the opinion of the Council (whose decision shall be final and conclusive) such individual may properly be styled an "Insurance Broker."

PROVIDED ALWAYS THAT an individual shall not be deemed to be an insurance broker within the meaning of these presents if he or any firm of which he is a member or any corporation of which he is a director is employed or retained by any assurance company or other insurer on terms which require him or his firm or corporation to give to that assurance company or other insurer the first offer of acceptance of any form of business transacted by such assurance company

or other insurer unless the Council of the Corporation shall consider the circumstances of the employment or retainer are such as are not inconsistent with the proper conduct of the business of an insurance broker.

The Corporation has set on foot many of the objects projected in the Memorandum, having provided a central organization for insurance brokers, with the result that members are brought together in friendly co-operation. A journal was first issued in 1906, and was published at irregular intervals till October, 1919, since when it has appeared each month.

On several occasions evidence has been given on behalf of the Corporation before Government Committees. Lectures on matters of general insurance interest have from time to time been delivered, under the auspices of the Corporation, and there is an Information and Statistical Department which provides members and others with information and advice on points of practice, on questions arising out of the business and other matters. A record of insurance cases is maintained, and there is also a library, from which members and students are allowed to borrow books.

It was first decided to put an examination system in force in 1914, but war exigencies rendered this impossible. Examinations were, however, instituted in April, 1919, and have since been held annually. The subjects which students may offer are life, fire, marine, and accident and miscellaneous insurance, and general, the last covering practical all-round knowledge of a broker's business, including his duties and liabilities. The qualifications of candidates for membership have always been carefully scrutinized, but it is now held that candidates should, as regards their insurance knowledge, conform to some measurable standard, and the aim of the Corporation is that in future all insurance brokers joining the Corporation and all the members of the staffs of such insurance brokers who are actually engaged in the business should pass qualifying examinations.

Much importance is attached to the work of bringing members together, both in London and in the centres where there are District Committees, and of inculcating a professional attitude as between member and member, and between members and those outside the Corporation, and also to what it is possible to do from time to time by friendly intervention in settling disputes

between members, and between members and insurance companies.

As a result of the existence of the Corporation the status of insurance brokers generally has become to a considerable extent recognized. The aim of the Corporation goes further, and it is desired to devise some means by which the public may be protected from unqualified persons who are free to describe themselves as insurance brokers without realizing the responsibilities that such a title imposes.

One method of attaining this end would be by securing the grant of a Royal Charter, which would not only enable the public to differentiate between members of the Corporation, who are qualified, and others, but would also enable the Corporation to exercise a greater measure of control over its members, and to fix a degree of professional conduct which must not be departed from.

Besides the objects already mentioned, which may be regarded as "permanent," the Corporation has another important aim which it is hoped will be ended by success. This is the abolition of the payment of direct commission to the insured. This was the immediate cause of bringing the original Association into existence, and the first objects of that Association included an item—"The suppression of the growing tendency of allowing any commission or rebate, directly or indirectly, to persons other than insurance brokers and agents." The fact that this object is omitted from the present Memorandum does not mean that it is overlooked, but obviously it is unsuited to a statement of the permanent objects of a professional society. It is, however, entirely suitable for a body of professional men to endeavour to amend the practice of the business by eliminating a method which is bad for the business and against public policy, and the Corporation feel it to be such an evil, particularly in life assurance, for an assured to be appointed a nominal agent merely for the sake of receiving what is called commission while it is really a discount, thus giving him preferential terms as against other policyholders in the same company.

This evil removed, the Corporation would be left free to pursue its principal objective, which is to develop the capacity and reliability of the insurance broker, to exercise professional supervision over the members of the Corporation, and to secure for them such definite professional standing as may

assist them in the discharge of their duties ; thus elevating the character and status of the profession as a whole.

The head offices of the Corporation are at 3 St. Helen's Place, London, E.C.3.

#### CORRESPONDENCE.

(See AGENCY DEPARTMENT.)

#### COUNTER CASH RECEIVED BOOK.

(See CASH DEPARTMENT.)

#### COUNTER WORK.

(See AGENCY DEPARTMENT.)

#### COVENANTS.

(See VOLUNTARY SETTLEMENTS.)

#### CYST.

A tumour formed by a circumscribed limiting membrane, distended with fluid. The commonest cyst is the sebaceous cyst, formed by the distension of a sebaceous gland in the skin. It has no significance in life assurance, except that an operation may have to be performed for its removal, and the assured undergo the risk of an anaesthetic.

Other forms of cyst may occur almost anywhere in the body. They are usually not malignant, but some forms of cyst, especially of the ovary, may be cancerous. A case must, therefore, be dealt with as indicated in case of TUMOURS (*q.v.*).

#### CYSTITIS (Inflammation of the Bladder).

The causes of this condition are many. Commonly, it may be due to chill ; tubercle ; calculus ; infection from the urethra or testicles ; infection from kidney.

Symptoms are similar to those of calculus. No patient suffering from cystitis is insurable. If there is any history of this condition, reference must always be made to the doctor who treated the case, and the proposer submitted to a strict medical examination. In the event of the cystitis dating back several years, and being accompanied by no serious primary cause, a policy may be issued at ordinary rates, subject to a satisfactory medical examination. In the event of the case being due to venereal disease (gonorrhoea), provided no symptoms have been present for two years and there is no trace of any infection of the bladder or urethra, prostate or testicles, the case may be treated as a simple gonorrhoea (*q.v.*).

In other cases the proposer must be dealt with according to the nature of the primary

cause, it being remembered that any primary condition of the kidneys or other part of the genito-urinary tract, which has given rise to a complication of cystitis, must be viewed more seriously than if this complication had not arisen.

As a general rule, it may be said that no case of cystitis is insurable until all symptoms have been absent for two years, and there is no sign of any disease of the genito-urinary tract for a corresponding period. Cases with a history of tubercular cystitis are uninsurable under any circumstances except for short term endowment assurances.

#### CZECHO-SLOVAKIA.

**Regulations Affecting Insurance Companies.** According to the amended Insurance Laws of 1919, any foreign insurance company doing business in Czecho-Slovakia is obliged to make application for a concession to the Minister of the Interior, Department 18, Snemovni ulice 1, Prague III. On obtaining the concession, the foreign company must pay a fee, calculated on a percentage of one-fourth of the issued share capital. The fee on one-fourth of the capital not exceeding 2 million Kc. is 2 per cent ; not exceeding 20 million Kc. 3 per cent ; up to 50 million, 4 per cent ; up to 100 million, 5 per cent, and beyond that sum 6 per cent. Some favoured countries, however, obtain modifications and are permitted to calculate, for the purposes of the fee, only on one quarter of the capital invested in Czecho-Slovakia. This fee is irrecoverable.

It is further necessary to deposit a sum of money with the Czecho-Slovakian Government, usually deposited in bonds, on which the foreign company draws the interest. No definite amount has been fixed, though the administration authorities usually claim Kc. 300,000, or Kc. 500,000, according to the size and status of the foreign company about to be established.

During recent years it has been increasingly difficult for foreign insurance companies to estimate taxation. According to the Austro-Hungarian Act of 25th October, 1896, No. 220, the tax amounted to 10 per cent of the net profits, while mutual insurance companies paid 1 per cent of the premiums received, less the premium reserve (unearned premiums). Under the Act of 18th November, 1917, No. 617, a temporary war tax has been superimposed, varying from 80 per cent to 150 per cent of the above tax, according to the amount of profit, in the case of joint stock companies, and 50 per

cent for mutual insurance companies. In addition to this, there is a tax varying from  $\frac{1}{2}$  per cent to 10 per cent on interest accruing from bank deposits or balances. The war supplement, according to the amended Act of 1922, increases this tax from 100 per cent to 200 per cent, though revenues on which the full 10 per cent has already been paid are exempt.

Besides the above, there are also taxes varying between 1 per cent to 4 per cent

on reinsurance premiums received, live stock insurance, and on claims paid for all branches of insurance ; likewise 1 per cent on all advances on policies.

All insurance companies in Czecho-Slovakia are under the control of the Minister of the Interior. Though there is a formal tariff association for the fire branch, all companies do not belong to it. A general tariff appears to be in operation also for burglary insurance.

**DANZIG FREE STATE.**

**Regulations Affecting Insurance Companies.** The German law, Sect. 85, etc., applies to the granting of licences to foreign insurance companies in the Danzig Free State. It requires the production of a certified copy of the statutes of the company, and the appointment of a general representative, who must be a citizen of the Danzig Free State. An initial deposit in national currency, equivalent to the sum of £5,000, must be made as a minimum, or 30 per cent of their premiums on insurances in Danzig, whichever is greater. Besides ordinary company taxes, foreign insurance companies pay a stamp duty on each policy written. Foreign companies solely engaged in marine insurance are free from the above regulations. All other classes of insurance are under the supervision of the Senate of the Free State of Danzig.

**DAYS OF GRACE.**

(See PROPOSAL FORM; also INDUSTRIAL ASSURANCE, TYPES OF POLICY ISSUED.)

**DEATH, CAUSES OF.**

(See MORTALITY INVESTIGATIONS.)

**DEATH CLAIMS.**

(See CLAIMS.)

**DEATH DISTRIBUTIONS.**

(See MORTALITY.)

**DEATH DUTIES ASSURANCE LEAFLETS.**

(See CANVASSING LEAFLETS, page 119.)

**DEATH DUTY POLICIES.**

Before the heirs to an estate can obtain legal possession Estate Duty has to be paid not later than six months after death, and 4 per cent interest is charged on all Death Duties outstanding. It may very often happen that there is difficulty in raising the amount required either by an unprofitable forced sale, or by raising a loan, or for other reasons. In any case there may be much delay and embarrassment before the beneficiaries can come into possession of the estate. But if the probable amount of the duty payable has been covered by a life assurance policy on the life of the testator,

all financial difficulty and inconvenience are done away with, and there need be no waiting. The larger the value of an estate is likely to be, the more urgent does it become that the necessary duties should be provided for by assurance. Whole life policies covering this contingency are issued at low non-profit rates of premium, and the assurance company on receiving notification of death with the proper forms will, without waiting for the grant of probate, pay over the sum assured to the Inland Revenue authorities immediately. A special clause, mostly on the following lines, is inserted in policies issued to cover death duties—

“Subject to any assignment or incumbrance of which the Association shall have received due notice, the Association may at the request in writing of the executors or intending administrators of the assured, before grant of representation to the estate is obtained, pay the whole or any part of the sum assured and existing bonuses thereon to the Commissioners of Inland Revenue or other authority competent to receive it, in or towards discharge of the whole or any part of the estate duty or any similar duty payable out of the estate of the assured, and such payment shall be allowed by the executors or administrators of the assured as a payment on their account and by their direction in or towards discharge of such sum assured.”

Another form of special clause in such policies reads as follows—

“It is hereby agreed that, on due proof of the death of the life assured, and on the request in writing from any person being or claiming to be entitled to obtain probate of the will of the grantee or letters of administration to his estate or confirmation in Scotland, and provided no notice of any dealing with the policy has been received by the Society, the Society will, upon delivery of the policy, pay all or so much of the sum assured as may be specified in such request to the Bank of England for the credit of the Commissioners of Inland Revenue on behalf of the estate of the grantee with a view to meeting Estate Duty, and the receipt of the Bank of England shall be an effectual discharge to the Society for all money so paid.”

Specimen non-profit whole life premiums per £100 assured—Age not exceeding 30, £1 16s. 4d. ; not exceeding 40, £2 10s. 8d. ; not exceeding 50, £3 14s. 8d. If the policy is effected with premiums ceasing at age 70, the following are the rates—not exceeding 30, £1 17s. 8d. ; not exceeding 40, £2 14s. 4d. ; not exceeding 50, £4 6s. 0d.

#### DEATH, PRESUMPTION OF.

Cases of some difficulty sometimes occur where the life assured has disappeared, or has not been heard of for a number of years. They generally arise when the life assured is not interested in the assurance. The policy may have been effected by a third party to cover a debt, and the debtor may be purposely concealing himself from his creditor ; or if the policy has been assigned away, the policy-holder's interest in the assurance has vanished, and the assignee may not have realized the importance of keeping in touch with him. There are also instances where the life assured, while still interested in the policy, completely and mysteriously disappears. The policy will often be maintained by a relative pending his return. In all such cases, provided sufficiently searching inquiries have been made to satisfy a judge of the probability of the life assured being dead, the Court will presume death to have taken place at the end of seven years from the date of the disappearance, and the evidence which the office will require is the order of the Court presuming death. It is difficult to say, after an examination of the cases that have been decided on this point, what the rules are as to adequacy of the evidence required to establish presumption of death, but it may be taken as a guiding principle that exhaustive search and inquiry must have been made in those quarters where news of the missing person would most naturally be forthcoming if he were still alive. Cases of this kind are not often met with, and no doubt offices would generally seek the advice of their solicitors in dealing with them.

#### DEATH RATES, INTERNATIONAL COMPARISONS.

(See NATIONAL DEATH RATES.)

#### DEBENTURE POLICIES.

(See GUARANTEED INCOME POLICIES ; also GOLD BOND POLICIES.)

#### " DECREASING " DEBT PLAN.

(See UNDER-AVERAGE LIVES.)

#### DECREASING TERM ASSURANCE LEAFLETS.

(See CANVASSING LEAFLETS, page 124.)

#### DECREASING TERM POLICIES.

This form of short term policy (*g.v.*) is not perhaps so well-known or so generally used as it might be. It is very useful for covering a liability which will be a decreasing one over a fixed period of years. In this way it may be employed, say, to cover the outstanding balance, in the event of death, on a mortgage which is being paid off by regular instalments. There are two methods by which this may be done. The first is to charge a level premium for the first five years, for instance, and thereafter periodically decrease it. The second is to charge each year a single premium, which becomes progressively smaller from year to year, to cover the outstanding balance of the decreasing liability. Quotations for such policies are naturally dependent on the individual circumstances of each case.

#### DEEDS, PRESERVATION OF.

Whenever a deed or other document is executed affecting the title to a life policy it must be carefully preserved, for when a payment comes to be made by the company all such deeds and documents will have to be produced in evidence of the title of the claimant. It is not uncommon for policy-holders who have assigned their policies, and have subsequently had them reassigned to them, to imagine that once notice of these transactions has been lodged with the office the deeds may be destroyed. This is an entirely erroneous idea, for it is quite conceivable that the nature of the original assignment might be such that the assignee could not relinquish his claim to the policy. Moreover, the deeds might contain reference to some other transaction of which the office had not had notice, and as notice of the existence of a deed implies notice of all its contents, the company cannot dispense with the production of documents under any circumstances. This does not mean, however, that if the deeds have been lost or destroyed the company would refuse to make payment, for settlement in such a case could generally be arranged on the claimant granting the company an indemnity guaranteeing to refund the amount of any loss it might sustain through making settlement without production of deeds. Delay and expense would, however, be occasioned to the claimant in this way. It is very desirable to avoid the

one and the other. In taking such an indemnity it might be necessary to insist on substantial sureties in cases where the circumstances were not clear, and there was any doubt as to the regularity of the claimant's title, or it might even be necessary to pay the money into court, though the company would never adopt such a course unless it could find no other way of getting a reasonably safe discharge.

### DEEDS, STAMPING OF.

All deeds must be properly stamped by the Inland Revenue within thirty days of their execution. Should an incorrectly stamped deed be produced in proof of title, the company is prohibited by Sect. 118 of the Stamp Act, 1891, from making payment thereunder. It would then be necessary for the deed to be correctly stamped, and a penalty would have to be paid by the claimant before the matter could be adjusted. It is true that at present the Inland Revenue do not hold the company responsible for verifying the stamp duty on deeds that do not form a direct chain of title and that, therefore, where a policy has been assigned away and finally reassigned directly or otherwise to the original assignor, the company need not concern itself with the stamp duty in any of the deeds covering the transaction. But that does not affect the policy-holder, for the Stamp Act expressly provides that no assignment of a life policy shall confer on the assignee the right to sue thereunder for the policy moneys or give a valid discharge for any part thereof, unless the assignment deed is correctly stamped, and the presently existing concession to the companies which enables them to ignore the stamp duty impressed on deeds forming closed loops of title, so to speak, may be revoked at any time.

### DEFERRED ANNUITIES.

The benefit secured by a deferred annuity is an immediate annuity of one or other of the types referred to under that heading, to be entered upon after a term of years or on attainment of an agreed upon age.

Such a benefit can be secured by a single payment or premiums up to the time the annuity is to be entered upon, the premiums being payable by yearly, half-yearly, quarterly, or monthly instalments.

There are two distinct methods of providing deferred annuities—

(1) With provision in the event of death, before the annuity is entered upon, of a

return of all the premiums paid, with or without interest, a similar concession being sometimes granted if the contract is given up.

(2) Without any such return, the only alternative prior to the deferred age to losing what has been paid being a reduced deferred annuity of such a proportion of the original annuity as is represented by the number of premiums actually paid to the date the contract is given up.

Deferred annuities of the latter type involve the double elements of mortality and interest from the outset. On the failure of the life all benefit passes on the principle of survivorship, thus keeping down the cost to the lives who survive to enjoy the benefit covered by such a contract.

This is a risk which an individual will not be prepared to run unless it may be under some general scheme of pensions or superannuation benefit, the contributions to which do not fall upon him, but are made by some third party on his behalf in respect of a superannuation scheme.

"With Return" deferred annuities are, therefore, the more general type, and, until the annuity is actually entered upon, practically consist of the investment or interest element only. Until that event the element of mortality is ignored, and the calculation of premium or contribution for a deferred annuity with return resolves itself into ascertaining the single or annual payment which, if invested at a given rate of interest, will provide the necessary sum (assuming survival) to purchase an immediate annuity of a desired amount by the time such annuity is to commence, the practical formula being  $v^n a_x + n$  for the single premium on a life aged  $x$  for a deferred annuity of 1 per annum to be entered upon in  $n$  years, the corresponding annual premium being  $\frac{v}{s_n} a_x + n$

assuming the premium is payable at the beginning of each year, as is usual. If the assured ( $x$ ) dies before attaining the age of  $x + n$ , or if the contract is surrendered, then the basis of the formula allows of a return of the premiums or contributions with interest not exceeding the rate used in the calculation, provided the grantor is agreeable to part with such interest.

Deferred annuities (with return) also usually provide for the commutation of the annuity when the annuity age is attained, which commutation is called a "Cash Option" in lieu of annuity.

When it is remembered that the principle of a deferred annuity underlies every

description of income provision for old age—old age pensions—pension and superannuation schemes—etc., the importance of the subject cannot be over-rated, and it is remarkable that the crudest notions exist as to the heavy cost (unless commenced very early in life) of old age provision of this form, whether individual or collective.

Illustrations now follow of deferred annuities as issued to individuals by life assurance offices (the Government discontinued the issue of this type of annuity in 1912).

The application of the system of deferred annuities to pension schemes is fully dealt with in Dougharty's *Pension, Endowment, Life Assurance, and Other Schemes for Employees of Commercial Companies*, and also in Robertson and Samuels' *Pension and Superannuation Funds*. (Sir Isaac Pitman & Sons, Ltd.), but a few notes thereon are given below.

In the case of deferred annuities, *with* return, a surrender value attaches (if the contract is given up before the annuity is entered upon) varying from 90 per cent of the contributions in some life offices to all the contributions, plus 2 per cent or 3 per cent compound interest, in others. Under *with* return or *without* return contracts, in lieu of surrendering the contract for a cash value, a fully paid-up deferred annuity will be granted, securing that proportion of the benefit which the number of premiums paid bears to the number originally payable.

**Special Deferred Annuities.** Under this scheme, instead of periodical premiums at certain due dates being fixed at the outset, *the premiums may be paid in multiples of £1 and at any intervals that may be most convenient.* Nothing is lost if the payment of premiums is not continued, nor made

REPRESENTATIVE RATES FOR A DEFERRED ANNUITY (WITHOUT ANY RETURN IF DEATH TAKES PLACE) OF £10 PER ANNUM

Age at entry.	MALES.		FEMALES.	
	Annuity to commence at age		Annuity to commence at age	
	60	65	60	65
30	£ s. d. 1 14 4	£ s. d. 1 - -	£ s. d. 1 18 7	£ s. d. 1 2 9
40	3 6 7	1 16 9	3 14 10	2 1 9
50	8 14 10	4 1 9	9 16 7	4 12 9

DEFERRED ANNUITY (WITH RETURN OF ALL PREMIUMS WITH INTEREST IF DEATH TAKES PLACE BEFORE MATURITY AGE)

Age at entry.	MALES.		FEMALES.	
	Annuity to commence at age		Annuity to commence at age	
	60	65	60	65
30	£ s. d. 2 6 3	£ s. d. 1 11 3	£ s. d. 2 12 11	£ s. d. 1 16 3
40	4 1 10	2 11 10	4 13 8	3 - -
50	9 11 10	5 1 6	10 19 5	5 17 8

Commutated value in lieu of annuity at age 60 . . . . .	Males.	Females.
“ “ “ “ “ 65 . . . . .	£113	£127
	£97	£112

regularly. Each premium is quite independent of the payment of other premiums, and secures a certain definite amount of annuity, just as if it constituted by itself an entirely separate transaction.

At the deferred age the policy-holder is entitled in lieu of whatever annuity he has paid for, to take a *Guaranteed Cash Value*, equal to the accumulated amount of the premiums paid with compound interest at the rate of 3 per cent per annum.

Policy-holders are thus amply protected against the possibility of their then being in bad health, or against any other change in their circumstances which may make a capital sum more desirable than an annuity. The cash value can, of course, be applied to purchase any kind of annuity, as, e.g., one dependent on the lives of the policy-holder and his wife, or of the policy-holder and a daughter, or on the life of the policy-holder and until a son attains age 21.

The policy-holder has the option of substituting a different deferred age for that originally decided on, and the extent to which the annuity will then be increased or reduced is guaranteed in the policy.

Loans will be granted upon security of these special deferred annuity policies, which loans, if not previously repaid, must be repaid on attainment of the deferred age.

#### EXAMPLE A

A man entering at age 25 and paying the under-noted premiums would secure the following annuities or cash values at age 65—

<sup>1</sup> Age next birthday.	Premiums.	Deferred annuities after age 65.	Cash value at age 65.
25	£ 10	£ s. d. 3 7 1	£ s. d. 32 12 5
26	20	6 10 4	63 6 10
29	1	5 11	2 17 11
30	19	5 10 -	53 9 2
31	70	19 13 2	191 4 11
33	15	3 19 6	38 12 6
35	45	11 4 7	109 4 4
Total	£180	£50 10 7	£491 8 1

#### EXAMPLE B

A woman entering at age 25 and paying the undernoted premiums would secure the following annuities or cash values at age 60—

<sup>1</sup> Age next birthday.	Premiums.	Deferred annuities after age 60.	Cash value at age 60.
25	£ 10	£ s. d. 2 3 5	£ s. d. 28 2 9
26	1	4 2 -	2 14 7
27	25	5 2 6	66 6 3
29	50	9 12 11	125 - -
31	15	2 14 7	35 7 0
Total	£101	£19 17 7	£257 10 7

<sup>1</sup> NOTE. This is the age at which it is assumed the purchaser makes each payment, but under this scheme premiums may be paid of any amount (multiples of £1) at any odd time most convenient.

This plan resolves itself into a 3 per cent compound interest investment (free of tax) up to the annuity age.

One large Colonial office transacting business in this country not only issues deferred annuities with or without return of premiums at death, prior to the annuity age, but in the event of total and permanent disability frees the contract from future premiums, and commences payment of the annuity at once.

For such an additional privilege a medical examination would be required at the outset, which, of course, is not necessary in the other forms of deferred annuity referred to.

**Deferred Annuities and Pension Schemes.** A system of deferred annuities is eminently suitable as a basis for a pension scheme, especially when there are but comparatively few persons to come under the scheme, such as in the case of a small office staff. In such cases where there is a lack of data extending over several years, from which one could derive some reliable figures as to the number of members who will survive to qualify for a pension or die or withdraw in the meantime, a system of deferred annuities is usually adopted.

The advantages of such a system are that a pension fund can be opened for any number of employees or members, however small, and each member is guaranteed certain minimum results for each contribution. This method can be safely afforded in many instances by a firm itself if after consideration it prefers not to go to a life office.

Where a firm makes annuity contracts with members of its own staff, such contracts are not considered life annuities within the Assurance Companies Act, 1909, and consequently no deposit with the Government is necessary.

A pension scheme of deferred annuities is secured by fixed contributions, annual, quarterly, or monthly, each contribution made being an agreed percentage of the initial salary of an employee, and shared by the employer and employee in any desired proportion.

The pension guaranteed from time to time is limited to that which can be secured by the rate of contribution being actually made, and does not *anticipate* the possible increases in salary until such increases are being received, when a corresponding increase in the contribution, according to a member's attained age at the time of such increase, is utilized to adjust the pension in accordance with an agreed-upon prepared table, showing the proportion of the salary which it is desired shall be allowed by way of pension when a member retires.

A pension itself may take the form of an annuity of any of the particular types referred to under the heading "Immediate Annuities," the only difference being that it is deferred until a given age, by which time contributions from employee and employer, compounded at a given rate of interest, furnish the necessary sum to provide the pension in question.

This subject is, of course, important at the present time owing to the consideration (by way of pension) given to the inherent right of an employee to some regard for long service, and therefore a brief description of two actual schemes on the above lines is given here.

#### TWO TYPES OF PENSION SCHEMES FOR SMALL STAFFS ARRANGED ON THE BASIS OF DEFERRED ANNUITIES

By arranging the matter through a life office considerable trouble is saved, and the fund is, of course, guaranteed against depreciation in investments and conducted practically free of cost.

Pension policies are issued in duplicate, the original being held by the firm and the duplicate, which is simply a record of the transaction, being held by the member entitled to a pension at a given age.

It is assumed that the pension age selected is 65, and it may be stated that if the pension age is 60 the cost generally works out at about 60 per cent more, as, of course, a company loses contributions for five years and has to commence paying pensions earlier.

It must be pointed out that the only

disadvantage of going to an insurance company is that the fund is not free of income tax, as it would be if formulated under the 1921 Finance Act and approved by the Inland Revenue.

(See page 182 for INCOME TAX ALLOWANCES (DEFERRED ANNUITIES).)

Whilst it will be obvious to any intelligent person that the cost is a little less if the fund is conducted by trustees appointed by the members of the firm themselves, this necessitates a book of rules, a lengthy trust deed, the appointment of officers, and expenses incidental thereto. In some cases it has not been considered that the saving in tax compensates for the worry of conducting a scheme. This particularly applies where the staff comprises under 50 members.

Particulars are also given of another scheme of a more elastic type, although the particulars given relate to a scheme which the firm themselves conducted, and was not placed with a life office.

#### Scheme I

##### MODEL SCHEME OF SUPERANNUATION CONDUCTED THROUGH AN ASSURANCE COMPANY

The following is a contributory scheme which a firm instituted for the benefit of the clerical staff.

1. The staff shall be divided into grades, senior and junior, the rate of pension being from £100 to £400.

2. The determination of the grade which shall apply in the case of any member to come under the scheme shall rest solely with the firm, who shall also determine the eligibility of any member for transference from the lower to the higher grade.

3. The pension age shall be 65, and the pension then to be receivable shall be granted for a term of 5 years certain, or for life, whichever term is longer, and the pension shall be payable by quarterly instalments with a proportion between the last quarter and the date of death.

4. The pension shall be secured by a deferred annuity policy to be granted by a life office on each life coming under the scheme, which policy shall be made out in the name of the firm, and be under their control until the pension is entered upon.

5. The premium to be paid to the assurance company shall be shared as between the firm and the member, one-half of such premium being paid by the member through the firm, and the other half by the firm.

The firm in recognition of back service will allow rebate calculated upon the full premium payable for 1 per cent for each full year of service reckoned as 2 per cent for each year of war service. The premiums payable shall be calculated according to the rates given in Appendix A. In the event of the pension being increased by transference from the junior to the senior grade, the additional premium chargeable will be rated at the age next quarter after such transference. It follows that if a member has had fifteen years' service and three years' war service he will be entitled to a rebate of 21 per cent from the full premium, which rebate will be payable by the firm in addition to their 50 per cent, thus leaving him to pay only 29 per cent of the required premium.

6. **Benefits.** The member shall have on retirement at the age of 65 the right to receive a pension of the amount for which he is contributing at the date of his retirement, which shall be payable during the remainder of his lifetime, or for five years certain, whichever is the longer. Such pension is regarded as the standard upon which are based the alternative benefits hereafter mentioned.

The member shall have on retirement at the age of 65 the option of selecting either of the following alternatives in lieu of the standard pension—

(1) A cash payment equal to the member's contributions accumulated at 3 per cent, together with such a pension as is provided by the firm's contributions, which latter cannot be surrendered for a cash payment; or

(2) A pension payable during the joint lives of the member and his wife at the time of his retirement and during the life of the survivor, of an amount appropriately reduced.

7. Should any member be placed by the firm upon the retired list at an earlier age than 65 on account of permanent failure of health, such member shall have the option of selecting either of the following alternatives—

(a) To receive the cash value of the contributions made by himself and the firm.

(b) If the value of such contributions is sufficient to provide a pension of not less than £10 per annum payable during the life of such member or for five years certain (whichever is the longer), to receive a pension of such amount as the value

of the contributions made in respect of him is sufficient to provide.

8. If any member shall commit an indictable offence whilst in the service of the firm, and shall leave such service in consequence thereof, he shall forfeit all claim to the contributions made by the firm on his behalf.

9. Should any member of the scheme leave the service of the firm for any reason not already provided for, he shall receive as follows—

(1) If he has been a member of the scheme for less than 15 years, his own accumulated contributions only, together with £3 per cent compound interest thereon.

(2) If he has been a member of the scheme for 15 years, but less than 25 years, his own accumulated contributions, together with £3 per cent compound interest thereon, and, in addition, one-half of the firm's contributions paid in respect of his policy without interest.

(3) If he has been a member of the scheme for 25 years or more, his own accumulated contributions, together with £3 per cent compound interest thereon, and, in addition, one-half the firm's contributions paid in respect of his policy, together with £3 per cent compound interest thereon.

For the purposes of this rule the years of service with the firm after the age of 20 shall, in the case of members joining the scheme at its commencement, count as years of membership of the scheme.

In the event of the death of a member before the age of 65 whilst still in the service of the firm and contributing to the scheme, there shall be paid to his legal personal representatives the accumulated contributions, together with £3 per cent compound interest thereon.

10. Any contributions to which a member is not entitled under these regulations, together with £3 per cent compound interest thereon, shall be paid by the insurance company to the firm.

11. Provisions are made for the closing of the scheme, custody of policies, and other general working arrangements.

**Appendix A.** Specimen rates of contribution per annum to secure a pension of £100 per annum from age 65, contributions being returnable with 3 per cent compound interest in terms of the rules attached, the pension secured by contributions being payable for

five years certain or life, whichever is longer, by quarterly instalments with proportion to date of death.

Age.	Term. (years)	Contribution per annum.		
		£	s.	d.
20	45	10	14	4
25	40	13	6	—
30	35	16	14	4
35	30	21	8	4
40	25	28	3	4
45	20	38	10	—
50	15	56	—	4
55	10	91	10	—
60	5	198	17	4

10 per cent extra for females.

### Scheme 2

#### PENSION SCHEME ON A SINGLE VARIABLE CONTRIBUTION BASIS

The previous scheme involves, as do others of that type, continuous annual contributions from employees as well as employers, a factor which does not give rise to much difficulty if a business is a well established one, with a fairly uniform revenue, and the staff, all things considered, is not subject to much fluctuation. There are, however, a number of firms whose employees desire a "pension scheme," and yet the uncertainty of a continuous period of prosperity does not warrant the firm committing themselves to a definite annual contribution. Given a bad year, great difficulty might be felt in finding the firm's contribution, without which a pension scheme based on the assumption of regular annual contributions would break down or need serious adjustment.

Again, from the employees' point of view, occasion may arise when some latitude may be desired in regard to their obligation to make a regular annual payment.

The following is a model scheme, which almost wholly meets these difficulties.

It follows, of course, under any scheme that any reduction in contribution for any reason has, *a fortiori*, a marked effect on the amount of possible pension.

The scheme now illustrated is derived from a consideration of the fact that a series of annual payments securing a certain amount of pension may be split up into separate payments, each of which secures a part of

the final pension, those more remote from the pension age having the greater weight. It is fairly obvious, therefore, that each annual contribution may be considered as a single payment by itself securing a pension of  $x$  at the end of a given number of years, whether or not any further contributions are made. Having arrived thus far, it will be seen that there is no real reason why contributions need be level in amount or regular in time so long as one has a prepared table showing clearly the pension obtained at the desired retiring age by a single contribution of, say, £1 made at any given age, any other amount of contribution securing a pro rata pension.

This is the basis of the scheme to be described, which is more easily explained by giving extracts from specimen rules for such a scheme.

**Employees.** Whilst the principle of the scheme is based on the "single contribution plan," an employee is expected to agree to make a level contribution from year to year. In fact this is necessary to conform to the rules of the Inland Revenue, if the privileges granted under the Finance Act, 1921, are sought for. The rules in the Pension Scheme under notice, in regard to contributions from employees, read thus—

#### RULE—

Every person proposing to become a member shall thereupon give notice in writing to the secretary stating under which of the following grades he elects to contribute —

#### ANNUAL CONTRIBUTION OF A FIXED AMOUNT

Grade 1 . . . . .	£1 per annum.
" 2 . . . . .	3 " "
" 3 . . . . .	6 " "
" 4 . . . . .	12 " "
" 5 . . . . .	20 " "
" 6 . . . . .	30 " "

A member may, by notice in writing to the secretary during the month of — in any year, elect to contribute under a higher grade. It shall not be allowable for a member to transfer to a lower grade from that in which he is contributing, except by special reference to the trustees, which shall be supported by evidence of extenuating circumstances, in which cases the trustees on their sole discretion may decide to admit such member to a lower grade or otherwise.

No subscription shall be less than 1s. 8d. per month and subscriptions of more than 1s. 8d. shall be in multiples of 1s. 8d.

**Employers.** The point to be observed here is that it is assumed that the firm do not wish to commit themselves to a definite annual charge against revenue, rather preferring to make periodical grants from profits as prosperity will allow. Such grants may, and probably will, vary in amount from time to time, and the equitable distribution of these grants amongst contributing employees is, of course, important. In the following rule "weight" is given to service which corresponds in most instances to age attained.

In the case of the older employee, the time to elapse before retirement will be short, and the pension secured by his own contribution consequently relatively small. As a pension is usually a reward for "service" the distribution of any grant should favour the older employees or those with the longer service.

The "weights" to be adopted in favour of the staff can only be determined after an examination of the incidence of ages and service, but the following is a sufficiently general rule to explain the application of the principle of grants from the employer—

**RULE—**

The company will from time to time as the profits and financial position will allow, and at the discretion of the directors, make grants to the trustees of the pension fund, either by way of a cash amount or fully paid shares or bonds of equal market value, and on receipt of such grant the trustees shall divide the value of such grant between each existing member of the pension fund (other than those in receipt of pensions) with due regard to their length of service taken as the complete number of years' service at the time such grant is made. The method of division or allocation to each member shall be arrived at by dividing the said grant by the total number of years' service rendered by all the members entitled to participate in such grant, the allocation giving the aliquot part which each member shall receive in respect of each complete year he has served with the company, so that the total grant is thus equitably distributed between them. Such grant shall be carried by the trustees to the pensions fund, whereupon the pension to which each member will become entitled at the age of 65 will be increased, in accordance with a given table, by such a sum as his share of the company's grant will provide, having regard to his attained age.

**Benefits.** The particular scheme described secures a pension at 65 guaranteed for five years or life, whichever shall be the longer, and the following excerpt is given from a table showing the amount of pensions secured on this basis by each payment of £1.

It follows that until the company's grant is made, the pension scheme is supported solely by the men's contributions, but, as shown in the example given below, directly the grant is made by the company this has the effect of at once increasing the pension. The amount of pension secured by a payment of £1 down may look somewhat small, but it will follow that most employees can contribute a greater sum than this, and if one assumes anything like a continuous contribution of £10 from employees the pension becomes substantial. The table is based on 4 per cent interest with a mortality table selected to suit this particular case, which might require modification in the case of another firm.

TABLE showing amount of pension at the age of 65 (guaranteed for five years or life, whichever shall be the longer), secured by each payment of £1 between the ages of 20 and 60.

NOTE. Contributions returnable at death with  $3\frac{1}{2}$  per cent interest, (subject to tax), and earlier according to rules.

Specimen ages.	Annual Pension at age 60.	Specimen ages.	Annual Pension at age 65.
	<i>s. d.</i>		<i>s. d.</i>
20	12 1	40	5 6
25	9 11	45	4 6
30	8 2	50	3 9
31	7 11	55	3 1
35	6 9	60	2 6

(Intervening ages have been omitted in parts of the table to save space.)

**Illustration.** Assuming a man aged 30 contributes £2, he secures an annual pension of 16s. 4d., and if at the age of 31 he subscribes a further £2, the pension will be increased by 15s. 10d. per annum, and so on.

The contribution need not be the same each year, and will moreover be increased by such grants from the company, as they from time to time declare.

In the case of women members, the pension secured by a contribution of £1 will, on account of their increased longevity, be 10 per cent less than the figures above given.

The above is a broad outline of the particular scheme referred to. A warning should be given that if the number of the staff is relatively small, the number surviving the pension age may be so small that the fund is not large enough to give a "working average" in regard to the pensions to be granted thereon, with the result that if so granted the fund would be liable to severe fluctuation. In such cases it is convenient to insert a rule that the trustees of the fund may utilize part of the fund in purchasing an annuity from a life office.

The Inland Revenue will not, under any conditions, approve a pension fund which partakes of the nature of a provident fund; so that commutation of a pension at pension age or a cash option in lieu of pension would not, except under the most exceptional circumstances, be allowed. At the same time objection is not raised if a certain amount of cash is taken from the fund to purchase a pension or an immediate annuity from a life office,<sup>1</sup> when, of course, such pension becomes subject to tax if the income of the recipient justifies this.

**Income Tax Allowances (Deferred Annuities).** Reference is made above to the income tax regulations regarding deferred annuities, in particular when forming the basis of a pension fund. If the deferred annuities are effected through an assurance company, income tax rebate is allowed under the Income Tax Act, 1883, and confirmed in this respect by the Finance Act, 1916, where a rebate of income tax can be claimed in respect of payments payable on policies or contracts made in connection with any superannuation or *bona fide* pension scheme for the benefit of employees or any employer or of persons engaged in any particular profession, trade, or living.

No such rebate has been allowed since June, 1916, to private individuals who effect deferred annuities on their own lives with assurance companies, the rebate privilege being granted only in respect of premiums payable, as stated, in connection with *bona fide* pension schemes. A far greater privilege is now allowed under Sect. 32 of the Finance Act, 1921, in respect of superannuation or pension funds internally and privately conducted by firms on lines approved by the Commissioners of Inland Revenue, and this section is quoted below.

The granting of annuities on a human life

<sup>1</sup> N.B. The greatest care must be exercised in estimating the cost of such a life annuity operating many years hence.

is a business which, under the Assurance Companies Act, 1909, necessitates a deposit of £20,000 with the Government and the same formalities and returns as required by life offices, but the Act expressly provides that the expression "annuities on human lives" does not include superannuation allowance and annuities payable out of any fund applicable solely to the relief and maintenance of persons engaged, or who have been engaged, in any particular profession, trade, or employment, or of the dependants of such persons; and therefore the Assurance Companies Act, 1909, would not appear to have any bearing on a private and internal pension fund so far as pensions themselves are concerned, assuming no life assurance benefit is provided in the pension scheme other than return of contributions in the event of death.

EXTRACT FROM FINANCE ACT, 1921

32. (1) Subject to the provisions of this section and to any regulations made thereunder, exemption from income tax shall be allowed in respect of income derived from superannuation investments or deposits of a superannuation fund, and, subject as aforesaid, any sum paid by an employer or employed person by way of contribution towards a superannuation fund shall, in computing profits or gains for the purpose of an assessment to income tax under Case I or Case II of Schedule D or under Schedule E, be allowed to be deducted as an expense incurred in the year in which the sum is paid:

PROVIDED THAT—

(a) no allowance shall be made under the foregoing provision in respect of any contribution by an employed person which is not an ordinary annual contribution, and, where a contribution by an employer is not an ordinary annual contribution, it shall, for the purpose of the foregoing provision, be treated as the Commissioners may direct, either as an expense incurred in the year in which the sum is paid or as an expense to be spread over such period of years as the Commissioners think proper; and

(b) no allowance shall be made under this section in respect of any payments in respect of which relief can be given under section thirty-two of the Income Tax Act, 1918.

(2) Income tax chargeable in respect of an annuity paid out of a superannuation fund to a person residing in the United Kingdom shall, if the Commissioners so direct, be assessed and charged on the annuitant under Case VI of Schedule D instead of being deducted and accounted for under Rule 21 of the General Rules, and tax shall be computed on the full amount of the annuity arising in the year of assessment.

(3) For the purposes of this section, the expression "superannuation fund" means, unless the context otherwise requires, a fund which is approved for those purposes, by the Commissioners, and, subject as hereinafter provided, the Commissioners shall not approve any fund unless it is shown to their satisfaction that—

(a) The fund is a fund *bona fide* established

under irrevocable trusts in connection with some trade or undertaking carried on in the United Kingdom by a person residing therein ;

(b) The fund has for its sole purpose the provision of annuities for persons employed in the trade or undertaking either on retirement at a specified age or on becoming incapacitated at some earlier age ;

(c) The employer in the trade or undertaking is a contributor to the fund ;

(d) The fund is recognized by the employer and employed persons in the trade or undertaking.

Provided that the Commissioners may, if they think fit, and subject to such conditions, if any, as they think proper to attach to the approval, approve a fund, or any part of a fund, as a superannuation fund for the purposes of this section--

(i) notwithstanding that the rules of the fund provide for the return in certain contingencies of contributions paid to the fund ; or

(ii) if the main purpose of the fund is the provision of such annuities as aforesaid, notwithstanding that such provision is not its sole purpose ;

(iii) notwithstanding that the trade or undertaking in connection with which the fund is established is carried on only partly in the United Kingdom and by a person not residing therein.

(4) The Commissioners may make regulations generally for the purpose of carrying this section into effect and, in particular, without prejudice to the generality of the foregoing provision, may by such regulations--

(a) provide for the charging of and accounting for tax in respect of contributions (including interest) repaid to a contributor to a superannuation fund and on lump sums paid in commutation of or in lieu of annuities payable out of a superannuation fund as if any sums so repaid or paid were income of the year in which they are repaid or paid ;

(b) require the trustees or other persons having the management of a superannuation fund, or an employer whose employees contribute to a superannuation fund, to deliver to the Commissioners such information and particulars as the Commissioners may reasonably require for the purposes of this section ;

(c) prescribe the manner in which claims for relief under this section are to be made and approved, and in which applications for the approval of a superannuation fund are to be made ;

(d) provide for the withdrawal of approval in the case of a fund which ceases to satisfy the requirements of this section ;

(e) provide for determining what contributions to a superannuation fund are to be treated as ordinary annual contributions for the purposes of this section.

(5) Where at the commencement of this Act there is in force any arrangement between the Commissioners and the persons having the management of a superannuation fund by which provision is made for allowing any such deductions for the purpose of income tax as may be allowed for that purpose under this section, the arrangement shall, if the fund is approved as a superannuation fund for the purposes of this section for the year 1921-22, be deemed to have ceased to operate as from the sixth day of April, nineteen hundred and twenty-one, and, if the fund is not so approved, shall cease to operate as from the sixth day of April, nineteen hundred and twenty-two.

(6) In this section the expression "the Commissioners" means the Commissioners of Inland Revenue.

The regulations which have been framed by the Commissioners of Inland Revenue are somewhat too lengthy to reproduce here, but can be obtained from any Assessor of Taxes.

Before approving a Pension Fund under Sect. 32 of the Finance Act, 1921, the Inland Revenue now insist on, either

(a) Registration of the Fund with the Registrar or Friendly Societies under the Superannuation and other Trust Funds (Validation) Act, 1927, or

(b) The limitation of the Trust to a definite period, such, for example, as the life of the survivor of the issue now living of the late Queen Victoria and 21 years after the death of such survivor. A Trust which constitutes a perpetuity is void and even where there is a definite limitation of the Trust and Trustees accept the responsibility that the time of the Trust is not exceeded and that upon its expiration a new Trust is formed—hence the advisability of registering a Fund under the above Act. (*See Pension and Superannuation Funds.* Robertson and Samuels (Sir Isaac Pitman).)

(See also INCOME TAX.)

## DEFERRED ANNUITY AND PENSION SCHEMES.

(See DEFERRED ANNUITIES.)

## DEFERRED ASSURANCES FOR CHILDREN.

By the effecting of a deferred assurance for a child a parent or guardian may secure for it many important advantages in after life. To begin with, it is secured the possession of a very valuable policy for an amount of nearly twice what could be purchased with the same premium at age 21 or 25, and this without the necessity of its having to undergo any medical examination. This is very important, as it may by then be in impaired health and uninsurable. Again, the child may, at the maturity of the policy, be a young man contemplating matrimony. He can then be put in possession of a fully-paid life policy for a substantial amount, thus providing assurance protection for his wife from the outset without any necessity on his part to find premium payments. Alternatively, he can elect to continue the small premium required and protect her for a much larger amount in the event of his death, or he can select an

endowment assurance, and thus make provision for his own old age at a comparatively trifling annual cost. Or, finally, he may take the option of a sum in cash with which to secure an interest in a business, help to furnish a home, and so on. These are some of the many advantages of a good children's deferred assurance, which normally is indisputable and free from restrictions, and has the advantage that the premium cannot be increased. It also acquires a surrender value in the event of being discontinued, and for a small addition to the premium all payments cease on the death of the parent or guardian until the selected age for the child has been attained. In the event of the child's death all premiums paid are returned. Mostly, where the maturity age selected is 21, policies are issued from age 1 to 15, and where the selected age is 25 from age 1 to 20.

Following are specimens of the options obtainable with profits, on a child attaining age 21 in return for a payment of £10 per annum.

bonus of £1 10s. 0d. per cent per annum, payable at death or age 50, this policy would be worth £1,072 in cash at age 50. The total payments would have been £10 per year for 50 years, i.e. £500, so that the office would pay £572 more than it received.

**DEFERRED ASSURANCES, INCOME TAX ALLOWANCES.**

(See INCOME TAX.)

**DEFERRED BONUS.**

(See BONUS, page 99; also ALLOTMENT OF BONUS.)

**DEFERRED HOUSE PURCHASE POLICIES.**

(See HOUSE PURCHASE SCHEMES.)

**DEFERRED LIFE ANNUITY.**

(See DEFERRED ANNUITIES.)

**DEFICIENCY.**

(See INDUSTRIAL ASSURANCE ACT, 1923.)

Age not exceeding	Continue paying premiums as above to secure the following sums assured.			Discontinue premium and take a		
	Whole life assurance payable at death.	Endowment assurance payable at death or			Paid-up whole life Policy for	Cash payment of
		Age 60.	Age 55.	Age 50.		
1 month	£ 1,200	£ 1,099	£ 928	£ 833	£ 708	£ 283
1 year	1,148	965	884	792	657	248
2 years	1,101	924	844	755	619	233
3 "	1,057	886	808	721	567	218

Under another excellent deferred assurance scheme an annual premium of £10, in the case of a child not exceeding six months, would secure the following options for it on attaining age 25. If payments were discontinued it could take either a guaranteed cash sum of £350 or a fully-paid whole life policy for £975. If the premium of £10 were continued it would secure a whole life policy for £1,618, without profits, or one for £1,157 with a guaranteed bonus of £1 10s. 0d. per cent per annum. There are also six optional endowment assurances, with or without guaranteed bonus, from which the life assured could select at age 25. If his choice were an endowment policy for £780, with a guaranteed

**DEFINITION OF LIFE ASSURANCE.**

Life assurance differs from all other forms of insurance in that the ultimate benefit to be received under the contract by the person to whom a policy is granted is *assured* to him or her so long as the contract is kept on foot by the policy-holder. If the policy is one payable at death only, then sooner or later it must become a claim. If the policy be one payable at the end of a specified period or on the attainment of a certain age, and is also payable in the event of previous death in either case, then it is an endowment assurance, which must, within the specified period, become a claim as a result of one of two events happening, i.e. the death of the policy-holder or his

survivance. There is only one circumstance through which the policy-holder can fail to receive full benefit ultimately, and that is if he personally determines the contract, either by surrender or through ceasing to maintain his premium payments. The point to note is that the life office, having once accepted the life proposed and issued him a policy, cannot cancel the contract. It must *assure* him the policy benefits so long as he carries out his part of the bargain by continuing his agreed payments. To this end the office must make its calculations on a most careful basis, based principally on the expectation of life and a safe margin of assumed interest which it is likely to earn on necessary reserves that must be invested to meet its obligations to policy-holders as they are calculated to fall due. Compared with life assurance, all other forms of insurance are, broadly speaking, merely indemnities. That is, they are contracts to make good losses which *may* be incurred by the policy-holder in the event of certain happenings. Such losses may happen sooner or later, frequently, or never. The policy covering them is an annual contract, which is renewed from year to year, the office retaining the right of refusal to renew or even, in certain circumstances, to cancel the contract, either with or without notice to the policy-holder. For instance, one individual might effect a policy of fire insurance and suffer heavy loss almost immediately, while another might pay premiums for a lifetime without making a claim. But there is no benefit assured to him in return. He is merely protected in the event of loss through fire occurring, and is then indemnified for the actual amount of his loss up to the limit of his insurance cover. Again, the fire office premium—taking fire insurance still as an instance for comparison—would be based on a general average experience of loss, and in normal circumstances should be adequate to meet losses. Claims, however, cannot be calculated with the mathematical precision which is possible in the case of a life office, and it might happen that a fire office with weak reserves would be unable to meet its obligations in the event of a catastrophe such as a conflagration occurring. Now, if the holder of a policy of life assurance were to die soon after effecting it, the full value of his policy would be assured to his heirs, so that his estate would gain very materially. If he had effected a contract with participation in profits, his contract would be an ever-increasing asset the longer

he kept it in force, and if after a period of years he were to surrender it he would receive the return of a substantial proportion of his payments. In any event, therefore, benefit as well as protection is *assured* to him. And the accuracy and caution with which the life assurance offices make provision to meet all possible calls upon them was amply demonstrated by the supreme test of the Great War, during which, although bonuses—which are, of course, only payable out of profits—were reduced or suspended in some cases, all sums assured under policies were met.

(See also INSURANCE.)

### DENMARK.

**Regulations Affecting Insurance Companies.** The application form to be filled in by foreign insurance companies about to establish themselves in Denmark requires the fullest information concerning the company and of the Danish manager, who must be a man of unimpeachable character. The company must be registered at the Aktieselskabsregistreret, Raadhuspladsen 45, Copenhagen, when a fee of Kr. 100 must be paid, together with  $\frac{1}{2}$  per mille of the subscribed capital of the company, calculated in Danish kroner.

All foreign companies enjoy reciprocal privileges under the Danish Joint Stock Companies Act of 1917. Their *bona fides* must be vouched for by the Danish Consul-General, and a notarial declaration must be given that the Danish branch is subject to Danish laws. Alterations must be filed at the above address, to which a copy of the profit and loss account, together with the balance sheet, must be sent within six months of the close of the business year. In cases of non-registration, the managers of the Danish branch are liable for all Danish liabilities. Written documents of foreign companies must bear the words "Udenlandsk Aktieselskab," as well as the name of the company. Foreign companies pay income and property taxes. Income tax is reckoned on the proportion of the total net profit of the company which the Danish gross premiums bear to the total gross premiums of the company. Property tax is assessed annually, according to fluctuating rates, on buildings possessed by the company.

A deposit of Kr. 250,000 in Danish State bonds, or similar securities, is necessary before opening business in compulsory accident insurance; Kr. 200,000 is the

statutory deposit for compulsory third party insurance for motor car owners, while foreign life insurance companies must deposit the full reserves of their Danish business, together with an amount equal to the gross premium income on Danish transactions during the last business year. The minimum is Kr. 100,000.

Supervision of life insurance is under Forsikringsraadet, 3 Kongens Nytorv, Copenhagen; workmen's compensation insurance by Arbejderforsikringsraadet, at the same address; third party insurance of motor car owners by the Ministry of Justice, Slotsholmsgade 4, Copenhagen.

#### DEPARTMENTAL COMMITTEE, 1907.

(See POST OFFICE LIFE ASSURANCE.)

#### DEPARTMENTS OF LIFE OFFICES.

(See ACCOUNTANCY, ACTUARIAL, AGENCY, CASH, INVESTMENT, NEW BUSINESS.)

#### DEPOSIT OF ACCOUNTS.

(See ACCOUNTANCY DEPARTMENT; and BOARD OF TRADE, POWERS OF.)

#### DEPOSIT WITH SUPREME COURT.

(See ASSURANCE COMPANIES ACT, 1909; also ACCOUNTANCY DEPARTMENT.)

#### DESCRIPTIVE AVERAGE.

(See AVERAGES.)

#### DIABETES.

(See GLYCOSURIA.)

#### DILAPIDATION ASSURANCES.

This special form of policy was originated by the Clergy Mutual Office to cover amounts which incumbents might find themselves periodically liable to pay for dilapidations. They are rather interesting in their working, because they not only secure a sum at death, with profits, but the payment of an additional sum, without profits, which is receivable by the policy-holder on his surviving each five years throughout life. As an example, let us say an incumbent estimates that he will have to pay some £50 for dilapidations at the end of every five years, and effects a dilapidation policy payable at death, with participation in profits, and £50 payable on survival of each five year period.

Each yearly premium paid would secure a portion, namely, £10, of the additional benefit payable at the end of the five-year period, and every such £10 would carry a

very substantial surrender value—some nine-tenths—which would become payable on the death of the assured before the end of the five year period or on removal to another benefice, or on surrender of all rights to the additional benefit. For instance, at the end of the third year of a current five-year period, after three years' premiums had been paid, the surrender value could be received in cash. If all rights to the additional benefit were surrendered the annual premium would be very greatly reduced for the remainder of life. The premiums on these policies are available for Income Tax rebate.

Specimen annual premium to secure £250, with profits, at death and £50, receivable on survival of each five years throughout life, without profits—Age not exceeding 30, £14 17s. 8d.; not exceeding 40, £16 14s. 4d.; not exceeding 50, £19 13s. 6d.

#### DILATATION OF HEART.

A condition of dilatation of the cavities of the heart associated usually with thinning or weakening of the heart muscle.

It is not a primary condition as a rule. It may arise temporarily after sudden violent exercise, but as a rule it is secondary to organic heart disease (valvular or myocardial), anaemia, kidney disease, or arterio-sclerosis.

It must, therefore, be regarded with great suspicion. It may only be temporary, and the patient recover completely if the exciting cause is removed. On the other hand, it may be most intractable, and lead to chronic invalidism, and the case be therefore uninsurable.

Any case in which the condition is mentioned in the personal history must, therefore, be subject to a specially careful medical examination. As a result of this, it may be found that at the time of examination the heart is normal, and no other disease is present. Under these circumstances, and provided the attack was of old date, of short duration, and due to some "innocent" cause, such as sudden over-exertion, it may be accepted at ordinary rates in subjects under 30 years of age. The older the patient is when the attack occurs the greater the risk.

In patients over 35 years of age, showing a recent attack but otherwise healthy, a short term endowment assurance, with a decreasing debt or at an increased premium, may be given. If any other abnormality is discovered at the time of medical examination, the case must be referred or postponed indefinitely.

**DIPHTHERIA.**

This is due to the infection usually of the throat by a specific bacillus. The disease is of peculiar interest for life assurance on account of its complications and from the possibility of the proposer being infected with the germ without having symptoms. Such individuals are called "carriers," and this fact need not affect the question of life assurance. The complications, which may be serious, are nephritis, broncho-pneumonia, and enfeeblement of the heart. Medical reference must, therefore, always be obtained with regard to these points.

If the report is satisfactory, the proposal may be accepted at ordinary rates, provided, of course, that the attack, if recent, is completely over, and the throat is clear of germs. If this is not the case, the proposal must be postponed until the throat is certified as being non-infected. Neuritis and various forms of paralysis sometimes follow diphtheria, but these do not, as a rule, affect the question of life assurance.

**DIRECTORS' DECISION.**

(See PROPOSAL FORM.)

**DIRECTORS, LOCAL BOARDS OF.**

(See BRANCH OFFICE SYSTEMS.)

**DISABILITY ASSURANCE.**

(See INCAPACITATION BENEFIT POLICIES.)

**DISBURSEMENTS.**

(See ACCOUNTANCY DEPARTMENT.)

**DISCLOSURE.**

(See CONTRACT, PARTIES TO.)

**DISCOUNT.**

(See COMPOUND INTEREST.)

**DISCOUNTED ABATEMENT LIMITED PAYMENT LIFE POLICY.**

(See GUARANTEED OPTION POLICIES.)

**DISCOUNTED ABATEMENT POLICIES.**

Discounted abatement policies are rather similar in their working to Reduction of Premium policies (*q.v.*). They, however, differ from the half-credit system of such policies and from Prime Cost policies (both of which see) in the fact that no debt whatever attaches to the policy. The reduction of premium is anticipated from the commencement of the assurance in order to reduce the premium. The policy-holder thus receives an immediate abatement of

33 per cent of the ordinary participating rate which he would not be entitled to receive in the ordinary way until the expiry of five years. His reduced premium therefore remains stationary for the first five years and thereafter his policy participates in any reduction of premium declared in excess of 33 per cent. Should it happen that the reduction declared was less than 33 per cent the premium would then be proportionately increased, but in actual practice a further gradual decrease may be anticipated. The system enables a policy to be obtained at a low initial rate, and it can also be used to obtain a larger amount of initial cover than the policy-holder could have afforded otherwise. For instance, at age 30 next birthday an annual premium of £24 17s. 6d. would secure an ordinary participating whole life policy for £1,000. The same premium under the discounted abatement scheme would secure immediate cover for £1,354. Moreover, after five years, for every increase of 1 per cent in the rate for premium reduction beyond 33 per cent, his premium of £24 17s. 6d. will be further reduced by 1 per cent of £33 13s. 8d., which would be the ordinary with profit premium for a policy of £1,354.

Specimen annual discounted abatement premiums for the assurance of £100—

Age not exceeding	Whole life.	Premiums payable for		
		25 years.	20 years.	15 years.
30	£ s. d. 1 16 9	£ s. d. 3 2 1	£ s. d. 3 9 11	£ s. d. 4 3 1
35	2 2 9	3 9 2	3 17 7	4 11 9
40	2 9 10	3 17 9	4 6 5	5 1 7
45	2 19 11	—	4 17 8	5 13 8

**DISCOUNTED BONUS.**

(See BONUS.)

**DISCOUNTED BONUS POLICIES.**

These policies are on the same lines as prime cost policies (*q.v.*). The premium charged is low, being generally only slightly higher than the non-profit rate for a similar assurance, but instead of the reduction in premium being advanced as a charge on the policy or future bonuses, the policy only shares in future bonuses where they are in excess of a certain agreed amount. In other words, in order to obtain a low premium, while at the same time retaining the right to some share in future profits,

the policy-holder agrees to have probable bonuses discounted by a definite figure in advance. For example, if it were arranged that the policy should only participate in any profits declared which were in excess of £1 per cent per annum, then assuming that a bonus at the rate of £1 10s. 0d. per cent per annum was declared for a quinquennium, a £1,000 policy under this plan would receive an addition of £25, which would be the difference between the full rate for five years of £75 and the bonus discounted by £50.

It will, therefore, be seen that so long as the rate of bonus declared exceeds £1 per cent per annum, policies under this plan will continue to increase. If from any cause the distribution was reduced to £1 per cent per annum or less, the policy remains in full force for the amount secured under it, the premium remaining unaltered throughout its duration. The benefit of the scheme is that a substantially larger policy can be obtained at the outset for a moderate premium, while the policy-holder retains the right to share in any profits in excess of the rate of discounted bonus. Specimen annual premiums for the assurance of £100—

Age next birthday.	Whole life.	Endowment payable at age					
		50.		55.		60.	
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	
30	2 3 4	4 10 11	3 12 4	3 - 11			
40	2 18 -	—	6 9 -	4 15 -			
50	4 1 9	—	—	—			

### DISEASES OF THE SKIN.

It is not proposed to discuss all forms of skin disease, but there are some which may have an important bearing on life assurance.

**Eczema.** This is a very common complaint, and may show itself under many forms. It is not in itself of any danger to life, but in the event of a proposer giving a history of chronic eczema lasting over some years, careful inquiries must be made to exclude gout, diabetes, gastric disorders, and varicose veins, each of which may be the primary cause.

**Furunculosis (Boils).** This is a common skin complaint, of little importance in itself, but its presence usually indicates a generally poor physical condition, and if a proposer is subject to this complaint, or is suffering from an attack, the proposal should be postponed pending a disappearance of

the disease and a satisfactory medical examination.

**Lupus.** Tuberculous infection of the skin. Owing to the nature of the cause of this complaint, the greatest care has to be exercised in dealing with a proposal in which it figures, whether in the personal or family history. It is sometimes the only manifestation of tubercle, and cases which are cured may have a normal expectation of life. It frequently happens, however, that other tuberculous foci are present, e.g. tuberculous ulceration of the nose or throat, or phthisis. The first step, therefore, is to obtain a full medical report dealing with these points. If this report is satisfactory, the cases divide themselves into two categories: (1) recent, (2) old. If there have been any recent active signs the case must be declined. If the case is one in which the disease is old standing, has been effectively treated, and no recurrence has occurred during the last five or six years, an endowment assurance may be issued for a short term.

**Psoriasis.** This is of little significance, except that it is sometimes associated with a gouty disposition. If this be excluded by medical reference, the proposal may be accepted without addition.

**Syphilis.** Skin rashes due to syphilis are common. They are rarely present when a case is examined for life assurance, but owing to the frequency with which chronic skin disease follows infection by syphilis, care must be taken to exclude the possibility of this disease in all proposals where a history of chronic skin disease is found.

### DISSEMINATED SCLEROSIS.

A chronic degeneration of the brain and spinal cord. The cause of the disease is unknown. It is characterized by alterations in the reflexes, tremor of the hands, and nystagmus. The limbs become stiff, and a peculiar gait is developed. Sooner or later the patient becomes bedridden. The disease is progressive, although in the early stages there may be intermissions when the patient may appear normal. The disease is an absolute bar to life assurance.

### DISSOLUTION OF ASSURANCE COMPANIES.

(See WINDING-UP.)

### DISTRIBUTION OF PROFITS.

The Revenue Accounts and balance sheet of a life office are not sufficient to show the

financial position it occupies. This is disclosed by an actuarial valuation of the liabilities and assets, made in some cases annually, in others triennially, and in others quinquennially. The Assurance Companies Act, 1909, provides that such a valuation must be made at not greater intervals than five years, and after each valuation the Board of Directors, acting on the advice of the company's actuary, determine how the surplus that may be disclosed shall be allocated. The subject of valuations is dealt with under a separate heading (ACTUARIAL SCIENCE), but the actual distribution of the divisible surplus allocated to policy-holders in the shape of bonuses is an important part of the duties of the general office staff, supervised by the actuary or possibly the assistant actuary or the secretary.

The methods and procedure followed vary considerably in different offices. The most usual options open to policy-holders of taking their bonuses are—

1. As a reversionary bonus (i.e. an addition to the sum assured).

2. As a cash bonus (being the present value, according to the tables used by the office, of the reversionary bonus).

3. In the reduction of future premiums (the cash value being spread over the remaining premium-paying period of the policy).<sup>1</sup>

In practically all offices policy-holders are allowed their choice of these options at each division of profits, but it is customary either to allot all bonuses in the shape of reversionary additions to the sum assured, notifying policy-holders that their bonus certificates may be returned within a certain period with a request for the cash value of the bonus to be sent to them or to be applied in the reduction of future premiums, should they prefer either of these courses, or else to give the choice of the various options open at the first division in which the policy shares, and thereafter to assume that the method once chosen will be adhered to in future, leaving the policy-holder to apply for an alteration should he desire to do so. In one or two offices the decision made by a policy-holder at his first division determines the form in which bonuses will be applied throughout the currency of the

<sup>1</sup> Other options include—

(a) The reduction of the premiums during the next valuation period.

(b) The conversion of whole life assurances into endowment assurances, or the shortening of the term under endowment assurances.

policy, but even in such cases an application to vary the method is usually considered favourably, except in certain instances when a policy-holder who has been drawing cash bonuses or applying them to reduce future premiums, and wishes to revert to reversionary bonus, cannot sign a statement that he is in good health, and, of course, always assuming that where it is desired to revert from reversionary bonuses to cash, a loan has not been granted on the policy in which the value of the reversionary bonus or part of it has been included in the loan value.

Probably the simplest course is that in which reversionary bonus certificates are issued to all policy-holders, and it has what is generally considered an advantage to both sides in that it results in a very large proportion of policy-holders leaving their bonuses to increase the sum assured. Nevertheless a great many alterations will have to be made after the issue of the reversionary bonus certificates, and as these call for the same precautions, and much the same procedure as in the case where an original choice is given and thereafter adhered to, this latter method of dealing with the bonus declaration and distribution will be described.

The first task, after the declaration of a certain rate of bonus has been decided on, is the preparation in convenient form of the amounts of bonus which will fall to be allotted to the various types of policies at each age. This is purely the work of the actuarial department, but the amounts are usually prepared in tabulated form in such a way that ordinary care is all that is called for in making entries on the valuation cards.

Before describing the procedure adopted in connection therewith, a few preparatory remarks are called for. It is obviously necessary that the very greatest care must be taken in seeing that no with profit policy is omitted. A system of checking at every stage of the preparation of the notices is essential, and if the envelopes are written from the policy cards, and the notices, certificates, and cheques from the valuation cards, a further check is given. The envelopes will be written in alphabetical order, and the bonus documents in policy order (numerical), and the latter will eventually have to be sorted into alphabetical order.

If the notices, etc., are to be issued through the branch offices or the agents,

this should be done in the very final stages of the work. It is a laborious task, because it is impossible to devise any method of keeping them separate throughout the work of preparation, and the only satisfactory way of segregating them is to take the list of policy-holders in the agents' accounts, and pick out each one from the whole body of envelopes after the enclosures have been put in.

During the preparation of the notices there will be a number of withdrawals and alterations to be attended to following deaths, maturities, surrenders, assignments, changes of address, etc. These call for careful handling to prevent overlapping and error, and some systematic method of dealing with such changes should be instituted.

Each different form of bonus requires its own notice or certificate on the following lines, the words in brackets only applying in particular cases.

Dear Sir or Madam,

Policy No..... Sum assured £.....  
on the life of.....

I have the pleasure to inform you that the quinquennial (triennial or annual) valuation of the liabilities and assets of the (life department of the) company as at the 31st December last has now been made, and the surplus disclosed permits, in respect of the policy, of an addition to the sum assured of £ . . . . .

Alternatively you have the option of drawing the cash value of the bonus, namely, £ : : , or it may be applied in the reduction of future premiums falling due after the 1st.....next by £ : : , thereby reducing the premium now payable by you to £ . . . . .

Should you desire to avail yourself of either of the two latter options, please sign and complete the following form of decision and return it to me. If the policy has been assigned, the signature of the assignee will also be required. If no reply is received from you it will be assumed that you desire to leave the bonus as an addition to the sum assured, and a bonus certificate will be sent to you.

Policy No..... on the life of .....

I desire (a) To draw the bonuses on this policy in cash, amount £

(b) That the bonuses on this policy be applied to reduce the future

premiums on this policy after  
1st.....next to £ . . . . .

Please delete (a) or (b).

Signature .....

Address .....

Signature of assignee (if any) .....

It should be noted that neither the cash bonus nor the reduction of premium option can be given without the signature of the assignee, if any. In the case of companies in which the method selected at the first division applies in future, it is unnecessary to obtain this signature at ensuing divisions. It may here be pointed out that in the case of policies issued under the Married Women's Property Act, some offices make a reservation in the clause referring to the Act to the effect that the assured by himself shall be allowed to select the method of taking the profits. Where this is not done the provisions of the clause would determine the course to be taken in connection with profits. Some companies only quote the reversionary and cash bonus, but state that the quotations for any other options will be made on application.

N.B. The heavy work entailed may cause a delay of some days in replying.

The filling in of this notice from the bonus tables is a straightforward task, as the one form only is required for the whole of the with profit policies issued after the date of the preceding valuation, or sharing for the first time.

On receipt of decisions from new participants the valuation cards must be marked in accordance therewith, but it is well to allow a good margin of time to elapse before marking those of policy-holders who do not reply—and issuing their bonus addition certificates. It is necessary to look up all policies for which decisions for cash or reductions of premium are received, to see if they are assigned, and that the signatures of the assignees appear on the requests. Where this has been omitted the form must be returned to the assured and the position explained.

To save unnecessary work, a table of the equivalent reductions of premium allowed in respect of every £10 of bonus addition may be sent with the new participant's notification.

A *reversionary bonus* certificate takes the following form—

Dear Sir,

Policy No..... on the life of .....

I have the pleasure to inform you that the quinquennial valuation of the liabilities and assets of the company as at the 31st December last has now been made, and the

surplus disclosed permits of the following addition to the sum assured under this policy.

Original sum assured	£
Bonuses previously added	£
Added bonus, 31st Dec., 1929	£

You are requested to attach this certificate to your policy.

Yours faithfully,  
.....Actuary.

*Reduction of Premium* certificates are in two forms, thus—

Dear Sir,

Policy No..... on the life of.....

I have the pleasure to inform you that the quinquennial valuation of the liabilities and assets of the company as at the 31st December last has now been made, and the surplus disclosed permits of the following reduction in the premium under this policy.

Original premium	£
Already reduced to	£
Again reduced after .....	
next to	£

or, (in cases where the bonus more than extinguishes the premium).

Dear Sir,

Policy No..... on the life of.....

I have the pleasure to inform you that the quinquennial valuation of the liabilities and assets of the company as at the 31st December last has now been made, and the surplus disclosed permits of the extinguishment of the premium on this policy, and an addition to the sum assured as follows—

Original sum assured	£
Premium extinguished after.....	
..... next and sum assured	
increased by a bonus addition	
of	£

In the case of cash bonuses the cheques are drawn up in the same form as dividend warrants, thus—

Policy No..... on the life of .....

Dear Sir,

I have the pleasure to inform you that the quinquennial valuation of the liabilities and assets of the company as at the 31st December last has now been made, and the surplus disclosed permits of a cash bonus on this policy of £ for which I send

you cheque. No acknowledgment is required. The cheque should be presented within three months.

Yours faithfully,  
.....Actuary.

London, 1st April, 1930.

To Reliance Bank, Ltd.

Pay to or order

being the cash bonus on Policy No. ....

For and on behalf of the Anchor Assurance Co., Ltd.

Cash Bonus Account, 1929.

£..... Cashier.

Signature of Payee.....

This cheque must be signed by the person to whom it is made payable.

Alternatively, a separate cheque with receipt at foot may be issued.

The bonus notice issued to discounted bonus policy-holders is as follows—

Dear Sir,

Policy No..... on the life of .....

Sum assured £

I have the pleasure to inform you that the quinquennial valuation of the liabilities and assets of the company as at the 31st December last has now been made, and the surplus disclosed permits of the following allocation to this policy.

The cash bonus allotted to it is	£
The amount discounted in the	
premiums paid in the past	
quinquennium is	£

The balance will be placed to your credit or can be drawn in cash on application.

Or, where the amount discounted takes the form of a proportion of the reversionary bonus—

Dear Sir,

Policy No..... on the life of .....

I have the pleasure to inform you that the quinquennial valuation of the liabilities and assets of the company as at the 31st December last has now been made. The bonus allotted to your policy is in excess of the amount thereof discounted in the

premium and the sum assured under the policy has been increased as below.

Sum assured	£
Bonus previously added	£
Bonus added 31st Dec , 1929	£

You are requested to attach this certificate to the policy.

Yours faithfully,  
 .....Actuary.

In connection with discounted bonus policies, in which a part of the premium is treated as a loan on the policy to be discharged by the application of the cash bonus at each division, it is necessary after the declaration to debit the Cash Bonus Account with the total loan against the policy, and to credit the Policy Loan Account with the same amount, the balance of the cash bonus being dealt with as already shown.

If the bonus declared were not sufficient to meet the amount of the loan, the whole cash bonus would be credited to the Policy Loan Account, and the balance of the loan would still stand against the policy.

In connection with the payment of the cash bonuses, a Cash Bonus Account is opened in due course by the accountancy department in the general ledger. It almost invariably happens that a few of the cheques drawn are not presented for payment, and the subsequent debit of the account with only the actual payments made will leave the account with a small balance. The assurance fund is then debited with the total amount of the cash bonus allotted, the balance remaining as a liability on the company until finally settled.

This concludes the work in connection with the distribution of profits. The accountancy work and the alteration of records arising out of the reduction of premiums are attended to in the course of office routine, and are described under ACCOUNTANCY DEPARTMENT.

**DIVIDENDS.**

(See LIFE ASSURANCE COMPANIES' SHARES AS INVESTMENTS.)

**DIVIDENDS ON STOCK EXCHANGE SECURITIES.**

(See ACCOUNTANCY DEPARTMENT.)

**DOMINIONS, INDUSTRIAL ASSURANCE IN.**

(See INDUSTRIAL ASSURANCE, HISTORY OF.)

**DOUBLE BENEFIT POLICIES.**

Under these policies a non-profit whole life assurance by limited payments and an endowment assurance are combined in one contract. The value of this arrangement is that it meets the objection, sometimes raised to the ordinary endowment assurance, that after reaching the selected age the policyholder is no longer covered by assurance in the event of death, and this at a time when perhaps he would be unable to pass the necessary medical examination to enable him to effect a fresh policy.

By means of an annual premium, ceasing after 15, 20, 25, or 30 years, he can effect a policy which will provide in case of survival to the end of the selected term—

- (a) Payment of the endowment sum, and
- (b) A fully-paid policy for a like amount, payable at death. In case of earlier death he would secure immediate payment of both sums.

Should he be unable or unwilling to continue his premium payments, the contract provides that (subject to three premiums at least having been paid) a fully-paid policy for a proportionate part of the original benefits is secured.

Specimen annual premiums to secure £200 in the event of death during the selected term and, in the event of survival to the end of the term, (1) an immediate cash payment of £100 and also (2) a fully paid-up policy, payable at death for a further £100.

Age next birthday.	Payments limited to			
	15 years.	20 years.	25 years.	30 years.
30	£ s. d. 9 5 10	£ s. d. 7 - 11	£ s. d. 5 15 5	£ s. d. 4 19 8
40	10 5 9	7 19 10	6 14 9	6 - 4
50	11 17 2	9 12 7	—	—

Double benefit policies are also issued in a special form—limited to ten, fifteen, or twenty payments—incorporating a guaranteed bonus addition, which is proportionate to the number of premiums payable. For instance, if a policy for £100, limited to ten payments, were effected, then £100 would be payable at death, plus an addition of £10 for each year survived, if death occurred within the ten years. On survivorship of the period £100 is payable in cash, and a further £100 at subsequent death. The following are specimen annual premiums—

Age next birthday.	Payments limited to					
	10 years.		15 years.		20 years.	
30	£	s. d.	£	s. d.	£	s. d.
40	13	13 9	9	- 3	6	13 5
50	14	15 5	9	17 1	7	8 5
	16	4 2	11	1 2		—

In the case of joint lives the sum assured is payable, with the guaranteed addition, on the first death, if it occur within the period selected. The sum of £100 is payable if both lives survive the period, and a further £100 at the subsequent first death. Specimen annual premiums—

Equal ages next birthday.	Premiums limited to 15 years.
	£ s. d.
30-30	10 4 -
40-40	11 4 6
50-50	12 16 6

#### DOUBLE BENEFIT TWENTY-FIVE YEAR ENDOWMENT WITH OPTIONS.

(See GUARANTEED OPTION POLICIES.)

#### DOUBLE ENDOWMENT ASSURANCE LEAFLETS.

(See CANVASSING LEAFLETS, page 121.)

#### DOUBLE ENDOWMENT POLICIES.

Under this form of policy the sum which is payable if death occurs during the endowment period is doubled if the policy-holder survives it. For instance, if a policy were effected for £1,000, payable in the event of death during the agreed term, £2,000 would be paid at maturity should the policy-holder live. As these policies are issued generally without medical examination, they are very useful in the case of impaired lives and risks which carry a heavy "occupational" extra, such as publicans, who have generally to pay an extra premium of anything from £1 to £2 2s. 0d. per cent. Although the premium for a double endowment is comparatively high, it often turns out much more profitable, if the policy-holder survives, to assure under this plan than to pay a heavy extra on an ordinary policy.

Let us give an example, using round figures for convenience of illustration. Say an intending assurer, aged 30, was called upon

to pay an extra of £20 per annum—£2 per cent—on a normal premium of £40 per annum for a twenty-year endowment of £1,000 without profits. That would make his total premium £60 yearly. But the premium on a double endowment assurance for £1,000 at death during twenty years, and £2,000 on surviving that period would be, roughly, £80 per annum. Therefore, by paying an additional £20 per annum over and above the extra required on the ordinary policy for £1,000, the policy-holder stands to gain an extra £1,000 if he lives. It will be seen that in the event of death at any time throughout the entire endowment term of twenty years the sum payable under both policies would have been exactly the same—viz. £1,000. The double endowment form of contract scores heavily, however, if the period is survived, as the policy-holder receives an extra £1,000 in return for an additional £400 paid in premiums.

Specimen annual premiums to secure £100 at death within the term chosen, or £200 if the term be survived, without profits. No medical examination—

Age next birthday.	Term of years.	Annual premium.
		£ s. d.
15 to 55	15	11 11 8
15 to 50	20	8 1 -
15 to 45	25	6 - -

(See also UNDER-AVERAGE LIVES.)

#### DUODENAL ULCER (Ulceration of the Duodenum).

The symptoms are chronic indigestion, frequently associated with vomiting and the passage of dark blood in the stools (melaena). The complications to which it may give rise are chronic invalidism and loss of strength, owing to deficiency in the diet and loss of blood, perforation into the peritoneal cavity, causing general peritonitis, or gradual leaking, causing abscess formation.

A proposal with a recent history of this disorder, i.e. within the last three years, must be postponed or declined. Cases with an older history than this, and in which there has been complete freedom from symptoms since, may be accepted at a higher rate or subject to a decreasing debt running off, say, seven to ten years from the date of the attack.

Cases in which an operation has been performed must be closely investigated, medically examined, and reports obtained from the surgeon who operated.

Endowment assurances in these cases may be granted, but declension may be necessary if there is an unsatisfactory medical report.

#### DUTY OF TRUSTEES.

(See TRUST POLICIES.)

#### DYSENTERY.

This occurs in two forms, one caused by the *amoeba dysenterica*, which is commonly met with in the tropics, and the second caused by the *bacillus dysentericus* occurring in insanitary areas. It is not very common in temperate climates, though it may be met with anywhere. Difficulties often arise in proposals for life assurance owing to this disease occurring in the history, for the reason that recurrence is likely, especially if the proposer travels in warm climates. Cases in which the proposer has had this disease in either form in the past, but has had no recurrence for two years, and does not intend visiting the tropics, may be accepted at ordinary rates, subject to a medical examination. In the event of recent recurrences, or if the proposer is likely to travel in hot climates, the proposal should be postponed. In cases who have suffered from amoebic dysentery, a possible complication is abscess of the liver. The absence

of this must therefore be determined in all cases before a policy can be granted.

In the absence of this complication, the case may be dealt with as described above. (See also LIVER ABSCESS.)

#### DYSPEPSIA.

This is a symptom of many disorders, some of which may be extremely serious.

The underlying cause may be a simple dietetic one, it may be chronic alcoholism, gastric ulcer, gallstones, appendicitis, cancer of the stomach, simple anaemia, or a dozen or more other diseases.

As a rule, a history of dyspepsia is not obtained unless it is chronic, and it is in these cases that it may be of the greatest significance. Any case, therefore, of chronic dyspepsia must be submitted to a thorough medical examination by an experienced examiner, and the fullest medical reports obtained from the proposer's own doctor. An independent examination by an expert is essential.

Owing to the multiplicity of causes of the dyspepsia, it is impossible fully to discuss the various assessments that may have to be made. Briefly, however, it may be assumed that an extra premium will be necessary for a whole life policy in any circumstances.

Usually endowment assurances are preferable in these cases, and in many cases declension is unavoidable.

### EAGLE, STAR, AND BRITISH DOMINIONS INSURANCE COMPANY, LTD.

Head Office: 1 Threadneedle Street, London, E.C.2; Life Department: 32 Moor-gate, E.C.2.

Founded, 1807. Amalgamated 1917.

This company is an amalgamation of a number of important insurance companies transacting all classes of business, including the following wealthy and old-established life companies —

Eagle Insurance Company, Ltd.	Established 1807
English and Scottish Law Life Assurance Association	„ 1839
The Star Assurance Society, Ltd.	„ 1843
Sceptre Life Association	„ 1864

The amalgamated company commenced life business on its own account in February, 1917, by the introduction of the Victory War Loan Scheme, and jointly with the Eagle, then in process of amalgamation, issued in the space of a few weeks nearly 20,000 policies, assuring more than £3,500,000 of War Loan Stock, an achievement unsurpassed in the history of British life assurance. This auspicious start was followed by a period of steady progress and expansion, and the life account of the amalgamated company, as distinct from that of the various closed funds representing transferred businesses, after the short space of only ten years, showed assets of more than £4,000,000 and a premium income of more than £600,000.

The company was the first British insurance company to issue a prospectus dealing with group insurance. It has been one of the pioneers in the development of this class of insurance, and is now offering group insurance not only to employers for the benefit of their staff, but also to retail and wholesale traders for the benefit of their customers.

The company is proud of its historical records and associations, and some years ago published an interesting book entitled *Links with the Past*, dealing with the history of the Eagle Insurance Company and the many notable people who at one time or another have been connected with it.

In its archives the company has a policy effected by the Duchess of Kent, mother of Queen Victoria, on her own life, and the discharge for the policy moneys signed by Albert, the Prince Consort, her executor.

### EAST AFRICA.

(See CLIMATIC RISKS.)

### ECCLESIASTICAL INSURANCE OFFICE, LTD.

Head Office: 11 Norfolk Street, London, W.C.2.

Founded 1887.

This office grew out of the Clergy Pensions Institution, which is still closely associated with it in friendly relations. The main part of its business, which covers all ordinary insurances save marine, is derived from its connections with the Church of England. The maximum dividend allowed on the subscribed capital is 5 per cent per annum. Other profits, apart from those earned by the Life Department which are distributed amongst the profit-sharing life policies, are devoted largely to the purposes of the Church.

Since the foundation of the office many hundreds of thousands of pounds taken from profit have been distributed amongst various Church societies.

No commission is payable for the introduction of life assurance business.

### ECZEMA.

(See DISEASES OF THE SKIN.)

### EDINBURGH ASSURANCE COMPANY, LTD.

(See COMMERCIAL UNION ASSURANCE COMPANY, LTD.)

### EDUCATIONAL ENDOWMENTS FOR CHILDREN.

Educational endowment policies for children differ principally from the ordinary form of children's endowments in that the sum secured commences to be paid at a specified school age, generally in half-yearly instalments, being continued for an agreed term of years, which is mostly three, five, or six years. Such educational endowments vary very greatly in the actual benefits which they secure, but all are most useful, especially in these days when the ever-increasing stress of modern business and professional life has intensified the need for a sound education for the boy or girl who is to be given a fair start, while at the same

time the increased cost of living and education, and the heavy burden of taxation, have made it more difficult than ever for the earnest parent to do what he conceives to be the right thing by his offspring.

To attempt to accumulate the necessary reserve by periodical savings in the ordinary way is seldom satisfactory, because, apart from the fact that there is no compulsory factor—beyond conscience, maybe—in the setting aside of the amount deemed necessary, bank balances and deposits have an unfortunate habit of being raided when a domestic emergency arises, quite apart from the contingency of the parent's death.

This contingency makes it desirable to select a scheme under which, in the event of the father's death, the premiums will not have to be continued by the widow until the benefits become due. Neither are policies under which, in the event of the child's death, the premiums paid are not returnable, much to be commended, more especially in cases where there may be more than one child. The more comprehensive forms of contract, however, safeguard the educational payments whether the parent or guardian lives or dies, make provision for a cash-payment to the widow, if desired, and enable the policy to be continued for another child's benefit if the child on whose behalf the policy was originally effected should die before maturity of the endowment.

The plans of the offices vary so much in point of detail that the following few representative examples only can be given as a guide.

*Scheme I.* This enables the required educational provision to be made either by payment of a single premium or by annual premiums. The annual premiums must be continued, whether the parent lives or dies, until the benefits become due. Should the child not attain the selected age, however, all premiums paid are returned with 3½ per cent per annum compound interest, but, in any circumstances, after the payment of the first annual instalment has been made,

Age of child next birthday.	Single premium.	Annual premiums.
	<i>£</i> <i>s.</i> <i>d.</i>	<i>£</i> <i>s.</i> <i>d.</i>
1	295 10 6	28 15 7
2	307 1 -	31 13 11
3	319 1 -	35 2 10
4	331 9 10	39 6 3
5	344 14 2	44 8 -

the remaining instalments will continue to be paid on the succeeding due dates. The premiums to secure £100 per annum for five years, the first instalment to be paid on the child's 14th birthday, and thereafter annually until its 18th birthday inclusive, are shown in the previous column. No medical examination is required.

*Scheme II.* Under the following scheme also the premiums do not cease at the prior death of the parent or guardian, but in the event of the child dying before the expiry of the term, premiums are returned in full. Liberal surrender values are allowed in the event of discontinuance of premiums and if the option to take the annual payments has been exercised the whole series will be payable, or they may be discontinued at any time and the unpaid instalments commuted for a cash payment. No medical examination is required. Annual premiums to secure either one sum of £467 or, alternatively, five annual payments of £100 each, beginning at the end of the term selected, are as follows—

Term of years.	Annual premiums.
	<i>£</i> <i>s.</i> <i>d.</i>
14	26 17 6
13	29 10 -
12	32 10 10
11	36 2 6
10	40 9 2
9	45 15 10

*Scheme III.* Under this scheme, in the event of the death of the child during the lifetime of the parent or guardian and before the endowment becomes payable, all the premiums paid are returned in full. In the case of the death of the parent or guardian no further premiums are required. Should the child die either (a) after the death of the parent or guardian, but before the endowment period, or (b) during the endowment period, the instalments will nevertheless still be paid as originally due, or their commuted value will be payable at the option of the policy-holder. The policy may be surrendered at any time before the child attains the age of 14, and after two years' premiums have been paid, or at any time after the death of the parent or guardian, not less than 95 per cent of the premiums paid—excluding the first year—being guaranteed as surrender value. No

medical examination is necessary where payment is by single premium, but evidence of good health is required if payment is made annually.

Single and annual premiums for an endowment for £600, payable by equal half-yearly instalments of £50 for six years, commencing on a child's 14th birthday—

Age next birthday of child.	Single Premium for all ages of parent or guardian.	Annual Premiums, ceasing on death of parent or guardian.		
		Age next birthday of parent		
		26 30.	31-35.	
	£ s. d.	£ s. d.	£ s. d.	
1	377 4 -	36 17 7	37 - 11	
2	388 10 2	40 10 5	40 13 7	
3	400 3 3	44 16 6	44 19 7	
4	412 3 1	49 19 9	50 2 10	
5	424 10 8	56 6 -	56 9 5	
6	437 5 4	64 4 8	64 7 6	

*Scheme IV.* Under this plan a sum is invested annually to provide a fund out of which an agreed number of half-yearly payments for educational purposes commences to be paid at the end of a specified term; but in the event of the child's death the premiums paid are not returnable. Each premium, however, secures a proportionate part of the original benefits if premiums are discontinued at any time, such proportionate benefits becoming payable at the end of the specified period should the child survive. Subject to satisfactory evidence of the child's good health, the contract may be discontinued and all premiums—except the first year's—will be returned with 3 per cent simple interest.

Specimen annual premium—all ages at entry—to secure £500 in instalments of £50 each half year for five years—

Term to expire before educational payments commence.	Annual premium.
13 years	£ s. d. 27 15 -
12 "	30 14 8
11 "	34 6 -
10 "	38 11 8
9 "	43 16 8
8 "	50 8 -

*Scheme V.* This plan only differs from Scheme IV in that, in the event of the child's death, all premiums paid will be returned

less any educational benefit payments which may happen to have been made by the office.

Specimen annual premiums—all ages at entry—to secure £500 in instalments of £50 each half-year for five years—

Term to expire before educational payments commence.	Annual Premium.
13 years	£ s. d. 28 7 8
12 "	31 8 4
11 "	34 19 8
10 "	39 6 4
9 "	44 11 8
8 "	51 4 -

*Scheme VI.* This is perhaps the most useful all round plan, as it not only ensures the educational payments in any eventuality, but gives to the widow several options which she can exercise at her discretion, for the benefit of herself or any child. The policy may be effected by either a parent or guardian, and in the event of their death, either before or during the educational period, the total or the balance of the educational fund assured is payable at once in a lump sum if required. In the event of the death of a father, for instance, if the family's income ceases or is curtailed, there is an immediate cash payment to the widow, which may probably prove much more valuable than a series of half-yearly payments. If, however, her circumstances permit of carrying out the original intention, she has the option of doing so, the company making its payments, plus interest, as from the date of death of the father.

The age or health of the child does not come into consideration at all. Therefore, if the child for whose benefit the policy was originally effected should die, the policy can be continued for the benefit of any other child or children, or for the benefit of the policy-holder.

Let us take as an example the case of a parent who wishes to secure the payment of £100 per annum in half-yearly instalments for five years, commencing in thirteen years time. At the end of the period selected the half-yearly instalments commence, but if he should die beforehand, his widow or representatives will receive £500 in cash. Or, if they elect to leave the £500 on deposit with the company, interest will be allowed at the rate of 3½ per cent per annum, free of tax, until the educational period selected commences. Then, or at an earlier date if required, either the £500 would be paid down

or £50 be paid half-yearly until the capital sum was exhausted, interest being paid on remaining balances. If the parent should die *after* the educational period has commenced any balance due may either be had immediately, or the instalments continued, interest being allowed as before.

In the event of the contract being discontinued at any time the office will grant a scheduled guaranteed cash surrender value or issue a fully-paid proportionate policy carrying the same benefits, so that every likely contingency is safeguarded.

Specimen premiums are as follows—

Age of parent or guardian next birthday	Term to expire before payments commence.	Annual premium to secure £50 half-yearly for 3 years, or £300 down in event of previous death.	Annual premium to secure £50 half-yearly for 5 years, or £500 down in event of previous death.
30	13 years	£ 19 6 8	£ 31 5 -
	10 "	25 19 8	41 19 -
	5 "	55 12 -	89 10 -
35	13 years	19 11 -	31 12 4
	10 "	26 3 8	42 5 4
	5 "	55 14 -	89 14 -
40	13 years	19 16 4	32 2 -
	10 "	26 8 -	42 13 4
	5 "	55 16 8	89 19 4

### EDUCATIONAL POLICIES.

(See GROUP SCHOOL FEE POLICIES ; EDUCATIONAL ENDOWMENTS FOR CHILDREN ; SCHOOL FEE POLICIES ; also ANNUITIES-CERTAIN.)

### EFFECTIVE RATE OF INTEREST.

(See COMPOUND INTEREST.)

### EMBOLISM.

An embolus is a clot of blood free in the blood stream and is frequently derived from thrombosis of varicose or infected veins. Embolism is the name applied to the condition when an embolus carried by the veins to the heart passes through this and blocks an artery. This may occur anywhere in the body, most commonly in the lungs or brain. An embolism of this sort may cause sudden death, but cases are not uncommon in which small emboli cause temporary symptoms only, and in these cases, if the

original source of the embolus (i.e. the thrombosed or infected veins) is no longer likely to be operative, the proposer may be accepted for life assurance, with perhaps a slightly increased premium. By the "source of the embolus being no longer operative" is meant such a case as that of an embolus having followed some acute infection, e.g. inflammation in or near the pelvis, which has given rise to the formation of a loose clot which has subsequently become completely fixed, and is therefore no longer a source of danger.

It is, therefore, clear that the most careful inquiries and medical examination are necessary in these cases before they can be accepted.

### EMPHYSEMA.

A chronic and incurable condition of the lungs due to dilatation of the small air sacs. It is caused by any continuous strain on the lungs. It is particularly liable, therefore, to follow chronic bronchitis, and to develop in elderly people (whose tissues naturally tend to lose their elasticity) if they are living under conditions of hard, physical work. The bad effects to which the condition may give rise are due to the insufficient ventilation of the lungs, frequently associated with chronic bronchitis and cardiac embarrassment.

As emphysema is one of the effects of loss of elasticity of the tissues, it usually happens that this loss is occurring also in other tissues, e.g. the circulatory system, and it therefore follows that a most careful medical examination is necessary in all cases to exclude this.

Any proposer, therefore, in whom the condition is known to exist must be subject to a searching medical examination before he can be accepted on any terms. The terms under which acceptance may be given will then depend entirely on the result of such examination, varying from the granting of a life policy, with increased premium, in slight cases in which the signs of emphysema are few and the lungs and other tissues are in other respects healthy, to refusal in cases where the circulatory system is also affected, or chronic bronchitis is also present.

Many cases can be given a short term endowment assurance where a full life policy is inadmissible.

### EMPLOYEES' ASSURANCE.

(See GROUP LIFE ASSURANCE.)

**EMPLOYEES' PENSION SCHEMES.**

(See DEFERRED ANNUITIES, p. 177.)

**EMPYEMA.**

(Literally, a collection of pus.)

The term used by itself usually means a collection of pus in the chest cavity, between the pleura and lungs. Its cause may be pneumonia, septicaemia, or tubercle.

It is clear, therefore, that a history of empyema in a proposer may be of great significance.

It does not, however, follow that all cases showing empyema in the history must be declined. Many children develop this condition following pneumonia, and after operation no abnormality, except perhaps some thickened pleura and a scar in the chest wall, may remain.

Other cases due to tubercle may be un-insurable, and a careful medical examination of all cases is therefore essential.

Generally speaking, proposers with a history of empyema dating back many years, and with no symptoms of subsequent lung trouble, may be accepted at ordinary rates, if of a non-tubercular nature.

If the empyema is more recent, say within the last three or four years, and the lungs are clear at the time of the examination, and the case is non-tubercular, a policy may be issued, but with an increased premium or a debt on the policy. In cases of more recent date, the proposal must be postponed. For tubercular cases, see TUBERCULOSIS. (See also PLEURISY.)

**EM TABLE.**

(See MORTALITY TABLES FOR ASSURED LIVES.)

**ENCEPHALITIS LETHARGICA (Sleeping Sickness).**

This disease does not affect life assurance, apart from its complication of neurasthenia, which may be so severe as to render it advisable to postpone or decline a proposal.

(See NEURASTHENIA.)

**ENDOCARDITIS (Valvular Disease of the Heart).**

Valvular disease of the heart is usually due to an inflammation of the lining of the heart, and so of the valves of the heart, leading to thickening and deformity of the valves, and thus causing their incompetence. The result of this is that the efficiency of the pumping action of the heart is impaired,

extra strain is thrown on the heart wall, and in the course of time the muscular power may become insufficient to maintain the ordinary nourishment of the tissues, and the patient becomes a chronic invalid with the prospect of the heart muscle failing completely without warning. There are various causes which may induce the condition, the commonest of which is rheumatism. Septic organisms may be the cause, and heart disease following septicaemia is not uncommon. Similarly it may follow the acute infective fevers, e.g., scarlet fever, diphtheria, etc.

On the face of it, therefore, any case is un-insurable. It happens, however, in some forms of endocarditis that the condition is slight, non-progressive, and the heart muscle fully compensated, i.e., so strengthened as to carry on its work without apparent difficulty. In these cases, although an ordinary life policy is inadmissible, a short term endowment assurance, maturing not later than 50 years of age, may be issued. Cases of endocarditis are so varied in their symptoms and severity that only a highly skilled medical referee can safely advise as to the form of acceptance, if any, the company can afford to grant.

**ENDORSEMENTS ON POLICIES.**

Generally speaking, policies are not altered after they have once been issued to the assured, except where an error, say in the name, has been discovered.

A wrong or mis-spelt name may have been given at the time of making the proposal, and found out on obtaining certificate of birth subsequent to the issue of the policy, or it may be that a temporary business name or stage name in the case of an actor or actress has been inserted. Any alteration made on the policy must be initialed by an executive officer, manager, actuary, or secretary, etc., as the case may be.

If the age had not been admitted at the time when the policy was issued, probably a slip was gummed on to the policy pointing this out. When the certificate of birth or other evidence of age is submitted later, there will be endorsed on the face of the policy, adjacent to the particulars of age given, "age admitted," with initials of an executive officer and description of his position, i.e., secretary or actuary; otherwise a gummed slip as follows is issued to the assured—

.....INSURANCE COMPANY, LTD.  
Policy No.....



.....INSURANCE COMPANY, LTD.

Policy No. ....

EXTRACT FROM CERTIFICATE OF MARRIAGE

<i>Particulars of Man</i>	{	Name, Age and Occupation .....
		Name of Father .....
<i>Particulars of Woman</i>	{	Name, Age, and Occupation .....
		Condition .....
		Name of Father .....
		Date of Marriage .....
		Place of Marriage .....
		Name of Registrar .....
		Date of Certificate .....
		By whom certified .....
		Extracted by ..... Checked by .....
		Date .....

With obvious modifications this will apply to Deeds Poll and Naturalization.

(b) **Change in Mode of Payment of Premium.** It is frequently desired to change the mode of payment of premiums due under a policy. As premiums are generally paid yearly, half-yearly, quarterly, or monthly, there may be several alterations during the currency of the policy. In the case of a whole life policy it does not matter when the change takes effect as the premiums are payable until the death of the life assured, but in cases where the premiums are limited, as in endowment assurances and whole life limited payment policies, it is better for the change to take effect as from the anniversary of the policy, and thus avoid an odd payment to complete the number of years' premiums payable. However, this is not always insisted upon, and two specimen endorsements are given—

(1) Where the change is effected as from the anniversary.

(2) Where the change is effected during a policy year and an odd payment is due at the end. Of course it is quite in order to change the premiums where they are limited, say, quarterly to half-yearly, half-way through a policy year, and thus complete the premiums by half-yearly payments. If the change was effected after the payment of so many years and three quarters' premiums, there would be one quarter's premium due to complete.

*Endorsement (1).*

*Memorandum—*

It is hereby declared and agreed that the company will in lieu of the quarterly premium within provided for, accept a half-yearly premium of                    as on the

day of                    and every                    day of thereafter during the lifetime of the life assured up to and inclusive of the

day of                    19..

Dated this                    day of                    19..

Entd.

Exmd.                    ..... *Actuary.*

*Endorsement (2).*

*Memorandum—*

It is hereby declared and agreed that the company will in lieu of the quarterly premium within provided for, accept a half-yearly premium of                    as on the                    day of                    and every                    day of thereafter during the lifetime of the life assured up to and inclusive of the                    day of                    and a premium of                    on the                    day of                    if the life assured be then living.

Entd.

Exmd.                    ..... *Actuary.*

(c) **Imposing and Rescinding an Extra Premium on Account of Occupation or Travel.** If the policy was issued with the restriction clause, i.e., not world wide or occupation free owing to the intention of the life to incur extra risks either through occupation or travel or both, the following (or something on the same lines) is made a condition of the policy—

*Condition 5.*

If the life assured shall at any time engage in military service outside the British Isles or in naval service or in a seafaring occupation or make any ascent by aircraft, or proceed to or reside in any part of Asia any place between 33° north latitude and 30° south latitude (except Australia, Japan,

Egypt, north of 22° north latitude, the Holy Land, the Provinces of the Cape of Good Hope, Natal, the Transvaal and the Orange Free State, the Canary Islands, and the Islands of Ascension, Cape Verde, Madeira and St. Helena), or proceed to any country then the seat of war, this policy shall be absolutely void, except to the extent of the surrender value thereof, unless intimation be immediately made to the directors of the company and such additional premium as they may consider necessary be paid.

If the assured subsequently incurs the extra risk, an extra premium is charged, and the policy is endorsed (for example) as follows—

1) *Extra imposed for Residence.*

*Memorandum—*

It is hereby declared and agreed that in consideration of the payment of a first extra premium of \_\_\_\_\_ on the day of \_\_\_\_\_ and provided a like amount be paid on the \_\_\_\_\_ day of \_\_\_\_\_ in every year thereafter so long as this licence may be required, the within named life assured has permission to proceed to reside in or return from Tanganyika Territory anything within contained to the contrary notwithstanding.

Dated this \_\_\_\_\_ day of \_\_\_\_\_ 19..  
 Entd. \_\_\_\_\_  
 Exmd. \_\_\_\_\_  
*Actuary.*

(2) *Extra imposed for Occupation and Residence.*

*Memorandum—*

It is hereby declared and agreed that in consideration of a first extra premium of \_\_\_\_\_ on the \_\_\_\_\_ day of \_\_\_\_\_ and provided an extra premium of a like amount be paid on the \_\_\_\_\_ day of \_\_\_\_\_ and \_\_\_\_\_ in every year thereafter during the lifetime of the life assured until permanent retirement from the army, the within named life assured has permission to follow the occupation of a lieutenant in His Majesty's Army, and to proceed to or reside in and to return from any part of the world anything within contained to the contrary notwithstanding.

Dated this \_\_\_\_\_ day of \_\_\_\_\_ 19..  
 Entd. \_\_\_\_\_  
 Exmd. \_\_\_\_\_  
*Actua y.*

If the life assured engages in a hazardous occupation or travels outside the "Free

Limits" at the time of making the proposal, the policy is issued with the restriction clause and an extra premium, generally about 10s. to 12s. 6d. per cent, is imposed and included with the tabular premium in the schedule of the policy.

In consideration of the payment of this extra premium an endorsement, of which the following is a specimen, is placed on the policy.

*Memorandum—*

It is hereby declared and agreed that the within named life assured has permission to proceed to reside in and return from any part of the world anything within contained to the contrary notwithstanding.

Dated this \_\_\_\_\_ day of \_\_\_\_\_ 19..  
 Entd. \_\_\_\_\_  
 Exmd. \_\_\_\_\_  
*Actuary.*

In the event of the extra premium being no longer required the endorsement is marked "Cancelled as from the \_\_\_\_\_ day of \_\_\_\_\_ 19.. ." and initialed by the actuary or secretary.

(d) *Conversion to Another Class of Policy or Same Class but Different Terms.* It is frequently desired after a policy has been a short time in force to alter (a) the class, or (b) the terms of the policy, the class remaining the same.

The endorsement effecting the change would possibly be as follow.—

*Memorandum—*

It is hereby declared and agreed that at the request of the life assured the sum assured (and bonus additions) under the within policy shall be payable to himself or to his executors, administrators or assigns, either in the event of his surviving to the first day of January one thousand nine hundred and forty-nine or at his death if that should occur previously, in consideration of the premium being increased to twenty-nine pounds from the first day of January one thousand nine hundred and twenty-nine up to and including the first day of January one thousand nine hundred and forty-eight.

Dated this \_\_\_\_\_ day of \_\_\_\_\_ one thousand nine hundred and ....  
 Entd. \_\_\_\_\_  
 Exmd. \_\_\_\_\_  
*Actuary.*

Taking a case of a whole life policy to be converted into a whole life limited payments

policy—20) payments—the endorsement effecting the change would possibly be as under—

*Memorandum—*

It is hereby declared and agreed that the company will in lieu of the premium within provided for accept a yearly premium of thirty-nine pounds ten shillings as on the first day of January one thousand nine hundred and twenty-nine, and every first day of January thereafter during the lifetime of the life assured up to and including the first day of January one thousand nine hundred and forty-eight.

Dated this          day of          one  
thousand nine hundred and          ....

Entd.

Exmd.

.....  
*Actuary.*

**(e) Convertible Terms Assurances—Option Exercised.** The endorsement here follows those given for (d). If the policy is continued as a whole life policy the increased premium is, of course, payable throughout life, but if the policy is converted into an endowment assurance the premium ceases and the sum assured becomes payable at a stated date or earlier in the event of previous death.

**(f) Conversion to Paid-up Policy.**

*Memorandum—*

It is hereby declared and agreed that, at the request of the life assured the within policy is from the          day of converted into a paid-up assurance of (without participation in profits) free from further payment of the within mentioned premium of

Dated this          day of          one  
thousand nine hundred and          ....

Entd.

Exmd.

.....  
*Actuary.*

**(g) Surrender of Part of the Policy for Cash.**

*Memorandum—*

It is hereby declared and agreed that at the request of the life assured, the sum assured under the within policy is from the          day of reduced to and the premium correspondingly reduced to          payable as within stipulated. The value of the surrendered portion of the

assurance amounting to          has been paid to the life assured.

Dated this          day of          one  
thousand nine hundred and          ....

Entd.

Exmd.

.....  
*Actuary.*

The following points should be kept in view when drafting endorsements and placing the approved endorsement on the policy—

1. Endorsements should be clear, simply worded contracts, free from ambiguity and not lend themselves to fraudulent misrepresentation.

2. The schedule of the policy should be marked (usually by means of a rubber stamp) "See Endorsement" against the item affected by the endorsement.

3. The carbon or copy policy must be marked exactly the same as the original policy, and care taken to see that the endorsements are dated and signed by the proper official.

4. The endorsement must be carefully recorded in the Alterations Book.

5. The endorsement must be carefully recorded in the policy register (only sufficient particulars need be given—the whole endorsement is not necessary).

6. Policy bag or cover for papers must be marked, otherwise errors may arise through the alteration not being noticed at first sight.

**ENDOWMENT ASSURANCE.**

(See ENDOWMENT ASSURANCE (LIMITED PAYMENTS); ENDOWMENT ASSURANCE (SINGLE PREMIUM); ENDOWMENT ASSURANCES WITH PROFITS; DOUBLE ENDOWMENT POLICIES; HOUSE PURCHASE SCHEMES; INDUSTRIAL ASSURANCE, TYPES OF POLICY ISSUED.)

**ENDOWMENT ASSURANCE HOUSE PURCHASE POLICIES.**

(See HOUSE PURCHASE SCHEMES.)

**ENDOWMENT ASSURANCE LEAFLETS.**

(See CANVASSING LEAFLETS p. 119.)

**ENDOWMENT ASSURANCE (LIMITED PAYMENTS).**

Endowment assurances can also be obtained in a form under which the number of premiums payable is limited to an agreed number of payments, which, taking a fifteen-payment policy as example, may be

either five or ten payments. Where the policy-holder can afford the larger temporary premiums, such a contract is advantageous in two ways, because the call on his income for premiums not only ceases sooner but his actual outlay is smaller in the end. The approximate annual premium at age 30, for instance, for a fifteen-payment endowment assurance of £100 with profits, would

would amount at maturity to £160, or nearly three times his original investment, while he would also have been protected for an increasing amount—with a minimum of £100—throughout the entire term in the event of death.

Approximate single premium to secure £100 at the end of the following periods, or previous death—

Age next birthday.	Term of years with profits.						Term of years without profits.					
	20		25		30		20		25		30	
	£	s. d.	£	s. d.	£	s. d.	£	s. d.	£	s. d.	£	s. d.
30	67	19 4	61	1 3	55	13 6	58	14 4	51	16 4	46	11 -
35	68	12 6	62	2 5	57	4 11	59	5 10	52	15 6	47	19 10
40	69	10 11	63	12 6	59	9 4	60	3 4	54	4 2	50	1 8

be £7 4s. 6d., or a total of £108 7s. 6d. in premiums. If the premiums were limited to ten payments, however, the annual payment would be, say, £9 18s., a total of £99, or, if limited to five annual payments of £18 2s., the total would amount to £90 10s., a saving of nearly £18 in premiums.

Approximate annual premiums for an endowment assurance of £100, with profits, payable at the end of fifteen years or previous death—

Age next birthday.	Premiums limited to			
	10 yearly payments.		5 yearly payments.	
	£	s. d.	£	s. d.
30	9	17 8	18	1 2
35	10	- 4	18	4 8
40	10	3 -	18	8 -

**ENDOWMENT ASSURANCE (SINGLE PREMIUM).**

Policies of endowment assurance by single premium afford a very good means of investing surplus capital, while at the same time affording protection free from further anxiety. They also afford a very striking instance of the power of compound interest as applied to life assurance. If we take, for example, a man aged 30 next birthday effecting a policy for £100 payable at the end of 30 years or previous death, with profits, his approximate single payment would be somewhere about £56. Assuming a bonus at an average of £2 per cent per annum simple throughout the thirty years, his policy

**ENDOWMENT ASSURANCES WITH PROFITS.**

The endowment assurance policy with profits is a deservedly popular form of assurance, because it not only supplies life assurance protection from the outset over an agreed number of years, but combines it with the profitable investment of savings for the policy-holder. It also has the advantage that it induces him to save regularly, so that, while he is freed from anxiety regarding his dependants he is also steadily accumulating a capital sum for his own use in later life, when his responsibilities are not likely to be so great and his earning capacity may be declining. It is sometimes argued against these policies as an investment that the capital cannot be realized if required, as in the case of ordinary forms of investment. It is not intended that the capital sum should be realizable in full. The primary object of the policy is life assurance, and the policy-holder, by effecting one, is creating a capital sum in advance for protective purposes in the event of his untimely death, and paying it off by instalments. But he is also accumulating his payments at a profit should he survive. At the same time, should he be temporarily pressed financially, the policy possesses a comparatively high surrender and loan value, and he can also surrender it for a proportionate fully-paid up policy should he desire to do so, or be forced to discontinue. What he obtains is the return of his premiums with interest at the end of the agreed term, plus life assurance for the full face value of his policy during the whole of the term. He, therefore, protects his dependants, saves

money regularly, and obtains a return on his investment at maturity should he survive. No other form of investment offers such advantages to the individual who does not possess capital to invest, and who, therefore, must make provision out of income.

Another argument which intending assurers sometimes advance against the with profit endowment assurance is that the total premiums paid during the term generally amount to as much as, or more than, the original face value of the policy. While this may be true, especially in the case of short-term endowments and at the older ages, they lose sight of one vital factor—they have had life assurance protection for the full value of the policy throughout the entire term and then receive back more than their total payments. Income tax rebate is sometimes also overlooked by such individuals. Taking an average annual premium of, say, £52, payable by a policy-holder aged 30 next birthday, for a twenty-year endowment of £1,000 he would pay—disregarding income tax rebate—£1,040 altogether. Now, let us see how his policy would stand, assuming simple and reversionary bonuses at varying rates, at different terms of years.

Simple bonus per cent per annum.	Years in force.		
	10	15	20
£ s. d.			
1 - -	1,100	1,150	1,200
1 5 -	1,125	1,187	1,250
1 10 -	1,150	1,225	1,300
2 - -	1,200	1,300	1,400

Compound bonus per cent per annum.	Years in force.		
	10	15	20
£ s. d.			
1 - -	1,102	1,158	1,216
1 5 -	1,129	1,199	1,274
1 10 -	1,156	1,242	1,335
2 - -	1,210	1,331	1,464

It will be seen that if the policy-holder were to die after making ten annual payments—£520 gross—his estate would benefit to the extent of £580 over premiums paid, taking the poorest example in the table, and to the extent of £690, taking the best example given for the same period, while in

every case he makes a profit at maturity—in the case of the £2 compound bonus (by no means an extreme estimate) of £424 over premiums paid.

Specimen premiums per £100 for a with-profit endowment assurance, payable at death or end of period—

Age next birthday.	Term of years.		
	15	20	25
	£ s. d.	£ s. d.	£ s. d.
30	7 4 2	5 5 3	4 4 3
35	7 6 7	5 7 10	4 7 8
40	7 9 5	5 10 10	4 11 8

**ENDOWMENTS.**

(See CHILDREN'S ENDOWMENT POLICIES; DOUBLE ENDOWMENT POLICIES; EDUCATIONAL ENDOWMENTS FOR CHILDREN; "PRESENTATION" POLICIES; PURE ENDOWMENT POLICIES.)

**ENGLISH LIFE TABLES.**

(See NATIONAL LIFE TABLES.)

**ENTERITIS (Inflammation of the Small Bowel).**

It is frequently associated with gastritis (*q.v.*) and termed gastro-enteritis, or with colitis (*q.v.*) and called entero-colitis.

It may be caused by improper food, chronic poisoning by mercury, arsenic, or other metallic poison, or due to specific fevers, e.g. dysentery, tubercle, cholera, typhoid, etc.

The symptoms are almost identical with those of colitis.

The significance of the disease, from a life assurance point of view, depends entirely on the cause. A passing attack, due to a dietetic error, is of no significance. On the other hand, a chronic dysentery or tubercular condition will render the case un-insurable. An exhaustive medical examination is therefore necessary in all cases other than those in which there is simply a solitary mild attack traceable to an obvious dietetic error.

**ENTEROPTOSIS; VISCEROPTOSIS (Dropping of the Intestines).**

It is commonly due to loss of support for the abdominal contents owing to weakness and laxity of the abdominal muscles.

It is a common result in middle age of a sedentary life, and may give rise to chronic abdominal discomfort and pain. As it

usually indicates a flabby musculature, cases in which it is marked are not as a rule good lives. It must, however, be remembered that considerably greater attention is paid by doctors now to this than formerly, and it sometimes happens that a patient is labelled as suffering from visceroptosis when the abnormality of position of the viscera is so slight as to be negligible, and a passing attack of indigestion may have given rise to the diagnosis in a patient who is in reality perfectly healthy and a "normal" life.

Speaking generally, it may be said that the diagnosis in early life is not so important as later on (say over 50) when it is more likely to be due to a poor or flabby physique. The relation of height to weight (it is frequently associated with excessive stoutness) and the occupation and habits (active or sedentary) in these cases are the most important factors in assessing their "lives."

#### EPIDIDYMITIS.

(See ORCHITIS.)

#### EPILEPSY.

A disease characterized by recurrent and typical fits, known as major epilepsy, or by recurrent attacks of mental vacancy or torpor, lasting perhaps only a few moments, but during which the patient is completely unconscious of his surroundings (minor epilepsy).

The importance of the disease lies in the frequency with which epilepsy is associated with or followed by mental weakness. There is also a strong hereditary tendency, so that a family history of epilepsy may be almost as important as a personal history. Another important aspect of epilepsy is that a patient may be genuinely unconscious that he is subject to it, if it is of the minor form. He may admit having had fainting attacks, and any such history must therefore be investigated and a medical reference obtained. A life assurance policy should not be granted under any circumstances to a patient with a history of epilepsy.

Jacksonian epilepsy is a special form of epileptic seizure due to irritation of the brain by scarring from a head injury or by a growth. It also is a bar to life assurance.

#### EPISTAXIS (Bleeding from the Nose).

This is only a symptom in itself, but may have considerable significance from the point of view of life assurance.

The causes of epistaxis may be tabulated as follows—

1. In childhood, it is frequently spontaneous, due to a simple congestion of the mucous membrane, and is of no importance.

2. In elderly people, it is sometimes due to high blood pressure, arterio-sclerosis, and chronic Bright's disease.

3. It may be due to growths within the nose, e.g., nasal polypi.

4. It may be caused by ulceration of the nose due to tubercle or syphilis.

5. It may occur in perfectly healthy adults from no apparent cause.

It is clear, therefore, that a history of nose bleeding in childhood with no recurrence is of no significance in life assurance.

In adults, if it is the only symptom and there are no other signs of nasal disorder (e.g., no discharge or obstruction), it may be of no significance.

If persistently recurrent, a full medical report from an ear, nose, and throat specialist is desirable, and the case dealt with according to the result of this. If there are local causes, e.g. polypi or ulceration, present, the proposal must be postponed until the cause has been removed. In elderly people, i.e., over the age of 45, the possibility of renal disease associated with high blood pressure must be recognized, and a special medical report dealing with this must be obtained, and the proposal dealt with according to the nature of the report.

(See BRIGHT'S DISEASE; also ARTERIO-SCLEROSIS.)

#### EPITHELIOMA.

(See TUMOURS.)

#### EQUITABLE LIFE ASSURANCE SOCIETY.

Head Office : 19 Coleman Street, London, E.C.2.

Founded with the object of granting assurances on equitable terms as between lives of different ages.

The society is often familiarly referred to as "The Old Equitable," a title which it has well earned since it was founded in 1762. It is the parent of modern life assurance, having been the first society to charge premiums varying according to age, and the first to make a practice of covering the risk of death whenever it happened instead of giving protection only for a year or some other short period. Its title was originally "The Society for Equitable Assurances on Lives and Survivorships."

Prior to its establishment, when life assurance was in its infancy, the same rate of premium was charged whatever the age at entry. The pioneers who founded the Equitable saw that this system was unfair, but they were in advance of their day, and met with much opposition from those who thought that their enterprise was foredoomed to failure. It was, however, founded on sound principles so that it still stands in a position of exceptional financial strength.

The society is a purely mutual one. It is an association of persons mutually assuring their own lives without shareholders to absorb any portion of the profits of the business. No liability attaches to membership, and the policies contain a clause providing that no policy-holder shall be liable to any call or contribution. Yet the profits belong entirely to the members (the holders of with-profit policies), who thus secure the benefit of assurance at cost price. The Equitable is the oldest mutual life office in the world, and a noteworthy fact is that the society has never paid commission for the introduction of business.

Once in every five years the society's actuary makes a valuation of its liabilities. The process is in effect similar to a commercial stocktaking, by means of which the position of the society is examined, and the amount of surplus determined. In making such a valuation, account has to be taken not only of the funds in hand, but also of the premiums and interest expected to be received in the future, and, on the other hand, of the claims expected to be paid in the future.

The valuation is made on a 2½ per cent basis, and takes credit for only about four-fifths of the office premiums actually receivable in the future, leaving a margin of nearly one-fifth, which covers the society's low expenses of management three times over.

The society holds practically all the capital of the University Life Assurance Society, and has been associated with it since 1919.

(See also HISTORY OF LIFE ASSURANCE; LIFE OFFICE CONSTITUTIONS, TYPES OF.)

### **EQUITY AND LAW LIFE ASSURANCE SOCIETY.**

Chief Office: 18 Lincoln's Inn Fields, London, W.C.2.

Founded in 1844 "for granting assurances on the lives of persons in every station of life," the Society still remains one of the few purely life offices. Its inception synchronized with the passing of the Joint

Stock Companies Registration Act, 1844, and its shareholders were confined to members of the legal profession.

The Society deals in life assurances of all kinds and reversions. In this connection it may be mentioned that in 1910 it took over the National Reversionary Investment Co., and in 1912 the Law Reversionary Interest Society. The Equity and Law is one of the few offices that can boast that it has never failed to declare a bonus distribution at each valuation, not even for the quinquennial period ending the 31st Dec., 1919, which included the War.

A special feature of the Society is the large average amount of each life policy issued. This is largely due to the fact that its connections are mainly with members of the legal profession, many of whom are known to control the placing of very considerable policies.

### **ERRORS IN AGE.**

(See AGE, PROOF OF.)

### **ERYSIPELAS.**

This is an infection by a septic organism. It may be purely local in its effects, and one or two of such local attacks do not affect a life proposal. The disease may, however, be more general, and must then be dealt with as a case of septicaemia (*q.v.*).

### **ESTATE DUTY POLICIES.**

(See DEATH DUTY POLICIES.)

### **ESTHONIA.**

**Regulations Affecting Insurance Companies.** Applications by a foreign company to transact insurance business in Esthonia must be accompanied by an Esthonian translation of the statutes of the company, and copies of balance sheets for the last three years. It must also agree to act according to the statutes of an established Esthonian company, submitting the name of that company to the government, likewise the names and addresses of its special agents in the country. Within three months from the end of the business year it must publish in the government journal a general statement of accounts, balance sheet of the company, and a special statement of business transacted in Esthonia. A deposit of Est. m. 500,000 is necessary, the property and assets of the company being accepted as a guarantee to meet liabilities. Capital, net profit, and revenue taxes are levied the same as for home insurance companies. All

insurance business is under the control of the insurance committee, which has its head office at the Ministry of Finance, Reval. There is a mutual tariff committee, which is entirely voluntary.

**EXAMINATIONS FOR INSURANCE BROKERS.**

(See CORPORATION OF INSURANCE BROKERS.)

**EXOPHTHALMIC GOITRE.**

(See GOITRE.)

**EXPECTATION OF LIFE.**

(See MORTALITY EXPERIENCE AS COMPARED WITH EXPECTATION; MORTALITY OF ANNUITANTS; also PRINCIPLES OF LIFE ASSURANCE.)

**EXPENSE RATIO.**

(See PRINCIPLES OF LIFE ASSURANCE; INDUSTRIAL ASSURANCE, HISTORY OF; AGENTS AND COLLECTORS.)

**EXPENSES, FIRST YEAR.**

(See CLOSED FUNDS.)

**EXPONENTIAL THEOREM.**

(See LOGARITHMS, THEORY OF.)

**EXTENDED TERM INSURANCE.**

(See SURRENDER VALUES AND LAPSED POLICIES.)

**EXTRA PREMIUMS.**

(See CLIMATIC RISKS; OCCUPATION RISKS, EXTRA PREMIUMS FOR; UNDER-AVERAGE LIVES; ENDORSEMENTS ON POLICIES.)

**EXTRA RISKS.**

The business of life assurance, being conducted on certain definite lines intended to meet the case of normal people, has had to take into account the important subject of the correct rates at which abnormal cases may be safely assured. The subject has been divided for convenience of reference and explanation, and will be found under the following heads—

Occupation Risks, Extra Premiums for.

Under-average Lives.

Climatic Risks.

Freedom of Policy from Restrictions.

Licences to Travel or Reside Abroad.

Free Limits.

## FACIAL PARALYSIS.

(See BELL'S PALSY.)

## FACULTY OF ACTUARIES IN SCOTLAND.

Although Scottish actuaries took a prominent part in the establishment of the Institute of Actuaries, it was soon perceived that there were inconveniences in the way of a full participation in its labours by residents north of the Border, and accordingly, a few years later, a sister body was constituted, under the style of "The Faculty of Actuaries in Scotland." This was in 1856, and already in 1868 the Faculty was able to secure the advantages of incorporation, which the older institute was not successful in doing until much later.

It appears, indeed, from the presidential address delivered by the late Mr. G. M. Low before the Faculty in 1901, that it is linked historically, not only with the Institute of Actuaries, but with a still older body, namely, the Managers' Association, or, as it is now called, the Associated Scottish Life Offices. Originated informally by managers of life offices for conferences on matters of interest, it seems, after having taken more concrete shape, to have suggested to one of its members, the late Mr. W. T. Thomson, the idea which led to the inception of the Institute itself, and may thus be said, in Mr. Low's words, to be "the parent of all similar associations."

The Faculty pursued its own special lines of development, which varied in some particulars from those of the Institute. The successive addresses of its presidents afford the best explanation of the views that have influenced the leaders of the Faculty from time to time, especially, say, those of Mr. Low, above cited; of Mr. Hewat, in 1906 (T.F.A., III, 129, etc.); and of Mr. Lidstone in 1924 (T.F.A., X, 197, etc.). Thus some of the functions performed by the Institute directly were in Scotland undertaken by a body separate from the Faculty, though scarcely independent of it, namely, the Actuarial Society of Edinburgh, established in 1859, which held meetings for the discussion of actuarial topics and published a series of valuable *Transactions* that still claim the attention of the actuarial

student. During the year 1901, however, the existence of the Actuarial Society was merged in that of the Faculty, which then commenced the publication of the *Transactions of the Faculty of Actuaries*, containing many papers of outstanding importance, which have contributed much to actuarial literature.

The need for an auxiliary has arisen again since, and, following the example of the Institute, a Students' Society has been started, to co-operate in the educational work of the Faculty.

Without necessarily or even desirably always seeing eye to eye in all things, the relations between the Faculty and the Institute have always been harmonious. Many actuaries are members of both, and several who joined the one body have risen to high office in the other; indeed, a recent President of the Faculty was a graduate of the English Institute. Important labours have been conducted in common, such as the various investigations into the mortality of assured lives and annuitants; the question of legislation has called for close collaboration at various times, and it is not surprising that, in consequence, the possibility of a more intimate union has received frequent and earnest consideration from both sides.

The suggested scope of this has ranged from complete amalgamation, the probability of which is rather remote, to the publication of a joint set of transactions or journals, which would lead to the convenience of one index to the actuarial literature of the two countries, but the carrying out of which presents difficulties; or the arrangement of a joint set of examination papers annually, instead of two separate sets, as at present. There are practical advantages in this, which, with adjustments, may bring it within the realm of practical politics. Whatever may be done, there has been reciprocal stimulus in the past, and, provided there is unity in essentials, there is no reason to doubt the future.

The Fellows of the Faculty, who numbered 38 originally, had increased to 62 by 1870, to 79 by 1880, 109 by 1890, 162 by 1900, now total about 250, of whom, however, very many are engaged in the Dominions and in the United States.

**FEEES FOR MEDICAL EXAMINERS.**

(See PROPOSAL FORM page 431.)

**FEMALE LIVES.**

(See PROPOSAL FORM page 435.)

**FILM PUBLICITY FOR LIFE ASSURANCE.**

(See ADVERTISING LIFE ASSURANCE.)

**FINANCE ACT.**

(See INCOME TAX.)

**FINLAND.**

**Regulations Affecting Insurance Companies.** Written applications for permission to transact insurance business in Finland must be filed with the Senatens for Finland Ekonomiske Department. They should be in Finnish or Swedish, as well as in the original language, and show that the company has been established for at least five years in the parent country, and, in the case of life assurance companies, that it has satisfactory reserves. A duly accredited agent must be appointed, not necessarily a native, who must be resident in the country and have full power of attorney. He may appoint sub-agents. Separate accounts must be kept for each class of insurance, showing the number of policies issued, Finnish premiums received, claims paid, and a statement of profit and loss. Copies must be sent to Handels och Industriexpeditionen i Senaten within six months of the close of the business year, and also be published in official journals. A similar statement of the total business of the company must also be supplied to the Department. No deposit is demanded from foreign insurance companies. Taxation is the same as for home companies. All insurance companies are under the supervision of the Ministry for Social Affairs.

**FIRST AND/OR SINGLE PREMIUMS JOURNAL.**

(See ACCOUNTANCY DEPARTMENT.)

**FIRST LIFE ASSURANCE CONTRACT.**

(See HISTORY OF LIFE ASSURANCE.)

**FIRST PREMIUM JOURNAL.**

(See ACCOUNTANCY DEPARTMENT.)

**FISSURE (Crack in the Skin or Mucous Membrane of the Anus).**

It is usually associated with haemorrhoids (*q.v.*).

A fissure in itself is harmless as far as any direct effect on the health of the patient is concerned. It may, however, be of importance in that it is usually associated with constipation, which in itself may be due to other more important abnormalities. In recent cases, therefore, a medical examination especially directed to the bowel is advisable. In cases with an old history of fissure, with no subsequent symptoms of constipation or haemorrhoids, a life policy may be granted at the usual rates.

**FISTULA.**

Any abnormal opening of a hollow viscus through the skin is called a fistula. The commonest of these is an opening from the rectum to the side of the anus, and for this reason the term fistula used by itself is generally accepted as being a fistula in this position.

Its cause is usually the rupture of a small abscess in the wall of the anal canal, the rupture occurring both into the bowel and through the skin. This is a complete fistula. Occasionally the abscess ruptures only into the bowel (an internal fistula) or only through the skin (an external fistula).

For life assurance purposes, the significance of a fistula lies in the fact that not uncommonly the original abscess was tubercular, and every case in which a history of fistula is given must therefore be specially examined from this point of view.

If this examination is satisfactory, a policy may be issued at the ordinary rates, provided the fistula is healed. If it has not healed, postponement is advisable.

**"FIXED" DEBT PLAN.**

(See UNDER-AVERAGE LIVES.)

**FIXED TERM POLICIES.**

This form of policy is especially suitable for the purpose of providing for the payment of fixed charges in the same way as sinking fund policies (*q.v.*). They may be utilized to provide the return of the price paid for leasehold property, the cost of dilapidations on leasehold properties or parsonages, the repayment of loans, or replacement of machinery and plant, etc. For instance, the purchaser of a leasehold property worth £1,000 having, say, 25 years to run, could secure the return of his capital at the expiration of the lease by payment of an annual premium of £26 12s. 6d. Similarly, a lender advancing £2,000 could secure repayment of the loan at the end of a fixed

term, such as ten years, by stipulating for the borrower to effect a policy, the annual premium on which would be £169 8s. 4d. Should it be desired to discontinue such a policy at any time, all the premiums paid, with the exception of one-half the first year's premium, as a rule, is returned, plus compound interest at  $2\frac{1}{2}$  per cent or 3 per cent per annum.

Specimen annual premiums required to assure the payment of each £100 on the expiry of the following fixed terms—

Term of years.	Annual premium.
	£ s. d.
10	8 9 5
20	3 12 4
30	2 - 6
40	1 5 4
50	16 10
60	11 9

(See also SINKING FUND ASSURANCES.)

#### FORECLOSURE.

(See MORTGAGES OF REAL AND PERSONAL PROPERTY.)

#### FOREIGN LIFE FUND.

(See INCOME TAX.)

#### FOREIGN RESIDENCE AND TRAVEL: POLICY CONDITIONS.

(See FREEDOM OF POLICY FROM RESTRICTIONS; LICENCES TO TRAVEL OR RESIDE ABROAD.)

#### FORM OF ASSIGNMENT.

(See ASSIGNMENT.)

#### FRACTIONAL DURATIONS.

(See POLICY VALUES.)

#### FRACTURES.

These very rarely have any significance in life assurance, apart from the immediate dangers, the consideration of which is not likely to be necessary in a proposal for life assurance.

The after-effects, however, may be of some importance and arise out of the deformities which may result. Fractures of the skull may be serious in that they may be followed by permanent head symptoms, possibly Jacksonian epilepsy and profound neurasthenia. Such cases have to be considered on their merits after medical examination,

but a simple fracture of the skull, with no sequelae, need not affect a proposal.

Fractures of the ribs may seriously affect a proposal by—

1. Causing marked deformity of the chest and so render the proposer more liable to chronic lung trouble.

2. Having caused injury to the lung or pleura, which, if severe, may have given rise to serious permanent changes in the lungs.

Such cases are rare.

Fractured spine is of no significance, unless accompanied by injury to the spinal cord or nerves. If this complication has occurred the case is usually uninsurable.

Fractured Limbs. Fractures of the arms are of no significance. Fractures of the legs may be of significance in causing such deformity as to render accidental death a serious risk.

It sometimes happens that a malignant growth develops at the site of a fracture. Compared with the number of cases in which no such event follows, the total of such cases is so small as to be negligible.

#### FRANCE.

Regulations Affecting Insurance Companies. Foreign companies wishing to establish themselves in France must make application for authorization to the Ministère de L'Hygiène, de L'Assistance et de la Prévoyance Sociale. Applications, in duplicate, should be on stamped paper, notarially certified and accompanied by a receipt from the Caisse des Dépôts et Consignations, showing that a deposit of Frs. 500,000 has been made—in the case of life assurance companies. The deposit may be made in cash or in fully-paid State bonds. A copy of the articles of incorporation of the company, together with a French translation of the statutes of the company, must be sent, also complete tariffs of premiums and, in the case of tontine operations, tariffs and basis on which calculations are made. There should also be a technical note, explaining the method on which the tariff is worked, and basis of calculation for the various premiums. The company must be legally established in the parent country, and the address of the French office stated. Foreign companies come under the law of 17th March, 1905, regulating insurance and all institutions basing their activities on the duration of human life. Registration must be published in the Journal Officiel. The representative must reside in France, have

unlimited power of attorney, and be solely responsible to the Ministère de Travail. All business papers must be in the French language, and copies of documents relating to French business must be submitted yearly. Foreign companies must deposit an amount equal to the premium reserve on French life business and a guarantee reserve. The latter is calculated at 3 per mille on the annual premium income. When the guarantee reserve reaches 6 per cent of the premium reserve the annual increase is reduced by 50 per cent, and is entirely abandoned when the guarantee reserve reaches 10 per cent of the premium reserve. The Comité Consultatif des Assurances sur la Vie, acting under the Ministère de Travail, controls life assurance business. Cost of supervision is borne by the companies, reckoned at not more than 1 per 1,000 on French business.

Foreign companies desirous of transacting workmen's compensation insurance business must comply with similar conditions to those above stated. They must deposit Frs. 600,000 for the first year, and from the second 3 per cent of wages assured, with a maximum of Frs. 3,000,000. These deposits may be reduced by one half if the foreign company pays into the Caisse Nationale des Retraites a capital sum determined on basis of income or other payments in case of accidents resulting in death or permanent incapacity.

Foreign companies transacting other classes of insurance than those mentioned above come under the Act of 15th February, 1917. This Act requires that they must have a representative resident in France, and approved by the Ministère de Travail, to whom should be sent statements of accounts and balance sheet. A deposit is not demanded from companies domiciled in countries where French companies have free access. In other cases, the question of a deposit is reciprocal. Foreign companies are required to sign a declaration not to trade with companies mentioned on the French black list, as published in the official journal.

#### **FRAUD OF AGENT.**

(See AGENT, AUTHORITY AND RESPONSIBILITY.)

#### **FREEDOM OF POLICY FROM RESTRICTIONS.**

Every assured person is anxious to have a policy free from all restrictions as to travel, for, although there may be no likelihood of

his proceeding beyond the free limits, yet the contingency may arise, and in that case a heavy extra premium may become payable. Further, life policies are frequently used as collateral security for a loan, or may actually be sold outright, in which case a third party would be the loser if a restriction in the policy were broken and the policy became void. This risk is the more serious in that an assignee is not necessarily in close touch with the life assured, and may be unaware that he has proceeded abroad. An unrestricted policy, therefore, is considerably more valuable to the holder than one which is restricted, since in the latter case it might even be rejected as not forming a satisfactory security.

It has been the practice for many years past for life offices to issue their policies as free from restrictions as the circumstances of the life assured will, in their opinion, permit. In the matter of restrictions on residence, competition has been a potent factor, and the present practice appears to have reached, if it has not in some cases actually passed, the limits of safety.

Generally speaking, it is now the custom to issue policies which are free from all restrictions on residence, provided that the life assured has not travelled outside the free limits, and states that he has no intention of doing so and no business engagements likely to cause him to do so. Such policies, however, would not be issued to a naval, military, air force, or seafaring man, as a rule, and occupation would be taken into account. It will be readily appreciated that many border-line cases occur in practice, and whereas some offices give a free policy, unless they feel impelled not to do so by the circumstances of the case, others take the opposite view, and add the restrictions in every case which is not perfectly normal in this respect.

On the other hand, it is the practice of a certain number of offices to issue a restricted policy in every case. Under this plan a limit is usually placed on the circumstances in which an extra charge will be made. For instance, it is often provided that the policy becomes free from such restrictions after three (or five) years, if the life assured has continuously resided within the free limits, has attained the age of 25 (or 30), and is not of a naval, military, or seafaring occupation, nor belongs to the Air Force. Occasionally the proviso as to the duration of the policy, or, alternatively, the age of the life assured, is omitted, or an additional

proviso inserted to the effect that the life assured must be of a settled occupation. A further plan is to issue a free policy only in those cases where the life assured is 25 (or 30) years of age at the time of issue, and is able to comply with the usual conditions.

Even in those cases where a restricted policy is issued, the conditions are ameliorated as far as possible. For instance, some policies recite a privilege to the effect that the life assured may pass over the prohibited area in a ship without extra charge. A more important, and more common, privilege protects the interests of third parties in so far as they have been acquired bona fide for valuable consideration, provided notice is given as soon as the breach of conditions is known, and any extra premium required is paid.

As the result of competition, these restrictions are applied less and less in practice, and one office at least has reached the stage at which extra premiums for residence have practically been abolished. With the exception of an extra premium for the West Coast of Africa, and a very rare charge in those cases where the occupation renders the climatic risk exceptionally serious, this office does not ask for extra premiums, and issues an unrestricted policy even when the life assured is immediately proceeding to the tropics.

#### **FREEDOM, PRINCIPLE OF.**

(See BOARD OF TRADE, POWERS OF.)

#### **FREEHOLD AND LEASEHOLD GROUND RENTS AND PROPERTIES.**

Many life assurance institutions are substantial holders of ground rents, but such investments constitute a diminishing proportion of the aggregate assets of the life offices. From their nature, they are not a type of investment to be acquired in small parcels as chance opportunities offer. The compulsory enfranchisement of leaseholds is a possibility to be considered, and might have considerable effect upon the value of ground rents enjoying an early reversion to the rack rents (the full annual rent which a property is worth to be let).

A freehold ground rent is the rent paid to the owner, in exchange for a lease of land for a term of years with the right to build thereon. On the expiration of the lease, the land with the buildings reverts to the freeholder, the lessee being under obligation to make good dilapidations to the

reasonable satisfaction of the ground landlord. Leases are now for terms of years, invariably, a period of 99 years being most common in London and many parts of England, but in Lancashire (excepting Liverpool), the usual term is 999 years.

Ground rents held for investment are usually purchased in substantial blocks to facilitate collection of rents, and the necessary inspections to ascertain that the leaseholders are fulfilling the covenants to maintain their properties in good repair. It will be apparent, therefore, that investments of this nature are most suitable to the funds of large companies able to support the expense of the necessary supervisory staff. The alternative is to retain the services of independent surveyors.

Few duties are the Scottish equivalents of perpetual ground rents, while ground annuals are similar to improved ground rents—the annual rent obtained by underleasing at a rent in excess of that due under the head lease.

With regard to the interest yield to be obtained from investments of the nature under discussion, well-secured (i.e. not more than one-quarter of the rack rent in any case and usually a smaller proportion) freehold ground rents command prices representing a rate of interest very little in excess of that obtained from irredeemable convertible securities of the highest class. Where the unexpired term of the lease is less than about 60 years, the market price will take into account the value of the reversion to the rack rents.

Turning to the item "House Property" in the statutory form of balance sheet, it is probable that the major portion of this item is represented by premises occupied by insurance companies for the purpose of their business. An old-established company usually owns the freehold or long lease of buildings in the Metropolis and important provincial cities, and these stand in the balance sheet at conservative figures, representing in fact a substantial concealed reserve. Properties of this nature do not in general produce income.

House property, to use the word in a general sense, was in the past a favourite form of investment with some offices willing to support the organization necessary to proper management, and there are no doubt considerable holdings representing the reversion to properties on which the building leases have expired. So far as new investments are concerned, office properties, flats let at moderate rentals, and shops let to

substantial tenants in well-established districts, are of the types among which suitable investments are found. The observations upon the choice of mortgage securities of this nature will furnish a guide to the factors influencing the selection of such investments.

(See MORTGAGES OF REAL AND PERSONAL PROPERTY.)

It must be noted that leasehold properties constitute a wasting asset, and a company holding such properties will replace the diminishing capital value by appropriations from revenue. This may be done by direct adjustment of ledger values or the creation of a Sinking Fund Policy in the company's books, premiums on which are charged on the income from the property.

### FREE LIMITS.

At one time it was the practice of British life offices to forbid residence outside the United Kingdom without permission, and it was even necessary for a policy-holder to obtain permission to travel by sea from one home port to another. This practice, however, is long since past and, except in time of war, a very large part of the world is within the free limits of residence, even when a restricted policy is issued. (See also under FREEDOM OF POLICY FROM RESTRICTIONS.)

**Latitude.** The exact limits within which foreign residence is permitted in the case of a restricted policy vary as between office and office, but, generally speaking, the difference is not great. Necessarily, latitude is an important factor and, with certain exceptions, those parts of the world *north of 33° N. lat., and south of 30° S. lat.* are free. In the case of a few offices, these limits are slightly varied, the northerly limit being occasionally placed at 30 or 35 degrees, and the southerly at anything from 25 degrees to 33 degrees.

### EXCEPTIONS

**Asia.** Asia is an exception to the above rule, as no part of this continent is usually allowed within the free limits except Japan, Korea, Asia Minor, and the Holy Land. In rare cases, however, the Treaty Ports in China from Shanghai northwards are included.

**North Africa.** In the case of Egypt the free limits are wider, since residence is usually permitted north of 22° (or 25°) N. lat. or north of the Second Cataract. In some cases the whole of Egypt is free (but sometimes only between November and April or May), and even the Sudan from Khartoum northwards.

**South Africa.** The whole of the Union of South Africa is usually within the free limits, and occasionally these are extended to cover British South Africa south of the River Zambesi. In addition, South-West Africa (formerly German South-West Africa) is occasionally included, since it is administered under the Union of South Africa.

**Australia.** Although, as a general rule, the whole of Australia is included in the free limits, yet those portions north of 20 degrees south latitude, or north of the Tropic of Capricorn, are occasionally excluded.

**Islands of the Atlantic Ocean.** The Canary Islands, and the Islands of Ascension, Cape Verde, Madeira, and St. Helena, and also Bermuda, are usually within the free limits.

**Arctic Regions.** In the case of most offices, the Arctic Regions are within the free limits, although no doubt an extra premium would be charged in most cases where the life to be assured was proceeding there at the time of effecting the policy. In a few cases, however, a restriction is placed on residence within the Arctic and Antarctic Circles, or sometimes north of 60° N. lat. and south of 60° S. lat.

**Seat of War.** Residence in, or travel to, any place which is the seat of war is usually excluded in the case of a restricted policy.

### FREE PAID-UP POLICIES.

(See PAID-UP POLICIES; and INDUSTRIAL ASSURANCE ACT, 1923.)

### FRENCH STATE TONTINE.

(See TONTINES.)

### FREQUENCIES.

(See PROBABILITIES.)

### FRIENDLY SOCIETIES' ANNUITIES.

(See TRUSTEES SAVINGS BANKS AND FRIENDLY SOCIETIES.)

### FRIENDS' PROVIDENT AND CENTURY LIFE OFFICE.

London Head Office: 7 Leadenhall Street, E.C.3. Edinburgh Head Office: 18 Charlotte Square.

Founded 1832.

The Friends' Provident and Century Life Office was established (as the Friends' Provident Institution) by members of the Society of Friends (Quakers) for purposes of mutual life assurance. For eighty years it confined its operations to Friends and their family and business connections.

Although its clientele was thus limited, the Institution achieved much success, and at the end of that period the assurances in force were more than £6,000,000, whilst the accumulated funds exceeded £3,000,000, and the annual income £300,000. Under more recent commercial conditions, it became evident that the restrictions on the sphere of the office's operations had ceased to be advisable, and on the incorporation of the Institution by special Act of Parliament in 1915, provisions were inserted in the Act which had the effect of enabling members of the general public also to secure the advantage of assurance in the Institution.

In 1918 a further progressive step was taken by the fusion of the interests of the Century Insurance Company, Ltd., with those of the Institution, as a consequence of the acquisition by the Friends' Provident of the whole of the share capital of the Century. The Century transacted fire, accident, and other general classes of insurance in addition to life assurance. As from the 1st Jan., 1920, the name of the Friends' Provident Institution was changed to the Friends' Provident and Century Life Office, and it was arranged that while the Century should continue actively to carry on fire and other general classes of insurance, the new life assurances and annuities thereafter secured by the consolidated organizations should be undertaken solely by the Friends' Provident.

Whilst the office transacts all ordinary forms of life assurance, it offers the following special policies to the public, viz.—(1) "Ten Years' Option Policy." Under this policy the premiums are very low, and there are a number of valuable options available at the end of ten years—all these options being guaranteed and inserted in the policy itself; (2) "Business Policy." This scheme provides an endowment assurance contract with guaranteed benefits—all of which are stated in the policy; (3)

"Extended Policy." This policy couples an ordinary endowment assurance with accident benefits.

**Century Insurance Company, Ltd.**

Head Offices: 18 Charlotte Square, Edinburgh, and 7 Leadenhall Street, London, E.C.3.

Founded 1885.

This company was formed in 1885 for the purpose of introducing a scheme of sickness insurance for professional and business men—a branch of insurance business which it has made peculiarly its own, and of which it is the leading exponent.

The life department was founded in 1898, and has been successfully conducted ever since.

The "Century" is one of the few companies which have paid consistently good bonuses from the date they started to do life business, and even during the War, when so many companies found it necessary to pass the bonus entirely, the "Century" only found it necessary to reduce its bonus from 30s. per cent to 25s. per cent compound for the five years war period.

The life assurance and annuity account is now practically closed to new business, consequent upon the alliance of the company with the Friends' Provident and Century Life Office in 1918.

**FRIEND'S REPORT.**

(See PROPOSAL FORM.)

**FULL PRELIMINARY TERM PLAN.**

(See VALUATION METHODS.)

**FULLY PAID-UP POLICIES.**

(See PAID-UP POLICIES.)

**FUNDS, INVESTMENT OF.**

(See INVESTMENTS OF LIFE OFFICES.)

**FURUNCULOSIS.**

(See DISEASES OF SKIN.)

**GALL BLADDER, INFLAMMATION OF.**

(See CHOLECYSTITIS.)

**GALL STONES (Cholelithiasis).**

These are concretions formed in the gall bladder or liver.

They sometimes pass into the common bile duct and become fixed, and so prevent the escape of bile into the intestine.

The cause of their formation is unknown, but a cholecystitis (*q.v.*) is usually associated with them. Acute attacks of abdominal pain are common (gall stone colic), and jaundice may be a marked feature. Chronic dyspepsia and ill-health may be the result, or an acute cholecystitis may result in abscess formation (empyema of the gall bladder) and rupture of this causing general peritonitis.

The presence of gall stones is an absolute bar to any form of life assurance. If there is a history of gall stones, the proposal cannot be accepted unless a successful operation has been performed for removal of these, and also of the gall bladder.

If the gall bladder has been left, but there has been a history of the stones having been removed and no symptoms have occurred for two years, a short term endowment assurance may be issued, provided the patient is otherwise healthy. If the gall bladder has been removed as well as the stones, and there have been no symptoms for two years, a life policy may be issued at a slightly increased rate, subject to a satisfactory medical examination.

It must be borne in mind that, generally speaking, a patient who has suffered from gall stones is a bad type for any form of life assurance, and a skilled medical examination is essential in all cases; and if an operation has been performed, a report from the operating surgeon is necessary.

**GAMBLING ACT.**

(See LIFE ASSURANCE ACT, 1774; also INSURABLE INTEREST.)

**GANGRENE (Local Death of the Tissues).**

It is a condition most commonly met with in the extremities, where the circulation may be defective. It sometimes follows

acute septic conditions, especially if associated with septicaemia, but generally it indicates defective circulation or poorness of blood, and the common pre-disposing causes are diabetes, arterio-sclerosis, and syphilis. Frost-bite is a form of gangrene, and the only one which is not likely to affect the question of life assurance. All other cases must be fully investigated, and any pre-disposing condition of glycosuria, arterio-sclerosis, or syphilis is a definite bar to any form of life assurance if it has resulted in gangrene, even though the patient may have apparently recovered. Gangrene or sloughing due to septicaemia must be dealt with as indicated under that heading.

**GASTRIC ULCER.**

The cause of this is unknown. It is associated with a history of chronic indigestion, with pain soon after taking food, and frequently haematemesis (vomiting of blood)

The significance of this in life assurance proposals is important for many reasons, some of the more important being—

1. A simple ulcer may become the seat of a malignant ulcer, i.e., cancer.

2. A patient suffering from recurrent attacks of symptoms suffers seriously in vitality owing to the repeated necessity for strict dieting.

3. Perforation may occur, giving rise to general peritonitis.

4. Operation (sometimes of an extensive nature) may be necessary.

5. Trouble may arise even after a successful operation.

Every case, therefore, in which a history of gastric ulcer occurs must be submitted to a medical examination of the strictest kind.

Generally speaking, it may be said that any case presenting recent symptoms must be postponed, even if an operation has been performed. Cases in which no symptoms have occurred for two years may be granted a life policy at an increased premium if an operation has been performed, and the medical references and examination are satisfactory, or a decreasing debt may be imposed running off in, say, five years. Similar cases, if no operation has been

performed, may be given a short term endowment assurance under the same conditions.

It frequently happens that after middle life these cases have to be declined altogether.

#### **GASTRITIS (Inflammation of the Stomach).**

The commonest cause for this is indiscretion in diet. It may be confined to one attack only, or repeated attacks may occur, and a condition of semi-invalidism result.

It is unfortunate that a diagnosis of gastritis is frequently made when the appendix or gall bladder is at fault.

Any proposal, therefore, in which a recent attack of gastritis is shown, should be postponed for a short period, and then come up for medical examination.

If more than one attack has occurred a medical examination is essential to exclude the more serious condition of appendicitis and gall bladder trouble. In cases where there has been an interval of two or three years since the last attack, and the proposer is otherwise healthy, a life policy may be issued at ordinary rates to young adults, and at a slightly increased rate to proposers over 45.

#### **GASTRO-ENTERITIS.**

(See ENTERITIS.)

#### **GENERAL ACCIDENT FIRE AND LIFE ASSURANCE CORPORATION, LTD.**

Head Office: General Buildings, Perth, Scotland. London Office: General Buildings, Aldwych, London, W.C.2.

Founded in 1885 as an accident insurance office.

In the year 1925 this important Corporation acquired the business of the General Life Assurance Company, which was founded in the year 1837, and through the medium of which its life business is now conducted. By this purchase the General Accident Fire and Life Assurance Corporation, Limited, has consolidated the position of its life account and has obtained the opportunity, of which good use is being made, of vigorously developing the business of its life department.

The Corporation was founded in 1885 for the purpose of transacting accident and kindred assurances. It has extended its operations all over the civilized world, and has acquired, in addition to the General Life Assurance Company, the Road Transport and General Insurance Company, the English

Insurance Company, the General Accident Assurance Company of Canada, the Scottish Canadian Assurance Corporation, the Indian Guarantee and General Insurance Company, the Potomac Insurance Company of the District of Columbia, the Patria Compañia de Seguros Generales, thereby facilitating its operations in the various countries concerned.

The company issues life policies calculated to meet various demands of the public, particularly children's deferred assurances, and policies to provide the amount of death duties.

#### **GENERAL LIFE ASSURANCE COMPANY.**

(See GENERAL ACCIDENT FIRE AND LIFE ASSURANCE CORPORATION, LTD.)

#### **GENERAL PARALYSIS OF THE INSANE (G.P.I.).**

A progressive disease of the brain and meninges, associated with mental degeneration and paralysis. It is usually regarded as being due to syphilis (*q.v.*). It is an absolute bar to life assurance. It requires a skilful medical observer to detect it in its early stages, but if there is any doubt as to its presence, the case must be indefinitely postponed.

#### **GENERAL PERITONITIS.**

An inflammation of the peritoneum lining the abdominal cavity. It is usually due to a spread of some local inflammation, e.g. appendicitis, perforation of a gastric ulcer, or of an abscess in the gall bladder. It may be tuberculous.

The only chronic form of general peritonitis is the tubercular form, and such cases are uninsurable. Other acute cases can only live if they are operated on, and any proposer who has had general peritonitis or simple "peritonitis" shows the scars of this operation. Such cases must always be subject to a complete medical examination to discover if the original cause has been removed, but perhaps even more important than this, it is necessary to determine whether or no any extensive adhesions have formed, for if this is the case, the serious accident of intestinal obstruction (*q.v.*) may result.

Cases of general peritonitis that have been operated on in childhood and come up as proposers in adult life may be accepted at ordinary rates, provided no abdominal trouble has occurred since.

Other cases must be dealt with entirely on their merits after a careful medical examination. It is frequently necessary to decline them altogether.

### GEOMETRIC AVERAGE.

(See AVERAGES.)

### GERMAN INSURANCE DEPARTMENT.

(See STATE SUPERVISION.)

### GERMANY.

**Regulations Affecting Insurance Companies.** Applications to transact insurance business in Germany should be addressed to the Aufsichtsbehörde, accompanied by statutes and general policy clauses of insurance to be transacted in Germany. Proof must be given of establishment of satisfactory conditions of working, etc., and of the appointment of a representative, who must reside in Germany. Deposits are required only for life, accident, and insurance business, for which actuarial reserves must be made. The full reserve is required to be invested in German securities. Insurance companies are under the supervision of the Aufsichtsamt für Privatversicherung (in terms of the Law of 12th May, 1901), to the upkeep of which companies pay in proportion to their gross premium income, though the amount must not exceed one per mille. An annual statement of account and balance sheet must be sent to the Aufsichtsamt. Companies which only transact insurance against exchange losses, marine insurance, and reinsurance, are generally exempt under the present law, though the Bundesrat recently passed resolutions curtailing these exemptions.

### GLAUCOMA (Increased Tension of the Eyeball).

It is caused by repeated attacks of inflammation in the eye (particularly of the iris). It may arise apparently spontaneously. It gives rise to severe symptoms, progressive in character, of acute pain, sleeplessness, and vomiting. Such cases are usually uninsurable, but in some cases a short term endowment assurance may be given, subject to a medical examination.

### GLOSSITIS (Inflammation and Ulceration of the Tongue).

It may be a part of a stomatitis (*q.v.*). Special forms are—

1. Chronic superficial glossitis, which may be due to excessive smoking, drinking, or syphilis, and will therefore need special

care in eliminating these. A medical examination to determine whether the proposer is affected constitutionally is necessary. In the absence of such constitutional signs, the case may be accepted with a slight increase of premium. If there is any sign of ulceration of the tongue, the proposal must be declined or postponed, as there is a real danger of cancer supervening.

2. Ulceration of the tongue. Owing to the multiplicity of causes, if this condition is present at the time of the proposal, declension or postponement is necessary according to the result of a medical examination. Common causes are irritation by a tooth, syphilis, tubercle, and cancer.

### GLYCOSURIA.

By this is meant the presence of sugar in the urine.

This does not indicate kidney disease, but that for some reason or other the sugar, which is normally digested, and, after absorption, stored in the liver as glycogen, is allowed to circulate in abnormal amount in the blood, and is excreted by the kidneys.

The normal processes by which sugar is digested and absorbed depend on the activity of the pancreas. If, therefore, this organ is not performing its proper function, the sugar is not properly digested and absorbed and cannot, therefore, be made use of by the body. It is, therefore, excreted by the kidneys, and gives rise to glycosuria.

This form of glycosuria is true diabetes (*q.v.*).

On the other hand, although the pancreatic functions may be normal, the work thrown on the pancreas may be excessive, i.e. the individual may be taking an amount of sugar in excess of the body's needs and of the capacity of the pancreas. Such excess is also excreted in the urine.

This is a simple, or dietetic, glycosuria, and the sugar completely disappears from the urine if the amount eaten is diminished. The term sugar used in this connection includes all starchy foods as well as sugar proper.

The glycosuria due to true diabetes is therefore of much more importance than that due simply to dietetic causes, as it indicates definite organic disease which is progressive, and leads to complications of a serious nature, and in many cases death within a few years.

On the other hand, a dietetic glycosuria may be of some significance, in that if it is persistent and follows the taking of

comparatively small quantities of sugar or starch, it may be a precursor of true diabetes.

In order, therefore, to determine whether the degree of glycosuria is of importance, it is necessary to make an examination of the urine under conditions which are controlled, i.e. after the proposer has taken a measured quantity of sugar. Such a "meal" is called a test meal, and all proposals which show a glycosuria either at the time of the proposal or in the history, should have this special test carried out, and the insurance postponed until the glycosuria disappears. In the event of the "test meal" examination being adverse, the case must either be rejected or postponed for short periods, until a favourable report is obtained and the urine becomes sugar free. A blood-sugar test may be desirable in these cases.

It might be mentioned here that if excessive weight (i.e. fatness) is associated with a glycosuria, even if such a glycosuria is only dietetic, the risk is greatly increased and should be rejected. Similarly if acetone or diacetic acid is found in the urine, the proposal should be rejected.

In elderly proposers, great care has to be exercised in case of glycosuria, and any proposer for an endowment or a life policy over the age of 50 with sugar in the urine should be rejected, or, in special cases, a substantial debt put on the policy.

**GOITRE (Enlargement of the Thyroid Gland).**

There are many varieties of this, the commonest being—

1. General enlargement—parenchymatous goitre.
2. Local enlargement—adenomatous goitre.
3. Sarcoma or carcinoma.
4. Graves' disease—exophthalmic goitre.

Goitres are frequently removed by operation, and if this has been done for one of the first two varieties mentioned above, the only risk is of myxoedema (*q.v.*).

If the third variety, cancer, has been present, the case is, of course, uninsurable.

If the fourth, exophthalmic goitre, has been present, the importance in life assurance may be considerable, but not necessarily a bar to acceptance. Many factors have to be considered by an experienced medical examiner in cases of exophthalmic goitre, as severe constitutional symptoms are frequently present. On the other hand, a history of exophthalmic goitre, dating back several years, need not affect the proposal if the attack was slight, no enlargement of

the thyroid has persisted, and there has been no recurrence of any symptoms. Subject to a satisfactory medical examination such a case may be accepted at ordinary rates. In others, the company has to be guided entirely by its medical officer.

Generally, no case can be accepted on any terms if any symptoms of the disease are present.

In groups 1 and 2 mentioned above, if the goitre has not been removed, the proposal cannot be accepted if the goitre is large, or when, if small, any pressure symptoms are present, i.e. if there are any signs of respiratory or cardiac embarrassment. If the swelling is a small one and has not increased in size for some years the case may be accepted at ordinary rates.

**GOLD BOND POLICIES.**

These policies are a development of the debenture, or guaranteed income, policy (*q.v.*), and have been principally popularized by the Canadian offices. They can be had either as whole life, limited-payment life, or endowment contracts, with or without profits. Their principle is that the company guarantees to pay after the maturity of the bond, or policy, either by the survivorship or death of the assured, £50 per annum for twenty years for each £1,000 face value of bond effected, and, in addition, the face value of the bond one year after the twentieth annual payment of £50, which is in the nature of 5 per cent per annum interest on the face value. As, however, the bond shares in the surplus interest earnings of the office, the annual return may be more than 5 per cent. The total payment guaranteed by the company, however, is £2,000 for each £1,000 bond effected, and as the benefits under the policy become immediately available for the beneficiary in the event of the policy-holder's death, the contract provides a useful means of securing an assured income for dependants, with a capital sum available later on. The bond also carries the option of being redeemed at the maturity of the endowment

Age nearest birthday.	Whole life.	20-payment life.	20-year endowment.
30	£ 3 3 -	£ 4 7 5	£ 6 9 4
35	3 12 8	4 16 11	6 12 6
40	4 4 11	5 8 4	6 17 6
45	5 1 3	6 2 10	7 5 2

period at a premium of 30 per cent, plus any accrued profits.

Specimen annual premiums for the assurance of each £100 of 5 per cent twenty-year gold bond policy, with profits, are shown on the previous page.

**GNORRHOEA.**

(See VENEREAL DISEASE.)

**GOUT.**

(See ARTHRITIS.)

**GOVERNMENT ANNUITIES ACT, 1882.**

(See POST OFFICE LIFE ASSURANCE.)

**GOVERNMENT CONTROL.**

(See BOARD OF TRADE, POWERS OF, ETC.)

**GOVERNMENT INSURANCE COMMISSIONER.**

(See NEW ZEALAND GOVERNMENT LIFE INSURANCE DEPARTMENT.)

**GOVERNMENT LIFE ANNUITANTS.**

(See MORTALITY OF ANNUITANTS.)

**GOVERNMENT LIFE ANNUITIES.**

The British Government has granted life annuities for many years, and since 1808 through the National Debt Office, in order to raise money, and issued a considerable amount of tontine investments of the nature of life annuities.

The object in view is to effect a reduction of the National Debt by the commutation of perpetual stock into annuities, which naturally return a larger annual payment,

but as each payment comprises interest and return of principal, an annual reduction of the debt is automatically effected, and a perpetual obligation curtailed to the length of life of the individual on whose life the annuity is granted.

An annuity granted by the National Debt Office is accordingly regulated by the price at which Consols stand at the day the bargain is made, which transaction involves the purchase of a certain amount of stock to be cancelled by the said annuity, and such purchase determines the rate of interest yielded to the National Debt Commissioners, and the rate allowed to the purchaser of the annuity approximates closely thereto. As the price of Consols goes up the cost of an annuity rises, and vice versa, but if Consols are at or below 50 the rate of interest is then fixed at 5 per cent.

The mortality basis for the sale of such annuities is determined according to the experience of nominees under annuities purchased through the National Debt Office over several years past.

As to the favourable mortality experienced and the necessary modification from time to time in the mortality basis on this account, something will be said later.

In 1864 the facilities for obtaining annuities from the Government were extended to the Post Office, and immediate annuities can be purchased through the Post Office Savings Bank up to a maximum of £300.

The current regulations in regard to life annuities as issued by the Commissioners for the Reduction of the National Debt are of sufficient interest to quote fully—

The Commissioners for the Reduction of the National Debt under the authority of the Acts 10 Geo. IV., cap 24, and 51 and 52 Vict., cap. 15, etc., grant *annuities*, chargeable upon the Consolidated Fund of the United Kingdom, as follows—

IMMEDIATE ANNUITIES . . . .	On single lives.
"    "    "    "    "    "	On two lives and the life of the survivor.
"    "    "    "    "    "	On the joint continuance of two lives.

NOTE. The Government ceased to grant term certain annuities or deferred annuities of any description in 1912.

PURCHASE OF ANNUITIES ON LIVES

Subject to proof of age or ages an annuity can be purchased in the name of the nominee as sole proprietor or jointly with other proprietors; or in the name of proprietors other than the nominee, provided that the annuity so purchased shall be for the sole use and benefit of such nominee. The number of proprietors must not exceed four.

CONSIDERATION (IN STOCK OR MONEY) FOR ANNUITY

2½ per cent consolidated stock, 2½ per cent annuities, 2½ per cent annuities, 1905, and any securities issued for the purpose of raising money for war purposes may be transferred; or payment may be made in money.

No sum less than £100 of stock, or money equal in value to £100 of 2½ per cent consolidated stock, can be transferred, or paid, *in the first instance* ; but additions may be made to any annuity already purchased, by transferring an amount of not less than £20 of stock, or by payment of money equivalent to £20 of 2½ per cent consolidated stock.

When stock is transferred the services of a stockbroker will be necessary.

When money is paid, the sum required will be the value of the 2½ per cent consolidated stock necessary for the purchase of the annuity, according to the current price of the day on which the contract is signed ; and a charge of 2s. 6d. commission will be made for every complete £100 of stock which the money so paid would purchase.

The stock must be transferred, or the money paid within five days of the signature of the contract, or the contract will be void.

PAYMENT OF ANNUITIES

Life annuities are payable quarterly on the 5th January, April, July, and October, respectively, at the National Debt Office by warrant on the Bank of England.

In respect of any annuity purchase completed by transfer of securities or payment of money between the closing of the stock transfer books of the Bank of England in the month of—	The first quarterly Payment of annuity will become due—
December and the last day of	February . . . . . on the 5th April following.
March     "     "	May . . . . .     " 5th July     "
June     "     "	August . . . . .     " 5th October     "
September     "     "	November . . . . .     " 5th January     "

A proprietor may receive payment either in person, through a bank or person specially authorized under Power of Attorney (stamped 10s.), or by post to any address in the British Isles.

If payment is desired through an attorney, application should be made at this office for a printed form of instructions.

If the warrant is to be sent by post to a proprietor or an attorney, a notice to such effect must be lodged at this office as early as possible. In case of more than one proprietor, the notice must be signed by all the proprietors and must specify the one to whom the warrant is to be sent.

In case the person on whose life the annuity depends does not appear at this office to prove existence, a certificate is required which, if granted in the British Isles, must be signed by the minister of the parish, or other minister of religion, or by a magistrate (in each case acting in the district in which the annuitant may appear before him) or by a notary public, a commissioner for oaths, a person registered under the Medical Act in attendance on the annuitant or by a banker, or the agent or manager of a bank. The certificate must be accompanied by a declaration of identity signed by the proprietor or attorney.

Life annuities are transferable in the books of the Commissioners, but cannot be transferred in parts or shares, nor can the original nominee ever be changed.

Annuities are chargeable with income tax, subject to exemption being allowed by the Commissioners of Inland Revenue, but are free from all other taxes, charges, and impositions whatsoever, and are to be deemed personal estate.

Documents relating to the purchase, transfer, or receipt of these annuities, except powers of attorney, are exempt from Stamp Duty.

Upon the expiration of any life annuity, instead of the apportionment to date of death, a sum equal to one-fourth part of the annuity (over and above all quarterly payments thereof which at the time of death may have become due) will be payable to the person entitled to such annuity provided payment of such one-fourth part shall be claimed within *two years* after such expiration, *but not otherwise*.

**GOVERNMENT LIFE INSURANCE.**

(See POST OFFICE LIFE ASSURANCE ; also NEW ZEALAND GOVERNMENT LIFE INSURANCE DEPARTMENT.)

**GRADUATION.**

(See LAWS OF MORTALITY.)

**GRAVES' DISEASE.**

(See GOITRE).

**GRESHAM LIFE ASSURANCE SOCIETY, LTD.**

Head Office: 188-190 Fleet Street, London, E.C.4.

Founded in 1848.

The Society was established in 1848 as a proprietary company for the transaction of life assurance and annuity business only. In 1862 it was registered under the Companies' Act of that year, and in 1893 became a limited liability company. Originally a feature of the Society's business was the acceptance, on special terms, of lives which had been declined by other companies. There is reason to believe that this class of policy proved profitable; nevertheless, it has long since ceased to be a special feature of the Society.

In 1854 the Society established its first foreign branch in Paris, where it continues to transact a large and satisfactory business. Other branches were opened in the principal European capitals, and, later, in Egypt, South America, India, South Africa, and Canada. Many of these branches are still in active operation, though in consequence of the war and its effects upon currencies, etc., new business in several foreign countries was suspended, and the present tendency is to expand the organization in the United Kingdom.

The Society has introduced a number of special assurance schemes from time to time in order to meet the varied requirements of proposers, but it relies upon the ordinary whole life, and particularly its non-forfeitable endowment assurance tables, for the greater part of its business.

Among its special schemes are policies carrying the right to cessation of premiums in case of invalidity, assurances without medical examination, children's educational policies, and children's deferred assurances. The Society also introduced a new scheme of "Immediate Annuities with Return of Purchase Money." Under this plan the payments are continued, even in case of the early death of the annuitant, until the whole

purchase money has been returned by way of annuity. On the other hand, should the life survive beyond this period, the payment of the annuity is continued till death, as under an ordinary life annuity.

**GROSS PREMIUM METHOD.**

(See VALUATION METHODS.)

**GROSS PREMIUMS.**

(See OFFICE PREMIUMS.)

**GROUP LIFE ASSURANCE.**

This is an assurance under one policy on the lives of a group of persons, usually the employees of one particular firm or members of a single organization, such as a craft union, where the members have become associated in a group for some trade or social reason, and not for the purpose of effecting an assurance. The group can be regarded as a small population.

The policy issued is usually a term assurance, renewable from year to year at the option of the assured, although in principle there is no reason why, under one blanket policy, each member of a suitable group should not be covered under the whole of life plan or endowment assurance plan. Where, however, cover of this description is required, it is more convenient to issue separate policies on the lives of the employees. Of those men who leave the employer's service, many will desire the cover to be continued, and it will then be necessary to issue to each a policy in his own favour. If individual policies have already been written, they can be transferred to the employee at the time of leaving.

Under staff whole of life and endowment assurance schemes part of the cost is usually contributed by the employees, and it is then the practice for two policies to be issued in respect of each employee, one in favour of the employer securing that part of the sum assured paid for by him, and the other in favour of the employee for the portion secured by his contributions. When an employee leaves, his policy is handed to him, and the employer's policy on his life can be surrendered or transferred to the employee.

Under a group assurance policy no medical examination is usually required, so that great care must be exercised to prevent or restrict, as far as possible, selection against the assurance company. It is, therefore, stipulated that—

(a) The group must be of sufficient size—fifty persons is about the minimum. It is

possible, of course, to have smaller groups (say ten or twelve), but medical evidence of health should then be obtained. If the group amounts to thirty or so, it will be sufficient to get a separate proposal form completed by each of the employees, and reserve the right to call for medical examination in cases where the particulars given show it to be advisable.

(b) The sum assured on each life must be determined automatically by some regular formula, and not left to individual choice. The amount of the assurance on each life may be—

(1) A level sum, say, £100 per member.

(2) A sum bearing some relation to the annual remuneration, say, one year's wages: or

(3) A sum commencing at a certain figure at entry into the employer's service, and increasing with each subsequent year of continuous service.

It is advisable to put a superior limit on the amount of the assurance on any one life, and not allow any member to be covered for an amount much in excess of the average sum. The rules in force with one large company stipulate that the maximum cover on any one life shall be two-and-a-half times the average amount of the sum assured of the group, or £1,000, whichever is the smaller.

(c) All members of the group must be covered. This requirement is sometimes relaxed, particularly in cases where the employees bear part of the cost. It is then stipulated that the assurance shall come into force only if a certain percentage (say, 75 per cent) of those eligible to join accept the scheme.

(d) The scheme shall be made applicable only to employees actually at work at the date on which the policy comes into force, employees away on sick leave only being covered after returning to work and performing their ordinary duties for a continuous period of, say, two months. Where, however, the number of persons involved is considerable, employees away on sick leave are sometimes made eligible for assurance at once.

(e) New employees shall become eligible only after two months' continuous service with the employers.

**Group Premium Rates.** Under the year to year plan the rate of premium, so far as an individual is concerned, increases with each year of age. In many schemes a table is included in the policy giving the rates of premium, age by age, and the premium is

calculated periodically from this table. At the younger ages the premiums are less than the ordinary tabular one-year term assurance rates, and at the older ages higher, the rates crossing at about age 45.

It is, however, a common practice to quote a flat rate of premium for all employees over a period of years. Experience has shown that owing to staff changes, the older men retiring and younger men being engaged, the rate of premium for the whole group does not change materially year by year, particularly in cases where the assurance is not continued after a man is superannuated. The use of a flat rate, of course, considerably simplifies premium calculations.

In at least one case a level premium per head is charged, although the sum assured increases with the length of service.

Until recently the rates charged by British offices for group assurances covering similar types of risk varied considerably, but there is now more uniformity.

With an average age distribution the rate per £100 assured, under a normal group where the maximum age is 65, and where the sum assured on each employee's life is one year's wages, is about £1.

In fixing the rate of premium, regard must be given to the nature of the occupation. Workers engaged in the manufacture of chemicals, for instance, call for higher rates than the employees of a bank. In America extensive tables have been prepared for use in calculating extra premiums for hazardous occupations, but in England very little data is available. The most useful statistics for the purpose are those published by the Registrar-General in the supplement to his annual reports. A device sometimes used to get over the difficulty is to charge normal rates for these special risks, and to exclude claims in cases where compensation is payable under the Workmen's Compensation Acts.

It may be mentioned that the American practice is to apply the same rates to all men in the same industry, not differentiating between the different classes of work.

The conditions of assurance also considerably affect the risk and, consequently, the rate of premium. Under one contract, for example, if a man is away ill for two months, he is regarded as having definitely left the employer's service, and consequently cover ceases under the policy. The assurance, therefore, becomes little more than an accident insurance, and a very low rate of premium can be charged. It may be

mentioned that in this case the firm has established a benevolent fund and, after two months' illness, the employee becomes a beneficiary of the fund.

When a group life assurance contract is first arranged it is of importance to stipulate precisely the period during which a man may be off work before going out of benefit. A definite plan applicable to all employees should be followed, and the employer should not be left to decide how long the assurance on the life of a particular employee who has fallen ill and is away from duty shall be kept in force.

If, as is frequently the case, the employer has an established arrangement under which a sick employee is kept on the pay roll for a certain period, it will be often agreed that the assurance shall extend over this time. In other cases it should be stipulated that the assurance on the life of any employee who is away from work owing to illness shall be kept in force for three, six, or twelve months, as may be agreed. Of course, the appropriate premium must be paid for the whole period for all such employees.

A similar point arises in connection with temporary unemployment; provided all are treated alike, such employees may be covered while off work, but a limit, say six months, should be put to the time during which they may be absent from duty without losing the life assurance cover.

Employees who are superannuated can be covered, provided all such pensioners are included.

Premiums in America are commonly payable monthly, the reason probably being that in many cases the employees bear part of the cost, their proportion being deducted periodically from their wages. In England premiums are usually paid yearly, the employer generally bearing the whole cost.

Proportionate premiums are charged in respect of new employees from the date of entry up to the renewal date, and refunds are allowed for unexpired time in respect of employees who leave. A quarterly settlement is usually made.

As stated earlier in this article, the premium, so far as an individual employee is concerned, increases with his age, as in the discredited assessment plan of assurance. As, however, the employee does not pay the premium, or, in cases where the scheme is contributory, he is only charged a level amount, the method is not open to the objection made to the assessment plan that, when a man gets on in years, the premium

becomes prohibitive, and the assurance is dropped. The stipulation that all employees shall be included secures a regular flow of new entrants at young ages.

In America these group assurance year to year schemes are frequently arranged on a contributory basis. Usually a level premium is charged to all employees, and the rate is approximately that applicable to the youngest age at entry, so that the young employees are not put in the position of contributing towards the cost of the assurance of the older men. The balance of the cost is borne by the employers.

**Subsidiary Benefits.** (a) *Permanent Total Disability Benefit.* Provision is frequently made under group assurance contracts for the payment of the sum assured if an employee who is covered under the policy becomes so disabled as to be permanently unable to earn a livelihood. The following may be regarded as a typical definition of total disablement—

"Total disablement shall be deemed to have arisen if, prior to the attainment of age 60 and other than as the result of war, invasion, riot, civil commotion, intentional self-inflicted injury, the taking of drugs, venereal disease, or alcoholism,

(a) "the life assured shall suffer the loss of two limbs or both eyes, or one eye and one limb (limb shall mean leg, arm, entire hand, or entire foot);

(b) "if, through accident or disease, the life assured has been absent from his employment for six consecutive months, and has become so permanently incapacitated as to render it impossible for him ever to resume his employment or follow any other trade, profession, or occupation.

"Should any dispute arise as to whether or not there is total disablement of the life assured (as defined above), the same shall be referred to two medical men, one to be selected by the company, and one by the assured, or to a third man to be appointed by the other two prior to the commencement of their inquiry, and their or his decision shall be final and conclusive."

The cost of including this benefit is not very considerable, although, of course, it may be very valuable to the individual who becomes entitled to it. In many cases the employee is reduced to such a condition that his death cannot be long postponed, so that the benefit amounts merely to paying the sum assured a few months earlier than would otherwise be the case.

The main causes of disability claims are

said to be consumption and insanity. The writer has had access to the disability claim experience of one office, and during the last two or three years claims have been admitted in respect of employees suffering from the following diseases and injuries—

1. Stroke, following Bright's disease—death following in a few months.
2. Paralysis.
3. Irreducible hernia.
4. Chronic asthma and bronchitis.
5. Tuberculosis.
6. Rheumatoid arthritis.
7. Valvular disease of the heart.
8. Aneurism of the aorta.

(b) *Conversion Option.* A clause is often included under which an employee who leaves the service of the employer prior to the attainment of age 60 is given the right to effect without medical examination within thirty days after the termination of his engagement, a whole of life or endowment assurance policy on his life at the normal rate of premium for his age at the date of leaving. The sum assured under the new policy must not exceed the amount for which the employee was covered under the group policy at the date of leaving.

In some American contracts the employee is allowed under such circumstances to effect a policy at the rate of premium applicable to the age at which he first became insured under the employer's group policy. He is, however, required to pay a lump sum equal to the difference between the rate of premium for the policy selected, and the premiums which have been paid under the group assurance policy accumulated at 5 per cent interest.

To assess the value of this privilege is very difficult. Theoretically, a strong option is exercisable against the assuring company, but it is doubtful if in practice the employees who take advantage of this clause are, on the whole, any worse lives than the average. Very few men who are dismissed for inefficiency or other unsatisfactory cause are likely to exercise the option, while men who leave to improve their position are probably for the most part satisfactory lives from an assurance point of view. Only a limited experience is at present available, but so far as can be gathered, the inclusion of this option has not proved as dangerous as might have been feared. The individual sums assured are, of course, quite small.

This benefit meets an objection which is sometimes made to the scheme that an

employee who has been relying on the group assurance may, through losing his employment on account of failing health, lose the cover just when he is really in need of it. There may be difficulty about getting together the money to pay the premium on a whole of life policy but, although the ordinary method of borrowing on the policy is not available, in most cases of real urgency some means of procuring the necessary money will be found.

*Commission.* Various scales are prevalent in England. For the average case 10 per cent of the first year's premiums will usually be paid, and either the same rate or 5 per cent on renewal premiums. Where, however, the case is a very large one, these rates are substantially reduced. Once the case has been secured, there is little work for the broker or agent to do, and 2½ per cent of the premiums on a substantial case is adequate remuneration.

It is seldom that competition arises at the yearly renewal date, as "twisting" in connection with group assurance is, fortunately, rare. American companies strongly discourage the practice, as will be seen from the following extract taken from an agent's instructions book—

" 'Twisting' will not be tolerated. If you find employees' insurance already in force, leave the business undisturbed, and use the fact that this employer carries employees' insurance as a means of interesting other employers in similar industries. Every case of employees' insurance already in force is of great assistance in closing others in the same locality."

*Administration Costs.* If the amount of detail work connected with these schemes is allowed to become large, the working costs will, of course, be high. It is with a view to simplifying calculations that flat rates of premium have been introduced. This method enables the scheme to be run in a manner similar to that adopted in workmen's compensation insurance business. If the sum assured is, for instance, one year's wages, the employer simply makes a return of his wage roll, and the premiums are calculated on that. This will probably not represent the cost exactly, as new employees do not usually enter into benefit until after a probationary period. Moreover, many employers do not pay wages during sickness, except for a limited period, and yet the assurance may be kept in force for the whole or part of the period during which an employee has been away ill.

**Certificates of Group Assurance.** It is quite possible to manage a scheme without any names of employees being given to the assurance company, but usually they are furnished, if only to enable certificates to be issued to each employee setting out that his life is covered under the scheme. Some of these certificates are very elaborate in form and correspondingly expensive. The tendency is, however, to simplify the form and standardize it, so that the same style can be used for the majority of schemes.

A specimen of the wording is given below, and it is not thought that a certificate in this form attracts stamp duty. In the case of some certificates a sixpenny stamp has been affixed, the document being presumably regarded as an agreement.

This is to certify that—

JOHN BROWN & SONS  
of  
LONDON

Have effected a policy of assurance on the life of .....  
for the sum of ..... hundred pounds  
with the SOVEREIGN ASSURANCE COMPANY,  
LIMITED, of LONDON. The assurance is to  
be payable should the person named above  
die while in the employment of the said  
employer and during the continuance of  
the said policy and subject to the terms and  
conditions thereof.

Certificate No.....

Signed on behalf of the  
SOVEREIGN ASSURANCE COMPANY, LTD.

Extract from the policy above referred to—  
“ During the currency of this policy in the  
event of the termination (prior to the attain-  
ment of age 60) of the employment of any  
person who has been assured hereunder, such  
person shall have the right, upon written  
notice to the company, within thirty days  
after such termination, to obtain, without  
medical examination, a new and individual  
policy for a whole of life or endowment  
assurance as then issued by the company  
for individual lives for an amount equivalent  
to the amount of his or her assurance here-  
under at the rates then in use by the com-  
pany for the attained age of such person,  
and for the class of assurance selected.”

Policies are treated as life assurances, and  
are stamped as such.

**Policy Conditions.** Most of the matters

dealt with in a group assurance policy have  
already been mentioned. The proposal  
signed by the employers is made the basis  
of the contract, and clauses are contained in  
which are set out—

1. The employees who are to be covered,  
and it is made clear that all such employees  
must be included.

2. The method of calculating the sum  
assured on each life.

3. The rates of premium to be charged and  
how the premium is to be calculated. Thirty  
days of grace are usually allowed for payment  
of renewal premiums.

4. The probationary period to be served  
by new employees before becoming eligible  
for inclusion in the policy. Provision is  
made for periodical returns to be rendered  
of new employees, and of employees who  
have left; also for proportionate premiums to  
be paid or refunded in respect of such em-  
ployees. No refund of premium in respect  
of unexpired time is, of course, made in the  
case of deaths.

5. The term for which the assurance is to  
run. Sometimes a contract for five years  
or more, binding on both sides, is entered  
into, and the assurance company cannot,  
of course, vary the rates of premium during  
that period. The clause will state what  
notice is to be given by the assurance com-  
pany in a year to year contract if it wishes  
to terminate the assurance.

6. The procedure to be adopted in cases  
where, through inadvertence, an eligible  
employee has been omitted. The cover is  
usually made automatic in these cases, even  
if the discovery that the employee has been  
excluded is not made until after his death.  
The appropriate premium has, of course,  
to be paid from the date on which the  
employee should have been included. Cover  
is not automatic in cases where, owing to  
the paucity of members, a medical exam-  
ination has to be passed before an employee  
is assured.

7. The conditions under which the dis-  
ability benefit is payable. Sometimes in  
the clause the option is given of receiving  
the sum assured by instalments over a  
period of years, allowance being made for  
interest. The balance of the unpaid instal-  
ments is paid to the employee's representa-  
tives in the event of death before the  
expiration of the term.

8. The terms on which the option to  
effect a permanent policy on leaving can be  
exercised.

9. The period over which cover is extended

in the case of employees who are away ill or who are temporarily unemployed.

10. The restrictions imposed with regard to travel, residence, and occupation. It is usual not to cover death or disablement caused by war, invasion, riot, or civil commotion. In the case of large staffs, who are housed in one building or area, there is a considerable "conflagration" risk from bombing from the air, or other causes.

11. The procedure to be followed in cases where the age has been incorrectly stated. The full sum assured is paid, but if the age has been understated the employer is called on to pay the balance of the premium which should have been received in respect of the employee concerned from the date on which the assurance started. If the age has been overstated the amount overpaid is refunded. Discrepancies in the age do not usually come to light until death occurs, proof of age not being called for when the policy is effected.

An arbitration clause may be included, and sometimes provision is made for a return of a portion of the premiums in the event of the claims over a period of years falling below a certain percentage of the premiums. The following is an arrangement of this description, which has come under the writer's notice, the policy in question being a five year contract.

"In the event of the claims which have arisen under the policy in any year being less than 80 per cent of the gross premiums for the year, the company will apply 40 per cent of the difference between the amount of the claims and 80 per cent of the gross premiums towards part payment of the renewal premium, and it is further declared and agreed that a further 40 per cent of such difference shall be credited to a suspense account. If in any one policy year the claims arising in that period exceed 80 per cent of the gross premiums for that policy year, such excess shall be debited to the suspense account. At the end of each five years (or at the end of any policy year should the company not be willing to continue the renewal of this policy), any amount outstanding to the credit of the suspense account shall be refunded to the assured."

For the purposes of the above clause any rebates credited to the assured in respect of employees leaving the service of the assured will be added to the amount of the claims.

A slightly higher rate of premium is charged when a profit sharing clause of this nature is included.

**General Remarks.** Group life assurance

has the strong support of welfare workers, who realize the value of having a settled scheme to provide some measure of relief to the dependants of a deceased workman. It is much to be preferred to the practice of passing the hat round for the benefit of the widow. If death happens to occur when times are hard the results of the "whip round" are often poor: moreover, thrift is apt to be penalized, as it is often thought unnecessary to support a subscription list if the deceased workman has been careful enough to make some provision for his wife.

A group life assurance policy forms a complement to the benefit given by Workmen's Compensation Acts, and its value will not disappear, although the Government Widows', Orphans' and Old Age Contributory Pensions Act has been passed. Under the Government scheme the widow's pension is quite a small one, and the substantial lump sum available under a group life assurance at the death of the wage-earner will be of great assistance in tiding over the difficult period immediately following his death. The fact that a group assurance scheme is in existence should also encourage a workman to make provision for his wife by a private assurance, so that altogether she may be furnished with the means to live in reasonable comfort after his death. Even if the workman is unable to supplement the assurance cover in this way, the knowledge that his employer has made such a provision is calculated to improve his relations with the employer, and the good feeling thus engendered is well worth the small cost.

As no medical examination is required, men are covered who would otherwise be uninsurable or only insurable at prohibitive rates. An attempt is made by some companies to limit the extent to which such lives are included by asking the employer to give in the proposal particulars of any of his employees who are damaged lives. If an undue proportion of these lives is included an extra premium is charged.

In America the system prevails of nominating a beneficiary to receive the policy moneys. There is a lot to be said in favour of this practice, and it is perhaps unfortunate that the laws of this country do not permit of such an arrangement being made here. However, the fact that the policy has been issued in favour of the employer enables the sum assured to be paid over by the assurance company immediately on proof of death, and the employer can distribute the amount at his discretion. The money is a gift from

the employer, and not a sum due under a contract made between him and the employee.

In this connection it may be mentioned that the proof of death required under these group assurance schemes consists of a copy of the registrar's certificate of death and a certificate of identity given by the employer. The latter certificate usually contains a statement of how long the deceased has been in the employ of the firm, and mentions the date on which he was last at work.

The argument that the existence of a group life assurance policy stabilizes labour can be pressed too far, because if the practice of effecting such policies becomes at all widespread, a man will not lose his cover when he leaves one firm and enters the services of another, except possibly to a small extent in cases where the amount of the sum assured increases with the length of service. As, moreover, he will usually have left to better himself, he can probably afford to take advantage of the option on leaving to effect an individual life policy.

A group life assurance has special advantages as a supplement to a staff pension scheme. The rules of most superannuation schemes provide only for the return of contributions with interest in the event of death before reaching the pension age, so that in cases of early death the amount available for the benefit of dependants is quite inconsiderable. Pension schemes are usually contributory, and because he has had to contribute to the pension scheme an employee may not have been able to afford to pay the premiums necessary for an adequate life assurance policy. A cheap means of providing for such cases is to effect a group assurance policy, under which the sum assured on each life is the difference between some fixed amount, say £500, and the amount payable at death under the pension fund rules. The sums assured under such a policy will diminish as age increases, so that the largest sums assured will be on the young lives, where the rates of premium are light. The cost of such a contract is accordingly very low. (See NATIONAL SAVINGS SCHEMES.)

Despite its attractions, group life assurance has not yet become very popular in England, largely, it is thought, because during the few years that such policies have been obtainable trade conditions have been bad. With an improvement in trade, there seems good reason for anticipating that employers will be disposed to face the small expense. The cost depends, of course, on the amount of the assurance, but assuming

the cover on each employee's life is one year's wages, the premium represents only an addition of about 1 per cent on the wage roll and the premiums can be included in the accounts as an expense, so that income tax thereon is saved.

That the scheme is appreciated is shown by the fact that once a policy has been taken out it is seldom abandoned, unless it be in favour of some more comprehensive form of cover.

### GROUP PREMIUM RATES.

(See GROUP LIFE ASSURANCE.)

### GROUP SCHOOL FEE POLICIES.

Where a sufficient number of parents sending boys to one school are agreeable to pay a small insurance extra, it is possible to insure the payment of school fees on a group basis, very much on the lines of the individual school fee policy scheme (*q.v.*). The insurance extra is generally £1 per term, and it must be paid with the ordinary school fees in respect of all terms (not exceeding 15) completed before the boy's fourteenth birthday. In the event of the parent's death, the school will then provide—through the medium of the insurance—fees up to a maximum of £40 per term in respect of all terms commencing after the date of death and completed before the boy's fourteenth birthday and within five years from the date of his entry into the scheme. The undertaking does not apply, however, if the parent's death is due to active hostilities. The insurance extra can be adjusted proportionately to provide for a greater amount than £40 per term. The word "parent" is interpreted to include the person assuming responsibility for the boy's education, and there is no age limit if that person is either the father or the mother, but in all other cases he or she must be under age 65 when the boy enters the scheme. There is no medical examination, a short declaration of good health by the parent being sufficient.

### GROWTHS.

(See TUMOURS.)

### GUARANTEED BONUS.

(See GUARANTEED BONUS POLICIES; BONUS; also ALLOTMENT OF BONUS.)

### GUARANTEED BONUS POLICIES.

This class of policy might more properly be called a "guaranteed addition" policy,

because the policy-holder pays a special rate of premium to obtain an addition to the policy—mostly annual—such as, for instance, 30s. per cent or £2 per cent on the sum assured. This addition is guaranteed, whatever the profits of the office may happen to be. The policies possess the advantage that the policy-holder knows definitely the exact face value of his policy at any time, and also what amount he will receive at maturity if it be an endowment assurance. They are generally quite a good investment, and compare favourably with policies carrying an ordinary simple bonus for similar amounts, the yearly additions not being subject to any risk of fluctuation.

#### SPECIMEN YEARLY PREMIUMS

Whole life policy for £100 (30s. per cent per annum guaranteed): Age 30 next birthday, £2 11s.; age 40, £3 7s. 4d.; age 50, £4 14s.

Whole life policy for £100 (£2 per cent per annum guaranteed): Age 30 next birthday, £2 16s.; age 40, £3 13s.; age 50, £5.

Twenty-year endowment assurance for £100 (30s. per cent per annum guaranteed): Age 30 next birthday, £5 2s. 4d.; age 40, £5 7s. 0d.; age 50, £5 19s. 0d.

Twenty-year endowment assurance for £100 (£2 per cent per annum guaranteed): Age 30 next birthday, £5 9s. 4d.; age 40, £5 14s. 4d.; age 50, £6 6s. 4d.

#### GUARANTEED INCOME POLICIES.

These policies are very valuable to those who, while desiring to obtain life assurance cover for a period during which they may have family responsibilities to meet, are also desirous of providing for their own old age or that of their wife. A certain assured income for life may appeal to them more than a lump sum down obtainable by means of the ordinary endowment assurance. It is true that the money received under the endowment at maturity may be invested, but it is not everyone who has the facilities or the ability to invest a capital sum so as to obtain a fair and certain return. Again, if provision is made by the purchase of an ordinary form of annuity, it is open to the objection that the annuitant may die soon after the commencement of the annuity, and those still dependent on him be left unprovided for owing to the loss of the purchase money, after only a small return

had been obtained. By means of a guaranteed income policy, however, life assurance protection is secured during the selected period and at maturity a guaranteed life income commences to be paid. In the event of the life assured dying before the stipulated number of annual instalments have been received, they are continued for the benefit of the wife or other dependents until the full number agreed on have been paid. The policy can also be had in a form which secures that the annual income, after receipt of the guaranteed minimum number of payments, shall continue so long as either of them shall be living. For instance, an assured aged 30 can, in return for his annual premium, secure a sum of £1,000 payable at death before age 60, and on reaching that age commence to receive a guaranteed income for life of £50 per annum. This £50 per annum will be paid for twenty years certain whether he dies in the meantime or not, and continue for life if he survives. For a small extra premium the annuity of £50 will be continued after the death of the assured to his wife, if she be living, for the remainder of her life. Should the wife die before the husband, the remaining premiums payable (if any) will be reduced by the amount of the extra which he has paid. In the event of both husband and wife dying before twenty annual payments of £50 have been made under the policy, the balance of payments due will be continued to the heirs or dependants. The policy thus secures assurance cover when most needed, guaranteed provision for the parents for the remainder of their lives at maturity, and, whatever may happen, secures a minimum guaranteed return of £1,000 for the premiums paid.

Specimen annual premiums to secure £1,000 by twenty guaranteed annual instalments of £50, commencing on attainment of the age selected, or £1,000 at previous death, the annuity to be continued until the death of the assured, should he survive more than 20 years—

Age next birthday.	Maturity age.		
	60	55	50
25	£ 18 12 10	£ 22 12 -	£ 29 1 4
35	28 8 6	37 5 -	53 16 6
45	51 10 6	—	—

Annual premium with income continued to widow throughout life—

Age next birth-day of husband or wife.	Maturity age.					
	60		55		50	
	£	s. d.	£	s. d.	£	s. d.
25	20	18 6	25	8 -	32	15 -
35	30	12 6	40	9 4	59	1 10
45	53	19 -	—	—	—	—

(See also GOLD BOND POLICIES.)

### GUARANTEED OPTION LEAFLETS.

(See CANVASSING LEAFLETS, page 121.)

### GUARANTEED OPTION POLICIES.

When an individual is about to effect a life assurance contract it is advisable that he should look well ahead. Circumstances change very unexpectedly at times, and even if they do not do so it may well be that in later years the policy may not prove suitable to the policy-holder's needs. Therefore, a policy which affords a number of options, either during its currency or at maturity, is to be commended, and such contracts are available in almost bewildering variety, either in whole life, endowment, or limited payment form. Another point which should be noted is that they may give even greater flexibility of future decision if they carry three or four main options, and several smaller policies are effected at the time of assuring, instead of one large one. The policy-holder is then in a position to exercise more than one option if he so desires. As an illustration of this a twenty-payment life policy carrying four options may be taken. The premium on such a policy for £1,000—payable for twenty years only—would be £37 5s. 10d. per annum at age 35 next birthday. The total gross cost, therefore, would be £745 16s. 8d. In return the policy-holder is held assured for £1,000 at death at any time during twenty years. At the end of that period, if he still desired life cover only, the policy would be increased to £1,400 payable at death, all premiums ceasing. As an alternative, he could take a fully paid-up life policy for £1,000, and receive £226 in cash. If, however, he decided to discontinue his policy after twenty annual premiums, he would receive £790 in cash, or he could convert it to a life annuity of £60 18s. 4d. per annum. Now, if he had assured for £4,000, say, in four policies

of £1,000 each, he could, of course, exercise all four options in any combination which best happened to suit his circumstances. Assuming that he exercised one of the four options available under each separate policy, he would remain assured—free of further premiums—for £2,400. He would also receive a sum of £1,016 in cash and enjoy a life annuity of £60 18s. 4d. The advantages of assuring in such a manner against effecting an ordinary twenty-payment life policy are obvious.

The following are annual premiums for the assurance of £1,000 at death within 20 years, with choice of options on survivorship under the policy set out above—

Age not exceeding	Annual premium.
	£ s. d.
30	33 13 4
35	37 5 10
40	41 7 6
45	46 1 8

Another illustration of the value of option contracts is a whole life assurance which gives the policy-holder a wide range of choice after the first ten years and which constitutes a contract peculiarly suitable to the needs of the comparatively young married man. Such a man's chief concern at the time of assuring is probably to obtain the largest amount of life cover which he can afford. Later, with improved circumstances and increased income he may be in a position to afford a larger premium, and be desirous of converting his policy into an endowment assurance. On the other hand, he may be unable to continue his premiums after a short term of years; or, while he is desirous of enjoying the fruits of his thrift in old age, he may not be in a position to augment his payments. A contract which will help him in all these contingencies and permit him a wide range of choice after only ten years is obviously more attractive than the ordinary form of whole life policy, or one which only gives a choice after a much longer term.

In the case of a man aged 28 next birthday the annual premium for such a whole life assurance of £1,000—without profits for the first ten years, but participating in profits thereafter—would be £21.

Should he elect at the end of ten years to continue his policy as a whole life assurance, his premium would remain the same, but

the policy would then commence to carry profits. If he did not wish to increase his assurance but preferred an endowment premium, to a whole life one, the same premium would purchase a policy for £777 payable at 65, £674 payable at 60, or £562 payable at 55, all with profits. Assuming, however, that he was able to pay an increased premium and wished to convert his policy into an endowment for £1,000 with profits payable at 65 or previous death, the annual premium would then be £29 18s. 5d., as against £21. For a similar policy to mature at 60 the premium would be £36 8s. 2d., and to mature at 55 it would be £47 9s. 5d.

In the event of his deciding to discontinue his premiums at the end of the ten years he would obtain a fully paid-up policy, with profits, payable at death, for £306, or £96 more than his total gross payments. The corresponding fully paid endowment policies with profits which he could obtain would be £251 payable at age 65, £233 payable at age 60, and £214 payable at age 55. It will be noted that in every case the policy which he can select, free from any future payments, would amount, without allowing for added profits, to more than his total premiums, for which he has already had life assurance cover for £1,000 over a period of ten years. Lastly, if he wished to surrender his policy at the end of ten years for a cash payment he would receive £127 against his total premiums of £210. The difference of £83, therefore, represents his gross total cost for ten years' cover of £1,000 at death, and works out at £8 6s. per annum.

Specimen annual premiums per £1,000 assured—

Age next birthday.	Annual premium.
	£ s. d.
25	19 12 6
30	22 1 8
35	25 5 10
40	29 7 6

The foregoing will serve to show the value of effecting policies with options, and brief further examples are given to illustrate some of the options available under different classes of policies, with the specimen premiums charged.

#### Twenty-Year Endowment Option Policy.

This policy gives certain options to the policy-holder at maturity and also various

methods by which the policy moneys may be taken in instalments either at death or maturity, and they are exercisable either by the policy-holder or his beneficiary. The examples are those for a twenty-year with-profit endowment policy for £1,000 effected at age 35. At maturity the policy may be exchanged for—

1. A paid-up policy payable at death for £1,000, participating in profits either annually or quinquennially, as may be desired, and a cash payment of £385, and, in addition, the payment in cash of the accumulated profits on the policy, or

2. A paid-up policy payable at death for £1,000, without participation in profits, and a cash payment of £428, and in addition the payment in cash of accumulated profits on the policy, or

3. A paid-up policy payable at death for £1,625, participating in profits either annually or quinquennially, as may be desired, and, in addition, the accumulated profits on the policy, which may be taken in cash or used to increase the paid-up policy, or

4. A paid-up policy payable at death for £1,747, without participation in profits, and in addition the accumulated profits on the policy, which may be taken in cash or used to increase the paid-up policy.

Alternatively, the person or persons legally entitled to the proceeds of the policy, not being a corporation or co-partnership, instead of receiving them when due in a single sum, may elect to receive payment thereof in either of the following ways—

1. In instalments of not less than £20 at one time upon demand, interest being paid yearly on the balance remaining unpaid at the rate of 3½ per cent. But should a higher average rate of annual interest be earned by the office on its investments, further interest will be paid.

2. In equal annual instalments for a specified number of years, the first instalment being payable upon the maturity of the policy or upon proof of death of the assured, and the remaining instalments annually thereafter.

Number of years for which instalments will be paid.	Annual instalments.
	£
5	214
10	116
15	84
20	68
25	58
30	52

3. By payment of such portion of the policy moneys as the person (or persons) entitled thereto elects to receive in cash immediately upon the maturity of the policy, or upon proof of death of the assured, and the balance in equal annual instalments for the number of years specified, the first instalment being payable at the expiration of one year from the date when the policy moneys first become payable.

Number of years for which instalments will be paid.	Cash at death or maturity.	Annual instalment
	£	£
5	210	175
10	168	100
15	136	75
20	147	60
25	94	55
30	80	50

4. By payment in equal annual instalments to any designated beneficiary during life, the first instalment being paid immediately upon maturity of the policy or upon proof of death of the assured, and the remaining instalments annually thereafter; the last being the one falling due next preceding the death of the beneficiary. If, however, the beneficiary should die before receiving payment of twenty annual instalments, the office will pay any instalments remaining unpaid annually to the executors, administrators, or assigns of the beneficiary.

**Discounted Abatement Limited Payment Life Policy.** This option policy is issued on the discounted abatement system of premium (*q.v.*) and participates after the first five years in any abatement of premium declared which is in excess of, say, 33 per cent. At age 30 next birthday an annual premium of £28 14s. 2d., payable for 30 years, secures £1,000 in the event of death before age 60, and the choice, on survival to that age, of one of the following guaranteed options—

1. A cash payment of £1,100.
2. A fully paid-up policy for £1,000 payable at death and a cash payment of £500.
3. A fully paid-up policy for £1,000, payable at death, and an annuity of £44 18s. 2d.
4. An annuity of £53 18s. and a cash payment of £500.
5. An annuity of £98 16s. 2d.

Specimen annual premium for the assurance of £1,000 under above policy —

Age not exceeding	Annual premium (ceasing after age 59)
	£ s. d.
30	28 14 2
35	34 7 2
40	42 4 10

Age of beneficiary when first instalment is payable.	Annual instalment.	Age of beneficiary when first instalment is payable.	Annual instalment.	Age of beneficiary when first instalment is payable.	Annual instalment
	£		£		£
15 and under	43	35-36	51	49-50	59
16-17-18-19	44	37-38	52	51	60
20-21-22	45	39-40	53	52-53	61
23-24-25	46	41-42	54	54-55	62
26-27-28	47	43	55	56	63
29-30	48	44-45	56	57-58	64
31-32	49	46-47	57	59-60-61	65
33-34	50	48	58	62 and over	66

Specimen annual premiums under twenty-year option policy for the assurance of £1,000 at the end of twenty years or previous death with profits—

Age nearest birthday.	Annual premium.
	£ s. d.
30	49 8 -
35	59 11 -
40	52 5 -

6. An annuity of £65 5s. for 15 years certain and a cash payment of £500 at the end of that term.

7. A fully paid-up policy for £1,780, payable at death, subject to evidence of good health.

**Double Benefit Twenty-five Year Endowment with Options.** These policies possess the advantage of the double benefit form of contract (*q.v.*), but are rendered more

valuable owing to the options available at maturity. The greatest advantage is that when the policy-holder draws in cash the amount of his endowment assurance at maturity it is replaced by another assurance for a similar amount payable at death, free from any further medical examination or premium payments. As the policy carries guaranteed annual additions during the endowment period, it provides increasing family provision, and also provision for later life in a variety of ways to suit the assured's then circumstances at maturity. If the payment of the second sum assured at death is chosen, it may prove an advantageous method of providing, *inter alia*, for death duties at a time when the need for family protection has decreased. The policies also carry large guaranteed surrender and loan values, which range from 75 per cent to 120 per cent of the premiums paid, excluding the first. The scheme works as follows, assuming a policy for £1,000 to be effected at age 30 next birthday. If death occur before the end of twenty-five years the sum of £1,000, with a guaranteed addition of £25 per annum, is payable. On survival of the twenty-five year period the assured has the choice of the following options—

1. A cash payment of £1,000, with another sum of £1,000 payable at death, free of further premiums or medical examination.
2. A paid-up policy for £2,040, payable at 65 or previous death, subject to evidence of good health.
3. A paid-up policy, payable at death only, for £2,720, subject to evidence of good health.
4. An annuity of £250, commencing at age 65, with a guaranteed payment of £1,500 if the policy-holder should die before the annuity begins.

Specimen annual premiums, ceasing in twenty-five years, for £1,000 assurance. The guaranteed additions are not payable if the assured survives the period, as they are replaced by the second assurance of £1,000, or option.

Age next birthday.	Annual premium.
30	£ 48 10 -
35	51 - -
40	54 1 8

### GUARANTEED SURRENDER VALUES.

(See SURRENDER VALUES.)

### GUARANTEE FUNDS.

(See STAFF GUARANTEE FUNDS.)

### GUARDIAN ASSURANCE COMPANY, LTD.

Head Office: 68 King William Street, London, E.C.4, with branches in Australia, New Zealand, Canada, and South Africa and in the United Kingdom.

Founded 1821.

Under the provisions of its Special Act of Parliament, the company is not bound, as regards policies issued after 1863, to maintain a larger paid-up subscribed capital than £250,000, but these provisions, even if acted upon, do not diminish or affect the guarantee of the proprietors for the whole amount of the subscribed capital.

The capital is invested separately, and it is mainly from the interest it thus yields, and from the profits of the departments other than life, that the shareholders' annual dividends are paid. From the life business the shareholders derive no benefit beyond one-fifth share of the net profits as ascertained at the quinquennial divisions.

A favourite type of policy issued by the Guardian is called the "Universal," which provides a definite sum on the attainment of a selected age, or previous death, with payment of an equal sum for Death Duties and other purposes when death occurs after the selected age has been reached. The novelty consists in the extension until death of the liability of the office to pay an additional amount equal to the sum payable in cash at the selected age.

### Guardian Eastern Insurance Company, Ltd.

Head Office: 68 King William Street, London, E.C. 4.

Founded 1919.

This company is an associated company of the Guardian, and the two offices work in harmony.

### GUARDIAN EASTERN INSURANCE COMPANY, LTD.

(See GUARDIAN ASSURANCE COMPANY, LTD.)

### GUILD INSURANCE.

(See HISTORY OF LIFE ASSURANCE.)

### GUILD OF INSURANCE OFFICIALS.

The early part of 1919 saw the birth of the first insurance guilds, which sprang up

in various centres, such as London, Manchester, Dublin, Liverpool, etc. It was seen that to attain a full measure of usefulness the local guilds must link up on a national basis, and this was accomplished at the inaugural conference held at Cannon Street Hotel at Whitsuntide, June, 1919.

Whilst the spur of economic necessity was one of the factors that caused insurance officials to organize themselves, another very strong motive was the feeling that they themselves should have some voice respecting the conditions under which their working life was spent.

Undoubtedly, the action of the Government in adopting the Whitley Report and setting up a National Whitley Council for the Civil Service gave a great impetus to the movement.

The Guild consists of members and junior members, elected by the various branch councils, the following being eligible for membership: employees, permanent, temporary or retired on pension (both male and female), of insurance offices in Great Britain, Northern Ireland, and the Irish Free State, or otherwise coming within the scope of the provisions of the Insurance Unemployment schemes, but excluding collecting staffs, etc. It has established branches at more than thirty centres, and its present approximate membership of 13,000 is rapidly increasing. In its ranks are included several general managers, many branch managers, and a large proportion of its membership is composed of senior officials.

The main object of the Guild is to unite insurance officials with a view to safeguarding their interests and raising their status. To achieve this end the Guild advocates the establishment of a National Whitley Council for the insurance business, and sectional Whitley Councils for the component parts of the business. For example, most of the life companies are already organized in the Life Offices Association, but this body represents only the managements' side. The contention of the Guild is that the employees can usefully co-operate and a joint council of life managements and staffs would undoubtedly carry more weight when negotiations are in hand with governments and other bodies.

The industrial life offices have already conceded the point, and a permanent joint committee of managements and staff bodies has been set up, the Guild's General Secretary acting as secretary for the staff side. This joint committee has already performed

exceedingly useful work in connection with the Industrial Assurance Act, 1923, and the Royal Commission on National Health Insurance. In the case of the industrial assurance legislation the Government's original proposals were considerably modified upon the representations of the joint committee, and the 1923 Act that resulted was an agreed measure between the Government and the committee.

As there is a world-wide tendency on the part of Governments to interest themselves more and more in insurance, the Guild's efforts to establish an Insurance Whitley Council should be commended, as, if such a council is set up, the Government undertakes to recognize it "as the official standing consultative committee to the Government on all future questions affecting the industry which it represents, and that it will be the normal channel through which the opinion and experience of an industry will be sought on all questions with which the industry is concerned."

Amongst the objects of the Guild are the following—

**1. Office Conditions.** To secure and maintain for its members reasonable hours of duty, equitable rates of salary, adequate pensions and retiring allowances (with provision for dependants in case of death) and just conditions of service, and to adjust by conference, arbitration, or otherwise, differences arising out of employment.

**2. Unemployed Members.** To assist members with their claims on the Insurance Unemployment Board or on the Incorporated Insurance Industry Unemployment Insurance Board, Irish Free State; to pay supplementary benefit and to assist such of those members as may become unemployed to secure fresh employment.

**3. Education.** To assist and advance insurance education by lectures, debates, classes, and other means; generally to maintain and improve the standard of efficiency of insurance employees, and to ensure that special qualifications receive proper recognition by the managements.

**4. Amalgamations and Staff Security.** To safeguard the interests of staffs of insurance offices affected by amalgamations, alliances, fusions, or other working arrangements.

**5. Legislation.** To watch all legislative measures and administrative action which may affect or tend to affect the interests of its members; to use its influence to secure the promotion, rejection, or amendment of legislation affecting those interests

or the insurance industry, as circumstances may require.

The constitution of the Guild rests upon a broad democratic foundation, the basis being as follows—

**Office Committees.** The members in the head offices elect a committee (in the branch offices an office representative) for the double purpose of keeping the organization efficient and of providing a means through which the views of the members can be expressed and collated on matters affecting them.

**Branch Councils.** Branches of the Guild are formed in any town or city in Great Britain, Northern Ireland, or the Irish Free State, upon the requisition of not less than twenty-five members in such town or city. The office committees or members in the offices elect representatives to the branch council, which in turn elects a smaller body to act as a branch executive.

**Divisional Conferences.** For organizing and representative purposes Great Britain is divided into eight areas; Northern Ireland and the Irish Free State are each considered as separate areas, making what are known as ten electoral divisions in all. The branches in the various areas hold joint conferences during the year, and the rules require that an annual divisional conference shall be held not later than the 28th February in order to elect the representatives to the National Council, to which, according to membership, the divisional area is entitled.

**National Council.** As indicated above, the National Council is elected by the branches represented at the annual divisional conferences, and is a body consisting of twenty-one elected members in addition to the chairman and vice-chairman, who have seats *ex officio*, and who are elected by the delegates at the annual conference.

Upon the National Council rests the responsibility of carrying out the decisions of the annual conference of delegates. At the first meeting of the Council following the annual conference a general purposes committee is elected, five in number from amongst the members of the Council, the detail duties of the Council being relegated to this committee.

**Annual Conferences.** The annual conference of the Guild is usually held at one of the large insurance centres during the month of May. Each branch is entitled to send a delegate, and where the membership exceeds 500, one additional delegate may be sent for each 500 members or part thereof.

An interesting alteration of the rules was made at the 1926 Conference. It provides that in the case of a branch entitled to send more than one delegate at least one of such delegates shall be a woman, if 25 per cent of the Guild members in such branch be women.

The Conference usually lasts three days—the delegates in practically every case being granted special leave of absence from their managements in order to attend. Members of the National Council also attend the Conference having the power to speak but not to vote.

The policy of the Guild is controlled by the annual conference, which is the highest court in the Guild's constitution.

Amongst the achievements of the Guild are the following—

**Salaries.** Compared with the salaries paid during the years 1914 to 1919, those granted to-day show a considerable improvement. In the case of several companies employing large staffs this result was obtained by the Guild's direct approach to the respective managements.

**Grading Schemes.** The Guild, in co-operation with the managements, has been successful in initiating several valuable grading schemes.

**Unemployment Insurance—Special Scheme.** When the Unemployment Insurance Bill was passing through the House of Commons in 1920, the Guild Executive saw a clause which permitted the contracting out of industries if the employers and employed in the particular industry would jointly initiate and work a special scheme. As soon as the Bill became law the executive approached the Minister of Labour and the managements, asking them to assist in the initiation of a special unemployment scheme for the insurance industry. A conference was called, arising out of which a special scheme was submitted to the Minister of Labour and approved by him. The special scheme provides greater benefits than those granted in the ordinary way under the Unemployment Acts, and the Government and companies pay less than the normal legal contributions and the staff nothing. In fact, under the latest arrangements the Government do not contribute at all, the scheme being in a good financial position. In addition to the benefits allowed by the Insurance Unemployment Board—on which the General Secretary of the Guild has a seat—the Guild pays a "concurrent benefit" of 5s. per week to its members. The great

advantages of the scheme to insurance men and women are: (a) that they are let off in perpetuity their respective weekly contributions, and make no payment whatever; (b) that those who become unemployed do not have to attend a Labour Exchange, but, if Guild members, report to the Guild office. The scheme is also of considerable advantage to the companies, and is much appreciated as such by them.

**Workmen's Compensation Act (1923).** It was through the initiative and work of the Guild that the scope of the Workmen's Compensation Acts was widened by a clause in the above Act to include non-manual workers whose salaries are not more than £350 per annum (the previous limit was £250). By means of this alteration greater legal protection in respect of accidents has been given, not only to insurance employees, but to all non-manual workers.

**Education.** From the beginning a clearly-defined policy has been adopted, viz., where a local insurance institute exists, members of the Guild are urged to support it. Where an institute does not exist, the Guild branches do their best to provide educational facilities and organize tuition classes in preparation for the examinations of the C.I.I.

The Guild has successfully negotiated with several companies regarding the financial recognition of the diplomas of the Chartered Insurance Institute and other professional examinations.

**Amalgamations.** The Guild secured the insertion of clauses in the Industrial Assurance Act, 1923, that give the staffs of offices, likely to be affected by amalgamations, the right to be heard if they fear that their interests may be endangered by the amalgamation. It is the aim of the Guild to obtain a similar protective clause in the Insurance Undertakings Bill so that the staffs of composite and life companies may have similar protection to those of industrial life offices.

**Trading Schemes.** Very successful trading schemes have been set up by the Guild locally and nationally.

**"The Insurance Guild Journal."** This publication, which is the official organ of the Guild, is published monthly, and, in addition to being a record of the Guild's work, contains special articles of an educational nature. It has a large and wide circulation.

**The Guild's Programme for Insurance Staffs.** **SALARIES.** The adoption by all offices of reasonable minimum rates subject to merit increases with an adequate salary at an age

when the responsibilities of citizenship are to be undertaken.

**PENSIONS.** The removal of the superannuation funds from the companies' balance sheets, where they are usually shown as the property of the shareholders, and the establishment of trust funds, with joint staff control. Pensions to be recognized as being "deferred pay" and granted to the staffs as a right. Years spent in the insurance business to count as service. Provision to be made for dependents—this may alternately be done under a supplementary contributory scheme.

**C.I.I. DIPLOMAS.** The recognition by the managements of the diplomas of the C.I.I. and similar examinations, by means of special salary increases.

**PROTECTION FROM AMALGAMATION, ETC.** The insertion of suitable protective clauses in the Insurance Undertakings Bill governing the operation of insurance companies to ensure that the interests of the staffs shall not suffer following amalgamations, absorptions, etc.

**STATE INTERVENTION AND NATIONALIZATION OF INSURANCE.** The enrolment in the Guild of as many members of the staffs as possible so that they may possess an authoritative voice when circumstances necessitate representations being made to Government and other bodies.

**RELATIONSHIPS WITH MANagements.** The establishment of the principle of amicable discussion and co-operation with the managements of insurance offices by means of a Whitley Council or otherwise, on matters affecting the insurance business and the welfare of the staffs.

**MISCELLANEOUS.** Other questions included are—

- (a) Reasonable hours of duty.
- (b) Adequate holidays.
- (c) Guild Employment Bureaux.

**Special Points for Women.** **PERMANENCY AND PENSIONS.** The establishment of permanency of appointment after a reasonable period of probation, with participation in any pension scheme in existence and a retiring age of not later than 60 years of age.

**SALARIES.** A minimum salary of £110 per annum after the first four years' service, rising by regular increments to a minimum of £200 per annum at 30 years of age.

**PROFESSIONAL QUALIFICATIONS.** Recognition of professional examinations by additional remuneration.

**EQUALITY OF OPPORTUNITY.** Equal opportunity with men for promotion to executive positions.

**The Future.** Owing to the ever increasing interference with insurance on the part of Governments, no one can presage the future of insurance with equanimity. Schemes of social "All-In" insurances are being put forward by the two traditional political parties, while the Labour Party demands nationalization.

The modern trend is for amalgamations and absorptions to increase, and it requires

little imagination to visualize a Big Five in the insurance world, similar to that existing with the banks, in which eventuality the necessity of organization as a protection against the contingencies of the future will be more than ever apparent.

The office of the Guild of Insurance Officials is at 79 Queen Street, Cheapside, London, E.C.4.

**HABITS AND LONGEVITY.**

(See PROPOSAL FORM.)

**HAEMATURIA (Blood in the Urine).**

This is not a disease, but a symptom of many diseases. Its common causes are acute Bright's disease, renal or vesical calculus, growth of the kidney or bladder, cystitis, enlargement of the prostate, and injury to any part of the urinary tract. Any proposer, therefore, in whose history the condition appears, must furnish an adequate medical certificate, giving the cause for the condition, and the case must then be dealt with according to the nature of this cause. As haematuria usually indicates serious urinary trouble, the fullest medical details must be obtained, and no case in which the symptom has appeared within six months should be accepted without postponement. It must be appreciated that haematuria does not necessarily mean that the blood is visible. It may be passed in such slight quantities that it can only be detected microscopically. The quantity of blood passed does not in itself have much bearing on the granting of a policy, but should the amount be great, there is always the possibility to be remembered that the patient may be suffering from an anaemia due to the loss of blood.

**HAEMOPHILIA.**

A disease of the blood, characterized by a tendency to excessive bleeding from trivial injury. The cause is unknown, but it is hereditary in a peculiar way, i.e. it occurs only in males and only in the sons of the daughters of the sufferer, and not in his sons and their children. Such cases are uninsurable.

**HAEMOPTYSIS.**

(See PULMONARY HAEMORRHAGE.)

**HAEMORRHOIDS (Piles).**

A varicose condition of the veins of the anal canal, resulting in a chronic engorgement of the veins.

The primary cause of this is commonly constipation, but it may be due to engorgement of the intestinal vessels and of the liver, due to over eating or drinking.

Haemorrhoids are sometimes the result of growths in the rectum.

Piles in themselves have no effect on longevity, but they are sometimes an indication of liver or bowel trouble, which may have an important bearing on a life proposal.

Any proposer, therefore, who has been subject to haemorrhoids for any length of time must be submitted to a careful medical examination to exclude these abnormalities. A history of haemorrhoids in past years, with no symptom since, need not affect the granting of a policy at ordinary rates.

**HALF-CREDIT POLICIES.**

These policies, which are mostly issued in connection with reduction of premium policies (*q.v.*) allow a fully participating contract (which it is not necessary to lodge with the office) to be taken out with a condition that one-half of the premium (in even pounds) shall, if desired, be advanced in each of the first seven years as a first charge on the policy, and interest at 5 per cent will be payable yearly with the premium. The following table shows how the system would work, taking as an example a policyholder aged 30 next birthday effecting a whole life fully-participating policy of £1,000 at an annual premium of £29 12s. 6d.

		£	s.	d.		£
1st year {	Half Premium . . .	15	12	6	} a loan being made of	14
	Equitable Charge . . .					
	Stamp . . . . .	1				
2nd {	Half Premium . . .	15	12	6	} "	14
	Interest on £14 . . .		14			
3rd {	Half Premium . . .	15	12	6	} "	14
	Interest on £28 . . .	1	8			
4th {	Half Premium . . .	15	12	6	} "	14
	Interest on £42 . . .	2	2			
5th {	Half Premium . . .	15	12	6	} "	14
	Interest on £56 . . .	2	16			
6th {	Half Premium . . .	15	12	6	} "	14
	Interest on £70 . . .	3	10			
7th {	Half Premium . . .	15	12	6	} "	14
	Interest on £84 . . .	4	4			
8th {	Reduced Prem. <sup>1</sup> . . .	11	17		} Total	£98
	Interest on £98 . . .	4	18			

<sup>1</sup> It is anticipated that the premium of £29 12s. 6d. will in the eighth year be reduced by 60 per cent.

The full premium can on any occasion be repaid in cash, if so preferred, and the advances may be repaid at any time in

one sum or by instalments of at least £10 at reasonable intervals. The minimum loan is £10, and interest becomes due once a year, though the premium may be payable yearly, half-yearly, or quarterly.

These advances do not in any way affect the future reduction of the premium. Rebate of income tax is allowed only on the portion of the premium paid in cash, and subject to the usual limits, but where a repayment on account of the loan is made, rebate of income tax is allowed on such repayment within the usual limits.

Specimen annual premiums for policies of £100 with full participation in reduction of premium—

Age next birthday.	Payable at		
	Death.	20 years.	15 years.
30	£ s. d. 2 19 3	£ s. d. 3 18 10	£ s. d. 4 10 2
35	3 7 7	4 6 6	4 18 7
40	3 17 10	4 15 8	5 8 5

**HALF PREMIUM POLICIES (WITHOUT DEBT).**

Under this system a low premium—about half the future premium required—is charged for the first five years on a whole life policy, the increased premium coming into operation thereafter. The policy may be effected either as a non-profit or with-profit contract. In either case the lower premium for the first five years is the same, but the policy only commences to rank for bonus from the date when the higher premium becomes payable. There is, however, no charge on the policy in respect of the first five years of abatement, during which period the policyholder has also the option of converting his

Specimen annual premiums for each £100 assured—

Age next birthday.	First five years.	Life premium thereafter	
		With-profit.	Non-profit.
30	£ s. d. 1 4 4	£ s. d. 2 15 6	£ s. d. 2 4 5
35	1 8 1	3 4 6	2 12 -
40	1 13 1	3 14 6	3 2 3
45	1 19 9	4 8 6	3 15 7
50	2 8 8	5 9 6	4 13 2

contract, without further medical examination, to an ordinary limited-payment whole life or endowment assurance at the tabular rate of premium for the age attained. The policies are very useful in cases where immediate cheap cover is desired.

**HARMONIC MEAN.**

(See AVERAGES.)

**HAZARDOUS OCCUPATIONS.**

(See OCCUPATION RISKS ; PROPOSAL FORM ; also GROUP LIFE ASSURANCE.)

**HEALTH AND WELFARE DEPARTMENT.**

(See WELFARE SERVICES.)

**HEALTH PROPAGANDA.**

(See WELFARE SERVICES.)

**HEALTH SERVICE BUREAU.**

(See WELFARE SERVICES.)

**HEALTHY DISTRICTS LIFE TABLES.**

(See NATIONAL LIFE TABLES.)

**HEART, DISEASES OF.**

(See ANGINA PECTORIS ; DILATATION OF HEART ; ENDOCARDITIS ; PERICARDITIS ; TACHYCARDIA.)

**HEARTS OF OAK ASSURANCE COMPANY, LTD.**

Head Office: Stevenage House, Holborn Viaduct, London, E.C.1.

Founded 1903 for industrial and ordinary life assurance. It also transacts fire and general business.

In the ordinary life department all ordinary life business is transacted, and special stress is laid on a house purchase scheme, and on the reasonable conditions of the policies. The surrender values are guaranteed in the policy itself. The industrial side is conducted in accord with the usual practice.

**HEMIPLEGIA (Paralysis of One Side of the Body).**

It is commonly the result of apoplexy, but may be due to degeneration of the cerebral tissue from other disease, e.g. syphilis.

Inasmuch as it invariably indicates some important cerebral trouble, such a case is uninsurable.

**HEREDITY, EFFECT OF.**

(See PROPOSAL FORM, page 435.)

**HERNIA (Rupture).**

A protrusion of part of the abdominal contents through the abdominal muscle wall.

The cause may be congenital, i.e. the patient may be born with a rupture; he may have a congenital weakness of the abdominal wall which one day gives way under some strain; or he may have a stretched abdominal scar.

The position of the rupture does not materially affect the longevity of a patient, but its other characters may.

Ruptures may be reducible or irreducible. By this is meant that it may be possible to replace the contents of the rupture, or this may be impossible. A reducible rupture may be properly controlled by a truss, or a truss may be of no use. It is obvious that no irreducible hernia can be controlled by a truss.

The danger to life from a rupture lies in the possibility of its becoming strangulated and so causing intestinal obstruction. This is most likely to occur if the hernia is irreducible. If it is reducible, but not properly controlled by a truss, the danger of strangulation is still present, but less urgent. In the case of a rupture that is properly controlled by a truss, strangulation cannot occur, but it must be realized that a hernia which is supported by a truss sufficiently strong to prevent any protrusion of bowel in a man leading a sedentary life may not keep the rupture back if any sudden strain occurs.

All proposers who are suffering from a rupture must be medically examined with considerable care, so that this risk may be assessed as accurately as possible. Proposers who have been successfully operated upon for rupture, and in whom no weakness of the abdominal wall is present at the time of the proposal, may be accepted at ordinary rates six months after the operation.

**HERPES ZOSTER.**

A form of neuritis, which is characterized by the development of a small papular eruption of the skin in the distribution of the affected nerve. Its cause is unknown, and, provided there has been no more than one attack, and there is no history of other neuritis (inquiry as to which should always be made), it has no effect on a proposal for life assurance.

**HIDDEN RESERVE.**

(See CLOSED FUNDS.)

**HISTORY OF LIFE ASSURANCE.**

While the history of life assurance is generally held to date from the formation in 1705 of the Amicable Society for a Perpetual Assurance Office, there are innumerable instances in far earlier days of a striving after the establishment of the principle which is recognized as one of the most beneficent ever conferred upon mankind.

It is on record that in the time of the Babylonian Hamarabi, about 2000 B.C., the members of caravans shared common losses caused on a journey by robbery or attack, and while it is not clear that compensation for loss of life was included, it seems improbable that the killing of valuable slaves would have been omitted from any such arrangement. Old Indian laws contain regulations making provision for invalids by members of their families; in ancient Egypt there was a system designed to benefit widows and orphans; Grecian slave-owners could "insure" their human chattels. In the period of the Roman Empire it was customary for Roman families to bequeath annuities to their faithful retainers, and the *collegia tenuiorum*, in return for entry money and monthly payments, allowed a fixed sum as burial money in case of death. The Roman prefect, Ulpianus, in A.D. 364, perfected some tables by which a fairly accurate estimate could be made of the length of human life. After the fall of the Roman Empire there is no record of any developments of insurance ideas until we hear of the Anglo-Saxon guilds, which have been described as the insurance associations of the Middle Ages. These organizations were probably the only type that could have persisted in the state of society then prevailing, when plague and wars rendered the duration of human life short and uncertain. The objects of the various guilds were numerous, but the general idea was the mutual benefit of members, and certain it is that in most cases provision was made for the fitting burial of the brethren and sistren at the cost of the guild. This could not be called life assurance in any strict sense of the word, but it was perhaps as near an approach to the principle as could be expected in view of the precarious conditions of life that prevailed.

The first life assurance contract of which there is any present record was effected on the 18th June, 1583, when Richard Martin, a citizen and alderman of London, agreed to pay to a group of thirteen merchants of

that city a sum of £30 13s. 4d. In consideration of this payment it was stipulated that if a certain William Gybbons should die within twelve months of the date of the contract, £383 6s. 8d. was to be paid to Richard Martin. Gybbons died on 29th May in the following year, 345 days after the policy was effected. The underwriters raised an objection to payment on the ground that Gybbons had not died within twelve months of 28 days each, but the Court decided that twelve months meant a complete year, and ordered payment to be made. Another early policy on record was that effected on the life of Sir Robert Howard on 3rd September, 1697. This contract was also for a term of one year, and the insured died on 3rd September, 1698. Here, again, the underwriters objected to pay, but it was held that the wording of the policy meant that the insurance commenced one day after its date of issue, and that it was, therefore, in force on the day the insured died.

While there is no comparison between these transactions, simple wagers upon the life of a man, and the science of life assurance as at present developed, they are interesting as marking the early stage of a system which has become a world-wide institution.

In the late sixteenth and early seventeenth centuries the French philosopher and scientist, Pascal, set out certain fundamental laws of chance. The Dutch Jan De Witt used these mathematical principles to evolve a system for the calculation of annuities, or life incomes. Such mathematical data, when combined with exact knowledge of mortality, led to the development of the actuarial science of life assurance.

There had sprung up about this time a custom whereby lives were insured for a certain period of time at exorbitant charges. It is perhaps not quite fair to blame the insurers for their high rates, for they had at least the excuse that there was nothing to enable them to calculate with any degree of exactitude the sum required to provide insurance. Their activity, if not their rapacity, was perhaps responsible for the construction of the first mortality table of modern history. In 1693 Dr. Halley, the Astronomer Royal of England, published the Breslau Tables of Mortality, constructed from data obtained from the city of Breslau, in Silesia. A record of deaths had been kept in the city for several years, and the returns at the disposal of Dr. Halley were for the years 1687-91, and comprised a total of 6,193 births and 5,869 deaths. From this

data the famous mathematician constructed a table of mortality, and showed how by its use the probability of life and death, and the value of annuities and assurances on lives, might be determined.

From the close of the seventeenth century the conduct of life assurance assumed a more settled form, and passed from the hands of private individuals, known as underwriters, who issued annual contracts. Societies were formed to grant legitimate life assurances, and these early organizations required their members, who were strictly limited in number, to pay a stipulated sum each year. A fixed proportion of the total amount subscribed was set aside for division among the members dying in a particular year, so that the fewer the deaths in the course of twelve months the greater the individual return in respect of the insurance.

The Amicable Society for a Perpetual Assurance Office was founded in 1705 upon these lines, and from its formation dates the birth of life assurance. In 1706 the promoters, the Lord Bishop of Oxford, Sir Thomas Aleyn, Bart., and others, obtained from Queen Anne a charter for incorporating them and their successors, and authorizing the commencement of business as from 25th March, 1706. The number of persons to be incorporated was not to exceed 2,000, but might be less; each person was to receive a policy under the seal of the corporation, entitling his nominees or assigns to a dividend on his or her decease, in the manner mentioned in the charter, viz., if there were the full 2,000 members, then one-sixth of the contributions amongst those who so died during the first year. In the second year £4,000 was to be divided amongst the representatives of the deceased members; in the third year, £6,000; fourth year, £8,000; fifth year, £10,000, and so ever afterwards, with as much more as should be agreed by a general court of members, to be held annually. There was no graduation of premium according to age of the applicant, every member contributing £6 5s. per annum during life, membership being restricted to persons between the ages of 12 and 55 years—the latter age being soon after changed to 45. In the first year the subscribers numbered only 875, of whom twenty-nine died. In the second year the members reached the full 2,000, of whom ninety-six died, the £4,000 divided producing £41 13s. 4d. each. In the fifth and subsequent years £10,000 was divided, but there appears to be no record as to the number

of deaths. It was not until 1762 that a minimum sum assured of £125 was guaranteed to members of the Society.

The Amicable was founded at a time when wars and rumours of wars were the rule rather than the exception, but, in spite of adverse circumstances, it appears to have flourished and carried on its useful work until 1866, when it was amalgamated with the Norwich Union Life Assurance Society. Some of the early records of the old Amicable are of interest as showing that from the very commencement the principles of "safety first" were ingrained upon British life assurance. A most important official in 1705 was "Ye Messenger," who would appear to have been responsible for attending to all the correspondence relative to lives assured, to have had to be certain that at a specified date in each year none of the members had shuffled off the mortal coil, and to be satisfied that each member had made payment of his contributions at their due date. The salary for these multifarious duties was fixed at a few shillings weekly. The name of the first "Messenger" is not on record, which is a pity. But if the directors were hard upon their servants, they certainly did not spare themselves, for very exact rules were laid down to ensure punctuality in attendance and strict attention to business details. There are many quaint minutes in the early records of the Amicable, but one and all pointed to a determination that the business of the Society should be conducted with the utmost care and caution, with a view to making certain that the word "perpetual" in the Society's title should not be a misnomer. In passing, it may be noted that it was not until 1807 that the Amicable secured power to grant assurances at rates of premium calculated according to age, while in the year 1845 it was empowered to grant assurances for fixed sums.

The year 1720 saw the formation of the London Assurance Corporation and the Royal Exchange Assurance, but it was not until a year later that they obtained powers to conduct life assurance business. They were the first offices to issue life policies for fixed sums payable at death, the first life policy issued by the London Assurance being dated June, 1721.

From now on, knowledge of insurance principles and statistics grew apace, and in 1762 the first attempt to conduct life assurance on scientific lines was seen, when, upon the computation by Mr. James Dodson of

a graduated table of premiums on the plan laid down by Dr. Halley, steps were taken for the formation of "The Society for the Equitable Assurance of Lives and Survivorships"—now familiarly known as the "Old Equitable." The founders were not un-naturally desirous that a charter similar to that enjoyed by the Amicable, the London Assurance, and the Royal Exchange should be obtained for their society. Accordingly, a petition was presented to Parliament, which set forth "That great numbers of H.M.'s subjects, whose subsistence principally depends on the salaries, stipends, and other incomes, payable to them during their natural lives, or on the profits arising from their several trades, occupations, labour and industry, are very desirous of entering into a society for assuring the lives of each other, in order to extend, after their decease, the benefit of their present incomes to their families and relations." A plan of operations was set out, and the petitioners further pleaded "That establishment, by H.M.'s Royal Charter, of a free and open office of insurance upon the plan aforesaid, will . . . be more equitable than any hitherto proposed, as being calculated for the sole benefit of the persons assured, a method not hitherto practised, and will, as the petitioners humbly hope, in a variety of instances . . . be productive of the greatest advantages to the public."

This petition came before the Attorney- and Solicitor-General of the day, who, having considered the proposals, heard evidence in support of the petition. Strong opposition was set up by the London Assurance, the Royal Exchange, and the Amicable Society, and in the result the Attorney- and Solicitor-General were "humbly of opinion to advise H.M. not to comply with the prayer of the said petition," and it was accordingly dismissed.

The promoters were determined men, however, and they had a great faith in the practicability of their scheme. They therefore drew up a constitution in the form of a deed of settlement, which deed was, in 1765, duly enrolled in the Court of King's Bench. Once a good start had been secured business expansion was satisfactory, but not more so than the steady and consistent improvement in life assurance practice. The first bonus on a life policy was given by the Equitable. After fifteen years' working, a reduction of 10 per cent in premium rates was decided upon, and this reduction was passed on to members in the form of a cash

bonus equal to 10 per cent of all premiums paid. Later, Dr. Price, the author of the far-famed Northampton Mortality Tables, prepared for the Equitable an entirely new set of tables, embracing upwards of 20,000 calculations. It was again found possible to reduce the rates of premium, and in order to compensate the members on this occasion the directors credited each policy with 15 per cent of the premium paid in the preceding five years. Thus were reversionary bonuses instituted.

The Equitable, in the quinquennial period ending in 1815, wrote a new business in the neighbourhood of a million sterling per annum, and it would appear that the directors took alarm at this great prosperity. In 1816, therefore, when the membership totalled 9,000, it was decided that any new member should not participate in the profit of the business until the membership had been reduced to 5,000 persons. It was not until forty-three years later that this occurred.

The success which attended the "Old Equitable" led to the formation of a large number of life companies, and we find that between 1797 and 1825 there were something like sixty-eight new formations. Of these only about twenty went out of existence altogether, the majority being amalgamated with or absorbed by other offices.

Among the formations of this period, in chronological order, were—

The London Life Association, the Eagle Insurance Company, the Atlas Assurance Company, the Norwich Union Mutual Life Office, the Sun Life Assurance Society, the Union Assurance Company, the Scottish Widows' Fund, the Guardian Assurance Company, the Edinburgh Life Office, the North British and Mercantile Insurance Company, the Alliance Assurance Company, the Clerical, Medical and General Life Assurance Society, the Scottish Union (now Scottish Union and National) Assurance Company, the Yorkshire Insurance Company, the Standard Assurance Company, the University Life Assurance Company.

Four of these, the Equitable, the London Life, the Norwich Union, and the Scottish Widows' Fund, were established on the mutual principle, while the remainder had a share capital. It says not a little for the wisdom and foresight of the progenitors of life assurance that this little band of centenarian life offices represents all that is best in life assurance to-day. The old business of the Eagle and the Edinburgh is now

working out through "closed funds," the former company having been absorbed by the British Dominions and the latter by the Commercial Union. The returns to policyholders in those closed funds are nothing short of remarkable. The Union and the University have been absorbed by the Commercial Union and the Equitable respectively, but continue to transact business under their own name, and to maintain their separate office establishments. The Clerical, Medical and General is now allied with a composite company, but to all intents and purposes it is still an independent office, and stands in the very front rank as an example of the highest traditions of British life assurance. The remainder of our centenarians maintain their independent existence, and have progressed from strength to strength with each passing year.

In 1844, following upon the exposure of the "West Middlesex Swindle"—a scheme whereby two rogues managed to extract from the public a sum of about a quarter of a million sterling by the offer of life assurance and annuities at rates far below those generally obtaining—the first Joint Stock Companies Act was passed, which imposed certain restrictions upon all insurance and other joint stock companies thereafter founded. This Act led to many abuses and, in 1853, a Select Committee was appointed to consider the position of life assurance companies under the Act. The Institute of Actuaries, which had been founded in 1848, was strenuous in its endeavours to secure a change in the law, and placed a large amount of expert evidence before the Committee, which eventually issued a report in which they advised the repeal of the provisions of the Act so far as they applied to life assurance companies. In the course of its report the Committee said: "It appears, by a return made to your Committee from the office of the Registrar, that, since the passing of the Act of 1844, no fewer than 311 insurance companies of various kinds have been provisionally registered, of which only 140 were completely registered, and of which only 96 continue to exist at the time. And, while your Committee have reason to believe that some of the companies which have ceased to exist during that period have been absorbed in other companies by whom their business has been taken over, yet, at the same time, they have no doubt that considerable traffic has been carried on in the mere creation of companies which never had

any real prospect of a *bona fide* existence." Nothing was done at the moment, however, and it was not until 1856 that an Act was passed through Parliament repealing the provisions of the 1844 Act, so far as they affected life assurance companies. This Act, however, failed to make other provisions, but the omission was rectified in the next session of Parliament by means of a short Act. The year 1862 saw the passing of "The Companies Act," which extended the principle of limited liability to life assurance companies, and laid down very particular provisions as to the formation, registration, and winding-up of life assurance companies.

In 1867 "The Policies of Assurance Act," which related to notices of assignment, was passed, and we then arrive at a most important period in life assurance history—1870. In the previous year the Albert Life Assurance Company, which had been in existence since 1838, and had absorbed many other life offices, suddenly collapsed, with a deficit of about a million sterling. A sensation without parallel was caused in the insurance world. That the failure was not altogether unanticipated may be gathered from the following extract from *The Insurance Record* of 20th August, 1869—

"On the surface, it will be admitted, everything about the Albert has borne a satisfactory aspect. . . . Companies do not keep their accounts from the public without cause, nor is it the very best indication of soundness when the representatives of the Press are excluded from a company's meetings. . . . Now, the Albert has not, we believe, had a valuation for some years, and it has held its meetings with closed doors. We have, of course, known what all this meant; at the same time, it has baffled all attempts to get at any precise information as to the company's affairs."

A month or two later petitions for the winding-up of the European Life Assurance Company were presented, and, although this company did not immediately close its doors, the effect upon the public mind of two such sensational occurrences, and the consequent undermining of public confidence in the integrity and safety of life assurance generally, led to prompt action by the Government. A Bill was introduced into Parliament with the object of preventing a repetition of such disasters as the Albert and the European, and in the result "The Life Assurance Companies Act, 1870" was placed upon the Statute Book. The Act

did not unduly interfere with the free action of life assurance offices, but relied mainly upon the principle of freedom and publicity to ensure the safety of the offices and the security of the policy-holders. It was no longer possible for companies to "keep their accounts from the public," and the good effect of the Act upon the future progress of life assurance cannot be over-estimated.

Its first provision was to require from every life office that should be established subsequent to its enactment, a deposit with the Court of Chancery of the sum of £20,000, to be retained by the Court until such time as the life assurance fund accumulated out of premiums had amounted to £40,000. Life assurance funds had to be kept separate from other funds, and other sections dealt with the preparation and publication of statements showing the financial position of companies. The effect of the Act upon life assurance has been most beneficial. Since it became law, life assurance companies, to quote Mr. George King, the well-known actuary, have, "almost without exception, gradually increased the proportion of their assets to their liabilities, the grand total of the addition to the reserves entirely irrespective of the natural increase of business, and of the higher average age of the lives assured, being enormous; and the result is that in no country of the world are the life offices so strong and so stable as in Great Britain, and nowhere do the assured enjoy greater advantages in respect of bonus and other benefits. . . . This most satisfactory condition of affairs here is due in great part, I think, to the freedom and publicity which reign, because freedom and publicity result directly in the conservative policy of increasing the funds, and indirectly therefrom in enhanced profits to the assured."

So excellently did the 1870 Act perform its purpose that no further legislative action was considered necessary until we arrive at the year 1909, when the Assurance Companies Act was passed. This Act, which repealed the 1870 Act, practically re-enacted and strengthened many of the provisions contained in the earlier decree. The deposit of £20,000 was retained, but this was made a permanent deposit with the Paymaster-General, which must be invested in approved securities by all companies transacting life assurance in this country, whether home, colonial, or foreign. In the case of companies transacting both ordinary and industrial business, separate returns

had to be made in respect of each branch, and strict provisions were made as to audit of the statutory accounts. An important provision required an annual statement of new business, giving details of the amount of new life business transacted each year, both within and outside the United Kingdom, showing number of policies, total sums assured, and single and annual premiums. The Act worked well on the whole, but that it needed strengthening in certain respects is suggested by the failures of the National Benefit and the City Life. A strong Departmental Committee was set up with a view to ascertaining where or if the law regulating life assurance needed amendment. One of the main points in their recommendations was an insistence upon those principles of "freedom and publicity" which, since 1870, have represented the charter of life assurance. As a result of the Committee's Report, the Insurance Undertakings Bill was drafted.

No history of life assurance would be complete without a reference to the Institute of Actuaries and the Faculty of Actuaries, if only for the reason that a correct knowledge of the trend of mortality is an absolute essential for the proper conduct of life assurance business, and that these two bodies have been responsible to a large extent for the compilation of those mortality tables which have enabled the actuary to recommend the improvements in the life assurance contract which have resulted in the marked progress of insurance principles and practice in the last forty years.

We have seen that the pioneers in life assurance depended mainly upon tables deduced from population statistics, constructed from meagre data, and often based upon incorrect assumptions. The Northampton Table, and the Carlisle Table, (prepared in 1815 by Mr. Milne, the actuary to the Sun Life), proved invaluable to a point. In 1869, however, the Institute of Actuaries published the mortality tables known as the "Combined (or twenty offices) Experience of Assured Lives (1863)," which were based upon the combined experience of twenty life assurance companies, and gave an opportunity of testing the strength of life offices, which had never before been available. A more detailed reference to these and other mortality tables will be found under MORTALITY TABLES, and for historical purposes it is only necessary to add that in 1902 the British Offices Life Tables were published, being the result of investigations made

under a joint committee of the Institute of Actuaries and the Faculty of Actuaries—sixty British offices contributing their experience for the thirty years 1863 to 1893. In addition to their work in preparing reliable tools for the actuary, the Institute and the Faculty have consistently aimed at a high standard of training to ensure that those securing their diplomas shall be well fitted to undertake the conduct of life assurance business in the future.

It may be said that from 1870 onwards the history of life assurance in Great Britain has been a story of steady development, and not even such a world-wide upheaval as the Great War could impose more than a temporary check to the progress of an institution so firmly and soundly established. When, in the fateful August of 1914, the whole of Europe and the greater portion of the civilized world were plunged into the uncertainties of universal conflict, the problems facing those in whose hands lay the control of insurance institutions were many and acute. Life offices had upon their books numbers of policies which were "world-wide and indisputable," and also many which contained restrictive conditions in regard to war service. Those conditions were, however, waived, it being decided that no extra premium should be charged in respect of policies effected prior to the outbreak of war on the lives of territorials or men volunteering for the new levies. This meant that in a large number of cases life offices voluntarily covered, entirely free of charge, a risk which was never contemplated by the terms of the original contract, and for which in the aggregate quite a substantial volume of extra premiums might have been demanded. Normal mortality rates naturally suffered, as the "Roll of Honour" steadily grew. Assets depreciated in value, interest income declined, and the necessity of preparing a valuation strictly in accordance with the 1909 Act was a problem which tested the strongest companies. At one time, indeed, it appeared that the compulsory clauses of the 1909 Act in this respect would have to be suspended for the duration of the war. But this was not done, and the companies carried on, made their valuations as usual, and, while in the majority of cases bonuses were either passed altogether or materially reduced, in the result practically all emerged with resources unimpaired. Indeed, the wonderful results published in the years following 1920 indicated that the restraint exercised

in the testing period of the war had effect in still further strengthening the position of British life assurance.

It is but natural that the striking development of life assurance in the last half century has been influenced by the growth of competition. Native companies have had to meet the competition of offices established in Dominions overseas and in the United States. The latter offices have now retired from the field, for the reason that the limitations in respect of new business imposed upon them by their own legislatures rendered it impracticable for them to seek business outside their own domains. Colonial competition, however, becomes even more keen, and companies having their head establishments in Australia, Canada, and South Africa are now active competitors for business in the British field. The effect of this competition has been seen not only in the enhanced popularity of life assurance and a steady annual increase in the total business in force, but in consistent improvement of the life assurance contract. We owe it to a Colonial competitor that bonuses are now applied to keep policies in force in the event of the assured being unable regularly to maintain his premium payments. There are many other advantages now offered to the assured which competition alone has engendered. Policies are world-wide and practically without restriction. A man can insure without having to undergo a medical examination, or he can insure and at the same time be guaranteed a periodical medical overhaul by a qualified physician without expense to himself. If he is obviously an under-average life, a company is ready to quote. A contract adaptable to existing circumstances, or any that are likely to exist, can be arranged. The plain whole of life policy has given place in popular favour to the contract which insures against death for a specified number of years, and provides for the payment of the capital sum at a stated date. Even the endowment assurance policy, which has been in such great demand for over a quarter of a century has been improved out of all knowledge. "Options" are now tacked on to the contract, which allow the assured a long period in which definitely to decide as to the final form his assurance shall take. Life assurance companies assist in the unravelling of the housing problem, which has assumed such a serious aspect in recent years, by offering policies which carry with them a right to a loan upon the security of approved house

property, the mortgage thus established being automatically paid off in the event of the death of the assured, or at the expiration of the term of years the contract has to run. It is rendered easy nowadays for those in receipt of a regular salary to provide for the fitting education of their children by means of a variety of well conceived "educational policies." A ready means is offered whereby provision can be made for meeting the demands of the authorities in respect of estate duties. In a word, modern life assurance, while still providing the only protection against early death, also offers a solution of the many financial problems that modern civilization imposes.

In its progressive march life assurance in Great Britain has been unhampered by the attention of legislators. Indeed, not a little of its progress may be attributed to the encouragement extended by successive Governments. When William Pitt, the younger, in the reign of George III, first introduced us to the income tax, he extended relief from the tax to that portion of a man's income devoted to life assurance. After the battle of Waterloo, income tax for a time disappeared, but it was reinstated in 1842; and in 1853 life assurance premiums were again exempted, and the concession prevails to-day—a policy-holder being able to claim rebate of tax in respect to assurance premiums up to £7 per cent on the sum assured on his own life or on the life of his wife up to a sixth of his total income. This tangible acknowledgment of the benefit of life assurance must have materially helped towards the building up of the wealthy institutions that to-day cater for the life assurance requirements of the community. And if Governments have helped insurance, the debt has not gone unrecognized. In the great crisis of 1914, the Government needed financial support. When we note the large extent to which the funds of life assurance companies are invested in British Government securities, it is obvious that this support was not sought in vain.

(See also LIFE OFFICE CONSTITUTIONS, TYPES OF.)

#### H<sup>M</sup> TABLE.

(See MORTALITY TABLES FOR ASSURED LIVES, page 352.)

#### HODGKIN'S DISEASE.

A constitutional disease associated with anaemia and enlargement of the lymphatic glands. See also ADENITIS. It is a disease

almost invariably fatal, and is therefore a bar to life assurance in any form.

#### HOLLAND.

**Regulations Affecting Insurance Companies.** Foreign life assurance companies transacting business in Holland are required to deposit Fl. 25,000 as security. No deposit or guarantee is required for other classes of insurance, though the mathematical reserve of the Dutch business must be invested in Holland. Foreign and home insurance companies pay the same taxes. Only life assurance is under the supervision of the Verzekeringkamer, 257 Heerengracht, Amsterdam.

#### HOUSE PURCHASE BOND CERTIFICATES.

This form of contract, which carries no life assurance feature, is a good deal in vogue for the purpose of house purchase (*q.v.*). No advance can be obtained, however, until the policy has been a complete year in force, after which the percentage available ranges from 80 per cent of the face value up to 100 per cent after five years. Policies, or bond certificates, are issued for twelve, fifteen, twenty, twenty-five, and thirty-year periods, generally at monthly premiums ranging from 4s. 4d. per £100 per month on a thirty-year policy up to 12s. 8d. per month on a twenty-year one, and the policy-holder receives a guaranteed bonus on the premiums payable during the year. When an advance is made it is for the period which the policy has still to run. The loan falls due on the same day as the policy matures, and is automatically extinguished by it, any difference being payable in cash. In the event of death, the value of the premiums paid, with interest and any allotted bonuses, is credited in reduction of the mortgage, and arrangements made with the policy-holder's representatives for repayment of the balance due, if any.

These policies, after payment of one year's premium, can be sold or transferred, or the policy-holder can at any time, after obtaining an advance, repay it in whole or part. He can also sell the property for cash, thus paying off the mortgage, and then, if he wishes, also sell the policy; or he can, without repaying the advance, sell both the policy and property (subject to the mortgage) to one purchaser. Finally, he can sell the property alone for cash, pay off the mortgage, and by continuing the policy again utilize it for the purchase of further property, or let it mature, as he chooses.

#### HOUSE PURCHASE LOANS.

(See HOUSE PURCHASE SCHEMES.)

#### HOUSE PURCHASE POLICIES.

(See HOUSE PURCHASE SCHEMES; SINKING FUND ASSURANCES.)

#### HOUSE PURCHASE SCHEME LEAFLETS.

(See CANVASSING LEAFLETS page 124.)

#### HOUSE PURCHASE SCHEMES.

**Ordinary Mortgage.** Under an ordinary first mortgage upon freehold residential property, it is customary in this country to allow a loan of about two-thirds of the value set upon the property by a valuer, employed by the lender at the expense of the borrower. This value will almost invariably be somewhat less than the price which the borrower is prepared to pay for the property, for he has selected it as suitable to his own requirements and he sees it through rose-tinted spectacles of his hopes for a happy future in the home of his choice; whereas the valuer regards it in the cold white light of a business proposition. Nevertheless the lender will only advance two-thirds of this value, and it is important to realize why this should be so. In making his conservative valuation the expert has already eliminated any elements of special personal likes, and has arrived at a figure which *at the moment* could in all probability be obtained readily upon a forced sale. But the lender is not concerned alone with the value *at the moment*. It is true that in accordance with the strict legal interpretation of the mortgage deed which will govern the loan he will usually have the power to call for the return of his principal upon six months' notice, but in practice it is not customary to do so, nor is it expedient from the point of view of the lender that he should be repeatedly put to the trouble of reinvesting his capital. Consequently the vast majority of mortgages remain in force for many years, and the lender must protect himself against the possible, and in many cases certain, depreciation in the value of the property as the years pass. He endeavours to obtain such protection by limiting his advance to 66 per cent of the conservative value.

Eventually every mortgage must be repaid if the borrower is to recover the full ownership of his property, and it is found convenient to effect this repayment by a series of annual payments, which can either

be dealt with as reductions in the capital loan, or can be separately accumulated to provide the whole sum at the end of a period of years. (See SINKING FUND ASSURANCES.)

**House Purchase Scheme Mortgages.** Only one further stage is necessary in order to arrive at the house purchase schemes of the life assurance offices: the substitution of an endowment assurance policy (*q.v.*) for the sinking fund policy. Under the latter if the borrower dies he leaves the annual burden of the mortgage for his widow and children. Under the endowment assurance scheme the annual cost is only slightly more, and in the event of the death of the borrower the loan is cancelled immediately by the proceeds of the endowment assurance. All payments to the lender, except interest to the date of death, then cease, and the house becomes at once the unencumbered absolute property of the borrower's representative.

Throughout the existence of the endowment assurance the value of the policy steadily increases (see SURRENDER VALUES). The borrower is required to covenant in the mortgage deed to keep the assurance policy in force, and the policy equally with the property is charged as security for the mortgage. Thus during the time when the lender is bound to allow for possible steady depreciation in the value of the property he will have an additional security, namely, the policy, which will be steadily increasing in value. To a large extent this increase can be regarded as off-setting the reducing value of the house, so that the lending company need not make so large a deduction from the conservative value in arriving at the amount which they are prepared to advance to the borrower.

**Advantages.** In practice, therefore, it is customary for the life offices who transact this type of business to lend up to 80 per cent of the certified value of the house. In this fact alone, one of immense importance to the would-be house-owner with limited capital, lies one, and perhaps the most important, advantage of endowment assurance house purchase schemes. The life office requires a valuation by its own valuer, just as would an ordinary lender, but it is organized to transact business upon a large scale, and is accordingly able to arrange for valuations to be made at a much lower charge than that appropriate to one isolated valuation. This results in considerably reducing the expense which a borrower incurs.

Similar considerations apply in respect of

the legal expenses incurred by the lender, which in all mortgages are borne by the borrower, but which in the case of the life offices' scheme are appreciably less than they would usually be under an ordinary mortgage.

To illustrate the extent to which the offices have reduced the costs of the borrower, the charges upon a loan of £500 would be about £2 2s. 0d. for the valuation and £3 3s. 0d. for the legal expenses of the lender.

Realizing that in practice it is usually not expedient to call in mortgages for repayment until the expiration of a long period of years, the life offices in their schemes generally forego their legal right to demand repayment. Having arranged for eventual repayment by means of the endowment assurance they deliberately bar themselves from any right to require repayment to be expedited. At the same time they give the borrower the fullest right to repay whole or part of the loan at any time should he wish to do so. It will, therefore, be seen that herein lies another striking advantage to the borrower. Upon repayment of an ordinary mortgage it is customary to make some charge to the borrower for the legal expenses of reconveying his property to him; but some of the life offices specifically state in their schemes that the reconveyance will be made free of any expense.

**Security.** It will be realized that the life offices can only secure a strictly limited amount of assurance business as a result of their house purchase schemes, for every £100 of assurance so obtained calls for a loan of the same amount. This loan is neither more nor less than an investment of part of the funds of the office, and prudent management of the investments requires that only a certain proportion of the funds should be placed in mortgages upon real estate. Within that limitation it would seem that the house purchase scheme provides a useful channel for investment with satisfactory security, always on the distinct understanding that the most careful management is exercised. Apart from the property itself the offices seem to attach considerable value to the personal covenant of the borrower, and his *bona fide* desire to possess a home. Thus it is usual to find as a condition in a house purchase scheme that its application is strictly limited to those desiring to purchase a house for their own residence.

**Deferred Scheme.** So far we have been considering the obtaining of an immediate advance; but the offices who transact this

business usually have also a deferred scheme, under which an endowment assurance policy may be endorsed as available to support a future advance providing the property then submitted is approved. Furthermore, if several years elapse before a house purchase loan is requested the policy will have acquired a value, thereby constituting part security for the loan from its very inception, and as a consequence enabling the office to advance more than 80 per cent of the value set upon the house by the valuer; always provided that the policy must be at least as large as the loan which it is ultimately intended to repay. The figures set out in the following schedule are believed to be representative—

Proportion of certified value to be advanced will, as a rule, be as set out below—

Number of annual premiums paid.	10-year policy.	15-year policy.	20-year policy.	25-year policy.
1	80%	80%	80%	80%
2	85%	80%	80%	80%
3	100%	85%	80%	80%
4	—	95%	85%	80%
5	—	100%	90%	85%
6	—	—	95%	85%
7	—	—	100%	90%
8	—	—	—	95%
9	—	—	—	100%

**Leasehold Property.** The offices will usually grant loans upon leasehold properties with an unexpired term of at least 60 years. It is customary for the amounts advanced both under the immediate and the deferred advance schemes to be less by 5 per cent of the certified value than the corresponding amount which would be loaned on freehold property.

**Service.** The investment of funds in small mortgages, while doubtless secure, results necessarily in a great deal of detail work which under any other system of investment would be avoided; and so far as the life

assurance resulting is concerned it is obvious that under the house purchase scheme both in the head office and in the field force much effort is expended which would not be called for in writing the same amount of insurance outside the scheme. If it is correct to regard this additional effort as unremunerated, it follows that those life offices which offer a house purchase scheme are rendering a service to the country which is particularly valuable at a time when housing is at least one of our minor national problems.

(See HOUSE PURCHASE BOND CERTIFICATES; also CANVASSING LEAFLETS, page 124.

**HYDROCELE.**

A collection of fluid round the testicle. This is an extremely common condition, and generally may be disregarded from the point of view of life assurance.

It is, however, occasionally due to syphilis, and rarely to tubercle of the testicle. It is, therefore, necessary to have satisfactory medical evidence on these two points before a policy can be issued. In the event of these being satisfactory, no additional premium is required.

**HYDRONEPHROSIS.**

A collection of urine causing distension of the upper part of the ureter and pelvis of the kidney. It is due to obstruction of the ureter, and is commonly due to calculus, or congenital abnormality of the ureter, or kinking in the case of a movable kidney.

It is dangerous to life, in that it may give rise to degenerative changes in the kidney or to abscess formation (pyonephrosis). A patient found to be suffering from this condition at the time of the proposal cannot be accepted. If there is a history of hydronephrosis, the case must be subject to a medical examination, and reference made to the doctor under whose care the case has been. Such cases are usually only suitable for endowment assurances, and then only if the report of the medical examination is satisfactory.

**ILLINOIS STANDARD.**

(See VALUATION METHODS.)

**IMMEDIATE ANNUITIES.**

Most life offices now quote for immediate annuities on male and female lives of from age 40 to 80, and one or two are prepared to offer special terms when there is substantial medical evidence that the proposed applicant is an invalid life.

The following are representative rates for each £100 purchase money, payable by half-yearly instalments—

Age last birthday.	Apportionable.		Non-apportionable.	
	Men	Women.	Men.	Women.
40	£ 5 18 10	£ 5 12 4	£ 5 19 5	£ 5 12 10
50	6 19 -	6 6 10	7 - -	6 7 7
60	8 16 8	7 14 5	8 18 9	7 15 11
70	12 6 9	10 11 5	12 12 -	10 15 -
80	19 8 -	16 19 4	20 3 3	17 10 6

**Special Immediate Annuities.** Under an ordinary immediate annuity it follows from the nature of the contract that if death occurs even a day after it has been completed, the capital sunk in the purchase of the annuity is lost, and, tempting as the income from the immediate annuity may appear, this is a risk which does not commend itself to some people.

Several schemes have therefore been devised which offer a return of some part of the purchase money in the event of early death. Examples from such schemes are now given, and in effect they all amount to a combination of a life annuity with some form of life assurance cover for part of the purchase money over the early years of the annuity.

It will probably be more helpful to give an illustration applying to a particular age as the example of each plan, rather than the description of the plan itself, but it follows that rates for other ages than that given in the illustration can always be obtained.

**Scheme 1. (Guaranteed Annuity.)** A man aged 70 last birthday can, for £1,000, purchase an annuity payable half-yearly at the

rate of 7 per cent, 8 per cent, 9 per cent, or 10 per cent, whichever rate he prefers, with a special provision that if he dies or cancels the contract, by surrender, within a given number of half-years, a proportion of the purchase money will be returned to him. This return depends upon which annuity he selects, and in the case of a 7 per cent annuity would vary from £960 to £369, according to whether the death or surrender took place during the first half-year (£960) or at the end of twelve and a half years, after which no return is allowed. If, on the other hand, he selected the 10 per cent annuity, the return would vary from £945 to £721 at the end of three and a half years, after which no return would be entertained.

**Scheme 2. (Annuity Guaranteed for Life or a Given Period, whichever is longer.)**

Under this plan the life office guarantees the annuity payment for

(a) ten years or life, whichever is longer,

(b) twenty years or life, whichever is longer. Taking a male life aged 65 £1,000 would purchase in a certain colonial life office on such a basis an annuity of £94 10s. 3d., if guaranteed for ten years or life, and £72 16s. 9d. per annum if guaranteed for twenty years or life.

**Scheme 3. (Annuity with Return of Balance of Purchase Money.)** Under this more popular plan the arrangement is that if death takes place before the annuitant has received by way of annuity payments the amount of the purchase money, the balance is returned to his representatives, and, taking the same age as before, viz., 65, £1,000 would purchase £92 per annum. The amount of return in the event of death under this latter plan is, of course, the purchase money, less the annuity payments that have been received.

**Scheme 4. (Variation of Scheme 3.)**

Another plan is simply a variation of the last mentioned, where the life office guarantees to make as many annuity payments as is represented by the expectation of life of the annuitant at the time he effects the contract. Taking a male aged 65, the expectation of life may be taken as 11 years, and £1,000 would purchase an annuity of £86 3s. 4d. payable in any event during

such expectation, and for so long after as the annuitant may live. In the event of death within the aforesaid period of 11 years the payments would be continued until the end of that period to the annuitant's representatives, or commuted for a cash payment.

Immediate annuities may be purchased through the Post Office Savings Bank up to a maximum of £300.

(See also ANNUITIES-CERTAIN; also LIFE ANNUITIES AND ASSURANCES.)

#### **IMMEDIATE ANNUITY POLICY FORM.**

(See ANNUITY PROPOSAL AND POLICY FORMS.)

#### **IMMEDIATE BONUS POLICIES.**

(See DISCOUNTED BONUS POLICIES; PRIME COST POLICIES.)

#### **INCAPACITATION BENEFIT POLICIES.**

A number of offices for an agreed small extra to the annual premium grant various benefits on incapacitation. These include the waiving of further premium payments during the continuance of total and permanent disability, and also the payment of a monthly income to the assured on the basis of £10 per month for each £1,000 assured. The fact that premiums have been waived or that an income is being paid does not alter the value of the policy or any right the assured may have to a cash surrender or loan value. He may, therefore, even although he has not been required to pay premiums for a number of years, obtain a cash loan on his policy. The disability benefits automatically terminate if the assured surrenders his policy for cash or a paid-up policy, and on the anniversary of the policy nearest his sixtieth birthday, or if he engages in naval or military service or aeronautics. Also he can discontinue them at his own request, and pay the smaller premium required thereafter. But for the small extra required the benefits are valuable, because the policy-holder preserves his policy in the event of incapacity and also has the benefit of an income during his disability. The main special clauses of such a policy are in the following terms—

If the assured shall furnish during the continuance of this policy satisfactory proof that, subsequent to the delivery of this policy and payment in full of the first premium thereon, and before the anniversary of the date of the policy nearest the assured's sixtieth birthday, he has become totally and permanently disabled as hereinafter

defined, and if premiums have been duly paid to the end of the policy year in which such proof is approved, he will then be granted the following benefits—

(a) The office will waive the payment of premiums which may become due thereafter under this policy during the continuance of such total and permanent disability.

(b) For each one thousand pounds of the original sum insured, the office will pay to the assured a monthly sum of ten pounds; the first monthly payment will be made, if the assured is then living, on the first day of the calendar month following receipt and approval of proof of total and permanent disability, and succeeding payments will be made on the first day of each calendar month thereafter during the continuance of such disability, ceasing with the last monthly payment preceding the maturity of this policy.

The face amount of this policy shall not be decreased by reason of any premium waived under benefit (a) or any income payment made under benefit (b), and all benefits provided by this policy, including surrender and loan values, shall be determined in the same manner as if the premiums waived have been paid in cash.

Interest accruing or falling due on any indebtedness under this policy, after acceptance of proofs of total and permanent disability, shall be deducted from the monthly payments above provided.

Disability shall be presumed to be total whenever the assured become wholly disabled by injury or disease, bodily or mental, so that he is prevented thereby from engaging in any occupation for remuneration or profit, and disability shall be presumed to be permanent upon receipt of due proof thereof or upon receipt of due proof that total disability has existed continuously for the three consecutive months immediately prior to the receipt of such proof.

Without prejudice to any other cause of total and permanent disability, the office will consider the entire and irrecoverable loss of the sight of both eyes or the severance of both hands at or above the wrists, or of both feet at or above the ankles, or one entire hand and one entire foot, as total and permanent disability.

Notwithstanding acceptance of proofs of total and permanent disability, the office may, at any time thereafter, demand of the assured satisfactory 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 assured is able to engage in any work or occupation for remuneration or profit, then, except in the case of the recognized disabilities hereinbefore mentioned, all premiums thereafter falling due must be paid by the assured as originally provided in the policy, and monthly payments made under benefit (b) shall forthwith cease.

Specimen annual and disability premiums for policy of £1,000 with profits (male life) -

operation which totally and permanently disables him from continuing in such occupation for a period of 52 consecutive weeks, the society will on due proof of such disablement and cessation of occupation, and on delivery of this policy for cancelment, pay the sum assured in full satisfaction of all claims and demands thereunder.

Provided that no claim shall be admitted by the society under this clause unless notice of the total disablement shall have been given in writing to the society on behalf of the policy-holder within two calendar months

TWENTY-YEAR ENDOWMENT			WHOLE LIFE.		
Age nearest birthday.	Premium.	Extra.	Age nearest birthday.	Premium.	Extra.
	£ s. d.	£ s. d.		£ s. d.	£ s. d.
30	49 8 -	1 - -	30	24 5 -	1 18 -
40	52 5 -	1 17 -	40	32 12 -	2 15 -
50	59 9 -	4 3 -	50	47 1 -	4 8 -

Another method by which life policies can be effected to include incapacitation benefits is by the payment of certain optional additional extras on the premium. These extra premiums constitute in this case a permanent addition to the annual life premium. Capital sum benefits for total incapacity terminate at age 55, although accident benefit continues for the whole of life. Where remission of premiums has been covered this benefit continues until age 60. As the disability benefits under this plan are operative when the policy-holder is unable to follow his profession or occupation, they cannot be extended to certain professions (i.e. singers, entertainers, etc.), where only slight indisposition might cause complete disablement, but as a rule each proposal is considered on its merits.

It may be interesting to quote the clauses relating to disability, as they are rather wide. They are as follows—

(a) In respect of each period of disablement as hereinafter defined occurring prior to the life assured attaining the age of 60 years, the society will out of the next premium payable allow a remission of such a proportion of the premiums as the total period of disablement bears to the period in respect of which such premiums are payable.

(b) If the life assured shall from the date of this policy and prior to the life assured attaining the age of 55 years continuously follow his present occupation, and if he shall sustain an accident or an illness or surgical

from the commencement of such total disablement and until satisfactory evidence of such disablement and the nature and duration thereof have been furnished to the society.

The benefits under these clauses (a) and (b) shall not be operative if without the consent of the society the life assured ceases to follow his present occupation or changes such occupation.

(c) If within 30 days prior to the renewal date for payment of any premiums under this policy the society shall be satisfied by medical certificate that the life assured is unable for the reasons contained in clauses (a) or (b) hereof to continue his occupation, the ordinary days of grace for payment of such premium shall be deemed to be extended for such period as the life assured shall be unable to follow his occupation.

(d) In the event of a fatal accident as hereinafter defined occurring to the life assured, the society will pay double the sum assured.

(e) "Period of disablement" shall mean any period of not less than eight consecutive weeks, during which the life assured shall be under medical treatment on account of his being totally unable to follow his occupation through illness or from the result of an accident.

"Accident" shall mean bodily injury caused by violent accidental external and visible means, which injury shall solely and independently of any other cause occasion immediate disablement, and shall not include

any surgical operation unless rendered necessary by an accident as above defined.

“Fatal accident” shall mean an accident as above defined resulting in death within three calendar months of the said bodily injury.

Specimen extra premiums to secure the above extra benefits, age at entry in no case to exceed 50—

or is reserved for or expended on behalf of, life policy-holders or annuitants.

As a general rule it may be said that “ordinary” offices pay tax on their interest income, and “industrial” offices on their profits, as defined by the Finance Act, 1923.

It is obvious, therefore, that the “profits” basis of assessment is infrequent among “ordinary” offices. For many years past

Class of policy.	ANNUAL EXTRA PREMIUM TO SECURE		
	Remission of premiums. (1)	Payment of sum assured in event of permanent total incapacitation. (2)	Payment of double ordinary sum assured in event of fatal accident. (3)
Ordinary Whole Life Assurances. Annual Premium payable for 20 years or more.	5% on the ordinary annual premiums.	10s. % on the sum assured.	2s. % on the sum assured.
Whole Life Assurances. Annual Premiums limited to less than 20.	do.	7s. 6d. %	do.
Endowment Assurances. Period 20 years or more.	do.	7s. 6d. %	do.
Endowment Assurances. Period less than 20 years.	do.	5s. %	do.

**INCOME, LIFE OFFICE.**

(See ACCOUNTANCY DEPARTMENT.)

**INCOME POLICIES.**

(See GUARANTEED INCOME POLICIES.)

**INCOME TAX.**

**Life Office Assessments.** Income tax plays an important part in life assurance. The liability of life offices and the methods of assessment to which they are subject are treated in pages 510 *et seq.*

The present position is briefly that—

1. The life assurance business of a company must be treated as a separate business for income tax purposes, even if other branches of assurance are also transacted. Where both “ordinary” and “industrial” business is transacted, the two classes are treated as separate businesses.

2. Tax is payable on all interest earned (or credited to the life department), but a rebate in connection with the “life” expenses of management and commission is given.

3. Should the profits exceed the amount of the interest earnings less expenses, the office would be assessed on the full amount of the profits, but the profits of an assurance company for this purpose, as defined by the Finance Act, 1923, exclude such part of those profits as belongs or is allocated to,

life offices have been endeavouring to obtain a revision and amelioration of the basis of their assessment, and notably so at the Royal Commission of 1920, when both English and Scottish life offices submitted evidence on the subject.

The two groups of offices put forward their views separately. Briefly, it was contended by both the English and the Scottish offices that the option claimed by the Inland Revenue of assessing life offices on either (a) their interest earnings less expenses, or (b) their profits, should be disallowed, and further that, whatever method be selected, the full standard rate ought not to be charged. The grounds on which these contentions were put forward are, as to the first, that it is unfair to exercise against their constituents an option which results in their being subjected to a larger amount of tax, on the whole, than they would have had to bear if one suitable basis were fixed and consistently adhered to, and as to the second, that the funds which are invested and upon which interest is earned—or in other words the premiums—are contributed by individuals who are themselves liable for tax at varying rates, and that in the majority of cases, these individuals are not liable for tax at the full standard rate. The English offices submitted arguments directed to show that the

equitable method of assessment would be based on profits, urging that the interest earned by a life office is not a trading profit, and that the bulk of it is required to enable an office to meet its liabilities. The efforts of the Scottish offices were concentrated on obtaining concessions on the lines above mentioned, and in presenting their case, they stated that they would be satisfied to be assessed on their interest earnings less expenses. Both groups agreed that payments to shareholders must bear their proper share of tax. The claim for assessment on profits was contested by the Inland Revenue, who submitted that the Income Tax Act of 1918 imposed the tax on "all annual profits or gains" and "all interest of money, annuities, or other annual profit or gains," and the Inland Revenue argued that what applies to tax payers generally should also apply to life offices.

On the claim that the full standard rate of tax should not be charged, it admitted that the existing arrangements did result in considerable inequalities as between individual policy-holders, and that an undue proportion of the taxation was borne by "with profit" policy-holders. It argued, however, that this question was closely associated with that of the relief given to policy-holders in respect of life assurance premiums, and suggested that if this allowance were reduced to one-half the standard rate, it would be possible to reduce the tax on the investment income of a life office to three-fourths of the standard rate without loss to the revenue, while the arrangement would prove more equitable as between different classes of policy-holders. In point of fact the allowance on premiums was reduced in respect of policies issued after 22nd June, 1916, to one-half the standard rate, but the suggested alleviation to three-quarters in respect of the investment income of a life office did not materialize. The report of the Commission recommended that no changes in the method of assessment of the life offices should be made beyond that the "profits" to be assessed should in future be taken to be the amounts allocated to shareholders—that is to say, not the surplus as disclosed by the valuation, and in the case of mutual offices the profit arising from business, including annuities, outside the with profit assurances.<sup>1</sup>

As already shown, the Finance Act, 1923, carried the recommendation into effect by excluding from profits amounts reserved for the benefits of policy-holders, and the

virtual result was that the Inland Revenue's power to assess an office alternatively became valueless in the great majority of cases.

As regards the point made by the life offices that the majority of their policy-holders are not liable for taxation at the full standard rate, while it is probable that this will always be the case, there has been since the date of the Commission some levelling up of the position in this respect. Sums payable under life policies at death, maturity or on surrender (including bonuses) rank as capital, and are consequently free of income tax and of sur-tax (formerly super-tax) where payable.

The attention of sur-tax payers has in recent years been successfully directed by the offices to the value of life assurance as an investment free of tax to the assured, and there has been a considerable accretion of business to them from those liable to pay not only the full standard rate of income tax but sur-tax in addition. Single premium policies under which the sum assured and bonuses consist of a high proportion of interest give the sur-tax payer an excellent investment.

**Foreign Life Fund.** Where an office transacts business through agencies and branches outside the United Kingdom, the interest earned on the fund maintained for the benefit of the holders of policies so issued (for definition see Sect. 237, Income Tax Act, 1918) is exempted from tax subject to the condition that such interest income is earned abroad and is not remitted to the United Kingdom (Schedule D, Case IV, Rule No. 2B, and Case V, Rule No. 3B).

The Government also found it expedient as a war measure, still operative, to exempt from tax the income arising on certain British Government securities, where they formed part of a foreign life fund, if applied for the purposes of such fund or reinvested so as to form part of that fund (Sect. 46, par. 2), and further to encourage subscriptions to war issues, went so far as to exempt income remitted to the United Kingdom, provided it were invested in securities of the

<sup>1</sup> In *Last v. The London Assurance Corporation*, 1885, the House of Lords laid down that the profits "could only be ascertained by actuarial investigation, and that the bonuses allotted to policy-holders formed part of the taxable profits."

In *New York Life v. Styles*, 1889, the House of Lords laid down that in a mutual office the profits are those derived from business with non-members, i.e. under non-participating policies.

The mutual offices, however, stated that they would be prepared to pay tax on profits as ascertained by actuarial investigation.

type referred to above and allocated to the foreign life fund. This exemption also is still operative.

It follows, of course, that as the income of a foreign life fund is exempted from tax, no relief of tax in respect of expenses of management of the foreign fund is allowed (Sect. 30). These expenses are usually taken to be that proportion of the whole expenses which the foreign life fund bears to the total life fund.

**Relief in Respect of Premiums on Life Assurances, Endowments, etc.** The allowance made in respect of income tax in connection with life assurance is one of its greatest attractions in the eyes of the public. It has long been the policy of the State to encourage the making of provision by this means, and relief has been continuously given since at least 1853.

The history of the variations in the allowance in recent years is briefly as follows—

On the introduction of super-tax on incomes of over £5,000 a year for the year beginning 6th April, 1909, the sums paid as life premiums also secured relief from super-tax, this being regarded as an "additional income tax." In the Finance Act, 1915, the relief of income tax was restricted, in respect of any premium for securing a capital sum on death, to not more than 7 per cent of the actual capital sum assured, and, in respect of premiums on other types of policy, to not more than £100 in all, and the relief by way of deduction for the purposes of super-tax was correspondingly limited.

In the Finance Act, 1916, the relief on assurances or deferred annuities already in force was further restricted to a maximum of 3s. in the £, and no relief was given in respect of super-tax. As regards policies issued subsequently to the 22nd day of June, 1916, the relief was similarly restricted on premiums payable on policies securing a capital sum on death, and no relief at all was allowed on other forms of policy, an exception being made, however, in respect of *bona fide* superannuation or pension schemes. In the case of deferred assurances, no relief was given during the period of deferment.

In 1918, the various regulations were brought together, and with some further alterations were embodied in the Income Tax Act, 1918.

This Act differentiated between policies effected before the 22nd June, 1916, and

those issued since. It provided that any person who had made an assurance on his life or the life of his wife or who had contracted for any deferred annuity on his own life or the life of his wife should be entitled to a deduction of the amount of the annual premium from his chargeable income. On the former relief was given at the full rate of tax paid up to a maximum of 7 per cent of the actual capital sum assured on death, and in respect of deferred annuities up to a total of £100 in premiums.

As regards contracts made after the 22nd June, 1916, the rate of tax to be allowed was limited to 3s. in the £, and this only on policies securing a capital sum on death, and in respect of deferred assurances no allowance was given during the period of deferment. No allowance at all was to be given for deferred annuities made after that date, but these restrictions did not affect premiums payable in connection with any superannuation or *bona fide* pension schemes.

In the Finance Act, 1920, the regulations relating to relief in respect of life assurance premiums were again amended, and these amended regulations now govern the position. They secure reduction of income tax as follows—

**Life Assurances.** All assurances on a man's own life or on the life of his wife securing a capital sum at death entitle to relief—*If made on or before the 22nd June, 1916*, the rate of tax at which the allowance is given is dependent on the total income from all sources.

If not exceeding £1,000 at one-half the standard rate of tax.

Exceeding £1,000 (but not exceeding £2,000) at three-quarters of the standard rate of tax.

Exceeding £2,000 at the full standard rate.

*If made after 22nd June, 1916*, at one-half the standard rate irrespective of income.

**Deferred Assurances.** If made on or before 22nd June, 1916, as above according to income.

If made after 22nd June, 1916, no allowance until after the period of deferment, then at one-half the standard rate irrespective of income.

**Deferred Annuities, Pure Endowments, and the Like.** If made on or before 22nd June, 1916, as above according to income, but the premiums on which the allowance will be made are limited to £100.

If made after 22nd June, 1916, no allowance is made except under *bona fide* "Superannuation schemes."

The allowances extend to a premium paid by a wife out of her separate income on an assurance or deferred annuity on her own life or on the life of her husband.

In all cases of policies securing a capital sum at death, no allowance is given in respect of any part of a premium in excess of 7 per cent of that sum, and in calculating that sum "no account shall be taken of any sum payable on the happening of any other contingency, or of the value of any premiums agreed to be returned, or of any benefit by way of bonus, or otherwise, which is to be or may be received either before or after death, either by the person paying the premium, or by any other persons, and which is not the sum actually assured." That is to say, it is limited to the sum assured cited in the policy and guaranteed to be payable on death. In the case of a policy securing the payment of the sum assured by instalments, the allowance would be limited to 7 per cent of the cash value at death of the deferred instalments. In the case of policies issued subject to a debt, the amount actually payable at death and not the nominal sum assured would be the basis. No qualification in the nature of the premium payable is now made. Before 1920, the allowance was given in respect of the "annual premium" payable, but the 1920 Act made a single premium eligible under the same conditions as an annual premium, that is to say, relief is secured on £7 of the single premium per £100 assured, there being, of course, no further allowance in subsequent years.

Reservations which apply to the whole of the foregoing are—

1. No such allowance shall be made in respect of any such amounts beyond one-sixth of the total chargeable income.

2. No such allowance shall entitle any person to claim any exemption, abatement, or relief on the ground that his total income is thereby reduced below any prescribed amount.

3. The policy in respect of the premiums on which relief is claimed must be issued by an assurance company legally established in the United Kingdom or in any British possession or lawfully carrying on business in the United Kingdom, or by a registered friendly society or, in the case of a deferred annuity, by the National Debt Commissioners.

Any person who is under any Act of Parliament or under the terms or conditions of his employment liable to the payment of any sum, or to the deduction from his salary

or stipend of any sum for the purpose of securing a deferred annuity to his widow, or a provision for his children after his death, is entitled to relief as shown under the heading of "Life Assurances" above in respect of contracts entered into on or before 22nd June, 1916.

Relief is given on premiums payable in connection with any superannuation or *bona fide* pension scheme issued subsequently to 22nd June, 1916, at half the standard rate.

In both cases the maximum premiums on which relief is given is £100.

It should be observed that the allowance to any person having effected an eligible contract is conditional on the premium being "paid by him." No relief is therefore allowed should the premiums be paid by another person. No claim, for instance, would lie where a policy had been sold and was being kept in force by the purchaser.

In the case of prime cost policies, half-credit policies, discounted bonus, or other forms of policy in which the full premium is not payable in cash, only such part of the premiums as is actually payable in cash ranks for the allowance; and, similarly, in cases where bonuses have been applied in the reduction of premium, only the reduced premium applies.

**Income Tax on Interest Payable on Policy Loans.** Interest on a loan granted by a life office on the security of a policy is payable by the borrower net, that is, less the standard rate of tax. It is incumbent upon a borrower to enter the amount of the loan and the gross rate of interest thereon in the space provided in his income tax return. These particulars enable the Inland Revenue to make the necessary adjustment in the borrower's assessable income, and to secure the tax retained by the borrower, and which he has in effect "collected" on behalf of the Inland Revenue from the life office. His income will be reduced by the amount of the gross interest on the loan, and if he be liable for the full standard rate of tax on an amount of income not less than the gross interest, the tax on the latter will correspond with the amount following the reduction in his income, and the items cancel each other. If his income be such as to be free of tax, or if he be liable only to a reduced rate of tax, he must pay over to the Inland Revenue in the first case the full amount retained; or in the second case the difference between the tax as retained at the standard rate and the rate for which he is liable.

**Sur-Tax.** If he be liable to sur-tax, the inclusion of the loan particulars will secure the saving in sur-tax that will ensue in respect of the reduction in his income.

It was pointed out on page 254 that single premium policies constitute an excellent free of tax investment to sur-tax payers. It will be seen from the preceding paragraph that a sur-tax payer can borrow very cheaply on a life policy, e.g. if he is liable to 4s. income tax and 4s. in the £ sur-tax, and the gross rate of interest charged is 5 per cent, he is virtually borrowing at 3 per cent, provided he reduces his income by the amount of the loan. (Of course if he re-invests the loan, the interest on the investment again increases his income, and the saving is lost). A single premium policy carries a high loan value (say, 90 to 95 per cent) on issue, and such a policy can be effected under loan, thus combining in one policy two extremely advantageous transactions to such a sur-tax payer.

(See also ACCOUNTANCY DEPARTMENT; TAXATION OF ASSURANCE COMPANIES; DEFERRED ANNUITIES.)

### INCOME TAX ACT, 1918.

(See INCOME TAX.)

### INCOME TAX REBATE.

(See INCOME TAX; also SINGLE PREMIUM POLICIES.)

### INCREASING TERM POLICIES.

These policies are by way of a reversal of decreasing term policies (*q.v.*), and are rather uncommon, and seldom needed. Where an individual requires to cover a temporary liability which may increase it is more usual to effect a term policy for the probable maximum at the outset, or to arrange a renewable term policy with an option to increase the amount covered, which comes to practically the same thing.

### INDEX, POLICY-HOLDERS'.

(See LIFE OFFICE ORGANIZATION p. 315.)

### INDIA.

(See CLIMATIC RISKS.)

### INDIGESTION.

(See DYSPEPSIA; GASTRITIS.)

### INDO-CHINA.

(See CLIMATIC RISKS.)

### INDUSTRIAL ASSURANCE.

(See AGENTS AND COLLECTORS; INDUSTRIAL ASSURANCE ACT, 1923; INDUSTRIAL ASSURANCE, HISTORY OF; INDUSTRIAL ASSURANCE: POLICY FORMS; also INDUSTRIAL ASSURANCE: TYPES OF POLICY ISSUED.)

### INDUSTRIAL ASSURANCE ACT, 1923.

This Act was the direct outcome of the report of a departmental committee appointed by the Board of Trade to inquire *inter alia* into the business carried on by industrial assurance companies and collecting societies, and to report whether any amendment of the law was desirable. The committee completed its report on 19th February, 1920, and a Bill was introduced into the House of Lords very closely following the recommendations of the committee's report. This Bill aroused considerable opposition on the part of the offices concerned, particularly on such matters as government control, standard valuations, and limitations in expenses and dividends. It was found impossible to amend the original Bill, and a new Bill was introduced, which in due time passed into law as the Industrial Assurance Act, 1923. It is important to observe that both Lord Parmoor, the chairman of the original committee, and one of the members expressed their opinion in the House of Lords and the House of Commons respectively that the Act had not omitted to deal with one single instance in which a reform was suggested in the report.

**Industrial Assurance.** The Act defines industrial assurance as being the business of effecting assurances on human life, the premiums in respect of which are received by means of collectors, subject to certain exceptions—

(a) Assurances, the premiums in respect of which are payable at intervals of two months or more.

(b) Assurances effected before or after the passing of the Act by an office which has no assurances in force under which premiums are payable at intervals of less than one month, so long as the office refrains from issuing such assurances.

(c) Assurances subject to premiums at monthly or longer intervals effected before the passing of the Act, provided they have not been treated by the office as industrial branch business.

(d) Assurances for £25 or upwards effected after the passing of the Act, subject to calendar-monthly premiums, provided these are not transacted in the industrial branch

of the office, in cases where the Commissioner certifies that the terms and conditions of such assurances are, on the whole, not less favourable to the policy-holder than those imposed by the Act.

The Act also defines "Collector," and the term may be regarded as referring to every person who makes house-to-house visits for the purpose of receiving premiums on life assurance policies.

**Industrial Assurance Institutions.** Under Sect. 1 the Act provides that industrial assurance business shall not be carried on except by a registered friendly society, or an assurance company within the meaning of the Assurance Companies Act, 1909, which is either registered under the Companies Act or the Industrial and Provident Societies Act, 1893 to 1913, or incorporated by special Act.

**Industrial Assurance Commissioner.** Before the passing of the Act companies transacting industrial assurance business came under the supervision of the Board of Trade, and collecting societies came under the supervision of the Registry of Friendly Societies, of which the latter has now ceased to exist. The Chief Registrar of Friendly Societies has now been given the title of Industrial Assurance Commissioner, with greatly extended powers, and he is now the sole authority, so far as industrial assurance is concerned, both in the case of societies and companies.

**Assurances on Children.** The Act has made a very important change in the amounts which may be paid on the death of a child under a policy for funeral expenses. Previously the total sum payable on the death of a child under the age of five was £6, and under the age of ten, £10. So far as industrial assurance companies are concerned these limits were extended to £6 on the death of a child under the age of three years, £10 up to six years, and £15 up to ten years. The Act did not similarly increase the limits in the case of collecting societies, but a short Act since passed has placed such societies in the same position as the companies.

**Statutory Deposits.** As under the 1909 Act, industrial assurance was not regarded as a separate class of business for the purpose of the statutory deposit, one deposit only of twenty thousand pounds had to be made by each company in respect of all life assurance business. In the case of collecting societies, no deposit whatever was required, and this greatly facilitated the operation of unscrupulous persons in the transaction

of industrial assurance business. The new Act constitutes industrial assurance business a separate class. A deposit of twenty thousand pounds must be made in respect of it by all collecting societies, while the companies are required to make an additional deposit of twenty thousand pounds for their industrial department. In regard to collecting societies, the Commissioner was given power to postpone the time for making the deposit for five years, and to repeat this postponement from time to time if he is satisfied as to the financial position of the society. This is a wise provision to enable the Commissioner to deal fairly with certain small collecting societies which are not in a position to deposit twenty thousand pounds, but which are nevertheless quite sound.

**Separate Accounts.** Both in the case of societies and companies it is provided that separate accounts and funds shall be kept in respect of the industrial business, although the investments of the separate funds need not be kept separately. The auditor of the company must report as to the propriety or otherwise of the apportionment of such items as expenses of management, interest, and depreciation between the industrial branch and any other branch of a company.

**Commissioner's Powers.** The Commissioner has power to reject any account, return, or balance sheet where it appears to him to be incomplete or incorrect in any detail, and he may order the necessary corrections to be made. An even more striking provision of the Act is the power given to the Commissioner either personally or by one of his inspectors to examine and report upon the affairs of any society or company, not only in cases where he is of opinion that an offence has been committed, but also when he thinks there is reasonable cause to believe that an offence is likely to be committed.

As a result of such inspection, he may issue such directions and take such steps as he considers proper, and in the case of a society may award that it be dissolved, and in the case of a company may present a petition to the Court for a winding-up order. At his discretion he may direct that the expenses of the inspection be defrayed out of the funds of the society or company, or even by the officers or former officers or members or former members of the committee of management or board of directors of the society or company. To such a direction there is a right of appeal to the High Court. Within three years of

the commission of any offence under the new Act the Commissioner has power to institute summary proceedings. He is required to lay before Parliament in every year a report of his proceedings under the Act, and may make comment therein on the valuations, annual returns, and other information provided by the societies and companies, and he may include any correspondence in relation thereto.

**Valuation.** Changes of a far-reaching character were introduced in regard to the valuation of the industrial business, a valuation report being required at the latest by the 31st December, 1925. Valuations must be made by an actuary, and rules relating to the qualifications of an actuary on lines similar to those laid down under the 1909 Act have been prescribed in regard to valuations of collecting societies. The basis of valuation adopted must be such as will place a proper value upon the liabilities, regard being had to the mortality experience among the persons whose lives have been assured in the society or company, to the average rate of interest from investments, and the expenses of management (including commission); and must be such as to secure that no policy shall be treated as an asset. The recommendation of the Parmoor Committee that every policy should be treated as a liability has not been followed by the Act. The Commissioner may reject the valuation if he is not satisfied with it, and may direct such alterations to be made therein as he may deem necessary; there is again the right of appeal to the High Court. He is also given the power to demand further information, as set out in the second schedule to the Act, as follows—

1. An analysis as near as may be of the premium income of each of the five years preceding the valuation date into income arising from—

(a) Policies which were not of more than one year's duration at the date such income arose; and

(b) Policies which were of more than one year's duration at the date such income arose.

2. The amount, if any, by which the value of the office yearly premiums, as shown in respect of each item in the form referred to under heading No. 7 in the fourth schedule (A) to the Assurance Companies Act, 1909, has been reduced in order to secure that no policy shall be treated as an asset.

3. If the proportion of the annual premium income reserved as a provision for

future expenses and profits as stated in answer to question 5 on the fourth schedule (A) to the Assurance Companies Act, 1909, is not uniform for all policies of the same class, specimens of the proportion so reserved in respect of policies effected at such ages and having been in force for such periods as the Commissioner may select.

4. Specimen values of the net liabilities under policies (exclusive of any bonuses added) according to the basis of valuation adopted, in respect of each of the principal classes of assurances for policies effected at such ages and of such duration as the Commissioner may select.

5. A statement of the actual number of deaths at ages over ten years in the five years preceding the valuation date on the policies for the whole term of life in comparison with the number of deaths which would have occurred if the mortality experience had been in exact agreement with the table of mortality employed for the purpose of the valuation, to be given separately for decennial groups of ages.

**Values of Assets.** The Act requires that the valuation report of a collecting society shall contain a statement as to how the values of the Stock Exchange securities (if any) included in the balance sheet are arrived at. The same person who signs the balance sheet must also sign a certificate to the effect that in his or her belief the assets set forth therein are in the aggregate fully of the value stated, less any investment reserve fund taken into account.

Where, after the exclusion of assets represented by such items as expenses of organization or extension, or the purchase of business or goodwill, the remaining assets are less than the industrial assurance fund, that fund shall be reduced by the amount of the deficiency. The Commissioner has power to relax the stringency of these provisions, where such paper assets appeared in the balance sheet last issued before the passing of the Act, until a period of seven years after the passing of the Act, where after the date as at which the last issued pre-Act balance sheet was made up assets including such paper items have been accepted in connection with an amalgamation or transfer of engagements of another office, or where, in connection with such a transaction, expenditure has been incurred by way of service of goodwill, for a period of seven years after the 31st December next following the date of amalgamation or transfer of engagement. Such power to

relax the stringency was essential if it was hoped that certain of the more powerful life assurance institutions would be prepared to consider accepting amalgamation or transfer from certain smaller institutions which, as a result of the passing of the Act, considered it inadvisable to continue an independent existence.

**Deficiency.** The existence of a deficiency will be determined not necessarily by the result of the valuations submitted by the office in the first instance, but by the result after effect has been given to such alterations therein as the Commissioner may direct. When a deficiency as so defined is disclosed, the Commissioner is entitled to decide whether the society or company should cease to carry on industrial assurance business. In that event he would either dissolve a society, or present a petition to the Court for a winding-up order in the case of a company. It is further enacted that the Commissioner shall not during the first five years after the passing of the Act take action of this kind if he is satisfied that substantial measures are being taken to improve the financial position of the society or company.

**Free Paid-up Policies.** Under the Act the owner of a lapsed policy can, on making application to the office within one year from the date that the lapse notice was served upon him, claim a free paid-up policy providing the original policy is—

(a) A policy for the whole term of life, or for a term of fifty years or upwards, the person whose life is assured under which is a person who is at the time of such default over 15 years of age, and upon which not less than five years' premiums have been paid; or (b) a policy for a term of twenty-five years or upwards, but less than fifty years, upon which not less than five years' premiums have been paid; or (c) a policy for a term of less than twenty-five years upon which not less than three years' premiums have been paid.

The free paid-up policy must be one for an amount not less than that provided by certain rules for calculating it as set out in the fourth schedule to the Act. Briefly, that schedule requires that the value of the policy is to be ascertained by the net premium method, and is to include the value of any bonus addition. The basis to be adopted is the English Life Table No. 6 (persons) at 4 per cent interest. All fractional duration is ignored. In the case of infantile whole life policies issued under

age 10, the duration prior to the policy anniversary immediately preceding the attainment of age 11 is ignored. In other cases the date of the policy may be assumed to be one year after the actual date, and the term one year less than the actual term. The free paid-up policy is to be the actuarial equivalent of three-quarters of this value.

**Surrender Values.** Instead of a free paid-up policy a surrender value in cash may be claimed in cases—

(a) Where the owner is permanently resident outside Great Britain, the Isle of Man, and the Channel Isles, or gives satisfactory proof of his intention so to reside; or (b) Where the person whose life is assured has disappeared and his existence is in doubt.

The surrender value must be at least three-quarters of the value of the policy as calculated in accordance with the rules just referred to, set out in the fourth schedule of the Act.

**Substituted Policies.** Sect. 25 of the Act provides that where the owner of an industrial policy agrees to accept a new policy in substitution therefor, the collecting society or company shall pay to the owner of the policy the surrender value of the old policy, or shall issue to him a free paid-up policy of equivalent value, unless the value of the substituted policy, calculated as previously described, at the date of the substitution is equal to or exceeds such surrender value.

**Individual Transfers.** For some years past the majority of the offices transacting industrial assurance business have deliberately refrained from making any attempt, or allowing their agents to make any attempt, to prevail upon the public to transfer their custom from one office to another. A certain number of offices, however, deliberately offered inducements to assured persons to drop existing policies, even though they had been in force for some years, and not infrequently to the great detriment of the assured. While the Act of 1923 does not definitely prohibit such transactions, Sect. 26 now provides that a form of consent to be prescribed must be signed by the person assured, and attached thereto must be a document furnished by the office seeking the transfer, setting out the terms of and rights under the existing policy, and the terms of and rights under the proposed new policy, and the consideration, if any, being paid for the transfer, and to whom such consideration is being paid. The office

seeking the transfer must give copies of both these forms to the policy-holder, and must within seven days send the original to the losing office, along with a notice of the proposed transfer giving identification particulars.

**Amalgamations and Conversions.** Sect. 36 of the Act deals with the amalgamations of two or more collecting societies, and with the transfer of the engagements of one collecting society to another. The same section deals with the procedure in regard to the transfer of a collecting society of its engagement to an industrial assurance company. Sect. 38 deals with the conversion of a society into a company, while Sect. 37 creates entirely new powers under which a company may transfer its business to a society.

**Proposal Forms.** In future, when a person proposes an assurance on his own life, the proposal must contain a declaration that the policy is to be taken out by him, and the premiums thereon are to be paid by him. Where the proposal is upon the life of another, it must contain a statement of the nature of the insurable interest, unless the policy has been effected for the purpose of funeral expenses.

If the proposal contains a statement that the life proposed is not already assured by the office and a policy is issued, the office shall be liable thereunder notwithstanding that the statement is not true, and that the truth of the statement is made a condition of the policy. Moreover if the proposal form is filled in wholly or partially by a person employed by the office, the validity of the policy may not be questioned (except where a fraudulent statement in some material particular has been made by the proposer) on the ground of any mis-statement contained in the proposal. The Industrial Assurance Commissioner has ruled that this protection cannot extend to an agent of a company or society filling in a proposal on his own life.

**Forms of Policies.** The Parmoor Committee had suggested that standard forms of policies should be imposed upon the offices, but it was found to be impracticable to give effect to this recommendation; nevertheless it is now provided by Sect. 21 that those parts of the Act which are mentioned in the third schedule must be set out in every industrial policy, or, alternatively, that a clear statement of their meaning must appear on the policy, such statement to be approved by the Commissioner. The pur-

pose of this legislation is to keep prominently before the policy-holder such provisions as the following—

(a) Those relating to proposals filled in by agents.

(b) The right of the owner to a receipt for any policy or premium receipt book or other document taken possession of, and to their return within 21 days, unless all claims capable of arising thereunder have been satisfied.

(c) Notice before forfeiture.

(d) Provisions as to free paid-up policies and surrender values.

(e) Substituted policies.

(f) Transfers.

(g) Payment of claims and the fact that no deductions may be made on account of any arrears due under any other policy.

(h) Disputes.

(i) Notices, and the fact that those required by the Act to be served upon any person must be in writing, and either delivered or sent by post to him, or in case of a notice of default so delivered or sent or left at his last known place of abode.

Headings (c), (d), and (i) above must be set out in distinctive type.

**Premium Receipt Books.** Although the rights conferred upon the policy-holders by the Act on the forfeiture of a policy did not come into operation until five years after the passing of the Act, it is provided by Sect. 24 that those rights shall be clearly set out in every Premium Receipt Book issued after the 1st of January, 1924.

**Procuration of New Business.** It is now made illegal by Sect. 34 for any person not in the regular whole or part-time employment of an office to be employed in procuring or canvassing for new industrial business. This provision will abolish the special or unofficial canvasser who had sometimes been employed by agents or superintendents without the authority of the head office.

**General Effect of the Act.** It is impossible to consider the Act without bearing in mind that it arose from the report made by a departmental committee, which was the result of the incessant attacks and criticisms on industrial assurance which had been gaining accumulative force over a period of many years. One result of the passing of the Act of 1923, an Act generally admitted to be entirely satisfactory to those who had drafted the departmental report, should be an indication that if these are the only alterations necessary in the law, if these are the only restrictions to be placed upon the

offices, then a great deal of the criticisms to which they had been subjected for so many years must have been unjustified, or, at least, very considerably exaggerated. Admittedly as a result of the Act the industrial assurance offices find themselves with somewhat less liberty than they had before; and in this country it is our proud privilege to resist restrictions upon our liberty wherever they may occur. Nevertheless it has to be admitted that before the passing of the Act all had not been quite as it should with some at least of the lesser known offices. There seems to be little room for doubt that everyone connected with the business of industrial assurance accepted the 1923 Act in this spirit, that it was worth putting up with slight inconveniences, which would hardly hamper the progress of the good offices, providing it would kill any parasitic growth upon a business which so greatly benefits the community at large.

#### **INDUSTRIAL ASSURANCE COMMISSIONER.**

(See INDUSTRIAL ASSURANCE ACT, 1923.)

#### **INDUSTRIAL ASSURANCE COMPANIES.**

(See ASSURANCE COMPANIES ACT, 1909; INDUSTRIAL ASSURANCE ACT, 1923; LIFE ASSURANCE COMPANIES SHARES AS INVESTMENTS.)

#### **INDUSTRIAL ASSURANCE, EXPENSE OF.**

(See INDUSTRIAL ASSURANCE, HISTORY OF; AGENTS AND COLLECTORS.)

#### **INDUSTRIAL ASSURANCE, HISTORY OF.**

It is a little difficult to realize that industrial life assurance, which has now grown to such enormous dimensions, and has spread itself throughout the English-speaking world, was quite unknown until about the middle of last century. It is true that prior to that time the principle of providing by means of burial clubs for payments at death of members of the industrial or working population had long been recognized; but although industrial assurance has replaced the burial clubs, it can hardly be regarded as having been evolved from them. Of those institutions which at present transact industrial assurance the oldest is the Wesleyan and General Assurance Society, which, under another name, was founded in 1841. At the outset, however, this society did not transact industrial assurance; nor at first did the Prudential Assurance Company, which, again under another name, was founded in 1848.

The first company, started for the express purpose of introducing industrial life assurance, was named the Industrial and General, and was founded in 1849. This company soon disappeared, and was replaced by the British Industry. The latter company made rapid progress for some time, and then transferred its business to the Prudential in 1854, which can accordingly claim to be in the direct line of succession of the originators of industrial assurance. Thus, while the Wesleyan and General is the oldest industrial assurance office in the world, the Prudential was the first.

It will be convenient in the first place to set out some of the salient points in the history of industrial assurance in chronological order.

1841. A small insurance society entitled the Wesleyan Provident Assurance Society was started in Birmingham, the membership of which was at first restricted to persons residing within three miles of that city who were members or hearers of the Wesleyan Church.

1843. The Society decided to remove the sectarian restriction, and with the resulting growth found it necessary to secure more commodious premises, three rooms being therefore leased at a rental of £2 10s. 0d. per quarter.

1848. Foundation of the Prudential Mutual Assurance, Investment and Loan Association.

1849. The first industrial assurance society, the Industrial and General, was established. Shortly afterwards this was replaced by the British Industry.

1854. The Prudential took over the British Industry, and commenced to write industrial life assurance. It rapidly developed and replaced the old burial clubs, in which serious mismanagement had generally prevailed, and under which many frauds had been perpetrated upon the public.

1858. The Refuge Assurance Company appeared, under the title of the Refuge Friend In Need Life Assurance and Sick Fund Friendly Society.

1861. The Royal London Mutual Insurance Society was founded.

1863. The Blackburn Philanthropic Mutual Assurance Society, and the British Legal Life Assurance Company, were founded.

1864. The Refuge was incorporated as the Refuge Friendly Society, Ltd., transacting an extensive sickness and industrial insurance business. The Pearl Assurance

Company was incorporated under an Act of Parliament.

1865. Under legislative enactment, the British Government Post Office Department commenced the writing of industrial assurance.

1866. Commencement of the Britannic Company, under the name of the British Workman's Life Assurance Company. The Wesleyan and General Assurance Society was incorporated under Act of Parliament.

1867. The Co-operative Insurance Society, Ltd., was established, but did not transact life assurance. The Salvation Army Assurance Society was founded by acquiring the charter of the Methodist and General Society.

1869. The incorporation of the London and Manchester Assurance Company under Act of Parliament.

1872. The Refuge ceased to transact sickness insurance.

1874. The Insurance Commissioner of Massachusetts, U.S.A., commented on the great benefit the English Prudential was conferring on the industrial classes of Great Britain, and of the need of the establishment of such a system in America.

1875. The Prudential Insurance Company of America (which has no connection with the Prudential of England) was founded under the title of the Prudential Friendly Society.

1878. The Wesleyan and General Assurance Society commenced to write industrial assurance. The Prudential Assurance Company initiated free paid-up policies, which were granted, after policies had been in force ten years, to those policy-holders who were at least 21 years of age.

1879. The John Hancock Mutual Life Insurance Company, and the Metropolitan Life Insurance Company, both of the U.S.A., commenced the transaction of industrial life assurance. Hitherto hundreds of fraternal and assessment organizations had been insuring lives among the industrial classes in the United States of America, but with very unsatisfactory results, largely due to the unsound methods used in the conduct of the business.

1881. The Refuge Assurance Company took its present title.

1882. The Prudential Assurance Company started to grant free policies after the original policies had been five years in force.

1886. The Co-operative Insurance Society, Ltd., commenced to transact ordinary life assurance, but not industrial.

1888. The Refuge Assurance Company separated its ordinary business from its industrial.

1891. The Pioneer Life Assurance Company was founded for ordinary life assurance and accident insurance only.

1898. The Pioneer commenced to transact industrial life assurance business.

1899. The Co-operative Insurance Society commenced to transact industrial business.

1901. The Wesleyan and General Assurance Society discontinued issuing sickness insurance.

1902. The British Widows Assurance Company was founded.

1903. Foundation of the Hearts of Oak Assurance Co.

1904. The Prudential Assurance Company commenced to issue policies with monthly premiums. From the outset free policies in respect of these were granted after three years. The Co-operative Insurance Society commenced a form of group life assurance. The Salvation Army Assurance Society took its present name.

1908. The Prudential Assurance Co. took an epoch-making step by granting a form of bonus to its industrial policy-holders.

1912. The Prudential Assurance Company introduced the block system (see AGENTS AND COLLECTORS).

1914. The Wesleyan and General Assurance Society obtained extended powers by a new Act of Parliament.

1919. The Prudential Assurance Company and the Pearl Assurance Company started to transact fire and general insurance.

1923. The Wesleyan and General Assurance Society inaugurated a health and welfare campaign amongst its industrial policy-holders.

1925. The Britannic Assurance Company and the Wesleyan and General Assurance Society commenced to transact fire and general insurance.

**Medical Examinations.** At the outset the Prudential insisted upon medical examinations in all cases, even among the industrial policy-holders. This was an innovation, for the older British Industry gave immediate benefits to its policy-holders without any medical examination. It is therefore clear that the founders of the Prudential were cautious, more especially when we learn that it was not until 1866 that medical examinations were finally abolished in all cases where the sum assured did not exceed £50. The process was a gradual one, experiments being made first in one town

and then in another, and on comparing the results obtained in the different towns it was finally decided that it would be safe to abandon medical examinations.

**Children and Old Persons.** At the outset no life less than 10 years of age or higher than 60 years of age was accepted. It was felt, however, that this chiefly explained the slow progress made by the Prudential. Consequently, under the advice of the then actuary, the tables were altered to commence at age 7, and the same benefits were given at age 7 as at age 10. It has to be remembered that up to the time when the first industrial life assurance offices came into existence, the only channels through which the working classes could obtain life assurance protection were the friendly societies on the one hand, and certain burial societies on the other, the latter being in more than ordinary disrepute. The friendly societies, like the Prudential, did not give assurance protection to old lives. Consequently, at the same time as the Prudential was reducing the youngest age at which it would accept assurances, it decided also to increase the older age and to accept lives however old. Probably there have been many occasions during the last fifty years when those in charge of our great life assurance institutions have wished that it were possible to refuse lives over a certain age.

**Growth.** The beginnings of great enterprises are always interesting. In the year 1857 the Prudential issued altogether somewhat less than 7,000 policies in its industrial branch. In the year 1863 it issued exactly ten times as many. In 1870 it issued very nearly 300,000. Even at that time the system of agencies was stated to be "somewhat different from that adopted in ordinary life assurance companies." Looking back from the present time the use of the word "somewhat" makes rather humorous reading. By 1870 the Prudential had divided the whole kingdom into districts, each under the management of a superintendent, whose duty it was personally to superintend the selection of agents, instruct them in the method of obtaining business, and assist them in acquiring a knowledge of the accounts of the business and the system of the office, and generally attend to the proper development of the business of his district. In nearly every instance the superintendent had one or more assistants, none of whom resided within a certain radius of the superintendent's place of business. The Prudential had, even in those days, no less than 20

to 30 agents in certain large places, and in London they had 75. It should be noticed, however, that only in the larger centres were the whole of the agents whole-time men; in small towns the agent was perhaps a barber, a shoemaker, or belonged to some other trade. It is worth noticing that while the ordinary companies still, in many cases, employ part-time agents, it is now almost universal for the industrial assurance agents to be whole-time employed.

**Lapses.** It is interesting to note that even a few years after the inception of industrial business the problem of a large number of lapses had already become a real one. Already the Prudential had tried the experiment of giving to the agent a commission on the increase of business effected and not upon the new business. The system of giving differential rates of commission was found to be bad, and it was stopped. In indicating how enormous were the lapses, it was stated that in 1870 they were equal to about 50 per cent of the new business of the year. Perhaps no problem has proved more troublesome and disturbing than the very high lapse ratio which for too long proved to be a serious blemish upon the business. Even to-day it cannot be claimed that this trouble has been entirely eradicated, but that the position has been materially improved there can be no gainsaying.

Some interesting light upon the progress which has been made has recently been furnished by the Metropolitan Life of America. Of all the business written by this company in the year 1896, no less than 38 per cent lapsed during the first three months of existence. More than 53 per cent of this business lapsed before six months had passed, and very nearly 62 per cent lapsed within one year. Twenty-two years later, that is to say of the business which was issued during the year 1918, only a little less than 8 per cent lapsed during the first three months, and only about 21 per cent lapsed within the first twelve months. Now, while it cannot be pretended for one moment that it is satisfactory to have 21 per cent of the business written in a year lapsing within the period of twelve months, it is obviously very much more satisfactory to have such a percentage than to have a percentage of more than 61. Moreover, precisely the same improvement could be shown in figures obtained from any of the best known English industrial assurance offices. Indeed, most of them would show a very much smaller percentage of lapse than was shown

during 1918 by the Metropolitan. This may be partly to the credit of the English companies, but it is also partly accounted for by the greater difficulties which face a new country.

From time to time during the past fifty years or more there have been many ingenious people, not too scrupulous in their methods, who have started businesses of many kinds, in which the chief source of profit lay in the fact that the public could be prevailed upon to start something which they were not likely to complete. While it is not to be supposed that every scheme which is based upon payment by instalments falls necessarily into this category, it is obvious that all such schemes lend themselves to exploitation by unscrupulous persons. There does not seem to be any clear evidence that at any time during the history of industrial assurance any responsible company was ever under the control of those who hoped in this way to exploit the lassitude of the public. On the contrary, there is the clearest possible evidence that every company of repute has set itself, in this matter of lapses, to check the habit and to minimize it. Moreover, the very efforts which the companies have made to reduce the amount of lapses have incidentally prevented those companies from making any profit from lapses. Beyond question the position at the present time is that most lapses are a source of positive loss to the assurance companies. In a case where the interest of the companies and the interest of the policy-holders are identical, it is not surprising to find that so much progress has been made, and that lapses are steadily reducing.

Perhaps before the companies became as experienced as they are at the present time, the pressure which was brought to bear on the agents to compete with agents of rival companies for the production of new business in ever-increasing amounts, may have had something to do with the heavy lapse rate that followed. But at the present time it is customary for the agent to be remunerated on such a basis that it is of no advantage to him to spend time persuading people to take out assurance policies if those policies are not really needed and cannot be kept in force.

**Premiums.** From the outset one of the distinguishing features of industrial life assurance has been the quoting of a sum assured varying at different entry ages, for a level weekly premium. It is only in comparatively recent years that monthly

premiums varying with the age at entry have been quoted for a level £25 or £50 of assurance. But prior to 1854 the system of the friendly societies had been even more simple; for in many cases their practice had been to charge the same premium for widely differing ages at entry, and for the same insurance benefit, a procedure which obviously would not appeal to an actuary. Indeed, the first great difficulty which the Prudential encountered was that there were then no data available upon which a scale of premiums could be based, and a great deal of guesswork was accordingly unavoidable. Finally, eight tables were decided upon, six of which were so calculated as to allow the policyholder to withdraw one-half of the premiums paid in after two years had elapsed. It was not very long, however, before it was found impossible to continue these tables. (See INDUSTRIAL ASSURANCE: TYPES OF POLICY ISSUED.)

**America and the Dominions.** There can be no doubt that it was the success of industrial assurance in Great Britain that led to its introduction in America. Until the year 1875 the insuring of lives among the industrial classes in the United States of America had been solely in the hands of fraternal and assessment organizations. The foundation of the Prudential of America in 1875 and of the John Hancock and the Metropolitan Life in 1879 have already been chronicled above. At the outset great difficulties faced the spreading of industrial assurance in America, as it had previously faced the founders of the Prudential in this country. There, as here, a lack of public confidence had at first to be overcome. Moreover the expenses incidental to establishment were enormous, and the mortality was at first very unfavourable. But when once the business had passed beyond the experimental stage, industrial assurance experienced a remarkable development in the United States, so that it very soon overhauled and passed the results which were being obtained in this country, notwithstanding that those results were in themselves very much superior to anything which had been expected, even by the founders of the Prudential themselves. At the close of the last century the total amount of industrial assurance in force in America was in the neighbourhood of £300,000,000. By the end of 1920 this total had grown to approximately £1,300,000,000. In other respects the development of industrial assurance in America had been very similar to

its development in this country. To-day the Metropolitan Life is the largest assurance company in the world. There are a comparatively small number of companies in the United States doing an industrial business, the most important in addition to those already mentioned being the Western and Southern, and the Life Insurance Company of Virginia.

In Canada it was not until 1881 that industrial assurance was introduced. Profiting by the experience here and in the United States, progress has throughout been consistently satisfactory. Both the Metropolitan and the Prudential of America are actively engaged in Canada, and apart from these two companies the only institution doing a large amount of industrial assurance in Canada is an office called the London Life, situated in a town called London, on a river called the Thames, in the province of Ontario, Canada. At the end of the year 1920 there was about £60,000,000 of industrial assurance business in force in Canada.

In Australia also industrial assurance has been successful, particularly when one considers the scattered nature of the population. Business has been conducted vigorously since about the year 1887.

**Progress in Great Britain.** Ten years before the close of the last century there were altogether very nearly 10,000,000 industrial policies in force in this country. That figure had practically doubled itself by the close of the century, for in the year 1900 there were over 18,500,000 policies in force. By the end of the year 1925 the number of policies had grown to about 53,000,000.

Looking back over the last ten years, it is interesting to note that the number of policies issued every year remains about constant, whereas the total of the sums assured by those policies has very nearly doubled itself. At the beginning of the century the average sum assured per policy in Great Britain was only about £10, while at that time the average sum assured under the policies in the United States was about £26. At the present time, in round figures, the industrial assurance companies in this country are writing over 7,000,000 policies a year for a total sum assured of about £150,000,000, the average per policy being distinctly over £20.

**Recent Progress.** Undoubtedly two of the biggest blemishes from which industrial life assurance suffered in the past were high expense rates and large numbers of lapses.

We have already referred above to the improvement which has taken place with regard to lapses, and the important question of reducing expense ratios will be found more fully discussed under AGENTS AND COLLECTORS. As an example of the progress which has recently been made, we cannot do better than quote the achievement of the Prudential Assurance Co. The scheme inaugurated by that company in 1908 to distribute bonuses to its industrial policy-holders had perforce to be abandoned in 1914; but after the War it was renewed, in an improved form, until it now approximates to the system used for distributing profits to with-profits policy-holders in the ordinary companies. There is, of course, this one rather important difference to notice, that whereas the with-profits policy-holders under an ordinary assurance policy effected their contracts under a promise that either the whole or a very large proportion of the profits made upon their policies should be returned to them in the form of a bonus, the industrial policy-holders, either of the Prudential or any other company, effected their policies, until very recently, without promise or hope of obtaining any share whatever in the profits of the company, or indeed anything whatever in addition to the sum assured under their policies. It is therefore interesting to notice that whereas in 1921 the Prudential allocated £200,000 to industrial branch policy-holders, in 1923 they were given £966,000, and in 1925 over £2,000,000. Moreover, during these years the Prudential has been consistently reducing the percentage of premiums absorbed in expenses, 36.9 per cent being so absorbed in 1921, 29.7 per cent in 1923, and only 26.6 per cent in 1925. The remarkable reduction indicated by these figures is due, undoubtedly, to the introduction of the block system by the Prudential in the year 1912. (See AGENTS AND COLLECTORS.) As a result, the Prudential has been able to make two considerable changes in the amount of life assurance which it is prepared to grant for a premium of 1d. per week. Thus in 1921 at age 11 the humble penny would secure an assurance of £10 5s. 0d. In 1923 an assurance at that age could be obtained amounting to £12, and at the present time the figure is £14 12s. 0d.

**Definition.** An appropriate point upon which to conclude this history is the consideration of the question: "What is industrial assurance?" Fortunately, so far

as this country is concerned, the position has been clarified by the Industrial Assurance Act, 1923. It is, however, interesting to observe that the framers of that Act found themselves in some difficulty in defining industrial assurance, and they only escaped from the difficulty by stipulating what it is not. Consequently the Act defines industrial assurance as being the business of effecting assurances on human lives, the premiums in respect of which are received by means of collectors, subject to certain exceptions—

(a) Assurances, the premiums in respect of which are payable at intervals of two months or more.

(b) Assurances effected before or after the passing of the Act by an office which has no assurances in force under which premiums are payable at intervals of less than one month, so long as the office refrains from issuing such assurances.

(c) Assurances subject to premiums at monthly or longer intervals effected before the passing of the Act, provided they have not been treated by the office as industrial branch business.

(d) Assurances for £25 or upwards effected after the passing of the Act subject to calendar monthly premiums, provided these are not transacted in the industrial branch of the office, in cases where the Commissioner certifies that the terms and conditions of such assurances are, on the whole, not less favourable to the policy-holder than those imposed by the Act.

The term industrial insurance in the United States and in Canada usually implies the payment of weekly premiums. In the State of New York the nearest approach to a definition is found in Sect. 91 of the Insurance Law, dealing with the licensing of agents, where reference is made to "Agents operating solely for companies transacting industrial or prudential insurance on the weekly-payment plan of insurance." Incidentally, one cannot help noticing the implied compliment to our own English company. The law of the State of Massachusetts refers to policies of industrial insurance where the premiums are payable monthly or oftener. However, even in this case another section of the law refers to industrial insurance as being paid for weekly, and as having a premium of not more than fifty cents. In the State of New Jersey the law refers to industrial insurance as on a weekly-payment plan. These three States are quoted because in America the insurance

companies are controlled by the law in the State in which their head offices are situated. More than 90 per cent of the industrial insurance in the United States is in companies whose head offices are in the three States mentioned.

#### INDUSTRIAL ASSURANCE : POLICY FORMS.

It is the custom amongst most industrial offices in this country to issue policies on the receipt of a proposal form without any premium, with the consequence that a large number of these policies are never taken up by the proposers. In addition to this, it has to be remembered that the policies which are paid for are in many cases issued at extremely low premiums, so that from every point of view it is essential for the industrial policy document to be produced at as economical a figure as possible. For this reason, so far as is practicable within the limits necessitated by somewhat complicated insurance contracts, the industrial assurance policy is as simple a document as can be devised, and since the War several efforts have been made to curtail its size. The Parmoor Committee sought to impose standard forms of policies on the offices, and indeed the Onslow Bill contained provisions to this end; however, it was found that the wide diversity of tables in use, and the varying constitutions of the offices themselves, rendered this suggestion impracticable. Consequently Sect. 21 of the Industrial Assurance Act, 1923, provides that the sections of the Act mentioned in the Third Schedule must be set out in every industrial policy, or, alternatively, a clear statement of their meaning, approved by the Commissioner must appear on the policy. In point of fact, the second alternative has been adopted, and a standard form of statement has been approved by the Commissioner, and is being used by the majority, if not by all, of the industrial offices. The points which are dealt with by the sections thus specified in the Third Schedule of the Act are summarized elsewhere. (See INDUSTRIAL ASSURANCE ACT, 1923.)

The importance of complying with this section of the Act is emphasized by the fact that any office which does not comply is liable, without prejudice to any other liability, to refund all the premiums paid.

Nothing would be gained by dealing extensively with the minor points of difference between industrial and ordinary policies, the usual tendency being to deal with industrial

policy-holders in an accommodating spirit. In regard to many matters which it is found necessary or expedient to cover very fully in the usual ordinary policy. For example, it is customary to deal fully with the question of days of grace for the payment of premiums in the ordinary policy, while no reference whatever to this matter may appear in the industrial policy.

#### INDUSTRIAL ASSURANCE : TYPES OF POLICY ISSUED.

Amongst industrial policies, the endowment assurance is growing in popularity, just as it has under ordinary life assurance; but whereas in the latter case the endowment assurance policy has for long been far more popular than the whole life assurance, the position in industrial assurance to-day is still one under which the whole life policy predominates. At one time industrial assurance offered a far greater variety of policies than ordinary assurance; but the tendency since the War has been to eliminate complexities, and to aim for simplicity. Many of the leading industrial assurance companies have reduced the tables, and in one case, at least, only some seven tables are now offered. On the other hand, a few of the industrial offices still issue a prospectus which contains a great variety of complicated policies. A reference to the Returns made to the Board of Trade indicates that a very small amount of business is transacted under some at least of these various tables; and for this reason, and because of the urgent need for economical working, the probable tendency of the next few years will be to eliminate a large proportion of these complicated tables. Consequently it is not proposed to occupy space here with a description of any tables other than those in general use, and likely to survive.

**Weekly Premiums.** Most of the industrial assurance business written is still upon the weekly premium plan, despite the rapid success which has attended the monthly premium scheme introduced by the Prudential Assurance Company in 1904, and subsequently adopted by the majority, if not all, of the other offices transacting industrial assurance. It does not seem to have been pointed out that the term "weekly premiums" is not quite analogous with the term "quarterly premiums," or "half-yearly premiums," in the case of ordinary life assurance. In dealing with the latter, we know that the premiums are expressed to be payable on certain dates, but that a period of grace

is allowed beyond that date in which to pay the premium. Nevertheless this grace period never exceeds the interval between premium payments, so that in the case of a policy with quarterly premiums, for example, the days of grace in respect of one premium must have expired before the next premium becomes due. This position does not occur with policies issued at weekly premiums, because it is customary to allow a period of several weeks of premium arrears before a policy will be lapsed. The extent of this period varies very considerably as between the different offices, but it seems to be never less than five weeks. As a consequence, a policy which is expressed to be issued at a weekly premium can in effect be kept alive by paying premiums every fifth week. The public certainly takes advantage of this feature of the industrial policy, and while some may pay their premiums regularly every week, others probably pay every other week, and some may make periodical settlements at even longer intervals. To the extent that this arrangement may provide a convenience for the public and render the task of premium collection more simple, it is to be approved; but, unfortunately, the position is often taken advantage of, and the policy-holder keeps his policy as far in arrears as the office will allow, continuing to pay premiums one at a time week by week, with the policy always on the verge of lapsing.

No statistics are publicly available as to the position in this country, or elsewhere; but it is regarded as common knowledge that if a collector here finds that over the whole of the policies for which he is responsible the premiums are upon the average two weeks in arrear, he may regard the position as satisfactory as compared with that in which many other collectors find themselves. It does not seem to be generally known that this would not be regarded as a satisfactory position in America, and that, in fact, throughout the industrial assurance offices of the United States it is considered normal for a collector to have on the average no arrears whatever, and many collectors are able to show over the whole of their policies premiums paid on the average one week in advance. There are still a few offices who are prepared to issue policies for a premium of one half-penny per week; at one time in America policies were issued at premiums as low as three cents per week, but the present tendency there is for the companies to readjust their minimum

to the figure of five cents per week per policy.

**Whole Life Assurance.** It is the practice in the case of policies at weekly premiums to quote a varying sum assured for the various ages at entry, for a given premium, instead of attempting the obviously impossible task of varying the premium at the different ages at entry for a level round sum assured. While every industrial assurance office transacts far more whole life assurance than any other class, it is a paradox that in many cases the offices do not, strictly speaking, transact whole life assurance at all. For example, one company grants a free policy when the life assured has attained the age of 75 years, and the premium has been paid for 25 years, the free policy being for the full sum assured by the policy. Thus in effect this company does not transact whole life assurance, but in the case of people who are less than 50 years of age at the time when the policy is issued, the policy is a whole life assurance with premiums limited to age 75; while in the case of those who effect policies at an older age at issue than 50 the policies are 25 year limited-payment life assurances. In the case of at least one American office the payment of premiums ceases on the first anniversary of the date of issue after the assured reaches age 74, irrespective of his age at issue. This provision applies to a table in which premiums are quoted up to age 65 next birthday at entry.

It is customary in the case of all policies issued at weekly premiums to provide that immediately the policy is issued it shall be valid for one quarter of the benefit stated upon its face, that it shall be valid for one half of that benefit after three calendar months from the date of the policy, and shall be in full benefit after six calendar months from the date of the policy. It is, however, usual to pay the full face value of the policy in the event of death during the first six months if the life assured dies from accident.

For reasons which are made apparent by the next paragraph, age at entry 11 next birthday is the youngest age at which adult industrial whole life assurance is available. Some offices, however, commence their adult table at a higher age than 11, and in that case correspondingly increase the higher limiting age of their infantile whole life assurance table.

**Infantile Whole Life Assurance.** It has always been felt necessary to limit the amount to which the industrial population

of this country may be all wed with safety to insure the lives of their children. This matter, which is discussed at another place in this Dictionary (see INDUSTRIAL ASSURANCE ACT 1923) is now governed by the Industrial Assurance Act, 1923, replacing the previous limits, which were a total sum payable on the death of a child under age five of £6, and under the age of ten of £10. That Act now provides that, so far as industrial assurance companies are concerned, these limits are extended to £6 on the death of a child under the age of three years, £10 up to six years, and £15 up to ten years. A subsequent short Act has placed the collecting societies in the same position as the companies. Consequently it is obvious that the sum assured under a policy issued upon a child less than 10 years of age must to a more or less extent be subject to a sliding scale; and this sliding scale is shown in the simplest possible terms in the case of the Prudential Assurance Co., which now issues at any age between birth and the tenth birthday, for a premium of 1d. per week, a policy under which, when it has been six months in force, £6 is paid if the life assured dies under age three, £10 if the life assured dies at or after age three and under age six, and £15 if the life assured dies at or after age six. During its first six months' existence this policy is subject to the customary limitations already referred to above. The Industrial Assurance Act does not, of course, state what premium is to be payable for the maximum amount allowed to be insured on the life of a child under age 10, nor does it say that policies shall not be effected for less than these maximum amounts. The position is that the Prudential finds itself able to give the full maximum benefit of the Act, subject to the usual rule applicable during the first six months, for what is the universal minimum premium in this country of one penny per week. Another company only gives the full maximum benefits allowed by the Act in the case of policies effected at a premium of 2d. per week; and in that case increases the sum insured at the first policy anniversary after the life assured reaches the age of 10 to a figure which varies according to the age at issue.

Nearly every industrial life office has a method peculiar to itself for dealing with infantile whole life assurance, and the height of complexity in the sliding scale is reached by some of the companies, who issue, for premiums of 1d. per week, an infantile whole life assurance, under which, to take

as an example age at entry one next birthday the amount payable upon death depends upon the length of time the policy has been in force, as follows—

	£	s.	d.
Immediate benefit . . . . .		10	—
After three calendar months	1	10	—
" six " "	3	—	—
" one year . . . . .	4	10	—
" two years . . . . .	5	—	—
" three years . . . . .	5	10	—
" four years . . . . .	6	—	—
" five years . . . . .	6	10	—
" six years . . . . .	7	—	—
" seven years . . . . .	8	—	—
" eight years . . . . .	9	—	—
" nine years . . . . .	10	—	—
" ten years . . . . .	12	7	—
" fifteen years . . . . .	12	14	—
" twenty years . . . . .	12	19	—

Yet another company provides under its infantile whole life assurance schedule an increase in the sum assured after age 21 is reached. The actual figures, both for the assurance between age 10 and age 21, and the assurance after age 21, depend upon the age next birthday at entry. In short, each industrial life office appears to have invented a scheme of infantile whole life assurance peculiar to itself.

**Whole Life by Limited Payments.** Reference has already been made to the fact that in many cases whole life assurances are only issued with a definite provision for premiums ceasing at some advanced age; but in addition some offices at least have introduced regular tables of weekly premiums limited to fifteen or twenty years, for example, for a whole life assurance benefit. In the case of our example, the weekly premium required varies, being quoted for a level sum assured of £50. In this case, also, an approach to the double indemnity benefit, known in the field of ordinary life assurance, has been introduced, the benefit being doubled in the event of death as a direct result of bodily injury caused by violent, accidental, external, and visible means sustained within Great Britain, Ireland, the Channel Islands, or the Isle of Man, during the period for which premiums are payable and before the assured has attained the age of 65 years, provided that notice of such accident is duly given, and the accident itself has not been occasioned by an unusually risky employment, nor by any fault of the assured himself.

**Endowment Assurances.** Endowment assurances issued at weekly premiums do not

differ in principle from those with which we are familiar in the case of ordinary life assurance. When such policies are issued on the lives of children under age 10 the same limitations to the sum which may be payable upon death prior to age 10 apply under the Industrial Assurance Act as in the case of whole life assurances. One or two of the offices issue a pure endowment, and in some cases the double endowment assurance is issued. Many of the offices have a scheme for old age endowment combined with life assurance from infancy, quoting premiums from birth to, say, age 15 next birthday at entry; and under this scheme the amount of the endowment is always greater than the amount of the life assurance benefit, being just slightly so for the older ages at entry, and possibly considerably more than twice the amount of the assurance benefit for the youngest age at entry.

**Joint Life Assurances.** Most of the industrial life offices issue whole life assurances upon joint life, in a manner similar to that applicable to ordinary life assurances, and some of them issue joint life endowment assurances. There are no special features peculiar to industrial joint life policies, and a reference to the Board of Trade Returns indicates that very little business is done upon joint lives.

**Monthly Premiums.** Almost invariably monthly premiums upon industrial life assurance policies are payable every fourth week, that is to say, by "month" is meant a lunar month. With but very few exceptions, in the case of monthly premium tables, varying premiums are quoted for a level sum assured. For example, it is very customary to quote the premium payable every four weeks to assure the sum of £50, but assurances for £25 or £100 are obtainable at strictly proportionate rates. The two principal forms of policy issued at monthly premiums are the whole life assurance and endowment assurance for terms of either 10, 15, 20, 25, or 30 years. In the main, far less complex schemes have been introduced in the monthly premium section than were at one time current under the weekly premium plan, but one or two of the offices have popularized special tables peculiar to themselves. For example, one office issues a policy on children under age 10 at a premium of 2s. payable every four weeks, all premiums paid being returned in the event of death before the policy has been 15 years in force. If the life assured survives

15 years, a net payment of £15 is made, and thereafter an endowment assurance payable at death or age 65 becomes effective, the premium remaining the same, and the amount of the assurance varying according to the age at entry. Many of the offices who have adopted the monthly premium plan issue policies for as small premiums as fourpence every four weeks, a policy which from the point of view of the policy-holder is not very different from one issued at a weekly premium of one penny, but which nevertheless gives a considerably higher return for the premium paid. More than one company has at some time or another introduced a scheme which is in effect a combination of a short term endowment assurance with the option to continue paying premiums at the end of the original term, thereby converting the policy into a longer term endowment assurance, or even into a whole life assurance, for a larger sum assured. The American company which is believed to have been the pioneer of this form of policy, and which has now definitely abandoned it, has given as its reason for doing so its experience that in almost every case when the policy has matured at the end of the original term the cash option has been selected. However, at least one office in this country continues to issue assurances on this plan.

It is interesting to notice that the Prudential Assurance Company, which has for long interested itself in popularizing endowment assurances in the industrial classes, has recently issued a table of endowment assurances payable in 20 or 25 years, at a premium of 10s., payable every fourth week. Actually a premium of one shilling or any multiple of one shilling will be accepted, but the interesting point is that the table is quoted in the form of benefits to be granted for a premium of 10s., indicating the determination of the company to obtain larger policies than are customary with the industrial classes. Evidently the intention under this table has been to give the greatest possible benefit from the outset, as the table is definitely excluded from receiving addition by way of bonus under any profit-sharing scheme which may be from time to time in force in the industrial branch of the company.

#### INDUSTRIAL POLICIES.

(See INDUSTRIAL ASSURANCE, HISTORY OF.)

#### INDUSTRIAL SERVICE BUREAU.

(See WELFARE SERVICES.)

#### INFANTILE PARALYSIS (Anterior Poliomyelitis).

A disease common in childhood characterized by the destruction of groups of nerve cells in the brain or spinal cord, followed by paralysis of groups of muscles and resulting in deformity.

The disease has little bearing on life assurance, unless the muscles of the trunk, i.e. thorax and abdomen, are affected. In such a case the proposer's general health and physique may seriously suffer. Such cases are, however, very rare, and each must be judged by a medical examiner on its own merits. Ordinary cases affecting one limb only may be accepted at ordinary rates.

#### INFANTILE WHOLE LIFE ASSURANCE.

(See INDUSTRIAL ASSURANCE : TYPES OF POLICY ISSUED.)

#### INFLAMMATION OF THE STOMACH.

(See GASTRITIS.)

#### INFLUENZA.

This common disease does not, as a rule, affect a life assurance proposal, but it may be followed, especially after repeated attacks, by complications, viz., bronchitis, pneumonia, endocarditis, and neuræsthenia. The effects of the disease, therefore, on longevity are those of its complications (*q.v.*). Repeated attacks do not give rise to immunity, and in individuals over 40 years of age a history of repeated attacks may call for a debt on the policy or an increased premium, or rejection if lung complications have occurred.

#### INSPECTOR.

(See BRANCH OFFICE SYSTEMS; COMMISSION.)

#### INSTALMENT POLICIES.

(See GUARANTEED INCOME POLICIES.)

#### INSTALMENT-PREMIUM LIFE POLICIES.

A comparatively recent innovation—for which a well-known non-profit office was primarily responsible—was the granting to new policy-holders of the privilege of paying their annual premiums in twelve equal instalments, which fall due each calendar month. This particular office makes no charge for the accommodation, the monthly instalment being an exact twelfth of the annual premium. Also, it fixed no minimum or maximum premium or sum assured, and extended the system to all the usual forms

of policy which it issues, i.e. life and endowment policies, educational policies, children's deferred endowments, option policies, double endowments, etc.

Although, as has been said, it fixed no minimum or maximum premium or sum assured, in actual practice the office issued a prospectus showing the exact equivalent a sum of £1 paid each calendar month would purchase on the basis of its being treated as a normal annual premium of £12 per annum. In other words, the policy-holder received an amount of cover for each £12, calculated *pro rata* to the usual annual premium rate for the policy required. The office allows fourteen days' grace for the payment of any monthly instalment due, and policies are issued without medical examination for sums not exceeding £2,500, where the present age of the proposer does not exceed 50 years. In the event of a policy becoming a claim by death any balance of the current year's premium outstanding is deductible from the sum payable.

The greatest novelty of the scheme, however, consisted in the method of payment, and in this respect differentiated it from the old and rather unpopular forms of monthly policies, the cost of collection under which naturally reduced the benefits obtainable. Payment under the new plan is effected by means of a banker's order for the monthly amount due. Thus the cost of collection is negligible, and the policy-holder meets his premiums when due by small periodic calls on his banking account, and is saved at the same time all the trouble of remembering when he ought to pay, and also incurs no cost of remittances and postages. Where the policy-holder does not happen to possess a banking account, however, the office supplies him with a special paying-in book containing twelve slips, and with these he can pay in his premium to the credit of the office at any bank in the Kingdom. When twelve monthly payments have been completed he receives a new paying-in book and a receipt for a full year's premium, which he can produce for income tax purposes.

The new system proved very popular, and has already been adopted by a large number of leading life offices. But whereas payment of premiums in nearly every case is by banker's order, their practice regarding the conditions of issue varies. A number of offices charge an extra for the accommodation, ranging from an addition of 2 per cent to 8 per cent on the normal annual premium, which, however, is then treated in some cases

as a "true" annual premium, no deduction being made from the full sum assured in the event of a claim arising. The majority of offices, however, fix the minimum monthly payment acceptable at £1, and several at £2, although one office accepts 5s. monthly and several 10s. monthly.

Some offices fix the minimum policy at £100 and others at £500, and in at least one case the maximum sum assured is £2,000. Another point about the conditions of issue of a number of offices is that in the event of default occurring in the payment of any monthly instalment, the balance of the year's premium outstanding becomes due and payable, and the contract then reverts to one payable by ordinary annual premiums. The new system, however, is a great boon to the insuring public, to whom it affords the opportunity of making more adequate provision without serious disturbance of their banking accounts.

#### INSTITUTE OF ACTUARIES.

The business of life assurance is now conducted on such solid and steady lines, there is available so much in the way of skilled experience and reliable textbooks to meet all kinds of difficulties, that it is easy to forget how slowly and laboriously the underlying processes have been evolved and developed. The lack of such assistance must have been felt severely during the earlier part of last century, when life assurance commenced to expand in earnest. An urgent need was felt by the leading insurance men of that day for reliable information of all kinds, and for opportunities to exchange notes and views with others similarly situated. In Scotland, this led, during the thirties, to the formation of an Association of Managers. Some fifteen years later, Mr. William Thomas Thomson, Manager of the Standard, suggested that a similar body would be advantageous in London. Accordingly, on the 15th April, 1848, a meeting of twenty-eight leading officials of life assurance companies was held, which resolved: "That it appears desirable that those connected with the management of life insurance institutions should have occasional opportunity of meeting together and consulting on subjects of mutual interest." A committee of ten, appointed to recommend means for giving effect to this, reported adversely to the establishment of a public society, but recommended that the managers of the London offices should hold occasional meetings in private. At the general meeting

which followed, however, a strong feeling was displayed in favour of a society which should include the younger men of the profession as well as the managers of offices; the report of the committee was received, but not approved, and, on the proposition of Mr. Peter Hardy, it was resolved: "This meeting considers it desirable to establish a scientific and practical association amongst the actuaries, secretaries, and managers of the life assurance societies of Great Britain." A committee of fifteen was appointed, and submitted a plan for the proposed society to a further general meeting, held on the 8th July, 1848. At this meeting, it was resolved "that an establishment be formed, to be designated the Institute of Actuaries of Great Britain and Ireland."

Among the objects of the Institute were specified—

The development and improvement of the mathematical theories upon which the practice of life insurance is based, and the collection and arrangement of data connected with the subjects of duration of life, health, and finance.

The improvement and diffusion of knowledge, and the establishment of correct principles relating to subjects involving monetary considerations and the doctrine of probability.

A nearer approximation to uniformity of practice, official and professional.

The settlement of points of professional and official usage, and protection generally to the members of the profession and the public.

The elevation of the attainments and status of the members of the profession.

It was further resolved to hold examinations, comprising mathematical theory, vital statistics, computation and construction of tables, and book-keeping and office routine. To this end, three examiners were to be elected annually, to determine the proficiency of candidates, and report to the Council.

The Institute was also to hold monthly meetings during the session, to read and discuss papers, and converse on topics of interest, theoretical and practical.

The first meeting of the Institute was held on 14th October, 1848, by which time 131 members had been enrolled, of whom 94 were fellows and 37 associates. At this meeting, Mr. John Finlaison, the Government actuary, was elected president, and so continued until his death in 1860.

Mr. Finlaison warmly approved of the objects of the Institute, and said that twenty

years previously he had seen the great necessity of such an institution, and had suggested a similar plan. Mr. Jellicoe, one of the vice-presidents, hoped that eventually the Institute would develop into a school, in which not only insurance but the cognate subjects of taxation, currency, finance, and political economy generally, should receive their full development, while another vice-president, Mr. Hardy, stated— "The Institute was not originated in any selfish feeling of professional vanity. Its founders took no council together how to narrow the access to our profession, or how to exclude other competitors than ourselves from a fair share of its honours and emoluments. It was originated with a far higher, a far nobler, motive, in the honest hope of educating the future actuary, of improving amongst ourselves our present theories, and of enlarging the bounds of that science on which the safety of so many million sterling depends, and in which the social happiness of so many thousand families is involved."

At a festive gathering during the year of the Great Exhibition of 1851, Mr. Maas, one of the corresponding members, remarked— "A few years ago men engaged in the same pursuits were envious of each other, and endeavoured to conceal all that could afford any improvement to their competitors. The English people, moved by a nobler spirit, did not fear to exhibit to all mankind the treasures of their industry, so that anyone might profit by their example, and take advantage in imitating them. The same feeling induced the Institute of Actuaries to convene the actuaries of all nations on the native ground of insurance, to participate in the discoveries of their science and the results of their experience." These excerpts show clearly the early atmosphere of the Institute. In spite of some opposition and difficulties, steady progress was made, although doubtless the defection of the Scottish members in 1856, and the formation of the Faculty of Actuaries in Scotland, was for a time a severe check. The original programme was and has ever since been realized, especially as regards the encouragement of the younger generation. Meetings were held, papers read and discussed, and a Journal published; examinations were arranged, and courses of instruction were organized, whereby the necessary knowledge could be acquired. The educational advantages offered now take the form of courses of lectures in the regular subjects, especially

those of a primary and elementary nature—although there is an evident tendency for the scope of such instruction to be amplified in the direction of including the more special and difficult branches of the curriculum. Then there are occasional series of lectures on particular subjects, while prizes are offered at intervals for essays involving some amount of research and original work.

A keen watch is kept over the course of mortality, more especially, of course, that of assured lives and annuitants. In the sixties there appeared the Twenty Offices Table—the  $H^m$ —applicable to assured lives, and, some thirty years later, the Combined Experience of Sixty Offices—the  $O^m$ , etc., dealing with a much larger body of facts on far more elaborate lines. At the same time, the mortality of annuitants was investigated. Subsequently the desirability was recognized of having, if possible, analyses at more frequent intervals, showing any changes in the rates of mortality, which, possibly by some sacrifice of minuteness, might be at least up to date. As a result, a further investigation into the mortality of annuitants has been published recently, and it is likely to be followed by one based on assured lives. Indeed, serious consideration was given to a proposition to form a permanent Bureau of Research, which might undertake such tasks, as well as others of value. The War, however, intervened, and the project was shelved, temporarily at any rate.

Owing, it would appear, to opposition by certain vested interests, it was not found possible to obtain a Charter of Incorporation until 1884. When at last secured, public recognition of actuarial work became more assured, and has been strengthened since by explicit requirement in Acts of Parliament of the possession of an actuarial diploma.

The educational work of the Institute is supplemented in a useful way by the Students' Society, which holds independent meetings and discusses problems of interest in connection mainly with the examinations, the proceedings being published in a separate Journal.

Actuarial training is of much utility in various activities connected with Government, apart from life assurance, and there has been on the whole an increasing tendency to co-operation between Government Departments and the Institute, which cannot but be advantageous. The association indicated is exemplified in mentioning that four of the twenty-seven presidents of the Insti-

tute have been Government officials. And the results have been made manifest in various ways—in connection with patriotic fund valuations, superannuation fund legislation, membership of committees of various kinds, apart from strictly business interests such as taxation and legislation.

The Institute, as pioneer of its kind, has served as a model in many countries, to say nothing of Scotland, where the Faculty of Actuaries, entirely independent in constitution, operates on lines so much in sympathy, and with a membership so largely interchanged, that all to be said of the Institute can justly be stated of it. France, Germany, Holland, the United States, Belgium, Italy, Switzerland and Austria all established somewhat similar organizations, although more recently a wider plan has been followed in some countries. As to this, it is not without interest to note that apparently the founders of the Institute of Actuaries contemplated the inclusion of the scientific treatment of other branches of insurance within the sphere of its activities—that while the life branch, the most advanced at that time, claimed primary attention, fire, marine and others would in due course receive consideration—and in fact some statistics outside life, such as fire, were published. The course of development of the Institute has, however, been intensive rather than extensive, devoted more to life assurance and its particular offshoots, and its scheme of education rather more mathematical than otherwise; while other branches of insurance have been left to newer associations, such as local institutes and their federation, the Chartered Insurance Institute. In some other countries something more on the lines of the Chartered Institute has been preferred, notably in Germany and Austria, followed by Russia, Japan, Scandinavia, Poland, and Czechoslovakia. So wide a spread of actuarial foci led naturally to a desire to link up their various activities, and a series of international congresses took place, the result of which was a pleasing interchange of courtesies and opinions and the publication of some excellent volumes of transactions. One useful piece of work was an agreement on an international system of actuarial notation, and a marked compliment was extended to the Institute by adopting its established method.

The Institute of Actuaries enjoys high prestige, both nationally and internationally, and as such esteem can only be due to the collective efforts of individual members, it

is clear how great a debt is due to the eminent men who founded and who have carried it on to the present day. Current numbers of the *Journal of the Institute of Actuaries* give a list of past presidents, and an inspection of these, with a reflection on the achievements of each will enforce sufficiently the above remark.

See Index. J.I.A., under Institute of Actuaries—Presidential Addresses, and especially T. B. Sprague, J.I.A., xxiv, page 1, etc.

Although the Faculty of Actuaries in Scotland was only incorporated in 1868, and the Institute of Actuaries not until 1884, the profession of actuary has been recognized by the legislature for over a century. For example, by an Act regulating benefit societies, passed in 1819, such institutions were prohibited from enrolment at quarter sessions unless they had the certificate of two actuaries or of two persons well skilled in calculations. Since then, such references have become increasingly prevalent.

(See ACTUARY and FACULTY OF ACTUARIES IN SCOTLAND.)

#### INSTITUTIONAL LIFE ASSURANCE ADVERTISING.

(See ADVERTISING LIFE ASSURANCE.)

#### INSURABLE INTEREST.

Insurance may be stated to be a contract either to indemnify against a loss which may arise upon the happening of some event, or to pay on the happening of some event a sum of money to the person assured. Theoretically, the term "assurance" is confined to life assurance, e.g. Assurance Companies Act, 1909, Sect. 1, and "insurance" to all other forms of insurance; but the distinction no longer exists in practice.

The Life Assurance Act 1774 (*q.v.*) requires that one of the ingredients of an insurance contract is the presence of an insurable interest. This interest must usually, but not necessarily, be of a pecuniary character, e.g. the interest in an event must be such that if the event happens the party will gain an advantage, if it is frustrated he will suffer a loss (*Wilson v. Jones*, 1867, L.R. 2 Ex. 150).

"Insurance is a contract on speculation," per Lord Mansfield in *Carter v. Boehm* (1765, 1 W.Bl. 593). In fact, there is no difference between a bet and a contract of assurance; in law, the former is deemed a wager, and therefore illegal by the Gaming Act; and the latter is legal, provided the assured has an insurable interest, i.e. he has some benefit

from the existence of the person or thing insured or will be prejudiced by its death or loss. Thus a person can have an insurable interest in the life of the sovereign in certain cases, e.g. where he has been granted a lease during the life of the sovereign.

A person has an insurable interest in his own life to an indefinite extent, because by insuring it he can protect his estate from the loss of his future gains or savings which might be the result of his premature death. An assurance by a man on his own life is not apparently within the mischief of the statute of 1774 (*Griffiths v. Fleming*, 1909, 1 K.B. at page 821).

A wife has an insurable interest in the life of her husband and a husband has an insurable interest in the life of his wife, "the personal interest founded on affection and mutual assistance" apparently because the words "person or persons" in Sect. 1 of the Act of 1774 do not include the husband or wife of the assured.

A parent has no insurable interest in the life of his child *qua* child (*Halford v. Kymer*, 1830, 10 B. & C. 724); a child has no insurable interest in the life of his parent *qua* parent (*Howard v. Refuge Friendly Society*, 1886, 54 L.T. 644); nor have sisters any insurable interest in each other's lives *qua* sisters (*Evanson v. Crooks*, 1911, 106 L.T. 264).

Mere natural love and affection are not sufficient *per se* to constitute insurable interest; nor will merely moral obligation, as distinguished from a legal obligation, constitute an insurable interest, e.g. cost of tombstone.

A contract of employment at a salary for a term of years gives the employed an insurable interest in the employer's life during the unexpired portion of the term (*Hebden v. West*, 1863, 3 B. & S. 579); and usually the interest will not amount to an insurable interest unless it be one capable of being enforced under a binding contract or a legal liability, and a mere engagement binding in honour is not enough (*Stockdale v. Dunlop*, 1840, 6 M. & W. at page 233).

The insurable interest need only exist at the date of the policy, and the assignee of a valid policy need not have an interest (*Ashley v. Ashley*, 1829, 3 Sim. 149).

A person who effects a policy on the life of another in which he has no insurable interest cannot, as a rule, repudiate the policy and recover back the premiums paid (*Harse v. Pearl Life Co.*, 1904, 1 K.B. 563); but he may do so if he was induced by the

fraud of the assurers to believe he was effecting a valid and legal policy (*Hughes v. Liverpool Victoria Society*, 1916, 2 K.B. 482).

It is not uncommon to admit the presence of insurable interest in the policy after the assurance office has satisfied itself of all material facts before issuing a policy. In such circumstances, in the absence of fraud, the assurance company raises no question when the time of payment arrives. Whether this admission, in the absence of an insurable interest, would prevent the assurers from showing that in fact there was none, is not free from doubt, since evidence of insurable interest is not a question of contract, but is required not only by public policy but by statute. The Act requires that an interest must exist at the time the policy is effected.

In *Cowell v. Yorkshire Provident Life Assurance Co.* (1901, 17 T.L.R. 452), a policy on the life of a third person contained a recital that the proposer alleged that he was interested in the life of the assured "of which allegation satisfactory proof has to be furnished to the directors." It was held that proof of insurable interest was not a condition precedent to the company's liability.

A life assurance policy provided, *inter alia*, "This policy, except as provided herein, will be indisputable from any cause (except fraud) after it shall have been continuously in force for two years." The applicant made a *bona fide* mis-statement in the application form which was signed by her. The policy had been continuously in force for more than two years before the death of the assured. It was held that there being no fraud and the policy having been continuously in force for two years, the policy was indisputable, and that the words in the condition, "except as provided herein," meant except as provided in the conditions in the policy (*Anstey v. British Natural Life Association*, 1908, 99 L.T. 765).

A creditor has an insurable interest in the life of his debtor to the amount of his debt, as the chance of obtaining payment is presumed to be diminished by the death of the debtor, and it is immaterial whether the creditor has other security or not, but a debtor has no such interest in the life of his creditor, although the latter has promised not to enforce the debt in his own life time (*Hebden v. West*, ante.)

Payment to a creditor by an assurance company of the amount of a policy on the life of the debtor, is not *pro tanto* a satisfaction of the debt of the latter (*Humphrey*

*v. Arabin*, L1. & G. 318). In *Brandon v. Nesbitt* (1794, 6 Term Rep. 23) it was held that the fact of the parties interested in the assurance having become alien enemies before the loss happened was a defence to an action brought in the name of the British agent who effected the assurance. The life of an alien enemy cannot be assured by his creditor, even though the latter may be a British subject (*Flindt v. Waters* (1812), 15 East 260).

A surety has also an insurable interest in the life of his principal (*Lea v. Hinton*, 1854, 5 De G.M. & G. 823).

Apparently a debt contracted during the minority of the borrower is sufficient to create an insurable interest in the life of the infant, as the plea of infancy cannot be made by third persons; but a debt for money illegally won at play will not support the policy.

(See LIFE ASSURANCE ACT, 1774.)

## INSURANCE.

In law, an insurance contract is defined as being that in which a sum of money as a premium is paid in consideration of the insurers incurring the risk of paying a larger sum upon a given contingency, while the contract of life assurance is further defined as that in which one party agrees to pay a given sum upon the happening of a particular event contingent upon the duration of human life, in consideration of the immediate payment of a smaller sum or certain equivalent payments by another.

Blake Odgers (*Common Law of England*) offers an alternative—"A contract by which the insurer for valuable consideration undertakes to pay to the person for whose benefit the insurance is made a certain sum of money on the death of the person insured or an annuity on his attaining a certain age."

As regards the definition of insurance generally, *Murray's Dictionary*, in addition to defining some other uses of the word, states that insurance is "an act or system of insuring property, life, etc.; a contract by which the one party (usually a company or corporation) undertakes in consideration of a payment (called a premium) proportioned to the nature of the risk contemplated, to secure the other against pecuniary loss, by payment of a sum of money in the event of destruction or damage to property (as by disaster at sea, fire, or other accident) or of the death or disablement of a person."

Attempts have been made, mainly abroad, to cope with the definition from the economic

point of view. Thus at the International Actuarial Congress held at Berlin in 1906, the German President introduced a definition in this sense, proposed by Professor Manes in his work on insurance (*Versicherungswesen*), developed from an earlier one by the Italian Professor Gobbi (*L'assicurazioni in generali*, Milan, 1898). The English equivalent was given as follows: "By insurance we understand an economic institution resting on the principle of mutuality, established for the purpose of supplying a fund, the need for which arises from a chance occurrence whose probability can be estimated."

#### INSURANCE AGENT, DEFINITION OF.

(See CORPORATION OF INSURANCE AGENTS.)

#### INSURANCE BROKER, FUNCTIONS OF.

The insurance broker is employed by the insured to place insurance for him, and briefly the broker's function is to discover what insurance his client needs, to persuade the client to take such insurance, and to place it on the best conditions in the cheapest market commensurate with security.

An insurance broker must thus be free to place his business in any market which may best serve his client's interests, and he should not, therefore, be tied to any particular insurance company.

The insurance broker's functions are decided by custom, except in marine insurance, where certain of his duties are set out in the Marine Insurance Act, 1906. In other branches the common law requires that a broker must use due care, skill, and diligence in dealing with insurances entrusted to him by his client. There is at present no fixed standard of skill for insurance brokers, but custom requires that a broker should have a good knowledge of those classes of insurance with which he deals and with the customs connected with them, and should be well acquainted with the standing and reputation of insurance companies and underwriters carrying on those classes of business, and with the particular insurance contracts which they are prepared to underwrite.

An insurance broker must obtain insurance precisely in accordance with the instructions of his client, and if for any reason he is unable to do so, he must at once advise his client. He should also draw his client's attention to any unusual restrictive conditions, and to any customs affecting the contract with which he needs to be acquainted.

In life assurance, probably the most important service the broker can render his client is to persuade him to insure at all, but the broker also has a useful function in advising which company issues the policy most suitable for the circumstances of his client, and provides the most favourable cover at the lowest rate. Even among first class companies there is considerable variation in rates and conditions. Some companies are better for some ages and classes, and some for others, while some companies issue special policies for risks which are not generally undertaken. The bonus prospects of the companies must also be considered, as well as the different kinds of bonus paid, and it requires considerable skill and knowledge to weigh the rates of premium against the probabilities of bonus returns.

The insurance contract, or policy, obtained by the broker for his client must be fair to his client, but it must also be fair and reasonable to the underwriter, because the broker must not only consider the rate of premium, but also the liberality with which claims will be met.

In other classes of insurance the assistance of a broker in regard to the settlement of claims is an important part of his duties, but in life assurance the question of claims is a fairly simple one, for the risk is a definite one, and the amount of claim is either fixed or definable according to a definite plan. Circumstances arise, however, in which it is necessary either to reduce or discontinue the premium payment, and here the judgment of the broker in placing the insurance is tested by the merit of the settlement which it is possible to make, and his advice to the assured is required as to the various ways which are open to him of dealing with the policy to his best advantage.

The broker has a duty to the underwriter to disclose to him everything connected with the risk which would affect the judgment of a prudent underwriter, but this is no less a duty to the insured, for if full disclosure is not made the policy may be voidable, utmost good faith being one of the bases of insurance.

Security, though important in all classes of insurance, is essential in life assurance, for the reason that a contract usually extends over many years, and one of the principal services to be rendered by the broker is the recommendation of a sound company.

An insurance broker is not ordinarily liable to his client for the stability of an

insurance company, unless he has guaranteed its solvency, but if owing to the unwillingness of a client to pay the requisite rate to ensure stability it is necessary to place the business with a company of doubtful security, it is the duty of the broker to make the position clear to his client. This may conceivably occur in regard to short term policies, but in ordinary life assurance, apart from the question of legal liability, the broker would certainly seem to be under a moral obligation to place the business only with a company of high financial stability.

#### INSURANCE COMPANIES ABROAD.

(See under AUSTRIA, BELGIUM, CZECHOSLOVAKIA, DANZIG FREE STATE, DENMARK, ESTHONIA, FINLAND, FRANCE, GERMANY, HOLLAND, ITALY, JUGO-SLAVIA, LATVIA, LITHUANIA, LUXEMBURG, NORWAY, POLAND, PORTUGAL, RUMANIA, SPAIN, SWEDEN, SWITZERLAND, TURKEY.)

#### INSURANCE CONTRACT.

(See CONTRACT, PARTIES TO.)

#### INSURANCE GUILDS.

(See GUILD OF INSURANCE OFFICIALS.)

#### INSURANCE PARLIAMENTARY ASSOCIATION, LTD.

**Aims and Objects.** The principal objects as set out in the Memorandum of Association are—

- (a) To secure the establishment of such an agency system in connection with insurance of every description as shall be mutually advantageous to the general public, the insurance offices, and the agents.
- (b) To secure the proper representation in Parliament of all insurance interests.
- (c) To promote, support, or oppose legislation or other measures affecting insurance interests, and to assist in any legitimate manner the carrying into effect of any legislation having for its object the promotion and safeguarding of such interests.
- (d) To effectively organize and to improve the position of persons carrying on business as agents or dealing with insurance business of every description.
- (e) To secure the establishment of statutory or Government licensing or registration of all persons acting as agents in relation to insurance of every description or other legislation to provide for the proper regulation of insurance agency and its remuneration.
- (f) To promote personal and friendly intercourse between members of the Association and between members of this and all other associations formed to safeguard public, professional, or commercial interests; to hold conferences and meetings for the discussion of insurance and cognate subjects, the reading of papers, and the delivery of lectures.
- (g) To collect and publish information relating to

insurance business, to existing systems of registration, and any other information which may be of assistance to Government departments or to the Association.

(h) To publish journals and any other matter deemed desirable in the interests of the Association.

(i) To form libraries for the use of members of the Association.

(j) To offer money or other prizes for essays or research dealing with any subject bearing on insurance, and to establish scholarships, or exhibitions, in connection with the subjects of approved examinations. . . .

Among the remaining objects, which include the usual provision for support of or subscription to any charitable institute, etc., is amalgamation or affiliation, etc., with any association with objects in general respects similar. There is a proviso that the Association shall not support with its funds, or endeavour to impose on, or procure to be observed by its members or others, any regulation, restriction, or condition which, if an object of the Association, would make it a trade union.

Membership is open to all persons supporting the objects of the Association, excepting any person whose agency is confined to, or mainly consists of, his own insurances, or of the insurances of the firm or person by whom he is employed.

It will be noted that the basis of the Association is very wide, and although it was promoted, and is principally supported, by insurance brokers and agents, there is no desire to narrow its scope to their interests only, although, necessarily, their point of view takes first place. As an example of work done in the general interest of the insurance business may be instanced the successful attempt at the time of the General Election of 1924 to induce all the political parties to exclude Workmen's Compensation from the National All-in Insurance Scheme.

The project to which the Association's attention has been chiefly directed has been legislation to prevent the appointment of the insured as "agent" merely to enable him to receive a reduction of premium under the guise of commission, and to provide for the registration of insurance brokers and agents. A Bill with this object, promoted by the Association was read for the first time in the House of Commons in July, 1926. Since that time, however, the Association has concentrated on the endeavour to secure the same end by co-operation rather than legislation.

Another matter to which considerable attention is paid is the organization of opposition to attempts from various quarters

to bring about the nationalization of certain classes of insurance.

The offices of the Association are at 3 St. Helen's Place, London, E.C.3.

### INSURANCE UNEMPLOYMENT BOARD.

(See GUILD OF INSURANCE OFFICIALS.)

### INTEREST.

(See PRINCIPLES OF LIFE ASSURANCE; also COMPOUND INTEREST.)

### INTEREST DUE BOOK.

(See ACCOUNTANCY DEPARTMENT.)

### INTEREST ON STOCK EXCHANGE SECURITIES.

(See ACCOUNTANCY DEPARTMENT.)

### INTEREST RATE IN VALUATIONS.

(See PRINCIPLES OF LIFE ASSURANCE.)

### INTEREST REGISTER.

(See BRANCH OFFICE SYSTEMS.)

### INTEREST TABLES.

All computations involving compound interest are much facilitated by the use of prepared tables. Of these, a considerable variety is available. It is necessary to understand how to use these, desirable to be able to utilize them for calculations exceeding the limits tabulated, and advantageous to be able to prepare such tables.

The functions usually tabulated are  $(1+i)^n$ ,  $v^n$ ,  $s_{\overline{n}|}$ , and  $a_{\overline{n}|}$ ; all for integral values of  $n$  up to 50 or 100, and for rates of interest generally between 3 and 5 per cent, but occasionally extended from 1 per cent up to 10 per cent.

$(1+i)^n$  = the amount of 1 paid now, accumulated to the end of  $n$  years.

$v^n$  = the present value of 1 payable at the end of  $n$  years.

$s_{\overline{n}|}$  = the amount of 1 per annum, due at the end of each year, accumulated to the end of  $n$  years.

$a_{\overline{n}|}$  = the present value of 1 per annum, due at the end of each year for  $n$  years.

For terms beyond those tabulated, say,  $m+n$  years, the following methods apply—

$$(1+i)^{m+n} = (1+i)^m \times (1+i)^n.$$

$$v^{m+n} = v^m \times v^n.$$

$$s_{\overline{m+n}|} = s_{\overline{m}|} + (1+i)^m \times s_{\overline{n}|}.$$

$$a_{\overline{m+n}|} = a_{\overline{m}|} + v^m \times a_{\overline{n}|}.$$

Many books of such tables are published; a very useful one at a moderate price is

*Compound Interest Annuity and Sinking Fund Tables*, by J. A. Archer, F.I.A., London, Shaw & Sons. There are 49 different rates of interest ranging from 1 to 8 per cent, progressing by differences of  $\frac{1}{16}$  from 1 to 2 per cent for periods of 1 to 200 years; by differences of  $\frac{1}{4}$  from 2 to 4 per cent for periods of from 1 to 100 years; and by differences of  $\frac{1}{4}$  from 4 to 8 per cent for periods of from 1 to 50 years. The amount of 1 and the present value of 1 are tabulated to 10 places of decimals, and the remaining fractions to 8 places.

### INTERIM BONUS.

(See BONUS, page 99; also ALLOTMENT OF BONUS.)

### INTESTINAL OBSTRUCTION.

The obstruction of part of the bowel usually by some mechanical means, i.e. due to fibrous bands following peritonitis; growth of the bowel; twisting of the bowel (volvulus); in infants, and rarely in adults, intussusception; or hernia.

No patient suffering from intestinal obstruction is likely to apply for life assurance. Such must, of course, be declined. A proposer may have had an attack of obstruction in the past, and in such cases full medical references must be obtained from the doctor who attended the patient, and from the surgeon who operated, if an operation was performed. These must be submitted to the company's medical officer for consideration at the time of the medical examination, which is essential in all such cases.

The only exception is in the case of an adult who was operated on in infancy for intussusception, and has had no subsequent weakness of the scar. Such a case may be accepted at ordinary rates. Other cases have to be considered entirely on their merits. Many cases have to be declined, but each case can only be decided by the chief medical officer after the results of a full medical history and examination are available.

### INVESTED FUNDS.

(See CLOSED FUNDS.)

### INVESTIGATION OF TITLE.

(See TITLE, INVESTIGATION OF.)

### INVESTMENT DEPARTMENT.

The investment department of a life office of moderate dimensions is usually

supervised by the chief official. Under his direction it is responsible for carrying out the detail work involved in placing on the office books investments of all classes (with the exception of advances on a company's own policies), in maintaining the machinery necessary for safeguarding them while in its possession, and for their realization when desirable.

In considering these functions it is convenient to classify the assets of an office under the following heads, and deal with them in that order—

1. Mortgages, loans.
2. Ground rents, properties, reversions, etc.
3. Stock Exchange securities of all descriptions.
4. Balances not permanently invested.

**1. Mortgages, Loans.** Applications for mortgages and loans are received mainly through offices' connections, either direct from a borrower or through intermediaries, such as solicitors, surveyors, and estate agents, etc. Applications made either in writing or personally are examined carefully, and those that do not conform to the current investment policy pursued by the office are eliminated.

Suitable propositions are then placed before the Board of Directors for consideration, and if it is decided that an application might be entertained a communication to that effect is then sent to the borrower or his agent. The letter should be so worded as not to bind the office to make the required advance or any part of it; it should merely recite the terms on which the application would receive further consideration, such as the rate of interest; provision that must be made for repayment where circumstances make it desirable (e.g. where the property is leasehold, or in the case of a loan to a local authority); satisfactory proof of title; and the recommendation of a surveyor selected by the company at the borrower's expense. This latter is unnecessary, of course, in the case of loans to local authorities, where it is only necessary for the office to satisfy itself that the statutory power to borrow has been obtained.

The next step is to instruct the surveyor to make his survey, subject to the borrower having accepted the company's terms in the meantime, and in doing so his attention must be drawn to any special characteristics of the security. The report, when received, is submitted to the directors, and they

determine whether they are prepared to make the advance on the original terms or whether these must be modified. The final terms having been agreed, the papers are then transmitted to the office solicitors, who investigate the title and ultimately make arrangements for completion, the office being advised in what form the money will be required—usually a banker's draft.

**2. Ground Rents, Properties, Reversions, etc.** The procedure is very similar in the case of purchases of ground rents and properties, the terms of the letter of acceptance of an offer being drawn so that pending final agreement the office is free to withdraw from the transaction.

Where it is the practice to place the management of properties, leasehold and freehold, in the hands of agents for supervision and collection of rents, particulars must be drawn up and sent to them with their instructions. More frequently the management of properties is left in the hands of a sub-department under the supervision of the company's accountant.

Requests for advances or offers for sale of reversionary interests are transmitted to the actuarial department in the first instance, and upon its report as to value is decided the question as to whether a particular application is one to recommend to the board of directors. In suitable cases the procedure already outlined is followed where applicable.

After completion of such transactions as the foregoing, the papers in each case are brought together, including a digest of the final terms and conditions. For convenience of reference, short particulars are entered in an appropriately ruled book, and provision made for the entry therein of any notices of charge or dealings with the property, or any changes made in the terms and conditions of the security during its currency.

An up-to-date filing system is necessary, from which the papers can readily be extracted and any further correspondence placed therewith. It can easily be seen that a complete history of a security can be preserved in this manner in one container, and its advantages are therefore obvious. It is suggested that an alphabetical index should be kept in sections for the various groups, properties and ground rents being filed under the names of the properties and mortgages, and loans under the names of the borrowers.

A few offices—very few—make advances

upon personal security, i.e. loans to a borrower without specific security other than a policy on his life taken out at the time of the advance, coupled with the guarantee of one or more approved guarantors. The procedure in this case is simple, the borrower and his guarantors merely executing a short form of deed, but it is imperative that the office should ascertain from time to time the whereabouts of the guarantors, and make discreet inquiries as to whether the guarantee is still considered a good one, as such guarantees may have to be enforced in the event of a default by the borrower.

With a view to safeguarding the capital involved in transactions in Class 1, it is necessary that investigations be made periodically, say at the end of each quinquennium in the case of offices valuing every five years, or at some other convenient period, to see that advances remain well secured. The department then calls for accounts, schedules of lettings, or any other evidence available.

**3. Stock Exchange Securities of all Descriptions.** Perhaps the more important work of the department, or at all events that which gives rise to most of its activity, concerns Class 3, comprising all Stock Exchange securities, whether they are officially quoted in the London Daily Stock Exchange List or not.

Once it has been decided to purchase or sell a particular security, the broker or dealer is usually advised by telephone, and the bargain confirmed in writing. If executed, a contract note is received in the department, and this must be carefully checked and arrangements made for payment or delivery of securities sold on the agreed date. This takes place in London

Here it may be stated in passing that in consideration of the maintenance of an agreed balance a bank undertakes, in addition to holding securities for customers, the work of transmitting coupons for collection, thus relieving the office of a considerable amount of detail work in the cutting off, listing and presentation of such coupons. The proceeds so collected are credited to the company's account, and the investment department is subsequently advised through the accountancy department in the case of non-collection, so that any necessary action may be taken thereon.

When examining bearer bonds it is important to see (i) that they are stamped with the proper duty where any duty is payable, and (ii) that the coupon for the next payment of interest is attached, as it sometimes happens, if bonds are purchased or sold near an interest date, that the coupons have already been detached in readiness for presentation for payment, and must be re-affixed to constitute good delivery. Terminable bond issues are not infrequently repayable by drawings if the market price is above par, or by purchase in the market if the price, allowing for expenses and accrued interest, is below par.

A list of the numbers of the bonds held must, therefore, be carefully prepared and examined periodically against the published lists of bonds drawn. The amount drawn, if any, is then noted in order that it may be seen to have been duly collected.

It is convenient to keep two sets of books. The first should be in the form of a Journal for the entry of details from contracts for purchase, or sale, and repayments in part or whole of terminable securities, thus—

Name of security.	Gross payment (or receipt).	Interest accrued.	Net payment (or receipt).	Annual income.
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by cheque, as a rule, but it is by no means unusual for a purchase or sale to be made abroad, and for payment to be made in the country of origin. This necessarily involves securing exchange and attending to incidental cable messages.

In London transactions the securities are either received in the office or accepted on its behalf by the society's bankers. In the first case they are examined carefully, and eventually handed to bankers for safe custody.

Further particulars could be entered, but the above are the most essential. It is thus possible to present a complete record of transactions for each year of operations. In addition, it serves as a valuable check for the accountancy department, and sets out the sum, if any, to be provided for accrued interest in the ledger entries.

Secondly, a record book should be kept, containing, for example—

(a) Name of security.

(b) Method of repayment, if any, with date or dates.

(c) Date and terms of purchase.

(d) Nominal holding and cost per cent.

(e) Ledger value.

(f) Book price.

(g) Yield.

(h) Interest dates.

(i) Particulars of certificate or bonds.

(j) Data and terms of sale.

This forms a permanent record, easy of access, and invaluable for reference. The book outlined above should be constructed on the loose leaf principle, and all sheets relating to holdings sold or repaid transferred to a spare binder in alphabetical order. An alphabetical filing system should be maintained for the preservation of contract notes, reports, and other papers which accumulate during the currency of such investments. The order in which the sheets in the "like" part of this record can be arranged is a matter of individual convenience, but it has been found that a grouping system corresponding to the order in the balance sheet is a very convenient one in practice, and closely follows the grouping in the Stock Exchange Daily Official List. Its advantages will be appreciated on reference to the remarks on valuations hereafter. A record should be maintained in chronological order of all maturing obligations, with the nominal amount of the security. Thus it is easy to see at a glance the total amount receivable in any one year, an essential point when the time comes for their replacement.

It is very important that careful watch be kept over price variations, as these largely influence decisions to sell. To this end it is not unusual to employ a card system, in which a card is kept for each holding, and the price at certain intervals is marked thereon, either in figures or by the graph method.

Equally necessary is the perusal of suitable financial papers and the financial columns of the daily press, in order that any published information relating to the company's holdings may be noted and extracted for filing.

Complete valuations are made periodically, when it can be ascertained to what extent the securities held are individually or collectively in excess of or less than book values. Most offices do not disturb capital values, except at their statutory valuations, so that intermediate security valuation is useful mainly as showing the general

position in the meantime. The procedure is as follows—

Details of each security are entered on sheets grouped under the headings on which the balance sheet is prepared. They include the nominal amount held, and the sum at which it is standing in the office books and its book price. Against this is entered the market price and the value on this basis. Where the price includes a certain amount of accrued interest, the latter should be shown, and the net value entered in the final column. The position of a security at a given date can then be seen at a glance, and any necessary adjustments of value determined upon by the management made, the accountancy department making use of the sheets for this purpose, and in addition, the total amount of accrued interest to be taken credit for in the balance sheet or this class of the company's assets is shown.

Valuations can be compiled by reference to the Stock Exchange Official Lists for the prices of quoted securities, and to well-informed brokers and dealers for such as are not quoted therein.

**4. Balances not Permanently Invested.** An office will, on occasions, have more funds in hand at the bank than its immediate investment commitments can absorb. On such occasions surplus money will be transferred to a Deposit Account at the bank or loaned to a discount house at call or short notice. The discount house generally deposits security with the lender, such as Treasury bills, short dated high class bearer bonds, or approved bills of exchange, and the detail work involved in handling the cheques and securities falls to the department as well as arranging the terms of such loans and their continuation or withdrawal.

## INVESTMENT IN LIFE ASSURANCE COMPANIES.

(See LIFE ASSURANCE COMPANIES' SHARES AS INVESTMENTS.)

## INVESTMENT POLICY.

(See INVESTMENTS OF LIFE OFFICES.)

## INVESTMENTS, LIFE ASSURANCE COMPANIES' SHARES AS.

(See LIFE ASSURANCE COMPANIES' SHARES AS INVESTMENTS.)

## INVESTMENTS OF LIFE OFFICES.

There are two basic conditions which characterize the business of life assurance.

The first is that a life assurance office enters into contracts which, on the average, persist for many years, in return for a consideration by way of premium which is fixed at the outset of each contract. The second condition is that the premiums received under these contracts are calculated upon a basis which assumes that the office will be able to invest the funds accumulated out of the premiums, at a definite minimum net rate of interest. Ignoring variations from the assumed rates of mortality and expense, the remaining factors upon which premiums are based, it is a condition of solvency, therefore, that the office shall earn interest upon its funds at not less than the anticipated rate after deducting taxes and all sums written off by way of depreciation.

It is common knowledge that life offices generally issue two types of policy. One, the non-profit policy, is a contract providing guaranteed benefits at a premium calculated at the lowest figure which the office feels able to accept after estimating the probable future course of the underlying factors, with, of course, a margin for possible adverse fluctuations. Under the other type of policy, a higher rate of premium is charged in consideration of a right to share in the profits of the business, ascertained by actuarial valuations at intervals of five years, or sometimes one year. This profit is derived from the three factors already mentioned, but surplus interest is by far the largest contributor. Surplus is ascertained and distributed between policy-holders upon a cash basis, but in this country is generally converted into reversionary additions to the sum assured. The result is that the bulk remains in the hands of the company for the outstanding duration of the policy, and forms, therefore, an addition to the necessary actuarial reserve, after allotment to the policy-holders.

It is possible to visualize a life assurance office which commences business, issues a large number of insurance contracts within a short space of time, and then ceases to transact new business. Under such circumstances, the life assurance fund would grow for a certain period and then, having reached a maximum, commence to decline when the payments under maturing contracts exceed the annual influx of premiums and interest earnings. The investment policy of such an institution would present special problems which need not receive consideration here, since the conditions under which the average progressive office operates are different. It is necessary only to examine the position of

an institution obtaining a constant flow of new business sufficient, at least, to replace wastage. A continuously growing fund will, under these conditions, provide new money for investment, year by year, and the possibility of the need to realize assets to meet liabilities may be ignored.

It is desirable, at this point, to interpolate a few remarks upon "valuation" rates of interest and their relation to the rates assumed in the calculation of premiums. Life assurance offices make periodical valuations of their liabilities under assurance contracts; indeed, such valuations are a statutory requirement, and it is the practice of mature and well-established companies to use for this purpose a rate of interest considerably lower than that used in the calculation of premiums. The most common valuation rate of interest used by British companies is 3 per cent per annum, and it is sometimes thought that all interest earned in excess of this rate is profit. This is not so; the true measure of profit is the difference between the earned rate and that employed in calculation of premiums. The result of a 3 per cent valuation is to hold back from distribution as bonus a proportion of the funds, and it is, in fact, merely an empirical method of arriving at such reserves as will provide a fixed scale of bonus if the profit-earning power remains constant. The equities between old and new policy-holders may thus be roughly preserved during long periods of financial stability, but it is otherwise, at such times, for example, as followed the close of the European War. The depreciation of assets consequent upon revaluation at a higher rate of interest then reduced surpluses to vanishing point in many cases, since the valuation rates of interest of the insurance liabilities, in general, remained unchanged.

The effect of writing down securities to a higher interest basis, without a corresponding change in the value of the liabilities, is to alter the distribution of profits, by capitalizing part of the profits actually earned and reserving them for future distribution. Similarly, if appreciation of capital values, consequent upon a fall in market rates of interest, is brought into account without a corresponding increase in the reserves, and then divided as profit, the future profit-earning power of the office is reduced. Briefly, the future is penalized for the advantage of the present.

In seeking for general principles underlying the investment of life assurance funds, one

meets at once the oft-quoted law "that the highest practicable rate of interest be obtained, but that this principle should be subordinated to the security of capital." It may be observed that this is merely a statement of obvious fact and does not apply exclusively to life assurance companies, since no investor looks for anything else. Broadly speaking, the interest return on an investment varies inversely as the safety thereof, and the real principle involved is to obtain the highest rate of interest consistent with the degree of safety considered suitable to the object to be attained, and secondly, to guard against the effect of adverse fluctuations of financial conditions in the future and to take full advantage of favourable fluctuations. The difficulty is to fix the desirable limit of risk and to determine the commensurate return.

The management of finance is the predominant factor in the success of a life assurance office. It is evident, therefore, that a special responsibility lies upon the directorate of such an institution closely to supervise the trained and experienced staff, to whom they delegate the execution of their financial policy. This requirement has particular force in this country, where legislative control is at a minimum, the insuring public relying for their protection upon a measure of publicity imposed by statute, combined with a long-standing tradition of financial integrity. Nor is it usual for the constitution of companies to impose any restrictions upon investment policy. This degree of freedom is not always present in other countries; for example, investments in common stocks are prohibited to life assurance companies domiciled in the United States.

There are, however, in this country statutory limitations upon the powers of investment of trustees of private funds, which confine them to certain types of investment. A special demand for such securities is thus created, and the effect is to reduce the yield in relation to that which can be obtained from other securities of similar class. Insurance companies, therefore, avoid trustee securities for a large proportion of their investments, although the overwhelming weight of the outstanding British Government securities is naturally reflected in their balance sheets. A portion of such investments which can be readily realized is desirable too, notwithstanding that this property is unlikely to be brought into play.

The income-earning assets of life assurance companies may be broadly divided into two

groups. One, typified by mortgages, consists of obligations to repay a fixed sum of money upon demand, subject to short notice, with annual interest at a fixed rate in the meantime. There is a corresponding right, vested in the borrower, to repay the lender at any time upon similar notice. Mortgages do, in fact, sometimes contain covenants that the loan shall not be repaid for a fixed period, but such a provision is inserted for the convenience of one party or the other, and is not of the essence of their nature. Provided the security for the mortgage does not depreciate to an extent sufficient to jeopardize repayment of the debt in full, upon a forced realization, a life insurance company is under no obligation to write down the capital value of mortgages if market rates of interest rise, but it can, on the other hand, call in the loan at the currency value and seek new investments at the higher prevailing rates. Alternatively, when the converse situation arises and market rates of interest fall, lenders are in a position to repay and obtain fresh accommodation on more favourable terms. In practice, of course, the mortgages remain undisturbed and rates of interest are varied by mutual arrangement.

The other group consists of convertible securities, the capital value of which can only be realized by sale in the open market if the security be irredeemable or if the holder desires repayment of his capital at a date other than that fixed by the terms of the particular security. Such securities may be in the form of bonds, debentures, and preference shares bearing a fixed rate of interest and redeemable on a fixed date, or series of dates. Alternatively, there may be no provision for redemption when such investments represent a perpetual annuity of the amount of the interest. The remaining form of convertible security is the ordinary share, the income from which is variable and depends upon the fortunes of the industrial unit, partial ownership in which it represents. Certain financial changes of conditions have fundamentally opposed effects, upon prior charge and ordinary share, and it will be necessary at a later stage to give a little consideration to the question whether a life assurance company should seek to profit by a policy which involves the investment of substantial sums in ordinary stocks and shares.

In comparing the properties of irredeemable and redeemable securities as investments for life assurance offices, the question now arises as to the respective conditions which

are favourable to each class. When currency values are falling and interest rates consequently rising, securities redeemable within a short period at a fixed money value will be least affected by current conditions. The reason is, clearly, that the nearer the redemption date, the more closely the market price will be tied to the redemption value. Irredeemable securities, on the contrary, will show the maximum fluctuation consequent upon a change in the market rate of interest, since the market value is that of a perpetuity of the income, and there is no redemption at a fixed currency value to act as a sheet anchor to fluctuation. With regard to long-dated redeemable securities, the longer the term the more the security assumes the properties of an irredeemable stock, and when the redemption date is distant, sixty years or so, it may be calculated that the redemption value has a negligible effect upon present market values.

Conversely, the longer-dated and irredeemable securities rise more readily in a period of appreciating values. The tendency is, therefore, to take the opportunity to fix the interest yield on new investments at the higher current rates by investment in long-dated securities during a period of falling interest rates, and when interest rates are rising, to seek the fixation of capital values by investment in securities shortly repayable. On repayment, new investments will be made at the higher interest rates likely to prevail.

The foregoing remarks have applied, in the main, to fluctuations in market value arising from alterations in the general trend of interest rates. It must not be forgotten, however, that the intrinsic value of a security may change. This change may arise from adverse trading results in the case of industrial securities, such as occurred in the heavy industries of this country when the post-war slump set in. Another cause may be revolution where government securities are concerned, while an example of a third type may be found in the Canadian Grand Trunk Railway. Here, legislative action reduced to zero the value of certain stock issues and elevated the remainder to the status of government obligations. Where there is a change in intrinsic value, such change, if a loss, must certainly be brought into account by a revaluation of the security and it may, in some cases, be accompanied by a variation of the income.

It has been assumed, so far, that an insurance company can invest a sum of

money in an irredeemable fixed-interest bearing security and obtain thereby a perpetuity of the annual interest, so that as a condition of solvency it is only concerned with seeing that the yield thus obtained is sufficient to justify the basis upon which premiums are calculated; any surplus yield can be treated either as profit or a risk premium against variations in the intrinsic value of the security. The position is complicated, however, by the effect of income tax. Increases of tax beyond the rate taken into account by the purchase price will, of course, reduce the anticipated yield, so that the effective net rate of interest earned may, in fact, fail to reach that upon which the original purchase was based. The purchaser must, therefore, either negotiate his original purchase upon a basis which provides a margin for such contingencies, or he must be prepared to allocate a part of his accumulated free reserves or profits to replace deficiencies of income arising from enhanced taxation, an operation well within the powers of a well-established life company.

Reverting to the question of adverse fluctuation in value arising from an increase in the market rate of interest, it has been shown that, apart from variations in taxation, an investment bought to provide an adequate yield will fulfil its purpose. It does not follow, however, that depreciation in the market value of investments can be ignored. While it has, in fact, been the practice of some offices to value their securities upon the method known as the amortization plan, by which the book values and redemption values of terminable securities are equalized at the date of maturity, the more general method is to write down all assets to the market value at the dates at which successive balances are struck. If the latter plan is adopted it must, of necessity, decrease the surplus out of which bonuses are paid to the current policy-holders, penalizing them for the benefit of the future, unless there is a corresponding modification of the rate employed in the actuarial valuation of liabilities. Alterations in valuation bases, however, involve much additional labour, and are usually avoided, unless there are radical changes in the monetary position, such as followed the close of the European War. Furthermore, the test of market value of the assets is understood and applied by the public.

The position of irredeemable securities is more difficult. It is not easy to set up any standard of value other than the market

value, and offices faced with depreciation of this class of investment will probably meet this out of current surplus by writing down book values, notwithstanding the lack of equity which may result. The proper method of meeting such depreciation would be by adjustment of the valuation interest rate, but, in addition to the practical difficulties already mentioned, an increase beyond the 3 per cent basis generally accepted as the standard maximum might give rise to public misunderstanding and distrust.

It is necessary, now, to consider briefly appreciation in market values and the treatment of profits realized by the sale of investments. It has been common practice among life offices to write down convertible securities when market values fall below book values, but to leave the latter unchanged when market prices are the larger. The resulting decrease of current surpluses has been described. If, on the other hand, credit is taken for the appreciation in value consequent upon a lowering of the market rate of interest, the result is to lower the future rate of yield, if calculated upon the enhanced book value. It does not follow, therefore, that such appreciation is necessarily available for division as profit. If all appreciation were treated as immediate profit, too much might be distributed to existing policy-holders to the detriment of the future. It might be necessary, therefore, to pass such appreciation to an investment reserve against the possibility of a subsequent adverse fluctuation in value. Alternatively, the appreciation might form part of an undivided surplus profit, carried forward from account to account. Similar considerations apply to the treatment of the profits realized by the sale of investments. They may be divided among existing policy-holders notwithstanding that future interest surplus will be decreased, by reason of reinvestment of the original capital at a lower rate or thrown into a reserve, interest on which will go to make good any decrease in the rate of interest on the new investment. This reserve may be shown as a separate item in the balance sheet, form part of the undivided carry forward, or be concealed by the writing down of existing book values.

A minor source of profit to the large investor, such as a life assurance office, is the small turn to be made by exchanging from one investment to another of similar calibre with a discrepancy in price. Consequent upon differences in demand or some other factor, it is possible from time to time

to find investments of similar security with a difference in price sufficient to justify a transfer from one to the other. Such differences are usually temporary, and action must be taken at once since prices rapidly adjust themselves. The profits of each transaction are not large, but an alert management can obtain an appreciable benefit in the aggregate.

Another source of small profits is the exchange of holdings of similar issues made in different currencies. The many securities issued under these conditions in the period following the war have provided a considerable field for transactions of this nature.

Life assurance companies are continually in command of large sums which are available for investment, and they therefore indulge freely in underwriting new issues, both as a means of obtaining permanent holdings upon advantageous terms, and as a source of small but regular profits from commissions. An insurance company placed upon the list of an issuing house is generally expected to take all that is offered, whatever the terms, but the issuing house will know the character of issue suitable to the office and offer only what is acceptable. In the class of issue dealt with by life offices, a holding left with the underwriters can usually be disposed of in time at a price which leaves some profit from the commission.

There remains to make brief mention of another class of investment—the ordinary stock and share—which will receive further consideration under another heading. (See STOCK EXCHANGE SECURITIES.) At one time, insurance companies' holdings of such investment, though of considerable value, consisted largely of railway shares and associated insurance undertakings. There was little evidence of a general practice of investment in other classes of ordinary shares. There is now, however, a substantial growth of interest in the equity shares of such bodies as public utility corporations and commercial undertakings. To some extent, interest has been awakened by a definite change in the status of commercial finance. The large industrial combinations have followed the example of banks, insurance and finance companies in a policy of cautious accumulation of reserves, the interest on which provides a continually increasing income. They also provide the investor with an opportunity to take a share in the fortunes of a whole industry, thus avoiding the variations in the individual management ability of smaller units. In a country where trade is expanding and wealth accumulating, the ordinary share

provides a means to participate therein. Nevertheless the stagnation and decay of both individual corporations and whole industries is not unknown. Holdings in ordinary shares must be continually watched, therefore, by a well-informed and alert management. The special advantages of ordinary shares may be vitiated, too, by excessive public interest when prices are forced up to an extent which over-discounts anticipated increases in income.

Another factor bearing on the respective merits of fixed-interest bearing securities and ordinary shares is that of currency appreciation and depreciation. A fixed-interest investment is a contract in currency, and its real value to the holder fluctuates with the value of currency. An investment in ordinary shares, however, is a right to participate in profit from goods produced and services rendered. In a period of depreciating currency and rising prices, shareholders must necessarily benefit at the expense of bondholders if real costs of production have not increased, since the cost of the service of the latter is fixed in terms of money. The reverse position occurs during a period of currency appreciation when the income of bondholders, in terms of money, remains constant but makes a larger proportionate call on commodities produced. Shareholders' dividends, under these conditions, are reduced more than in proportion to the fall in commodity prices. The cost of production, including that of borrowing capital, foreruns the sale of the commodities produced, and currency depreciation is therefore always favourable to producers as distinct from investors. Currency depreciation is a means of reducing the weight of the bondholders' charge upon the profits of industry, and history shows in fact a tendency over long periods to the continuous devaluation of money. To summarize the position, in a period of rising prices, ordinary shares tend to appreciate with their rising dividends, while fixed-interest bearing securities fall in value, the fall being accentuated by holders transferring from the latter class of investment to the former, which is more directly attached to the rising prices of commodities. Conversely, in a period of falling prices and slackening trade, fixed-interest bearing securities appreciate. It should be possible, therefore, by the application to a large fund of a policy of mixed investment, to secure some measure of stabilization of value and income, whatever conditions may be.

It has been argued that, since life policies

are contracts payable in currency, offices are not concerned with real values, and fixed-interest bearing securities will adequately fulfil requirements. There is, however, generally a large class of policy-holders entitled to share in profits, and an office is not absolved from the obligation to make up to them, by profit on investments, the fall in the real value of their policies arising from a period of currency depreciation. (See also FREEHOLD AND LEASEHOLD GROUND RENTS AND PROPERTIES; MORTGAGES OF REAL AND PERSONAL PROPERTY; REVERSIONS AND LIFE INTERESTS; STOCK EXCHANGE SECURITIES.)

#### IRAK.

(See CLIMATIC RISKS.)

#### IRITIS (Inflammation of the Iris).

The causes of this condition are very many, chief among them being injury, syphilis, gout, rheumatism, diabetes, gonorrhoea, and tubercle. It may be idiopathic, i.e. it may arise apparently spontaneously without any discoverable cause. Its significance in life assurance is, therefore, owing to its being a possible effect of one or other of the diseases mentioned above, and a special medical report must be obtained in all cases in which iritis appears in the personal history, in order to exclude these diseases. If such a report is satisfactory, a policy may be issued without any addition to the premium, assuming, of course, that no acute symptoms exist. If such symptoms are present, the proposal must be postponed.

#### ISSUE RISKS.

By issue risks is understood the determination of probabilities involving the birth of children, and the calculation of premiums for benefits depending on the same.

In considering the subject, the first important point that arises is the marked distinction between insurance of this kind and life assurance. While death is sought by very few, and life assurance companies can in general depend upon the instinct of self-preservation, they cannot in the same way depend upon being safeguarded from claims in the case of issue risks. Consequently, while much useful work can be done as regards issue benefits for complete groups of persons insured collectively, where the grant of the benefit is not expected to cause such changes as would impair the validity of the statistics on which the calculations are based, say, widows' and

orphans' funds and National Health Insurance, it is quite a different matter when an individual approaches an insurance office for a policy payable on the birth of issue. As a rule, policies of the kind can only be granted when the likelihood of issue is small, and in special circumstances. Even then, there is an appreciable demand for cover of this nature. Thus, in *J.I.A.* xxxix 119, Mr. M. Mackenzie Lees gave a summary table of business transacted by British life offices, as follows—

the said society shall have been given of the death of the said A..... B..... leaving or having had lawful (male) issue as aforesaid, the sum of .....

In collective schemes of assurance, the benefits are much more varied, including, for example, annuities of varying amount payable after the death of one parent or both until the youngest surviving child attains the age of 16 or 18.

The statistics employed by assurance offices are largely based on the records of

## INSURANCES AGAINST ISSUE

Years.	No. of policies.	Net sums assured.	Net premiums received.	Average premium per cent.
1871-1875	261	£ 875,558	£ 62,238	6.75
1876-1880	383	1,264,166	97,495	7.51
1881-1885	539	1,696,747	116,704	6.82
1886-1890	698	2,076,859	133,200	6.08
1891-1895	987	2,836,634	139,137	4.75
1896-1900	1,310	3,530,173	156,561	4.39

As regards the person to be insured, the factors to be taken into account are age, sex, marital condition, and social status. Apart from the evident significance of being unmarried, married, or widowed, special features have to be allowed for, in addition to the question of health, such, for example, as the greater chance that the eldest son of a peer will marry, or, on the other hand, the possibility of the existence of some reason which renders the prospect of issue extremely remote.

As to the benefits secured by individual policies issued by life offices these usually consist in a sum down, payable on the birth of legal issue. There may, however, be various conditions, such as the attainment by the child of age 21, or a claim may be payable only if the child is a male.

A proposal is usually made to an office on the form for an ordinary assurance, with the necessary modification, and the effective clause in the policy may be more or less in the following terms—

An assurance with the ..... Company in the sum of..... pounds to be payable only in the event of A..... B..... of..... dying leaving lawful (male) issue (born subsequently to the date hereof) surviving him or born in due time after his death or having had any such lawful (male) issue who shall have lived to attain the age of 21 years.

After proof satisfactory to the directors of

the peerage. About the middle of last century Mr. Archibald Day contributed a number of papers to the *J.I.A.* containing statistical tables from this source (*J.I.A.* viii 127, x 181, xii 185). His researches were carried on and greatly extended and expanded by Dr. T. B. Sprague, *vide* the following summary—

*J.I.A.* XXI, 406. Premiums for insurance against issue to a bachelor.

*J.I.A.* XXII, 117. Premiums for insurance against issue of a marriage hitherto childless.

*J.I.A.* XXII, 359. Premiums for insurance against issue to a man married after age 40.

*J.I.A.* XXIV, 327. The calculation of benefits that depend on death without issue.

*J.I.A.* XXV, 160; XXVII, 195. The probability that a marriage entered into at any age will be fruitful.

*J.I.A.* XXVIII, 350. Premiums for assurance against issue to widowers, bachelors, and married men.

More recent papers bearing on the subject are "On an Investigation to show the Rates of Mortality and Marriage among Daughters of Peers and Heirs-Apparent, etc.," by M. M. Lees (*T.F.A.* i, 257) and "Peerage Males—Statistics of Mortality, First Marriage, and Issue" (*T.F.A.* vi, 355) by R. M. Hunter. The probabilities from full tables given in the latter paper are as shown at the top of page 289.

The problem of providing annuities for children was dealt with by Mr. George King (*Family Annuities, J.I.A.* xxx 291), while applications of his method were made to

TOTAL PROBABILITY OF A BACHELOR MARRYING  
AND HAVING ISSUE

Age.	Tables of T. B. Sprague.	R. M. Hunter.
20	-61478	-57466
30	-49179	-46496
40	-21884	-22708
50	-06975	-09120
60	-00896	-00793

BACHELORS—PROBABILITY OF MARRIAGE BEING  
UNFRUITFUL

Age.	Hunter— Probability of first marriage being unfruitful.	Sprague—Probability of marriage being unfruitful	
		Men married as peers or heirs-apparent.	Men who did not marry as peers or heirs-appar- ent.
20	-150	-122	-144
30	-204	-133	-209
40	-310	-216	-297
50	-250	-372	-415
60	-720	-615	-852

certain aspects of workmen's compensation insurance by Mr. J. Nicoll (*J.I.A.* xxxvi 502).

In preparing their Report to the Treasury on a national scheme of insurance against sickness, disablement, etc. (which preceded the National Health Insurance Act), Sir George Hardy and Mr. F. B. Wyatt had to have recourse to New Zealand statistics in order to prepare issue rates in connection with maternity benefits, adjusting the figures so obtained by comparing the average annual birth rate per 1,000 married men under age 55 in the two countries. (*J.I.A.* xlv 421.)

## ITALY.

**Regulations Affecting Insurance Companies.** Application for permission to conduct insurance business in Italy must be

made, in the case of foreign companies, to the Ministro per l'economia nazionale. This should be accompanied by certified articles of incorporation of the company and its statutes, also documents certifying the Italian nationality of the representative, who must have power of attorney. His appointment must be announced in official publications. The company must have been established in the home country for at least ten years. Balance sheets for the last three years must be produced, together with documents showing subscribed and paid-up capital. Foreign life insurance companies must deposit L. It. 2,000,000, state technical basis of business, actuarial method of calculating net premiums, the mathematical reserve, and conditions for the different kinds of insurance. For other classes of insurance the deposit varies from L. It. 100,000 to L. It. 200,000. Documents must be signed by the Italian Consul-General and the Italian Ministry of Foreign Affairs, and should be in Italian. A concession tax is demanded from foreign companies. Fifty per cent of the mathematical reserve on Italian business must be invested in Italy. This reserve is kept in a separate account, and must be readjusted within one month of the approval of balance sheet. The deposit can be used as an investment of the mathematical reserve, though the amount must never be less than L. It. 2,000,000. At the close of each business year deposits must be raised to 35 per cent of the gross premiums written in Italy. This applies to classes other than life insurance, and may be reduced to 15 per cent for periods of less than six months. Foreign re-insurance companies are also subject to the above authority, must furnish all necessary particulars concerning their status, and pay the concession tax. All classes of insurance are under the supervision of the Ministro per l'economia nazionale.

**JACKSONIAN EPILEPSY.**

(See EPILEPSY ; also FRACTURES.)

**JAUNDICE.**

A yellow discoloration of the skin due to the deposit in it of bile or blood pigments.

It may, therefore, be due to disorders of the biliary tract or to abnormalities of the blood, as in the case of some anaemias where excessive destruction of blood corpuscles occurs. The causes in the liver or biliary tract may be simple catarrh, gall stones, syphilis, or growth.

The commonest cause is catarrh of the biliary passages and one or two mild attacks of this in the past do not affect a life proposal. Jaundice due to gall stones must be dealt with as for that disease (see GALL STONES); if due to a growth, the proposal must be declined.

**JOINT LIFE AND LAST SURVIVOR ANNUITY.**

(See JOINT LIFE ANNUITIES.)

**JOINT LIFE ANNUITIES.**

A joint life annuity is the simplest form of annuity under this heading, and is one which ceases on the failure of one of the lives, whether the annuity is granted on two or more lives. The principles upon which such annuities are calculated are similar to single life annuities (*q.v.*), the survivorship of the lives jointly being followed out from year to year in the same way as with a single life.

Joint life annuities strictly so called are seldom required except in connection with Joint Life and Last Survivor Annuities, which must be carefully distinguished. The latter, briefly termed Last Survivor Annuities, continue not only during the joint existence of the lives upon which they are granted, but until the last of them dies.

If  $a_{xy}$  represents the value of an annuity on the joint lives of two persons aged  $x$  and  $y$ , then the last survivor annuity value is obviously  $a_x + a_y - a_{xy}$ .

$a_x$  represents 1 per annum to  $x$  during life

$a_y$  " " " " "  $y$  " "

therefore  $a_x + a_y$  represents 2 per annum, of which 1 goes to  $x$  and 1 to  $y$ , and deducting  $a_{xy}$ , which represents 1 per annum while

they live together, there remains the value of 1 payable between them, and whichever one dies first the other is left with an annuity of 1 per annum continuing until his death.

Normally by the  $a^{(f)}$  mortality table the value of 1 per annum at  $3\frac{1}{2}$  per cent to a female life aged 40 is 18.784, and to a female life aged 61, 12.842, and to two females aged 40 and 61, ceasing at first death 11.863, so that the value of a joint life and survivor annuity on these lives is—

12.842
18.784
<hr style="width: 50%; margin: 0 auto;"/>
31.626
11.863
<hr style="width: 50%; margin: 0 auto;"/>
19.763

The Government is prepared to quote for joint life and last survivorship annuities through the National Debt Office, and all life offices will make quotations.

Such annuities are peculiarly suitable to married folk, or widow and child, as a means of providing a fixed income until the death of the last.

**Special Joint Life and Survivor Annuity.** It is sometimes provided that in a joint life and last survivor annuity, the income therefrom shall be reduced to one-half at the first death, but this will be seen on reflection to resolve itself into two immediate single life annuities of one-half the desired annuity. Thus £100 per annum during the joint lives of ( $x$ ) and ( $y$ ) and £50 per annum to the survivor is equal to  $50 a_x$  plus  $50 a_y$ , for it is the same as £100 per annum to the joint lives = £100 $a_{xy}$  plus £50 to the last survivor, *whichever* life *does* survive, i.e.

$$\begin{aligned} & \text{£50 per annum to } x \text{ after } y \\ & \qquad = \text{£}50a_x - \text{£}50a_{xy} \\ & \text{and £50 per annum to } y \text{ after } x \\ & \qquad = \text{£}50a_y - \text{£}50a_{xy} \\ & \text{Adding them up one gets—} \\ & \text{£}100a_{xy} + (\text{£}50a_x - \text{£}50a_{xy}) + (\text{£}50a_y \\ & \qquad \qquad \qquad - \text{£}50a_{xy}) \\ & \qquad \qquad \qquad = \text{£}50a_x + \text{£}50a_y \end{aligned}$$

**JOINT LIFE ASSURANCE PREMIUMS.**

(See UNIFORM SENIORITY.)

**JOINT LIFE ENDOWMENT POLICIES.**

(See JOINT LIFE POLICIES.)

**JOINT LIFE POLICIES.**

Joint life policies are mostly issued in connection with partnership risks (see PARTNERSHIP POLICIES), and are payable on the first death of two or more lives. They can often also be utilized very usefully for mutual protection by married couples, the wife benefiting in the event of the husband's death and vice versa. In fact, too little consideration is given to the financial consequences which may ensue to a married man who loses his wife, especially if he has a young family. Domestic assistance or a housekeeper may have to be installed, and it is possible that the household may not be so economically conducted by a stranger. The policy moneys, therefore, assist in financing a difficult period until the elder children become self-supporting. Premiums are usually quoted for two lives of equal ages, but when the ages are unequal the equivalent equal ages may be found by making a deduction from the older life according to the following table—

When the difference between the ages of two lives is	Deduct from the age of the older life.
1 year	Nothing
2-3 years	1 year
4-5 "	2 years
6-8 "	3 "
9-12 "	4 "
13-17 "	5 "
18-24 "	6 "
over 24 "	7 "

For example, take ages 33 and 28 next birthday. As the difference is five years, two years must be deducted from the older age according to the table. This gives 31, and the premium at ages 31-31 next birthday is the premium required.

Specimen premiums for £100, with profits, payable on the death of the first of two lives—

Ages next birthday.	Annual premium.
25-25	£ 3 7 2
35-35	4 6 9
45-45	5 15 -

Joint life policies may also be effected on the endowment plan, which is generally more popular where contracts of a domestic nature are concerned.

Specimen annual premiums to secure £100, with profits, on the first death of two lives, or at the end of the following terms—

Ages next birthday.	Term of years.			
	15	20	25	30
25-25	£ 7 10 10	£ 5 13 -	£ 4 11 8	£ 3 18 11
30-30	7 13 3	5 16 1	4 15 6	4 6 -
35-35	7 17 -	6 - 11	5 1 6	4 15 11
40-40	8 3 1	6 8 6	5 11 -	-

**JOINT LIFE PROBABILITIES.**

(See PROBABILITIES.)

**JOINT LIVES, CALCULATIONS ON.**

(See UNIFORM SENIORITY.)

**JUGO-SLAVIA.**

**Regulations Affecting Insurance Companies.** Concessions empowering foreign companies to establish themselves in Jugo-Slavia are granted by the Ministry of Commerce and Industry, Belgrade. In their applications foreign companies should state their business prospects in the country and enclose three copies of their statutes. This is to be accompanied by a statement, signed by the Jugo-Slavian Consul-General in the home country, to the effect that the company is legally established at home, that it submits to the law of the country, and that law suits brought against the Jugo-Slavian branch, to which power of attorney is given, are binding on the head office. The amount of capital at the disposal of the Jugo-Slavian branch, invested in properties free of mortgage encumbrances, must be stated. If no reciprocity agreement exists between Jugo-Slavia and the country of the company seeking a concession, the latter is obliged to produce evidence as to the treatment of Jugo-Slavian companies in the home country. The company must be registered at the Commercial Court, and its name published in the *Sluzabne Navine* the official gazette. Owing to the number of home and foreign insurance companies already doing business in Jugo-Slavia, it is becoming increasingly difficult to obtain concessions. There is a Jugo-Slavian Fire Office Committee, which has agreed to work on various tariff scales.

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**KIDNEYS, DISEASES OF.**

(See ALBUMINURIA, BRIGHT'S DISEASE,  
PYELITIS, PYURIA, HYDRONEPHROSIS, RENAL  
CALCULUS, MOVABLE KIDNEY, PERINEPHRIC  
ABSCESS.)

**LACHES.**

Laches or slackness has reference to the negligence in pursuing a legal remedy whereby the party injured or deceived is deprived of his legal remedy, since laws come to the assistance of the vigilant and not of the sleepy. The term "laches" is usually applied to denote an unreasonable delay in enforcing an equitable right. If a person discovers that he has been induced by fraud to enter into an agreement, e.g. a contract of assurance, and then waits an unnecessary time before taking proper proceedings to set it aside, this laches will disentitle him to relief. He is, of course, entitled to a reasonable time for the purpose of making inquiries and obtaining advice. Where an equitable right of action is analogous to a legal right of action, and there is a statute of limitations fixing a time limit for bringing actions at law to enforce such claims, the Court will by analogy apply the same limit of time to proceedings taken to enforce the equitable right.

In seeking to set aside a contract, it is immaterial whether the representation was fraudulent or innocent, and, in general, a contract induced by misrepresentation is valid until avoided by the party who has been deceived. This applies to a contract of assurance, whether the misrepresentation has been made by the company or the assured. In proceedings for rescission, laches on the part of the injured party is not *per se* a defence. Where one person induces another to enter into an agreement with him by a material representation which is untrue, it is no defence to an action to rescind the contract that the person to whom the representation was made had the means of discovering, and might, with reasonable diligence, have discovered, that it was untrue. It is no defence in such an action that the defendant made a cursory and incomplete inquiry into the facts, for if a material representation is made to him he must be taken to have entered into the contract on the faith of it, and in order to take away his right to have the contract rescinded, if it is untrue, it must be shown either that he had knowledge of facts which showed it to be untrue, or that he stated in terms, or showed clearly by his conduct, that he did not rely on the representation.

Equitable defences to an action include set off, waiver, acquiescence, laches. A plaintiff must prosecute his claim without undue delay or slackness.

The defence of laches is only allowed where there is no statutory bar, e.g. statute of limitations. The factor of chief importance in regard to laches is acquiescence, i.e. such an acquiescence with full knowledge of the rights involved as amounts to an assent or adhesion to a contract, and also any consequential change in the position of the defendant. Length of time, where it does not operate as a statutory bar, is some evidence of assent or acquiescence.

Acquiescence depends on (1) knowledge, since a person cannot acquiesce unless he is fully aware of his rights, (2) capacity, e.g. where a person is under disability, as in the case of a lunatic, (3) freedom, i.e. absence of undue influence. Acquiescence is tantamount to an affirmation of the contract, and is a defence. Apart from acquiescence, or change of position of the defendant, the delay may be so great as to constitute laches and to be in itself a bar to any right to equitable relief.

**LAPSED POLICIES.**

(See SURRENDER VALUES AND LAPSED POLICIES.)

**LAPSED POLICIES, REINSTATEMENT OF.**

(See POLICY FORM AND CONDITIONS.)

**LAPSES.**

(See INDUSTRIAL ASSURANCE, HISTORY OF; AGENTS AND COLLECTORS; also PRINCIPLES OF LIFE ASSURANCE.)

**LARYNGITIS (Inflammation of the Larynx).**

The condition may be caused in many ways, chief of which are irritation by dust or infection from a cold; overuse of the voice; inhalation of tobacco smoke; tubercle; and syphilis. It is, therefore, a condition which may have no influence on longevity, or, if due to tubercle or syphilis, a very important one.

In general, one may say that the acute form is of no significance; whereas recurrent attacks or a chronic laryngitis need

careful investigation to exclude the possibilities of tubercle or syphilis. A man suffering from a smoker's throat, i.e. laryngitis due to tobacco smoke inhalation, must be examined to determine whether his smoking is excessive. All chronic cases must be investigated also to determine whether the common association of a bronchitis or tracheitis is present. (See BRONCHITIS.)

#### LAST SURVIVOR ANNUITIES.

(See JOINT LIFE ANNUITIES.)

#### LAST SURVIVOR POLICIES.

This class of policy consists of an assurance payable on the death of the last survivor of two or more lives. The policy may be either with or without profits, though the latter is the more common. Premiums may be paid in a single sum, or they may be limited in number, or they may continue until the first death or until the death of the last survivor. This type of policy is very rarely required.

#### LATVIA.

**Regulations Affecting Insurance Companies.** Under the terms of an Order in Council, dated 7th March, 1921, foreign insurance companies are no longer permitted to transact business in Latvia. According to this Order the Minister of Finance required all foreign companies carrying on insurance business in the country to liquidate before 25th March, 1922.

#### LAW OF AVERAGES.

(See AVERAGES; also PRINCIPLES OF LIFE ASSURANCE.)

#### LAW OF LIFE ASSURANCE.

(See ASSIGNMENT; BANKRUPTCY; COLLATERAL SECURITIES; CONTRACT, PARTIES TO; INSURABLE INTEREST; LACHES; LEGAL CONVEYANCES; LIFE ASSURANCE ACT, 1774; LUNATICS; MARRIED WOMEN; POST-NUPtIAL SETTLEMENTS; STAMP DUTIES AND STAMP ACT; SUCCESSION DUTY; TITLE, INVESTIGATION OF; TRUST POLICIES; VOLUNTARY SETTLEMENTS; WARRANTIES; WINDING-UP.)

#### LAW OF PROPERTY ACT, 1925.

(See LEGAL CONVEYANCES; also MARRIED WOMEN.)

#### LAW UNION AND ROCK INSURANCE COMPANY, LTD.

Head Office: 7 Chancery Lane, London, W.C.2.

Founded 1806.

The Law Union and Rock Insurance Company is an amalgamation of the former Law Union Company with the Rock Life Assurance Company, and the Crown Life Assurance Company. The Crown was taken over in 1892, and the Rock in 1909. The Law Union and Rock, thus combined, was acquired by the London and Lancashire in 1919, when that company purchased the shares of the Law Union, and it now works in harmony with the London and Lancashire Company.

The company issues life assurances of every kind, and, like other offices, is giving special attention to children's deferred and children's educational insurances. It is prepared to consider proposals for life assurance policies without medical examination, to be issued at normal rates.

#### LAWS OF MORTALITY.

As early as 1725 De Moivre endeavoured to devise a formula to represent the course of human mortality, and since then there have been many attempts to develop the idea further, some seeking a genuine law of mortality, others with the intention of facilitating actuarial computations. De Moivre conceived that the number living at successive ages might be represented by an arithmetical progression, and, in particular, that if the number born were 86, one would die each year, so that  $l_x = 86 - x$ . He recognized, of course, its inadequacy below age 12, but in any event the approximation is very rough. De Morgan suggested an improvement, namely, that of every 100 persons aged 15, one dies every year till the age of 65.

Bernoulli and Lambert also devised formulae. That of Lambert is—

$$l_x = 1000 \left( \frac{96 - x}{96} \right)^8 - 6176 \times \left( e^{-\frac{x}{13.682}} - e^{-\frac{x}{2.43114}} \right)$$

Thomas Young went further, as follows—  
 $100,000 q_x = 368 + 10x - 11(156 + 20x - x^2)^{\frac{1}{2}}$

$$+ \frac{1}{2.85 + 2.05x^3 + 2 \left( \frac{x}{10} \right)^8} - 5.5 \left( \frac{x}{50} \right)^{10} + \frac{5.52}{4000} \left( \frac{x}{50} \right)^{20} - 5500 \left( \frac{x}{100} \right)^{40}$$

Moser proposed—

$$l_x = 1 - ax^{\frac{1}{2}} + bx^{\frac{1}{3}} - cx^{\frac{1}{4}} + \dots$$

which copes with the mortality of children.

Wittstein generalized De Moivre's formula—

$$\mu_x = a^{-(M-x)^n} + \frac{1}{m} a^{-(mx)^n}$$

the final term applying to the mortality of children.

Oppermann depicted children's mortality by—

$$\mu_x = ax^{\frac{1}{2}} + b + cx^{\frac{1}{2}}$$

while Thiele originally used the formula—

$$\mu_x = \mu_1^x + \mu_2^x + \mu_3^x$$

wherein  $\mu_1^x$  is the mortality of childhood,  $\mu_2^x$  that of adult life, and  $\mu_3^x$  that of old age, and

$$\mu_1^x = a_1 e^{-l_1 x}$$

$$\mu_2^x = a_2 e^{-\frac{1}{2} l_2 (x-c)^2}$$

$$\mu_3^x = a_3 e^{l_3 x}$$

Laurent applied Newton's formula for interpolation to the table of Duvillard, and obtained

$$l_x = 10,000 - (1 - .98291^x) \times \\ 121,720 - (1 - .98291^x) \times \\ (.97877^x - .11693) \cdot 62570.$$

(See N. R. Jørgensen, "Grundzüge einer Theorie der Lebensversicherung," Gustav Fischer, Jena, 1913.)

T. R. Edmonds, about a century ago, divided lifetime into three spans, namely, infancy, manhood, and old age, while, later, Professor Karl Pearson extended the number of spans to five, adding childhood and youth, and covering a pre-natal period (see MORTALITY). These lines of thought seek to realize Addison's "Vision of Mirza," an allegory wherein life is a bridge of arches (each a year), originally a thousand in number, of which a flood swept away most, leaving but three score, and the entire, with a few broken, making about a hundred in all. A more definite treatment is due to Benjamin Gompertz, who, in a paper before the Royal Society in 1825, suggested that death may be the consequence of two generally co-existing causes, the one chance, and the other, increased inability to withstand destruction. He investigated the effect of supposing "the average exhaustion of a man's power to avoid death to be such that at the end of equal infinitely small intervals of time he lost equal portions of

his remaining power to oppose destruction which he had at the commencement of these intervals." This involves the assumption that the force of mortality increases in geometrical progression, i.e. if  $\mu_x$  be the force of mortality at age  $x$ , then

$$\mu_x = Bc^x$$

where  $B$  and  $c$  are constants determined for the mortality table in question, independent of the age of the life. (See *Text Book Part II*, page 71.)

Gompertz does not deal further with the other factor of chance, but in 1860 W. M. Makeham did so, in a paper read before the Institute of Actuaries (J.I.A., xiii, 325), and brought it into the formula as an additional constant, so that

$$\mu_x = A + Bc^x$$

By this means the formula gained power, and has been found to afford a close representation of the course of mortality, as shown by a number of mortality tables from about age 25 onwards. An interesting feature is that the value of  $\log c$  has oscillated about the value .04, say between .035 and .045. Known as the Gompertz-Makeham formula (the name of Gompertz being retained for the previous form), it is more applicable to male lives than to female, and while it cannot be said to be a law of mortality, it is a powerful instrument of graduation, possessing moreover qualities which assist in numerical computations. (See UNIFORM SENIORITY.)

Later, Makeham put forward a further development wherein

$$\mu_x = A + B_x + Cd^x$$

In 1888 the French actuary, M. Albert Quiquet, published a remarkable generalization of what may be termed the Gompertz-Makeham group of laws, followed by papers on the same subject, for example in 1893—

1. Comptes Rendus hebdomadaires des Séances de l'Académie des Sciences, 22 May, 1888, and 25 November, 1889;

2. Representation algébrique des Tables de Survie: généralization des lois de Gompertz, de Makeham, etc.;

3. Aperçu historique sur les formules d'interpolation des Tables de Survie et de Mortalité;

to which succeeded one "On the Simultaneous Use of Distinctive Laws of Survivorship." (New York I.C. vol. i., 382.)

According to this—

$$\log l_x = A + B_x + \sum e^i x^i f_i(x)$$

where  $r_i$  is some one of the roots of the characteristic equation—

$$A_0 + A_1 r + \dots + A_n r^n = 0;$$

if  $r_i$  is of the order  $\lambda_i$ ,  $f_i(x)$  is a polynomial of the  $(\lambda_i - 1)$  degree if  $r_i$  is not zero, or  $(\lambda_i + 1)$  if  $r_i$  is zero.  $\Sigma$  extends to all the distinct roots of the characteristic equation.

If  $n = 0$ ,

$$l_x = e^{A+Bx}, \text{ or } \log l_x = A + Bx$$

a formula given by Dormoy—

If  $n = 1$ , we have  $A_0 + A_1 r = 0$ , whence two formulae, viz.,

$r = 0$ ,  $\log l_x = A + Bx + Cx^2$ , Dormoy's second formula—

$r \neq 0$ ,  $\log l_x = A + Bx + Ce^{rx}$ , which is Makeham's formula when  $B \neq 0$ , or Gompertz's formula when  $B = 0$ .

If  $n = 2$ . In this case the equation has two roots with four different cases—

(a)  $r_1 = r_2 = 0$ ;  $\log l_x = A + Bx + Cx^2 + Dx^3$

(b)  $r_1 = 0, r_2 \neq 0$ ;  $\log l_x = A + Bx + Cx^2 + De^{r_2 x}$  (Makeham's second development)

(c)  $r_1 = r_2 + 0$ ;  $\log l_x = A + Bx + (C + Dx) e^{r_1 x}$

(d)  $r_1 \neq r_2 \neq 0$ ;  $\log l_x = A + Bx + Ce^{r_1 x} + De^{r_2 x}$  (Lazarus).

If  $n = 3$ , there are seven formulae, of which only that of Oppermann was known previously, viz.—

$$\log l_x = A + Bx + (C + Dx) e^{r_1 x} + Ee^{r_2 x} \quad [A = B = 0]$$

A Dutch actuary, M. Janse, gave the formula for the special case where all the roots  $r_i$  are unequal and different from zero.

The Danish astronomer, T. N. Thiele, also employed a generalization of the Makeham formula (Aktuaren, Copenhagen, 1904)—

$\log l_x = P_n(\sqrt{x}) + a_1 b_1 \sqrt{x} + a_2 b_2 \sqrt{x} +$  wherein  $P_n(\sqrt{x})$  signifies a polynomial in  $\sqrt{x}$ . For the graduation of the "Hafnia" Table he used the formula—

$$\log l_x = .00000020 - .24138311 \sqrt{x} + .14457357x - .04519838x\sqrt{x} + .007457632x^2 - .0006280028x^2\sqrt{x} + .0000211624x^3 - .7293837\sqrt{x} + \bar{7}.30841424.$$

The extension of the Gompertz-Makeham formula to select tables was achieved by Sir G. F. Hardy (see J.I.A. xxxi, 359 and xxxiii, 493), whereby Dr. Sprague's

select tables were regraduated by the formula—

$$\mu_{x+t} = \left[ A + Hx + Bc^x \right] - \phi(t) (A + Bc^x),$$

the terms in the large bracket representing approximately the mortality of the  $H^M(5)$  table, and  $\phi(t)$  is taken arbitrarily as—

$$t = 0, \phi(t) = \frac{35}{70}; \quad t = 1, \phi(t) = \frac{20}{70};$$

$$t = 2, \phi(t) = \frac{10}{70};$$

$$t = 3, \phi(t) = \frac{4}{70}; \quad t = 4, \phi(t) = \frac{1}{70}; \quad t = 5,$$

$$\phi(t) = 0$$

In its particular application to the  $O^{(M)}$  select tables,

$$\mu_{[x]+t} = A + F(t) + \left[ 1 + \phi(t) \right] Bc^{x+t}$$

$$\log_{10} l_{[x]+t} = \log_{10} l_{x+t} - f_t - Bc^x \psi_t$$

where  $f_t = m(10-t)^2 + m'(c)^t$

$$\psi_t = n(10-t)^2,$$

the values adopted for  $m$ ,  $m'$  and  $n$  being respectively .000040955, .00112, and .02386. As the value of  $c'$  worked out at .24, the second term of  $f_t$  rapidly became insignificant. (British Offices Life Tables, 1893, Principles and Methods, etc., page 158—London, C. & E. Layton.)

$l_{x+t}$  was based upon the select experience, excluding the first ten years from entry, graduated by Makeham's formula.

The measure of the applicability of any formula for the law of mortality or, more simply, of any formula for graduation, corresponding to our present stage of knowledge, should be such that the possible error arising from its use is less than the error involved in ignoring other influences. From this point of view, extreme endeavours to fit curves, Makeham or other, to aggregate tables is scarcely worth while, when the significance of selection is borne in mind, i.e. the effect of selection is generally far greater than the deviation due to graduation. Similarly with select tables based on experience covering a number of years, say twenty or thirty, any attempt to fit curves very closely must be considered in relation to the possible influence of that tendency towards an improvement in vitality which has been in operation for such a long time. It is true that the problem at each stage may be regarded as one of academic analysis, and that is always of value, but for practical purposes, the above may stand. The

question in each case must be decided empirically; it is only experience that can teach where the line is to be drawn.

In the Graduation of the Government Annuity Experience, 1900-1920 (H.M. Stationery Office, 1924), and Notes on Graduation, T.F.A. No. 97, 1925, Dr. James Buchanan experimented with double Gompertz curves, for which

$$\text{colog } p_x = Ma^x + Nb^x,$$

also  $\text{colog } p_x = K + Ma^x + Nb^x$ , and developed a further Makcham type, namely,

$$\text{colog } p_x = K + Lr^x \cos(x\theta' - \theta).$$

### LEASEHOLD PROPERTIES.

(See FREEHOLD AND LEASEHOLD GROUND RENTS AND PROPERTIES.)

### LEASEHOLD PROPERTIES, LOANS ON.

(See FREEHOLD AND LEASEHOLD GROUND RENTS AND PROPERTIES; and HOUSE PURCHASE SCHEMES.)

### LEASEHOLD REDEMPTION POLICIES.

(See SINKING FUND ASSURANCES.)

### LEGACY DUTY.

(See SUCCESSION DUTY.)

### LEGAL AND GENERAL ASSURANCE SOCIETY, LTD.

Head Office: 10 Fleet Street, London, E.C.4.

Founded 1836.

This society was established in 1836 under Deed of Settlement, and has from its establishment been closely associated with the legal profession.

Under its perfected system of life assurance, the Society specializes in the granting of world-wide and indisputable policies in a simple form of contract free of all vexatious restrictions and conditions. Payments of bonus were maintained throughout the period of the Great War.

In 1919 the Society was incorporated under the Companies Acts, and now transacts all classes of assurance, except marine.

In 1919 also it was decided to discontinue the issue of ordinary with-profit assurances, and to advocate, in their stead, assurances containing benefits which are guaranteed and absolute throughout, and entirely devoid of all speculative elements as regards the sum assured. Experience has proved that the decision made in 1919 has not had any adverse effect upon the amount of business transacted. On account of its

close connection with the legal profession, the Society deals to a considerable extent in reversions and life interests by way of purchase or loan.

For many years it has published full details of its assets at each quinquennial valuation.

The Society has introduced in this country free service of periodical medical overhauls for the benefit of its life policy-holders. The Society also claims to be the pioneer of the Monthly Premium scheme in its modern form, and its popularity proves that the principle of "hire purchase" can be applied effectively to Life Assurance.

Special facilities are offered for the provision of the educational and other expenses of children. For adults the "Practical" policy has proved attractive to present-day purposes. By inclusion of various options in this policy, the assured has an opportunity later in his lifetime of choosing a form of benefit suited to his then requirements. These policies are, of course, additional to the Society's ordinary tables of whole life and endowment assurances providing guaranteed benefits at minimum cost.

### LEGAL CONVEYANCES.

Formerly the common law courts of England recognized no other ownership in land except that which was originally conferred by livery of seisin, or by transfer from one tenant to another. The former consisted of the actual delivery of possession of land effected by feoffment, i.e. the person in possession of the land actually delivered a sod of turf as representing all the land to the person to whom the land was conveyed; the transfer from one tenant to another was done by the same formality. This ownership, which was formerly only recognized by the common law, is termed the legal estate. Where A had the legal estate in land, but held in trust for B, B was said to have the beneficial ownership recognized in a Court of Equity, and such beneficial ownership was termed the equitable estate.

Prior to 1873 Courts of Equity provided remedies which the common law courts were unable to grant, but since the Judicature Act, 1873, common law and equity have been concurrently administered.

A *Mortgage* is the creation of an interest in property (including any charge on any property, e.g. policies of life assurance) as security for the payment of a debt, or discharge of some other obligation, which is defeasible upon performing the condition of

paying a certain sum at a certain interest on a certain date. The security is always redeemable on payment or discharge of such debt or obligation. A legal mortgage is created by conveyance or assignment of the legal estate or legal interest in the mortgaged property to the mortgagee. An equitable mortgage is where the legal estate or legal interest does not pass, e.g. where the mortgagor is only equitable owner, or where an owner of property merely deposits the title deeds.

The Real Property Act, 1845, Sect. 2 (repealed and re-enacted by the Law of Property Act, 1925, Sect. 51), provides that land may be conveyed by deed of grant as well as by way of seisin.

A *Conveyance* is a method by which property is conveyed or voluntarily transferred from one person to another by means of a written instrument and other formalities. A legal conveyance conveys the legal estate or the legal interest in the property transferred. The Law of Property Act, 1925, Sect. 205, which was operative as from the 1st Jan., 1926, defines a conveyance, *inter alia*, as a mortgage, charge, and every other assurance of property or of an interest therein by any instrument. The Conveyancing Act, 1881, Sect. 2 (1), defines a conveyance, *inter alia*, as including assignment, settlement, and other assurance, made by deed, on a sale, mortgage, demise, or settlement of any property, or on any other dealing with or for any property.

"Property includes any thing in action, and any interest in real or personal property," which includes policies of assurance. (Sect. 205, *supra*.)

The term "conveyance" is usually confined to a deed which transfers or conveys land or interests therein; whereas in a transfer of policies of life assurance, the word "assignment" or "mortgage" is more common.

Policies are frequently mortgaged by themselves, but more often by way of collateral security (*q.v.*), so that the provision of a life interest in other property provides the means of paying the assurance premiums. A policy of assurance may be mortgaged by deed of assignment or by mere deposit of the policy with the mortgagee; notice of the former should be given to the company as a protection against bankruptcy. By the Policies of Assurance Act, 1867, Sect. 3, written notice of the date and purport of the assignment must be given to the company and the date on which such notice is received

will regulate the priority of all claims under any assignment. Since 1875 all legal choses in action, which include policies of life assurance, are directly assignable, so that the assignees may sue therefor in their own names. Assignments of policies must be properly stamped, or the assignee will have no right to sue or give a valid discharge for the moneys assured.

In the case of deposit of a policy, it is accompanied by a memorandum which sets out the conditions upon which the charge is made. Mortgages by deed of assignment generally include the following covenants—

1. Borrower to pay principal and interest.
2. Assignment of the policy, subject to a proviso for redemption.
3. That the policy is valid.
4. To effect a new policy if the mortgaged policy is invalidated.
5. That the substituted policy is to be subject to the security.
6. To pay the premiums on the substituted policy.
7. The mortgagee to pay any overdue premiums, and that the moneys advanced for that purpose shall be a charge on the policy.

In mortgages by deposit of policy, it is customary to rely on the statutory powers of sale as contained in the Law of Property Act, 1925, the governing sections of which are as follows—

By Sect. 101, a mortgagee, where the mortgage is made by deed, shall have power, when the mortgage money has become due, to sell the mortgaged property, or any part thereof, and to appoint a receiver of the income of the property, or any part thereof.

Sect. 103 provides that the power of sale shall not be exercised unless notice requiring repayment has been served on the mortgagor and default has been made in payment of the mortgage money for three months after such service; or some interest is in arrear for two months; or there has been a breach of some provision in the mortgage deed.

By Sect. 104 (1), the mortgagee may convey by deed the property sold freed from all interests and rights to which the mortgage has priority, but subject to all interests, etc., which have priority to the mortgage.

By Sect. 107 (1), the receipt in writing of a mortgagee shall be a sufficient discharge for any money arising under the power of sale.

(See also ASSIGNMENT.)

**LEGISLATION, LIFE OFFICE.**

(See ASSURANCE COMPANIES ACT, 1909; BOARD OF TRADE, POWERS OF.)

**LETTERS OF ADMINISTRATION.**

If the assured leaves no will, or if in his will he nominates no executors, or if the executors nominated all die before the assured, or refuse to act, the Court can appoint an administrator to deal with the assured's estate, and the document making the appointment will be known as Letters of Administration. When this has been produced to the office it can make settlement with the administrator. There are certain special forms of administration that must be noted—

1. Administration *de bonis non administratis*, referred to above.

2. Administration *cum testamento annexo*, which is the form taken if the assured left a will nominating no executors, or nominating executors who predeceased him or refused to accept office. A copy of the will would be attached to the grant, hence its name.

3. Administration *durante minore* would be required if the executor nominated in the will were under age. It would operate until the executor had attained his majority.

4. Administration *durante absentia* would be required if the executor nominated in the will were abroad, and would provide for some other person attending to the affairs of the deceased until the executor's return.

5. Administration *pendente lite* would be required if a lawsuit were in progress to decide who had the right to be appointed administrator. Such a grant as this would only be made if the delay in appointing a permanent administrator was likely to be considerable or if there was some matter connected with the estate that demanded immediate attention.

As a general rule, the grants of representation that are met with in practice are the ordinary administration and probate, but as circumstances may crop up occasionally calling for special forms of grant of administration they should not be overlooked.

Some doubt exists as to whether one of several executors has the power to grant a discharge to a policy without the concurrence of his co-executors. Where an office is asked to accept such a discharge it will doubtless be guided by the advice of its solicitors, but there seems to be

little doubt that it can insist on the signatures of all the executors to the discharge if it so decides.

The procedure to be followed in a claim settlement where the assured died in Ireland is the same as in England, except that the grants are made by the courts of the Irish Free State or those of Northern Ireland.

In Scotland, probate and letters of administration are unknown. If the assured dies leaving a will nominating executors, the grant to be produced is known as *testament testamentar*, and the executors confirmed by it as executors nominate. If no will is left, or if no executors are nominated or, if nominated, have died, or refused to accept office, the grant to be produced is known as *testament dative*, and the executors appointed to deal with the estate of the deceased are known as executors dative. Both of these grants are spoken of as Confirmation. A majority of executors dative can grant a valid discharge, but a majority of executors nominate can only do so provided the will does not prohibit them from so doing. Whether this is so or not is sometimes stated in the Confirmation, but if it is not so stated, and the office is required to accept a discharge executed by a majority of executors nominate, the will must be produced to prove that the majority of the executors are within their rights in so acting.

Except for the difference in the terms employed, the general effect of the laws of England and Scotland up to this point is much the same, executors nominate corresponding fairly closely to executors in England, and executors dative to administrators. But there is now to be noted a most important point of difference. Attached to every Scottish Confirmation is an inventory of the estate of the deceased, and authority is only granted to deal with the property therein mentioned. Consequently it is necessary to examine the inventory to make certain that the policy is included. If it be not, or if the whole of the sum payable is not included, as may sometimes happen when interim bonuses have been overlooked, a further grant is required, which is known as an *eik to confirmation*.

Should an executor nominate having power to uplift the policy moneys die before the claim is settled, his executor nominate may grant the necessary discharge, provided the policy is included in the inventory attached to confirmation of the deceased executor's estate, but it is important to note

that if the policy were not the property of the deceased it must appear in the inventory as property held in trust. If an executor dative dies before the claim is settled, a fresh grant is required, as his representatives have no power to grant the discharge. Similarly the executor dative of a deceased executor nominate cannot discharge the policy.

Strictly speaking, it would seem that grants of representation, i.e. probate and letters of administration in England and confirmation in Scotland, are only applicable to the country in which they are granted, and accordingly an English company should not pay under a Scottish or Irish grant, and a Scottish company should not pay under an English or Irish Grant. If, however, the assured was domiciled in the country in which the grant originated it can be produced in the courts of either of the other countries, and after being resealed it would be operative in the usual way. Some companies, however, avoid the necessity for resealing by having private Acts of Parliament, and in practice it is believed that resealing of such grants is not generally insisted on.

If the assured dies domiciled abroad, a British insurance company for the purposes of settling a claim under a life policy, and for that purpose only, may make settlement under a grant of representation of the country in which death occurred, provided it is satisfied that the grant is in order according to the laws of the country of its origin. (Sect. 19 of Revenue Act, 1889.) Where the assured was not domiciled in the country in which the grant of representation was made, a fresh grant must be taken out in the United Kingdom before settlement can be made under a life policy issued by a company in this country, except in the case of grants originating in British Colonies that come under the provisions of the Colonial Probates Act, 1892, or in a British Court in a foreign country, when the original grant may be produced in this country and resealed, thereafter having the same effect as in the country of its origin. In many cases, however, it is cheaper and more expeditious to obtain a power of attorney from the grantee of the colonial grant, and for the attorney to take out a fresh grant in this country.

**Application to Make Payment Without Production of Grant.** Where a company is asked to dispense with the production of a

grant of representation on the ground that the expense involved is out of all proportion to the amount of the estate, it must be recognized that to agree to such a settlement is to run the risk of having to pay the claim twice over; for any creditor of the deceased could take out a grant of representation and compel the office to pay the policy moneys to him, even if they had already made payment to the relatives of the assured. Moreover, the office would render itself liable under the Finance Act, 1894, to a penalty of £100, or double the amount of the Government duties, the option of electing which penalty shall apply lying with the Inland Revenue authorities. In such cases arising in England, the claimant should be referred to Somerset House for instructions how to obtain probate or letters of administration at a minimum cost. The Inland Revenue issue a form of instructions to meet the requirements of such cases. In Scotland application should be made to the Commissary Clerk of the county, or, failing a Commissary Clerk, to the Sheriff Clerk, or, if the life died domiciled out of Scotland, to the Commissary Clerk of Edinburgh. Some companies, however, where the estate does not exceed £100, are prepared to pay to the next of kin on a statutory declaration, in lieu of requiring a grant of representation or confirmation.

#### LIABILITIES, VALUING OF.

(See VALUATION METHODS; also WINDING-UP.)

#### LIABILITY OF BROKER.

(See INSURANCE BROKER, FUNCTIONS OF.)

#### LICENCES TO TRAVEL OR RESIDE ABROAD.

When it is possible to issue an unrestricted policy, the usual practice is to omit all reference to travel or residence, but occasionally a notice appears at the head of the policy to the effect that "This policy is free from all restrictions as to travel, residence, and occupation." The life assured by such a "Whole-World and Occupation Free" policy, as it is called, may travel or reside in any part of the world without even intimating to the company that he is doing so.

If, however, for any reason it is not possible to issue an unrestricted policy (see FREEDOM OF POLICY FROM RESTRICTIONS) the practice is to include a standard clause reciting the company's free limits (or

restricted areas) and declaring that in the event of the life assured proceeding beyond the free limits the policy will be null and void, except to the extent of the surrender value thereof, unless notice is previously given to the company and such extra premium paid as the directors may think fit. This means that the policy is, in such circumstances, voidable at the option of the company, but not necessarily void. In exceptional circumstances it is sometimes provided that the policy shall not become void in the event of the life assured proceeding beyond the free limits, on the understanding that he will notify the company at the first opportunity, and pay such extra premium as may be required. This meets the case of a life whose business causes him to make journeys at short notice, in respect of which it would be inconvenient or impossible for him to give notice in advance.

If the life assured is proceeding abroad when the policy is effected, and an extra premium is being charged, the policy is endorsed with a licence in consideration of the payment of the extra premium. The nature of the licence depends upon the circumstances. For instance, had the life assured not intended to reside in India (say), a "whole-world" policy would have been issued. If he intends to remain in India, then his chances of proceeding *elsewhere* are little, if any, greater than had he intended to remain at home. In these circumstances, and consistently with the principles on which free policies are issued (see FREEDOM OF POLICY FROM RESTRICTIONS), if an extra premium is paid for residence in India there is no need to restrict travel elsewhere, and the endorsement will read that in consideration of the payment of an extra premium of —, and provided an extra premium of like amount is paid each year so long as the licence is required, the life assured has permission to proceed to, reside in, and return from *any part of the world*, anything within contained to the contrary notwithstanding. In other words, in consideration of the payment of the extra for India, a "whole-world" licence is granted. In the event of the life assured ultimately proceeding to some other part of the world in which a larger extra premium is usually charged, the extra premium payable would not be increased, and the assured has the advantage, in return for his extra premium, of what practically amounts to a "whole-world" policy. It may be remarked that in the event of the

life assured residing in a country in which a smaller extra premium was required, he would usually be able to obtain a reduction in the charge, so that the benefit of the method is all in his favour. Although it is not the general practice to mention this in the endorsement, it is customary to allow refunds of such extra premiums for periods (sometimes unbroken months) spent within the free limits, and in the event of permanent return to the free limits the extra premium would be removed altogether. In the latter case, however, the licence being suspended, the policy would remain restricted, and if the life assured again proceeded abroad the company would have a free hand to charge whatever it thought fit in the circumstances. In practice, when a "whole-world" licence has been thus suspended, it is the usual plan for it to be reinstated in consideration of the payment of no larger sum than the original extra premium charged, no matter where the life assured may be proceeding. Further, when the life assured can show that as far as he knows he has permanently settled within the free limits, some offices will cancel the restrictions altogether.

Some offices make a practice of limiting the total number of years' extra premiums payable in respect of any one policy. In this case refunds of premium might still be allowed for periods spent within the free limits, but the extra premium would continue to be payable until the total extra premiums received and retained by the company reached the prescribed maximum. Once the full number of years' extra premiums have been paid, the policy becomes "whole-world," and no further extra will be payable, no matter where the life assured may reside.

In the case of a restricted policy under which a limited number of ordinary premiums is payable, there is a difference of practice as regards treatment of an extra premium. It is sometimes arranged that the number of extra premiums is the same as the number of ordinary premiums, so that when the ordinary premiums cease, the policy automatically becomes "whole-world." If the extra premium would normally be payable throughout the duration of the contract, it necessarily follows that in such a case an appropriately heavier extra premium would be necessary. On the other hand, it is quite common for an extra premium, in the case of a limited payment policy, to continue to be payable so long as the circumstances require, so that the extra

premium may be payable after the ordinary premiums have ceased. When effecting such a policy, it is as well to ascertain the practice on this point. These remarks apply equally well to a policy effected by a single premium, as this is, after all, only a policy under which the premiums are limited to one payment.

It frequently happens that a policy with paid-up premiums is converted to a paid-up assurance in accordance with the terms of some "non-forfeiture" scheme. If the policy were a restricted one, then the paid-up assurance would continue to be restricted and an extra premium would be payable should the life assured proceed beyond the free limits. This is an awkward feature of the non-forfeiture system, since it often happens that the office has lost touch with the life assured, and whereas, on the one hand, the office has no means of telling whether the life assured is abroad or not, on the other hand, the life assured is unconscious of the fact that an extra premium is payable. Although it is especially difficult in such cases in view of the continued existence of the policy being frequently unknown to the policy-holder, yet the same difficulty arises in connection with all paid-up policies, since in the absence of an annual reminder the policy-holder is likely to forget his policy, or at any rate the special conditions to be found in it.

When the life assured is not immediately proceeding abroad at the time of issuing the policy, the procedure is similar to that described above, except that in the absence of an endorsement granting a licence, the life assured must, on proceeding abroad, give immediate notice to the company, and pay such extra premium as they may require. In such a case the policy must be produced and duly endorsed on the same lines as before. In most circumstances a company will, on request, quote the extra premium required for residence in a particular locality at the time of issuing the policy. In this event the quotation would not ordinarily be referred to in the policy, but the company would maintain its quotation when the event occurred.

An alternative plan to that described above is sometimes adopted in special circumstances, as, for instance, in the case of a short term assurance effected to cover a special trip abroad. The policy may be written without any restrictions whatever, the extra premium being included in one sum with the ordinary premium. This is quite

satisfactory to the assured, since, in the absence of restrictions, he has in effect a "whole-world" licence. This plan is usually adopted in a case where it is not intended to make a refund for periods spent at home, and the question of ultimate removal does not arise. As a further example, there is the case where a smaller extra premium is quoted than the normal, on the understanding that in no circumstances whatever will a refund be made or the extra premium removed.

The practice described above of granting a "whole-world" licence in return for the extra premium for a particular place is not universal, and even those offices which usually adopt it modify the practice in particular cases. For instance, if the life assured were proceeding to a part of Brazil for which an extra premium of 10s. per cent per annum were required, his chances of proceeding to other parts of Brazil where the charge was higher would be considerably above the normal. In such cases as this the licence would probably be restricted to the area between certain degrees of latitude or, where the circumstances were suitable, to a particular country.

It sometimes happens in practice that the life assured makes occasional and irregular trips abroad, and does not want the trouble of notifying the office each time and paying the extra premium. This difficulty may be overcome by obtaining a statement from the life assured as to his past travels and prospects of future travel and calculating a small, general extra premium, payable each year in any event, to cover all risks of travel whenever they may occur. Refunds would not, of course, be allowed, but if the circumstances of the life assured changed, and he no longer required the licence, the extra premium could be removed.

If the life assured under a restricted policy merely wishes to make a single trip abroad of short duration, it is unnecessary to charge a full year's extra premium, and in this case a single extra premium could be charged to cover the period of the trip, and the policy endorsed with a licence to proceed to reside in and return from the particular place during a stated period.

As already mentioned, it was at one time the practice to issue a restricted policy in every case, and many of these old policies are still in force. When such a policy is offered for sale, or used as security in a financial transaction, it is sometimes desired to make it "whole-world," in order to avoid

the risk of the life assured rendering it void at some later date.

Usually, in such cases, the life assured has no intention whatever of travelling, and it is therefore possible to endorse the policy giving a "whole-world" licence at quite a nominal extra annual premium.

**LICENSING OF AGENTS.**

(See COMMISSION.)

**LIFE ANNUITIES AND ASSURANCES.**

The primary object aimed at by the theory of life annuities and assurances is to secure stability by providing the machinery for estimating the relative values of benefits and contributions of all kinds and at any time. At the inception of an individual policy—whether assurance or annuity—the object is to secure equivalence between the present value of the benefit to be granted and of the payments to be received; and, at later stages of the policy, to decide what sum must be in hand such that, together with the present value of payments still to be received it will be equal to the present value of the benefit at that moment. To perform these operations a suitable life table is required, with relative functions involving compound interest, with the application of some elementary theories of probability.

The theory of life annuities and assurances, at least in its earlier stages, presumes stability as regards both mortality and interest, as also that the body of lives to which the calculations are to be applied is homogeneous with that underlying the mortality table. These presumptions are never quite realized in fact, although experience has shown that the results are sufficiently reliable, and knowledge is being gained gradually as to the extent and nature of the deviations that arise.

Just as propositions in Euclid deal with straight and parallel lines too perfect to be other than abstractions, so the theory of life assurances and annuities presumes conditions not likely to prevail exactly—necessary allowances being made subsequently in practice.

Accordingly, at this stage, a uniform rate of interest and a stable rate of mortality, varying only with the age of the lives, will be considered.

If  ${}_tE_x$  represents the present value of an endowment of 1, payable at the end of  $t$  years, if  $(x)$  (i.e. a life aged  $x$  years exactly) survive so long, then, since  $v^t$  is the present value of 1 payable certainly at the end of  $t$

years, and the probability of  $(x)$  surviving

$$t \text{ years is } {}_t p_x = \frac{l_{x+t}}{l_x}$$

$$\therefore {}_tE_x = v^t p_x \dots \dots \dots (1)$$

An alternative symbol for

$${}_tE_x \text{ is } A_x \frac{1}{t}$$

There is another point that cannot be made too clear. The stability presumed in the above argument can only be depended upon reasonably when applied to an extensive body of facts: to expect anything of the kind in connection with a limited experience, far less a single case, would be out of the question. If, then, the following investigations deal with individual policies, the meaning to be attached is that they are to be regarded as average samples, representing proportionately the experience of the large group to which they belong.

An immediate annuity consists of a series of such endowments. Let  $a_x$  denote the present value of such an annuity, of 1 per annum during the life of  $(x)$ , then

$$a_x = v \cdot p_x + v^2 p_x + v^3 p_x + \dots \dots \dots (2)$$

to the end of life

$$= v \cdot \frac{l_{x+1}}{l_x} + v^2 \frac{l_{x+2}}{l_x} + v^3 \frac{l_{x+3}}{l_x} + \dots \dots \dots (3)$$

If the payments are to be made at the beginning instead of at the end of each year, then the value of such an annuity called an annuity-due will be greater by 1, i.e. if  $a_x$  denote an annuity due,

$$a_x = 1 + a_x \dots \dots \dots (4)$$

Dividing formula (3) by  $v \cdot p_x = \frac{v \cdot l_{x+1}}{l_x}$

we have

$$\frac{l_{x+1} + v l_{x+2} + v^2 l_{x+3} + \dots}{l_{x+1}} = 1 + a_{x+1}$$

$$\therefore a_x = v \cdot p_x (1 + a_{x+1}) \dots \dots \dots (5)$$

which shows that given  $v$  and  $p_x$ , then starting with the annuity value for any age (say the oldest) the values for each successive younger age can be obtained by means of this relationship.

To ascertain the value of a deferred annuity,  $n|a_x$ , in which the first payment is due at the end of  $n + 1$  years if  $(x)$  survive, the first  $n$  terms of formula (3) must be omitted. Thus

$$n|a_x = v \frac{n+1}{n+1} p_x + v \frac{n+2}{n+2} p_x + v \frac{n+3}{n+3} p_x + \dots$$

$$= \frac{v^{n+1} l_{x+n+1} + v^{n+2} l_{x+n+2} + v^{n+3} l_{x+n+3} + \dots}{l_x}$$

$$= v^n \cdot \frac{l_{x+n}}{l_x} \times \frac{vl_{x+n+1} + v^2l_{x+n+2} + \dots}{l_{x+n}} \\ = v^n \cdot n p_x \times a_{x+n} \quad (6)$$

showing that the present value of a deferred annuity is the value of an annuity as at the age when the annuity becomes immediate, multiplied by the value of an endowment of 1 for the period of deferment.

The present value of a temporary annuity to  $(x)$  for  $n$  years, namely  $|n a_x$ , is the complement of formula (6), since the temporary and the deferred annuity together complete the value of  $a_x$ , i.e.

$$|n a_x = a_x - n |a_x \\ = \frac{vl_{x+1} + v^2l_{x+2} + \dots + v^nl_{x+n}}{l_x} \quad (7)$$

An alternative symbol used for a temporary annuity is  $a_{x:\overline{n}|}$ —there is no difference at all in the value.

Similarly the value of a deferred temporary annuity,  $n|_m a_x$ , i.e. 1 per annum at the end of each year survived by  $(x)$ , but not exceeding  $m$  payments, first payment at the end of  $n + 1$  years, can be found to be

$$n|_m a_x = n|a_x - n + m|a_x \quad (8)$$

For temporary annuities-due, we have

$$n|a_x = 1 + \frac{v.l_{x+1} + v^2l_{x+2} + \dots + v^n.l_{x+n}}{l_x} \\ = 1 + a_x \overline{n}| \quad (9)$$

and for a deferred annuity due—

$$n|a_x = a_x - |n a_x \quad (10)$$

while a deferred temporary annuity-due for  $m$  years after  $n$  years is

$$n|m a_x = n|a_x - n + m|a_x \quad (11)$$

If the period of deferment is fractional, it is usual in practice to proportion between the values of the immediate annuity and the annuity-due. Thus if the first payment of an annuity is due three months hence, i.e.  $\frac{1}{4}$  year, then we have

$$\frac{1}{4}|a_x = a_x - \frac{1}{4}(a_x - a_x) = a_x + \frac{1}{4} = \frac{3}{4} a_x + \frac{1}{4} a_x \quad (12)$$

and similarly for other fractions, while for temporary annuities this becomes

$$\frac{1}{4}|a_{x:\overline{n}|} = a_{x:\overline{n}|} - \frac{1}{4}(a_{x:\overline{n}|} - a_{x:\overline{n}|}) \\ = \frac{3}{4} a_{x:\overline{n}|} + \frac{1}{4} a_{x:\overline{n}|} \quad (13)$$

This leads to a general rule as follows—  
if the first payment of an annuity is due  $\frac{l}{m}$  of a year hence, add  $(m - l)$  times the annuity-

due to  $l$  times the immediate annuity, and divide the sum by  $m$ .

**Assurances.** The present value of 1, payable at the end of a year if  $(x)$  fail to survive that year, is the probability of  $(x)$  dying, discounted at interest for a year.

Since by the life table  $d_x$  persons out of  $l_x$  persons die in the  $(x + 1)$ th year of age,

the probability of  $(x)$  dying is  $\frac{d_x}{l_x}$ , and the

present value of this amount is  $v \cdot \frac{d_x}{l_x} = v \cdot q_x$

Denoting this benefit by the alternative and equivalent symbols,  $|_1 A_x$  or  $A_{x:\overline{1}|}$  we

$$\text{have } |_1 A_x \text{ or } A_{x:\overline{1}|} = v q_x \quad (14)$$

It will be noticed that in several instances alternative symbols are employed. This merely gives expression to the fact that these functions may be regarded from two points of view.

If such an assurance is to be renewed from year to year throughout the life of  $(x)$ , i.e. if the present value of an assurance of 1 is required, payable at the end of the year of the death of  $(x)$ , we have, representing such an assurance by  $A_x$ ,

$$A_x = v \cdot q_x + v^2 |q_x + v^3 |q_x + \dots \text{ to the end of life} \\ = \frac{v \cdot d_x + v^2 d_{x+1} + v^3 d_{x+2} + \dots}{l_x} \quad (15)$$

The assurance may be limited to a period of  $n$  years, when

$$A_{x:\overline{n}|} \text{ or } |n A_x = \frac{v \cdot d_x + v^2 d_{x+1} + \dots + v^n d_{x+n-1}}{l_x} \quad (16)$$

or deferred

$$n|A_x = \frac{v^{n+1} d_{x+n} + v^{n+2} d_{x+n+1} + \dots}{l_x} \text{ to the end of life} \quad (17)$$

The last significant age in the life table is designated by the Greek letter  $\omega$ , so that the final value in the  $l$  column is  $l_\omega$ , and of the  $d$  column  $d_\omega$ . The actual value of  $\omega$  varies with different values, the usual range being from 100 to 105.

It will be evident that

$$A_x = |n A_x + n|A_x,$$

while, by dividing equation (17) by  $\frac{v^n \cdot l_{x+n}}{l_x}$

$= v^n \cdot n p_x$ , it is clear that

$$n|A_x = v^n \cdot n p_x \cdot A_{x+n},$$

otherwise correct, since if ( $x$ ) survive  $n$  years, he will enter upon an assurance of 1 at his then age. The probability of so surviving is  ${}_n p_x$ , and the product  ${}_n p_x \cdot A_{x+n}$  has to be discounted for the period of  $n$  years, leading to the given result.

A combination much favoured is a temporary assurance  $A_{x:\overline{n}|}$  together with a pure endowment,  $A_x \frac{1}{n|}$  denoted by  $A_{x\overline{n}|}$  and termed an endowment assurance. Thus—

$$A_{x\overline{n}|} = A_{x\overline{n}|}^1 + A_x \frac{1}{n|} \quad \dots \quad (18)$$

In what has preceded, the present values of the various benefits have been ascertained—in other words, we have found the payments down—or single premiums corresponding to the benefits in question. They are *net* premiums—that is to say, they make no allowance for the expense of conducting the business, or for possible fluctuations in interest or mortality rates. It is, in fact, customary to calculate such net rates, and thereafter to add something for expenses, etc. (See OFFICE PREMIUMS.)

**Annual Premiums.** Generally, in life assurance, it is not convenient to pay down for a whole life assurance the full amount of the single premium, but to commute it for an annual equivalent of uniform amount, payable in advance each year. This uniform premium may be payable throughout the entire term of the contract, or for a shorter period. But, in any event, the calculated present value of all the annual premiums must be equal to the single premium in lieu of which it is payable. This introduces the important conception known as the "equation of benefits," wherein are set down, on the one side of the equation, all benefits receivable, and on the other, all payments to be made. Every item must be calculated so as to synchronize in value at a given time, i.e. usually all the present values are set down as at the inception of the assurance although occasionally some other point of time may be found more convenient. This procedure may not appear necessary in simple cases, but is almost indispensable in some instances where there are several kinds of benefits, and possibly several stages of premium payment.

If, then,  $P_x$  be the annual premium for a whole life assurance  $A_x$ , then the present value of all such premiums, payable in advance throughout life is  $P_x \times a_x$ .

Accordingly the "equation of benefits" is

value of sum assured =  $A_x$   
 value of premiums payable =  $P_x \times a_x$

$$\therefore P_x = \frac{A_x}{a_x} \quad \dots \quad (19)$$

When the premium is only to be payable for  $n$  years, then denoted by  ${}_n P_x$ , we have

$${}_n P_x = \frac{A_x}{a_{x\overline{n}|}} \quad \dots \quad (20)$$

while, if the benefit is an endowment assurance, this becomes

$$P_{x\overline{n}|} = \frac{A_{x\overline{n}|}}{a_{x\overline{n}|}} \quad \dots \quad (21)$$

For complicated benefits the letter  $P$  (or sometimes  $\pi$ ) is used, but the more usual benefits have special forms, as above, and also

$$\text{temporary assurances, } P_{x:\overline{n}|}^1 = \frac{A_{x:\overline{n}|}^1}{a_{x:\overline{n}|}}$$

$$\text{pure endowment, } P_x \frac{1}{n|} = \frac{A_x \frac{1}{n|}}{a_x \frac{1}{n|}}$$

If the premiums are not continued throughout the term of the assurance, the period of payment is indicated by an affix on the left-hand side of the  $P$ —thus  ${}_k P_x$  is the annual premium payable for  $k$  years under a whole life assurance.

**LIFE ANNUITIES (Single Lives).**

In a life annuity the annual sum provided by the annuitant is contingent upon the survival of the annuitant from year to year, and it thus consists of a series of endowments of equal amount, which in the case of an immediate annuity will commence one year after the annuity is entered upon, and be paid annually so long as the annuitant is living.

If the annuity commences at once, a payment of the annuity being made at the outset, it is then called an immediate *annuity-due*.

As in other annuities, the annual sum may be payable by half-yearly, quarterly, or monthly instalments.

An annuity is stated to be *non-apportionable* if it ceases with the last instalment paid preceding the death of the annuitant, but if it carries with it a proportionate payment between the date of the last instalment and the date of death, it is termed an *apportionable life annuity*; and unless a stipulation is made in the annuity bond that there is no proportionate payment, all annuities are by the Apportionment Act, 1870, Sects. 2

and 7, apportionable and deemed to accrue from day to day.

In various transactions involving annuity calculations, it is often convenient and justifiable (as, for example, in connection with industrial life assurance) to assume that instalments of annuity are payable continuously throughout the year, in which case the annuity is said to be a *continuous annuity*.

An illustration is here given of the method of calculating a life annuity from the elementary mortality factors and interest, and for the sake of simplicity and space the illustration applies to a life aged 90, the annuity being treated as payable yearly and non-apportionable.

It can be shown mathematically that the present value of a life annuity is less than that of the annuity-certain, the payments of the former, continuing as they do throughout life, being obviously spread over a longer period, and more affected by interest than those of the annuity-certain. This follows when it is remembered that the expectation of life is the *average* lifetime of a number of persons of a given age, and, being an *average*, must include a number of persons who live beyond the expectation of life.

#### LIFE ASSOCIATION OF SCOTLAND.

Head Office: 82 Princes Street, Edinburgh.  
London Office: 28 Bishopsgate, E.C.2.  
Founded 1838.

Schedule showing the method of calculating the present value at 3 per cent of an annuity of 1 per annum on a male life aged 90 from the elementary mortality table values of the British Offices Life Annuity Experience (1893).

Age.	Living.	Dying.	Survivors.	Discount 3% factor.	Present value of 1 to survivors. <sup>1</sup>
90	1568	288	1280	·97087	1242·7
91	1280	298	982	·94260	925·6
92	982	277	705	·91514	645·2
93	705	230	475	·88849	422·0
					3235·5
94	475	172	303	·86261	261·4 (for temporary life annuity).
95	303	119	184	·83748	154·1
96	184	77	107	·81309	87·0
97	107	48	59	·78941	46·6
98	59	28	31	·76642	23·8
99	31	16	15	·74409	11·2
100	15	8	7	·72242	5·1
101	7	4	3	·70138	2·1
102	3	2	1	·68095	·7
					592·0 (for deferred life annuity).
103	1	1	0		
Total value of payments of 1 per annum to survivors					3827·5

<sup>1</sup> Product of last two columns.

The total value divided by number of entrants, viz.  $3827·5 \div 1568 = 2·441$ —which is the present value of a life annuity of 1 per annum at age 90 (non-apportionable).

The symbol for the above annuity is  $a_{90}$ .

This illustration clearly shows that an annuity as stated is a series of endowments dependent upon survival, and it may be pointed out here that it is quite incorrect and a common error to suppose that a life annuity is of the same value as an annuity-certain for the term of the expectation of life.

The Life Association of Scotland is especially empowered by Royal Charter and Acts of Parliament. It was originally constituted and its affairs have been invariably administered on strictly scientific principles.

Bonuses are declared at periodical investigations as reversionary additions to the sum assured, provision being made for payment of intermediate bonuses to those policies becoming claims between valuations. Policy-holders, therefore, have all the advantages of an annual declaration.

The Association issues "Super" endowment assurances and "Popular" whole-life policies by a limited number of premium payments, both carrying valuable protective guaranteed options set out on the policy itself, holders being thus able to see at a glance the position of their assurances.

The Association issues also specially favourable child's option policies and assurances providing for payment of educational expenses. Premiums may be payable monthly within certain limits.

All other classes of life assurance business are transacted.

### LIFE ASSURANCE.

(See ADVERTISING LIFE ASSURANCE; BOARD OF TRADE, POWERS OF; DEFINITION OF LIFE ASSURANCE; HISTORY OF LIFE ASSURANCE; CANVASSING LEAFLETS; CONTRACTS, PARTIES TO; ASSURANCE COMPANIES ACT, 1909; PROPOSAL FORM, ETC.)

### LIFE ASSURANCE ACT, 1774.

(Gambling Act)

At common law wagers concerning matters in which the only interest of the parties was that created by the bet were not *per se* unlawful, and an action could be maintained on a wager on the life of a person, unless of such a nature as to be void on the ground of public policy (*Chesterfield v. Janssen*, 1750, 2 Ves. Sen. 125).

The Act of 1774 abrogated this common law rule, and in its preamble stated that "Whereas it hath been found by experience that the making insurances on lives or other events wherein the assured shall have no interest hath introduced a mischievous kind of gaming," and made provision for remedying the evil as follows—

Sect. 1. No insurance shall be made by any person or persons, bodies politick or corporate, on the life or lives of any person or persons, or on any other event or events whatsoever, wherein the person or persons for whose use, benefit, or on whose account, such policy or policies shall be made, shall have no interest, or by way of gaming or wagering; and every assurance made contrary to the true intent and meaning hereof shall be null and void to all intents and purposes whatsoever.

Sect. 2. It shall not be lawful to make any policy or policies on the life or lives of any person or persons, or other event or events, without inserting in such policy or policies the person or persons' name or names interested therein, or for whose use, benefit, or

on whose account, such policy is so made or underwrote.

Sect. 3 provides that in all cases where the insured hath interest in such life or lives, event or events, no greater sum shall be recovered or received from the insurer or insurers than the amount or value of the interest of the insured in such life or lives, or other event or events.

Sect. 4 provides that nothing herein contained shall extend or be construed to extend to insurances *bona fide* made by any person or persons on ships, goods, or merchandises, but every such insurance shall be as valid and effectual in the law as if this Act had not been made.

The words of this statute apparently are intended to restrict assurance only in so far as it relates to indemnity, since life assurance is not a contract of indemnity, but up to 1854 the view of Lord Mansfield adopted in *Godsall v. Boldero* (1807, 9 East at page 81) was held that life assurance was a contract of indemnity. This view was overruled in *Dalby v. India, etc., Life Assurance Co.* (1854, 15 C.B. 365), which held that the contract of life assurance is a contract to pay a certain sum of money upon the death of a person in consideration of the due payment of certain annual premiums during his life. It is not a contract of indemnity.

Where a party effects an assurance on the life of another, the statute of 1774 permits him, after the death of the assured, to recover from the assurance office so much of the sum assured, and no more, as his interest in the life extended to at the time of effecting the policy; and it is no ground for refusing payment that the interest had ceased during life.

### LIFE ASSURANCE COMPANIES ACT, 1870.

(See HISTORY OF LIFE ASSURANCE; BOARD OF TRADE, POWERS OF.)

### LIFE ASSURANCE COMPANIES ANNUITIES.

(See ANNUITIES GRANTED BY LIFE ASSURANCE COMPANIES.)

### LIFE ASSURANCE COMPANIES' SHARES AS INVESTMENTS.

Many years ago that remarkable man, Professor De Morgan, laid down that: "There is nothing in the commercial world which approaches, even remotely, the security of a well-established life office." Professor De Morgan was writing from the point

of view of a policy-holder, but his remark applies with equal truth and with equal force to the position of a shareholder in a life assurance company. The shares of composite insurance companies, that is, of insurance companies transacting all classes of business, have long been popular amongst investors, and quite rightly so. On the other hand, the shares of the purely life assurance companies have been comparatively neglected. Yet, whereas the composite offices are exposed to the risk of heavy losses, through conflagrations, such as the great fire at San Francisco in 1906, or through marine commitments, which in the last few years have seriously affected the position of many of the smaller offices, life assurance companies run no such risks.

It is, indeed, difficult to conceive of any calamity which could seriously impair the position of a well-managed life office. In times of trade depression fire insurance companies find that traders left with heavy stocks that cannot be sold are much more likely to have fires than they are in normal times, but, while under such circumstances, a man may be less careful of his goods, he generally continues to take good care of his life.

Even the heavy extra mortality caused by the war was, comparatively, a minor factor in the reduction of profits shown by many life offices during the years 1914-1921; by far the greater part of the drain on profits was caused by depreciation in investments, and this affected the composite offices, and, indeed, all classes of investors, quite as much as the life offices.

The lower degree of popularity enjoyed by the shares of the purely life assurance companies is, however, probably mainly due to lack of knowledge as to the sources from which life assurance surpluses arise; the method by which the participation of shareholders is ascertained; the probability of the maintenance of the present prosperity; and the scope for further expansion.

**Sources of Profit.** The three main sources of life assurance surpluses are excess interest, favourable mortality, and miscellaneous profits.

By excess interest is meant the margin between the rate of interest assumed by an office in its calculations and that actually earned on its funds. At the present time most life offices appear to assume interest at about  $3\frac{1}{2}$  per cent for the calculation of their premiums, and 3 per cent, or in some cases  $2\frac{1}{2}$  per cent, for the calculation of their reserves, whereas the net rates of interest earned average about  $4\frac{1}{2}$  per cent.

The very large margin between the net rate of interest earned and that assumed in the calculation of reserves immensely strengthens the position of the companies, and is of itself sufficient to ensure large surpluses for many years to come.

The effect of improved mortality is far more powerful with whole life policies than with endowment assurances, but, in spite of the popularity of the latter class, it remains an important contributor to surplus. If we take a whole life policy as an example, it will be readily grasped that if the death of a policy-holder, which under older conditions would have occurred at age 65, is postponed until, say, age 67, the office not only gets two more premiums, but gets an additional two years' interest on the money which it might have had to pay at age 65, but can now retain until age 67.

Miscellaneous profit arises from profit on sales of securities, profit from surrenders and lapses, and profit from "loading," less expenses.

"Loading" is the technical name for the amount added to the premium, as originally calculated from tables combining rates of mortality with rates of interest, to cover expenses and, where with-profit policies are concerned, to provide part of the bonus which the office hopes to declare.

**Shareholders' Participation.** Shareholders' profits arise first from their right to a fixed proportion of the surplus disclosed at successive valuations, and, secondly, from interest on their paid-up capital and any balances standing to the credit of their account.

Of these the first is much the more important, and is, indeed, the only one with which we shall deal in these notes.

At one time the proportion of profits taken by the shareholders varied fairly widely from office to office, but nowadays it has been practically standardized at 10 per cent of the total divisible profits, though 5 per cent is by no means uncommon.

**Increasing Dividends.** The important point for shareholders to remember is that, *while the number of shares remains stationary, the total divisible surplus of a well-managed and progressive office, as disclosed by successive valuations, should be a steadily increasing quantity.*

With a progressive office the new business secured year by year will more than replace wastage caused by death, maturity, surrenders, and lapses; the number of policies on the books, the premium income, and the funds, will therefore be steadily increasing

quantities. Thus, provided that a reasonably normal state of affairs prevails, the contributions from excess interest, mortality, and miscellaneous sources, will advance *pari passu* in amount, so that the surplus disclosed by successive valuations will steadily increase, and thus the amount available for shareholders will also automatically increase.

This tendency for the total divisible surplus to increase is so important that it is worth looking at the matter from another point of view. Nothing is more damaging to an office than to have to reduce the rate of bonus on its with-profit policies, and thus the greatest care is taken only to declare bonuses that the office is confident it can at least maintain in the future. So confident indeed are some offices that their present rates of bonus will be maintained, that they are issuing policies under which that bonus is definitely guaranteed at rates only a few pence over those charged for their ordinary with-profit policies, which carry no such guarantee. But since the cost of a given rate of reversionary bonus increases with the age of the policy, and since all policies on the books are growing older year by year, and the total volume of policies is also increasing, it follows that merely to maintain the present rate of bonus will require a steadily increasing surplus.

**What of the Future.** As regards the question of the maintenance of the present prosperity of life assurance companies, it seems certain that so far as mortality is concerned the general trend is in favour of the companies, and is likely to continue in that direction for many years. Expenses nowadays are certainly heavier than before the War, but the tendency to increase, which was very noticeable some years ago, appears to have been definitely checked, and there has even been some reduction in recent years. Then, again, it must be remembered that a very conservative policy has been pursued during the prosperity of the last few years. Profits on securities sold have been applied to writing down the value of investments retained, reserves have been strengthened—especially annuity reserves—special reserves have been set up, carry-forwards substantially augmented, and the margin between market and book values of securities held very largely increased. The only uncertain factor is the future course of interest. The general idea is that over the next decade or so the general rate of interest will decline. This will, of course, reduce

the yield on new investments, and thus will gradually reduce the average yield on the funds; on the other hand, it would increase the value of existing investments, and a decline in the gross rate of interest may be partially offset by reductions in income tax.

The confidence of those best able to form an opinion as to the future finds expression in the conviction that present rates of bonus will be maintained for many years to come.

**Scope for Further Expansion.** Assuming the total assurances in force in all British offices to amount to about £2,500,000,000, and taking the total population of Great Britain and Ireland as 50,000,000, and assuming five members in every family, and that only one of these needs assurance, we get a minimum number of 10,000,000 potential policyholders. This gives an average assurance per family of five of £250. Such a sum assured, if invested on the death of the policy-holder and breadwinner, would produce less than 5s. a week for the support of the four surviving members of his family. A consideration of these figures should suffice to satisfy anyone that the life assurance field is by no means worked out; it has hardly been scratched, and there is immense scope for further expansion.

**Position of Proprietary Companies.** It may perhaps be thought that the purely proprietary life assurance companies are handicapped when they come into competition with the big composite companies or the mutual life offices. This is not, however, the case in practice. Any difficulties under which the proprietary life offices may be alleged to labour would appear to have but little effect on their prosperity, for one such office has maintained for 30 years a compound bonus of 38s. per cent on its with-profit policies—a rate which even to-day is high, and was exceptionally so in pre-war days—while another proprietary office—now absorbed—was the only office to maintain a 2½ per cent valuation basis, and its full rate of bonus, throughout the war period.

**Two Main Classes of Company.** Proprietary life offices fall into two main classes: those transacting ordinary life assurance only, and those transacting industrial life assurance also. As a result of amalgamations—in which the prices paid for shares have been very substantially above market quotations—the number of companies in the first class has been reduced to seven, even if we include the Abstainers and General and the Legal and General, both of which, though primarily

life offices, also transact other classes of insurance.

Shares of the Equity and Law and Legal and General could formerly only be held by members of the legal profession, but the register of each company has recently been opened to the general public.

**Industrial Insurance Companies.** Amalgamations amongst industrial insurance companies have been much less frequent, but many good judges think that the time is coming when the pressure of competition will lead to the consolidation of all existing industrial companies into three or four big groups. Considerations such as these render the shares of companies like the Pioneer, the Britannic, and the London and Manchester even more desirable purchases than is indicated by the yield obtainable on their shares. Of recent years there has been a marked tendency for the industrial companies to undertake fire and accident business as well as life assurance.

Of the industrial companies, the shares of the Refuge are privately held, while those of the British Widows, Hearts of Oak, London General and Provident Association, are seldom, if ever, dealt in.

#### **LIFE ASSURANCE COMPANIES' STATISTICS.**

(See STATISTICS, ETC., OF LIFE ASSURANCE COMPANIES.)

#### **LIFE ASSURANCE, DEFINITION OF.**

(See DEFINITION OF LIFE ASSURANCE.)

#### **LIFE ASSURANCE FUND.**

(See SEGREGATION OF LIFE ASSURANCE FUNDS.)

#### **LIFE ASSURANCE IN NEW ZEALAND.**

(See NEW ZEALAND GOVERNMENT LIFE INSURANCE DEPARTMENT.)

#### **LIFE ASSURANCE LEGISLATION.**

(See HISTORY OF LIFE ASSURANCE; ASSURANCE COMPANIES ACT, 1909; BOARD OF TRADE, POWERS OF.)

#### **LIFE ASSURANCE, PRINCIPLES OF.**

(See PRINCIPLES OF LIFE ASSURANCE.)

#### **LIFE ASSURANCE PUBLICITY.**

(See ADVERTISING LIFE ASSURANCE; CANVASSING LEAFLETS.)

#### **LIFE CONTINGENCIES.**

(See PROBABILITIES OF LIFE.)

#### **LIFE EXTENSION INSTITUTE.**

(See PERIODICAL MEDICAL EXAMINATIONS.)

#### **LIFE FUNDS, SEPARATION OF.**

(See SEGREGATION OF LIFE ASSURANCE FUNDS.)

#### **LIFE INTEREST IN POSSESSION.**

Akin to an immediate life annuity is a life interest in possession, which is defined as an interest or estate which lasts during the life of the holder or some other person. Entitled to income of settled property for life, he or she is called a tenant for life and the income is of the nature of a life annuity, except that it may vary from time to time according to the investments of the estate or fund upon which it is secured.

The value of a life interest, assuming a uniform income, depends naturally upon the condition of health of the holder upon whose death it would pass elsewhere or cease. Before, therefore, it can be made a marketable security, a life interest must be covered by a life policy (unconditional) of sufficient amount to secure a return of the capital invested in its purchase--the annual cost of such a policy being a kind of sinking fund which, deducted from the life interest, leaves an annual income as interest-return on the investment.

As a life interest ceases at death, an investor must secure himself not only by assuring the life-tenant for the sum invested, but also have a margin of, say, a year's interest, otherwise in the year of death he might find himself short of interest (ignoring any apportionment of the life interest to date of death).

It is outside the scope of this article to discuss the various formulæ for the value of a life interest, and the following information must suffice.

If a life aged 40 is in possession of a well secured life interest of £100 per annum, a fair value could be obtained as follows—

Let  $X$  be the value to an investor.

He would require to assure the life aged 40 under, say, a whole of life, unconditional, policy for  $X$  plus a year's interest as a margin.

Interest may be taken at 6 per cent.

If the rate of premium is £2 15s. 0d. per cent the premium on  $1.06 X$  is  $1.06 \times .0275 X$ .

Interest on his investment at 6 per cent is  $.06 X$ .

So that

Premium Interest  
 $\{(1.06 \times .0275) + .06\} X$  must not exceed  
 £100, the amount  
 of the life interest

$(.02915 + .06) X = £100$   
 $.08915 X = 100$   
 $X = £1121.7$  approximately.

	£	s.	d.
The capital invested	=	1,121	14 -
Margin of 6 per cent (one year's interest)	=	67	6 -

£1,189 - -

	£	s.	d.
Premium on £1,189, say at £2 15s. 0d. per cent	=	32	14 -
Interest at 6 per cent on £1121.7	=	67	6 -

Annual charge covered by life interest of £100 per annum	=	£100	- -
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From the £1121.7 the purchaser would deduct the first premium of £32 14s. 0d.

The position of the investor is thus secure, so long as he can keep trace of the life-tenant, whose trustees will not part with his life interest of £100 per annum, unless satisfied he is alive.

The £100 gives the investor 6 per cent on £1 121 14s. 0d., and the annual premium of £32 14s. 0d.

The life policy returns him at the death of the life interest £1,189, i.e. £1,121 14s. 0d., plus one year's interest on £1121.7, viz., £67 6s. 0d.

The possibility of disappearance of the life-tenant is a risk an investor has to bear in mind, and where a loan is granted on a life interest it is sometimes a safeguard to lend on only part of his life interest, so that there is some incentive to his periodically reporting to his trustees to draw his unmortgaged share of income.

### LIFE OFFICE ASSESSMENTS.

(See INCOME TAX.)

### LIFE OFFICE CONSTITUTIONS, TYPES OF.

The names and descriptions adopted by assurance companies must perplex the public. They afford little information, and as a result of amalgamations some have compounded titles where the association of words is most bewildering. Indeed, many

assurance companies' names, dissociated from our habitual conceptions, are positively ludicrous. Many companies have sought distinction of title regardless of propriety; and custom has so blunted our susceptibilities that most of us are oblivious of the incongruity, and may even come to applaud it.

But out of the welter of meaningless words which go to make up the names of assurance companies we are confronted from time to time with one which arrests attention, because it conveys an idea that seems to be part and parcel of what is meant by assurance; for instance, the word "mutual." In the abstract, life assurance is essentially a "mutual" transaction. The contributions of many go to the unfortunate "sufferer" or "claimant," as he is now called. Yet this is not what we mean by a "mutual" office, else all life companies might be so described; and mutuals present their distinction as something especially meritorious.

Life assurance companies may be resolved into two distinct types: mutual and proprietary. In these days the latter preponderate. They do not stress the fact that they are proprietary. The mutuals, on the other hand, seem to resent the omission, for they advertise that mutuals have no shareholders. Yet the difference between the two types is of origin rather than unlikeness.

A mutual company is one which may or may not possess a joint-stock, or capital, which is the commoner name. By the terms of its constitution it is supposed to distribute the whole of its profits among its members, after making full provision for reserves. A proprietary company is one which has a joint-stock or capital subscribed by its proprietors, or shareholders, for the avowed purpose of earning dividends. In a mutual society membership arises through a policy of assurance therein; but the shareholder of a proprietary company is not necessarily a policy-holder of that company. These two definitions, however, need modification as a consequence of the tendencies of both types to imitate each other. The mutual office, to-day, is found issuing non-profit policies. Such members do not share in the profits. Whilst proprietary companies urge their shareholders to take out policies with their own company, and further have adopted the practice of distributing a fixed proportion of their life department profits among profit-sharing policy-holders. Of

course, the accumulation of life funds is common to both types of companies. Life funds are not to be confused with capital. The life funds are statutorily reserved for the purpose of life assurance.

It may be noted here that there is an academic division of assurance companies into three types: proprietary, mutual, and mixed. A proprietary company may be defined as a company wherein the whole of the profits are allocated to shareholders, a type which to all intents and purposes is defunct in this country. To-day the ordinary life office finds it necessary to make its with-profit policies a feature of its prospectus; whilst even industrial insurance offices, where the difficulty of allocating any regular proportion of the profit is greater, are coming into line by giving bonuses and increased benefits to their policy-holders. The truth is that the return of dividend to shareholders of the proprietary offices has to be subordinated to the possibilities of securing a larger premium income. Therefore, for all practical purposes, the division into proprietary and mutual covers the whole field of life assurance.

Obviously the constitutions of these two types are distinct, although in practice they tend to resemble each other. In their origin the difference was more marked. The earlier years of life assurance history give a clearer perception of the subject under consideration than any comparison of present day companies could do.

So far as the life branch of the assurance business is concerned, the activities of mutual societies played the larger part in developing it. Except for one initial effort, mutuals preceded the proprietary companies. It may be said that the remarkable success of the pioneer mutual societies stimulated the activities which created the proprietary companies. But, on the other hand, the proprietary companies must be credited with their initial appreciation of the latent defect in young mutual societies, namely, the want of security in the earlier years, and, further, they must be credited with a larger vision of the financial resources necessary to carry on a business second to none in importance to the community, a business in which absolute safety is a *sine qua non*.

Security is the very alphabet of assurance. So obvious is this that at the day-dawn of life assurance history we find that, for the lack of other sources of security, a scheme, which was mutual in its conception, found existence under proprietary influence, viz.,

the pioneer life assurance project devised and promulgated by the Rev. Dr. Assheton in 1699. His avowed objects were provision for the dependants of the clergy. He set forth details of his scheme in a sermon delivered in St. Paul's Cathedral. So vivid was his appreciation of need for security that he actually sought, without success, however, the support of the Bank of England. Finally he enlisted the interest of the Mercers Company of the City of London, which undertook to operate the scheme in the hope of securing considerable profit. The original idea was enlarged to embrace others than the clergy. Unfortunately for the Mercers Guild, the premiums charged proved inadequate, and it made a heavy loss over the transaction. But, may it not be said that the argument in favour of proprietary control receives considerable support from the historic fact that "the commonalty of the mystery of Mercers" liquidated all their liabilities?

From this unhappy effort we turn to the Amicable Society, which came into being in 1705, and survived until 1866, when it was amalgamated with the Norwich Union Life Office. The Amicable was the pioneer of all mutual insurance. The activities of its members played a large part in promoting its success. The story of its early days makes strange reading. We are told that "certain gentlemen, tradesmen, and others" entered into a "voluntary society." In 1706 they secured a charter. Membership was at first limited to a total of 2,000; and each member contributed a small sum (£7 10s. 0d. according to one writer) towards the "joint-stock," and in addition thereto had to contribute a quarterly premium. The sum payable at death varied according to the current mortality experience of the Society, a detail which played an important part in minimizing the possibility of disaster. But, as may be imagined, in those parlous times there were other dangers to the security of a company over and above claims experience. There was the risk of mismanagement, or even of the misappropriation of funds. Hence the possession of a royal charter was an invaluable asset in establishing ample confidence. Apart from the credit of official recognition, the charter won support for the Society by limiting the liability of members to their actual agreed contributions. Without such a charter, every member of such a society would have been personally liable for losses incurred in the conduct of its affairs.

The Amicable Society was the first chartered life assurance company. The Royal Exchange Corporation and the London Assurance were already in the field, but their charters were not extended to life assurance until later. Their entry into "life business" led to nothing beyond a haphazard year-to-year policy at five guineas per cent, irrespective of age. At that time they were proprietary companies interested in marine and fire rather than life assurance. To them insurance was a "money-making" enterprise. To the founders of the Amicable it was a co-operative effort to help one another.

In 1762 the Equitable appeared upon the scene. This again was a mutual society, with all the elements of success therein. That bugbear of the period, unlimited liability, handicapped the aspirations of its promoters, who wisely sought to secure a charter on the lines of that of the Amicable. The three chartered companies already in the field successfully opposed the application, and so compelled the applicants to adopt the only course open to them, viz., to enter into a co-partnership agreement one with another, thereby creating a new method and a new story. The deed of settlement or co-partnership under which the old Equitable and many other offices came into being actually makes every member covenant to satisfy all claimants for "any sums which shall become due . . . in respect of such assurance." Members had to deposit an amount of ten shillings per cent on the sum assured, to form a sort of "flotation expenses" fund. Fortune favoured the undertaking, and inasmuch as the table of premiums was compiled on sound principles, being the first known application of actuarial science, the Society stands to-day as a monument of historical interest to all assurance men and women.

However, even the most sanguine spirits in such a mutual venture as the Equitable must have had uncomfortable moments in the beginning when contemplating the possibilities of a bad claim experience. For the first few years assets were trivial beside liabilities. We can instance that of the Scottish Widows' Fund, which in 1815 with £781 total liquid assets, had a debt of £375 "flotation expenses," besides the hazard of thirty policies issued for sums of considerable amount in those days. There were, however, many courageous spirits anxious to emulate the success of the Equitable, and along similar lines the London Life,

the Eagle, and the Norwich Union were born. But the more timorous multitude turned to the proprietary companies as they came along, companies wherein the shareholders professed to undertake the whole liability. It has always been understood that one or more great Scottish companies were founded with large subscribed capital to take advantage of a scare about the security of the mutuals.

The majority of these early ventures took the shape of a co-partnership regulated by articles of agreement. In practice the method was cumbersome. Frequently in a court of law the names, addresses, etc., of all the co-partners had to be recited, and sometimes all their signatures obtained to sanction a single variation of the policy of the management. The Eagle secured a special Act of Parliament to relieve itself of this procedure, and the other co-partnership offices in the course of time followed its example. Indeed, the swift development of commerce rendered modifications absolutely necessary. Realization that incorporated companies, those blessed with a charter, were free of individual liability, whilst the greater body of non-incorporated trading companies were never free from possible losses or even ruin to every member, created a desire for reform. In the business of life assurance, companies multiplied, good, bad, and some very bad, creating by their failures a call for further legislation. All this led to the Joint-Stock Companies Registration Act, 1844, the Companies Act, 1862, the Life Assurance Companies Act, 1870, and much subsequent company legislation proposed to protect both shareholders and policy-holders. As regards the personal liability of a life assurance policy-holder, the principle has been clearly enunciated, for all time, that his liability is limited by his agreement when he assures; the intention in this respect generally finds expression through a clause in the policy which makes the funds of the company alone subject to any claims which may arise under its policies.

In conclusion, it may be agreed that time and competition have practically eliminated the main points of difference between mutual and proprietary offices. To-day there is a practical equality of results which makes the choice between mutual and proprietary offices a matter of accident or temperament rather than the outcome of intelligent selection. The accumulated reserves of our established mutuals run to figures that may

be said to give their members complete freedom from envy of any security alleged to be derived from the capital of shareholders. On the other hand, the amount of bonus addition to a "with-profit" policy issued by a proprietary company to-day is generally sufficiently generous to justify contentment with the choice of such an office, apart from the security of the added capital paid and unpaid. This growing equality of the two types of companies is also reflected in the assured. The one-time active member of a mutual, who attended meetings of the Court and brought in new members as a part of his solemn duty, now treats these duties very lightly, and leaves the elective functions of membership to officials and their friends. At the same time the policy-holder in the proprietary company, no longer ignorant and trusting, takes a keener interest in the balance sheet of his company, and boasts of the bonus-additions made to his policy. Thus we see the objective of both types of policy-holders is the same. They want security and profit, and can hardly fail to get them if they use their eyes and their understanding in reading the balance sheets.

Having dealt with the three main classes of insurance companies, viz., mutual, mixed, and proprietary, and of these the life assurance companies nowadays belong to either the mutual or the mixed class, mention should be made of the different ways in which life offices came into existence. For this purpose offices transacting life assurance business may be divided into eight classes, viz.—

1. Companies incorporated by Royal Charter.
2. Companies incorporated by special Act of Parliament.
3. Companies empowered by Letters Patent from the Crown, but not incorporated.
4. Companies governed by their own deeds of settlement, not incorporated, not, in fact, differing from ordinary partnerships except in the number of partners.
5. Companies incorporated by registration under the Joint-Stock Companies and Registration Act, 1844, and subsequently registered under the Companies Acts.
6. Companies formed under the Companies Acts.
7. Friendly societies.
8. The Government, through the medium of the Post Office, though new business has been discontinued since 1928.

(See also HISTORY OF LIFE ASSURANCE.)

## LIFE OFFICE INVESTMENTS.

(See INVESTMENTS OF LIFE OFFICES; STOCK EXCHANGE SECURITIES.)

## LIFE OFFICE ORGANIZATION.

The organization necessary to control the varied transactions which make up the business of a modern life office is of a singularly complex character. The transactions cover so wide a ground that a life office is hardly comparable in this respect with any other financial undertaking. The basis on which life assurance is founded is mathematical. Actuarial science is applied at almost every phase of the work, but business, of course, has to be secured, and the commercial side of an office is of much larger dimensions than the actuarial. The acquisition of proposals for assurances, which correspond to the orders or sales of a commercial house, necessitates a highly developed salesmanship organization of a character peculiar to the insurance business. The questions involved in the acceptance of the risks under proposals call for further specialized knowledge—again quite outside the scope of ordinary commercial life—and for the aid, in an advisory capacity, of the medical profession.

The risks having been accepted and the policies issued, machinery is required for the maintenance of these policies, including, amongst other matters, the collection of premiums, the investment of premiums and other funds, the periodic valuation of the liabilities under the policies, and the assets held against them, the distribution of the surplus in the shape of bonuses, the registration of assignments, the investigation of titles, the granting of loans and surrender values, and the payment of claims.

The organization of every life company of note centres in a head office, subsidiary to which are a number of branch offices in the more important provincial cities and, where a foreign business is transacted, abroad. In the case of nearly all offices, the only exceptions being those which do not pay commission for the introduction of business, local agencies are established throughout the area in which the office operates.

At the supreme head of affairs is a Board of Directors, appointed in accordance with the rules prescribed by the company's constitution and responsible to the shareholders in a proprietary company, and to the policy-holders, in a mutual office, for the whole conduct of the business. In the early days of life assurance the directors

frequently took a considerable part in the actual routine and detail work of their offices. Although this has been rendered impossible by the great development of the business and the growth in the purely technical side, they still maintain a close control over administration and, working in conjunction with the chief official, they usually retain in their own hands the supervision of the acceptance of the life risks submitted to the office, and of the investment of the funds received for covering those risks, on which interest must be earned and accumulated to provide for the claims as they arise.

The active management of the business is in the hands of executive officers appointed by the Board of Directors, the chief of whom is usually, though not necessarily, an actuary.

Supported by the other executive officers, amongst whom are usually such officials as an assistant secretary, assistant actuary, and an agency manager, the chief official controls the staff appointed to deal with the work of the company, the head office staff being divided into departments for this purpose, the chief of each department being responsible to the chief officer for the whole of the work done under his supervision. Elsewhere in this volume, under the heading of each of these departments, will be found an analysis and description of the work generally performed by it. There is naturally some variation in the allocation of work to departments, and the larger companies frequently divide their staffs into a greater number of sections. The usual head office departments and the work pertaining to them are as follows---

*Accountancy Department.* Book-keeping and accounts—maintenance of machinery for collection of premium and other income.

*Actuarial Department.* Preparation of rates of premium, loan and surrender values of policies, valuation of the office's liabilities and assets in accordance with the Life Assurance Companies Acts, and supervision of the distribution of surplus as bonuses.

*Agency Department.* General supervision of branch offices and agencies, and duties incidental to the production of new business.

*Cash Department.* Reception and disbursement of cash.

<sup>1</sup>*Claims Department.* Payment of claims and registration of notices of assignment, etc.

*Investment Department.* The investment of funds.

<sup>1</sup>*Loan and Surrender Department.* Payment of loans and surrenders.

<sup>1</sup>*New Business Department.* The handling of proposals and acceptances.

<sup>1</sup>*Policy Department.* The preparation, issue, and endorsements of policies.

In addition to the departmental work here detailed, there are various duties which may be divided among the departments, of which the most important are the preparation and upkeep of the policy-holders' index, shorthand-typing, post, etc. There is also sometimes a secretarial department.

*Policy-holders' Index.* An alphabetical list must be kept of all the policy-holders of a company. This is usually done by a card system, one card for each policy-holder, containing the following information: The full names of the life assured (and of the person effecting the policy if other than the life assured), his or her occupation and address, the number and amount of the policy or policies held, the agency or branch office through which premiums are payable. Where a policy is effected on the life of another, or in the case of a deferred assurance effected on behalf of a minor, a card is also made out under the name of the person effecting the policy, and kept in the index under that name. It need only state the policy number and the name of the life assured, the card for which must be referred to for further particulars. Extra cards are similarly required for each individual assured under a joint life policy and under a survivorship policy.

On the card would also be entered the requisite particulars when the company is asked to issue notices to some third party, or to notify a third party when a premium is not duly paid, when a policy is reported to the company as having been lost or destroyed, and so on.

It is practicable to use both sides of the card, and the front would be drawn up somewhat as follows—

<i>Smith John James</i>		<i>Publisher</i>		
<i>14 High Street, Livermerc</i>		No.	Class.	Amount.
<i>Notices to Barclays Bank, Aintree Road, Livermerc.</i>		12346		£1,000

<sup>1</sup> These departments are often combined.

The card for a new policy is typed from the proposal papers or the policy register, all particulars being carefully checked for errors of commission and omission before the card is passed for insertion in the index. Changes of name, style, address, agency, and amount of policy are frequent, and must be recorded with promptitude on the cards. These alterations should all be focused into one "Alterations" book, and be attended to by the registration clerk, who must remove the cards from the files for the purpose. Authority to remove these cards should be confined to him and his assistant. The loss of a card is a serious matter, and, as reference to it for some other purpose may be necessary while it is being corrected, it is customary for a blank card to be inserted in the place to show that an abstraction has been made, and thus to prevent the possibility of errors arising through the policy particulars not appearing in the index.

When a premium has not been duly paid, and a policy becomes void, the card must also be withdrawn, and placed in a separate section with others of its kind.

On a policy being surrendered or becoming a claim, the card must be withdrawn and placed in the section for cancelled policies, or should there be other policies on the same life the policy number and amount must be ruled through, and a note made against it, indicating the cause of cancellation, e.g. surrendered 1/3/30, or lapsed 20/4/30.

### LIFE OFFICE VALUATIONS.

The periodical valuations of a life assurance office correspond, in some respects, to the stocktaking of a trading concern, which is usually made before the balance sheet is prepared. Into one side of the account is brought the actual or estimated value of all assets, and into the other the actual or estimated value of all liabilities, so that a balance sheet may be drawn up showing the position of the office. Such an investigation clearly should be made from time to time, and in Great Britain it is a statutory requirement, in terms of the Life Assurance Companies Act, 1909, that a full valuation should be made once at least every five years.

As various other requirements are made, including in particular a separate valuation of sums assured and bonuses and of premiums, the whole procedure of valuation must be organized to furnish the information so called for.

The objects, then, of a valuation are—

(a) To conform with statutory requirements.

(b) To test the actual position of the office with a view to

(1) Distribution of surplus if such position is favourable;

(2) Decide as to solvency if doubtful;

(3) Fix terms for amalgamation or transfer to another office.

(c) To examine generally the progress of the business in the past, and prospects for the future.

In explanation of the sub-headings under (b), it has to be borne in mind that life assurance is not an exact science, and the results of a valuation are liable to considerable variation as the business works itself out. It is based upon estimates built up with the most scientific machinery at our command, and yet there must be a difference in the attitude and methods according to the object aimed at. Before dividing out or allocating a portion of the assets as surplus, the liabilities should be valued with an allowance for adverse fluctuations and circumstances that may arise in the future: equally it will be considered desirable generally so to arrange that there is likely at future valuations to be a corresponding favourable surplus for future distribution.

If, however, an office has been experiencing ill-fortune, and can at best hope but to weather the storm, and there is no intention to distribute any of the assets, then it is justifiable to value on a basis as close as possible to the conditions likely to be experienced in the future. Life assurance institutions show much resilience with skilful management, and there are several offices now most prosperous, that have had difficult times.

Valuations for transfer or amalgamation will occupy a position ranging between the two extremes—depending on the position of the office to be amalgamated usually, and on the terms to be given.

For a survey of the principles to be observed in life office valuations see a paper by Mr. J. M. McCandlish to the Actuarial Society of Edinburgh, reprinted J.I.A. xx 12; the "Standard of Solvency" is discussed by Sir G. Ryan in J.I.A. xxxii 25, etc., while there are other references in the "Index to the First 40 volumes" and in the "Index to Volumes 41 to 55" to the question of bankruptcy and insolvency

(Valuation—General Remarks). As an up-to-date example see "Winding-up, etc.," by F. L. Collins, J.I.A. lvi 152.

There have, then, to be considered—

1. The mortality table to be used.
2. The rate of interest to be assumed.
3. The provision available for future expenses and bonuses.

As to mortality, the ideal would be to use a table corresponding exactly to the future experience of the office. That, of course, is not feasible. Generally, in this and other countries, the course preferred is to use a table representing the past experience of a number of offices. Such a table will be founded upon a solid average, and there will be numerous monetary functions to hand, facilitating calculations and reducing expense. It might be urged that the past experience of the office under notice would be a better guide, but, with some exceptions, actuarial opinion is opposed.

1. The basis is so much less reliable with such comparatively limited statistics.

2. Fluctuations as between past and present are likely to be greater.

3. The heavy expense—especially if all or many offices adopted such a course—would be serious.

4. The difficulty of instituting any comparisons between offices.

5. In fact, the uncertainty of any tests as to the position of the office, without access to the books, and elaborate calculations.

Yet as to the collective mortality experiences which are preferred for valuation purposes, it is clear that they produce average results—i.e. more favourable than some and less favourable than others of the individual experiences included. This might raise questions were it not that the rate of mortality has been falling for a long time, so that the mortality of the least fortunate office of the group probably comes reasonably near to the rates of the partly out-of-date collective experience. Altogether the advantages of using a collective experience far outweigh the disadvantages.

The majority of offices now favour the British offices' experience of 1863–1893, although it is probable that current rates of mortality are, and future rates of mortality will be, lower than are shown by it. It is also likely that policy values by the next mortality tables will be higher, accom-

panied, however, by a saving on premium loadings.

As to the rate of interest to be assumed, it is customary in valuations to adopt a uniform rate for convenience—if only because it is more convenient, and because a uniform rate can be found that will represent a varying rate approximately. The rate of interest earned by British offices over a long period has ranged between  $3\frac{1}{2}$  and 5 per cent, with an average of something over 4 per cent. It might seem that 4 per cent would be a satisfactory rate to employ, were it not that it has become customary for the assured to expect bonuses of considerable amount—say 30s. per cent per annum on the original sum assured as a rough average—for which, of course, higher premiums than the minimum essential are payable. Calculations and experience have shown that such bonuses can be provided for most simply by valuing contracts at a lower rate of interest—about 1 to  $1\frac{1}{2}$  per cent lower than that earned. Accordingly the majority of offices value at 3 per cent (it will scarcely be necessary to mention that the lower the rate of interest assumed, the larger is the present estimate of future liabilities) while a few even value at  $2\frac{1}{2}$  per cent only. If, then, an office values at 3 per cent and earns more than 4 per cent, it is not in order to retain abnormally high reserves, but to provide for additional benefits in the shape of bonuses—what may be termed an uncovenanted part of the contract. It is true that when the non-participating contracts are valued at 3 per cent, the criticism of over-reserving is justified, but this group is usually too small in proportion to make a variation from the standard essential.

It is now necessary to turn to premiums and loadings. At the inception of a contract the annual premium is fixed. Thus there will be in existence in an old office policies issued very many years ago, at premiums which may be higher or lower than those which would be required now. As a valuation, however, has to provide for future liabilities, it is preferable to look forward rather than backward, and to strengthen the reserve if necessary. The premiums that will be paid in the future must provide not only for the annual addition to the reserves (so that the latter will be adequate on the average to meet claims as they arise), but also for the expense of carrying on the business, as well as for periodical bonuses.

The theoretical net value of a policy by

the prospective method (see POLICY VALUES) is

$$V = A - P(1 + a) \quad (1)$$

where  $V$  = the policy value to be found.

$A$  = the policy value of the sum assured.

$P(1 + a)$  = the value of net premiums payable.

which tells us the reserve for a single policy when the next annual premium is just due. In practice, the problem is rather different. The equation may be set down as—

$$V' = A(1 + B) + b(iA) + e(k + a) - P(k + a) - \phi(k + a) \quad (2)$$

where  $B$  = total reversionary bonuses already allotted.

$b$  = future annual bonus it is hoped to distribute.

$e$  = annual expense of conducting business.

$k$  = a fraction allowing for the distribution of the premium income.

$P$  = net premium actually valued.

$\phi$  = balance of office premium available, so that  $(P + \phi) = P'$ , the office premium actually payable.

It is evident that such a complicated formula would be laborious to apply, with the varieties of policies that are issued, and would increase greatly the expense of valuation. Hence, as above mentioned, the valuation is made at a lower rate of interest;  $e$  and  $\phi$ , the annual expenses and the loadings respectively, are set off one against the other, with certain exceptions and adjustments to be noted later, enabling the item,  $b(iA)$ , the reserve for future bonuses, to be omitted.

This brings us to the stage where the factors used are net functions based upon the valuation table of mortality, and this, the net premium method, as it is called, is still the most popular. There are, however, adverse opinions and difficulties. The employment of a lower rate of interest in the valuation means that  $P$  in the formula  $V = A - P(1 + a)$  becomes larger, and, for non-profit business at least, may exceed the full office premium, while for with-profit business the margin of loading may become clearly insufficient to meet expenses.

In these circumstances it is not unusual to depart from the strict principles of a net premium valuation, but in the direction of

greater stringency, either (a) by valuing the net premium at a higher rate of interest than that employed in the valuation, or (b) making a percentage deduction from the net premium, leaving a margin of loading sufficient to meet expenses and assist in providing bonuses. Thus the deduction may be as much as 20 per cent for with-profit policies and 10 per cent for non-profit policies. Such methods are, however, expensive luxuries, as a considerable amount of surplus is tied up by their use. For a policy just issued, an additional reserve has to be provided from older business, amounting to the present value of an annuity of the difference between the net premium and the premium valued.

For a consideration of various formulae for valuation, see VALUATION METHODS, and for selection, see VALUATIONS BY SELECT TABLES OF MORTALITY.

**Valuation Ages, etc.** It will now be desirable to consider methods whereby allowance is made for the valuation ages, incidence of the premium income over the calendar year, i.e. to ascertain the value of  $k$  in formula (2).

In a letter to the *Insurance Record*, published on 26th May, 1871, Dr. Karup showed how an exact valuation might be made by means of constants calculated once for all when the policy was effected. The demonstration is repeated and brought up to date in J.I.A. xxxviii, 431.

In the case of a whole life assurance  $n + k$  years in force ( $n$  integral,  $k$  fractional), age at entry  $x$ , and proportioning between the value at the beginning of the year (premium just paid) and the value at the end of the year (premium due), we have

$$\begin{aligned} n + k V_x &= (1 - k)(A_{x+n} - P_x \times a_{x+n}) + k \\ &\left[ A_{x+n+1} - P_x(1 + a_{x+n+1}) \right] \\ &= A_{x+n} - P_x \times a_{x+n} + k(A_{x+n+1} - A_{x+n}) - k \cdot P_x(1 + a_{x+n+1} - a_{x+n}). \end{aligned}$$

Thus at the start of each policy,  $k$ , which is the fraction of the year from the date of issue up to 31st Dec., and multiplied by the sum assured and by the net premium respectively can be calculated once for all. It remains constant for all durations, and the summation of all the fractional amounts provides automatically for the incidence of the premiums over the year, where policies are valued in groups. The method is suitable also where there are half-yearly and quarterly cases if allowance

be made for outstanding instalments, and can be extended to endowment assurances, etc.

It is not, however, usual to seek such an exact value of  $k$  in the valuation age, and various shorter methods are used—

1. Find the average period that has elapsed since the last renewal date, and give that value to  $k$ . If the dates are distributed equally over the year, the valuation age will be  $x + n + \frac{1}{2}$ , and the annuity to be used in multiplying the net premium  $\frac{1}{2} + a_{x+n+\frac{1}{2}}$ .

2. The value of  $k$  may be taken to the nearest integer, i.e. zero when  $k$  is less than  $\frac{1}{2}$ , and 1 where  $k$  is greater than  $\frac{1}{2}$ .

If tables are used containing values of annuities and assurances proceeding by half-years, quarters, or months of age, the value of  $k$  may be taken to the nearest half-year, quarter, or month as the case may be. (McLauchlan, T.A.S.E. II, 12.)

**Valuation Procedure.** Valuation procedure must be guided by the ends aimed at, modified by the material and machinery available. It has to be borne in mind that—

1. The basis of valuation having been fixed, means must be taken to see that that basis is applied strictly; that the work done is accurate; and the results reliable.

2. That each stage of the work done must be justified by the results secured, i.e. economy to be striven for, and overlapping or redundancy avoided.

3. While in some cases a system is in existence which it may be impracticable or undesirable to seek to alter on the eve of a valuation, yet the system should enable a valuation to be made at any time without undue disturbance. If annual valuations are not made, a trial valuation is advantageous a year or three months or even one month in advance.

4. Everything that can be done should be prepared in advance, so that as little as possible is left until the valuation date—all the clerical work, and even time sheets and valuation schedules in skeleton, and instructional memos. There will also be a number of preliminary outside inquiries to be made as to the continued existence, say, of lives connected with reversions and contingent assurances and as to bonuses on re-assurances. Other inquiries may affect the investment department, etc.

5. Finally the collected results must be arranged so that they are at once directly available

(a) for the returns to be made to the Board of Trade;

(b) for comparison with past and future results, and for ready reference at any time.

Such are the primary points to be kept in view: how they are to be applied in practice varies greatly. The introduction of mechanical aids to recording, summation, and calculation is modifying many systems of organization. Usually the policy register is regarded as the essential record, from which the valuation data are derived, and with which a "tie-up" or balance should be established if possible. From this or from records associated with it the valuation data will be collected or revised. Thus the new business may be recorded on cards written up from the policy register, while all alterations—deaths, surrenders, reductions, and changes—will be taken from alteration registers, which may or may not be worked independently of the policy registers.

There are many conveniences in having a complete card record of all policies in force, arranged probably in numerical order, following the policy register. The cards can then be classified at convenient intervals, and the new facts or alterations of old facts entered in the valuation class books—which are arranged so that they can be closed down at any time, and a valuation made.

As to new business, when this system is adopted, cards are written up continuously from the policy registers. After careful comparison and checking, these cards will be sorted at intervals into classes, and necessary valuation functions inserted, and subsequently entered into the class books. For cancels and alterations, the relative cards will be abstracted from the records, and where necessary, either (a) alterations made on the old card, or (b) a new card written. Precise rules must be laid down as to these points, or the results are likely not to balance.

By tabulating these changes from time to time in the class books, the latter will be kept close up to date.

Passing on to the class books themselves, these naturally will reflect the features of the class of policy to be valued, this referring more particularly to those classes that are valued in groups. Many require individual calculation, and a practical method is to deal separately with these on special calculation cards or schedules, calculating reserves for possibly two successive valuations out of them. If they are numerous, and are neglected until near the valuation date, the problem may become serious, as such classes usually require skilled handling.

The question of re-assurances may now be noted. Particulars as to re-assurances received may be entered in the appropriate class books. As to re-assurances given to other offices (so-called guarantees are included), sometimes the full amount of the original policy is tabulated, the reassured portion coming off as a deduction subsequently. Probably, however, it is more satisfactory to reserve the class book for the net amount retained, and value separately all given off, provided a careful watch is kept that all alterations—sum assured, premium, bonus, etc.—are passed through all records.

As regards the class books themselves, many thin books are preferable to a few heavy tomes, and either loose-leaf or light covering instead of heavy binding. The former facilitates subdivision of labour; the latter rewriting or exclusion of redundant pages.

Some specimen forms and rulings are given in J.I.A. xxxiv, 346 (W. R. Dovey).

#### LIFE OFFICES' ASSOCIATION.

The life assurance offices, although keen competitors for business, work together in this Association for the good of life assurance business as a whole. The Association was founded in 1889, and now embraces as a member or an associate nearly every life assurance company transacting business in the United Kingdom. Subject to its life assurance fund being not less than a prescribed amount, and to other rules, any life assurance company carrying on life assurance business in the United Kingdom, and having its head office in the United Kingdom or in any other part of the British Empire, may be elected as a member of the Association, while other life assurance companies may be elected as associates. The objects of the Association are the advancement of the business and the protection of the interests of life assurance by consultation and combined action upon questions appertaining to the interests common to life assurance companies.

The Associated Scottish Life Offices (*q.v.*) is federated with the Association, and a subsidiary association, the Association of Life Assurance Companies in India, has been formed in the interests of the business in India. The Association has a chairman, deputy chairman, and secretary, and the control is in the hands of general meetings of members. Special committees are appointed from time to time to which

powers are delegated, and committees of a more or less permanent character, such as the General Purposes Committee, Taxation Committee, Foreign Committee, Assurance Companies Act Committee, and the Group Insurance Committee, are appointed from year to year. The Association renders valuable assistance to its members and associates by the circulation of information on all questions of general interest to the companies, and in all matters of legislation in which the companies are interested is able to speak on behalf of the life assurance interests as a whole. The Association is consulted from time to time by Government departments, and during the war period was able to render material assistance to the State on several occasions. The offices are situate at 15 Queen Street, Cheapside, London, E.C.4.

#### LIFE OFFICES, LIABILITY FOR INCOME TAX.

(See INCOME TAX; and TAXATION OF ASSURANCE COMPANIES.)

#### LIFE POLICIES AND INCOME TAX.

(See INCOME TAX.)

#### LIFE POLICIES, CLASSES OF.

(See under separate headings.)

#### LIFE, PROBABILITIES OF.

(See PROBABILITIES OF LIFE.)

#### LIFE TABLES.

(See VITALITY, RECENT IMPROVEMENTS IN.)

#### LIMITED PAYMENT POLICIES.

Premiums on policies may be paid in a single sum, or spread over the whole term of the assurance, or limited to a definite number of payments. In one sense, the premiums on such policies as endowment assurances or short-term assurances may be said to be limited in number, but the term "Limited Payments" is generally used where the number of years' premiums required is less than the number payable for the full term of the assurance. (See WHOLE LIFE (LIMITED PAYMENTS), WITH PROFITS; WHOLE LIFE (LIMITED PAYMENTS), WITHOUT PROFITS; ENDOWMENT ASSURANCE (LIMITED PAYMENTS); and GUARANTEED OPTION POLICIES.)

#### LIMITED PREMIUM ENDOWMENT ASSURANCE.

(See ENDOWMENT ASSURANCE (LIMITED PAYMENTS).)

**LIQUIDATION AND LIFE FUNDS.**

(See SEGREGATION OF LIFE ASSURANCE FUNDS.)

**LIQUIDATOR.**

(See WINDING-UP.)

**LIQUOR TRADE.**

(See OCCUPATION RISKS ; also PROPOSAL FORM.)

**LITHUANIA.**

**Regulations Affecting Insurance Companies.** Foreign insurance companies in Lithuania, transacting business in fire, life, and marine insurance, are limited to the Kovno and Memel districts. The representative, having full power of attorney, must be a native, resident in the country. Notarially certified translations of the statutes of the company, together with a statement of accounts and the balance sheet for the preceding year must be forwarded to the Lithuanian Minister of Finance. A deposit of 500,000 Lit. is necessary in each case for fire and life insurance, 200,000 Lit. for marine insurance, and for miscellaneous branches the amount is 300,000 Lit. This latter may be reduced to 200,000 Lit. when accident and third party insurances are not included. The premium reserve on Lithuanian business must be deposited at a Lithuanian bank recognized by the Minister of Finance, and must not be disposed of without consent. All Lithuanian business is to be transacted in the currency of the country, under supervision and control,  $\frac{1}{2}$  per cent of the premiums received being claimed for this purpose. Capital and foreign assets have to be made public on prospectuses and stationery. Besides a concession tax of 3,000 Lit., insurance companies have to pay 15 per cent on the balance of profit (3 per cent of the subscribed capital of the net profit is free). After the statutory transfers have been made to the reserve fund the remaining profit is again charged: 6 per cent on the next 5 per cent on the share capital, 9 per cent on the next 5 per cent, and so on, until as much as 20 per cent is charged on each additional 10 per cent on the share capital. There are no insurance organizations in Lithuania.

**LIVER ABSCESS.**

This may be due to amoebic dysentery or to pyaemia (*q.v.*).

As the latter form is usually fatal, the

problem of dealing with the case does not arise in life assurance.

The former variety, however, is not uncommon, and proposers with a history of liver abscess are not uncommon among those who have been resident abroad.

If several years have elapsed since the operation, the liver is of normal size, and there have been no recent symptoms of dysentery, and also provided that the proposer is not going to reside in the tropics, no extra premium is necessary.

If there are any recent symptoms of dysentery (*q.v.*), the proposal must be postponed. If there is any definite increase in the size of the liver, the case must be declined, or at least postponed.

**LIVERPOOL AND LONDON AND GLOBE INSURANCE COMPANY, LTD.**

Head Office: 1 Dale Street, Liverpool. Chief Office in London: 1 Cornhill, E.C.3.

Founded 1836. Incorporated 1904. Registered as a Limited Liability Company, 1910.

The Royal Insurance Company have acquired the whole of the shares. There are branch offices all over the world, and the company is particularly strong in the United States.

The company issues a number of special life insurance schemes for various purposes, and lays stress on optional endowment assurance, which is novel in that policies issued at a whole of life rate of premium may be converted into endowment assurances after five years at the rates applicable at that time, whilst under the scheme they have participated in the profits from the outset.

There is also a useful "Provident" policy for children. Educational policies to provide for children's education are carried through on a principle which enables the parent to claim rebate of income tax on the premiums paid.

There is also a guaranteed bonus policy, increasing the policy by £2 per cent per annum. Policies are issued for a period of twenty-five years. At the expiry of that period, the full guaranteed bonus is paid in cash, and the policy remains in force for the original sum assured, payable at death, with no further premiums payable. This also is novel in insurance practice at the present time.

Policies on the lives of women are issued at the same rates as policies on the lives of men.

The fusion of interests with the Royal Insurance Co., Ltd., was arranged in 1919.

### LIVERPOOL VICTORIA FRIENDLY SOCIETY.

Head Office: Victoria House, Southampton Row, London, W.C.1. Founded in 1843. The Liverpool Victoria Friendly Society is the largest collecting friendly society in the United Kingdom, and is principally engaged in industrial life assurance. It has also a very large "approved section" working under the National Health Insurance Act.

Like other industrial offices, its business comes within the purview of the Industrial Assurance Act, 1923. Although the bulk of the premium income is in the industrial branch, that is, weekly or monthly premiums, ordinary branch business is also transacted with non-forfeiture and non-medical examination provisions of an attractive character.

### LOADINGS.

The loading is the difference between the office premium and the net premium. It is the addition to the net premium to provide for expenses of management, for bonuses, and for profits. Since the office premium remains constant throughout the duration of a contract, then, if the net premium is altered, the loading will be altered in a complementary manner. Thus, as the basis of valuation is not usually the same as that on which the premiums are or have been constructed, the loading disclosed at a valuation will vary from that added to the original net premium. Illustrations will be found in the article on OFFICE PREMIUMS. There are several alternative principles adopted in calculating the loadings for office premiums. It is clear that, collectively, the loadings should be adequate for the purpose in view, namely, as stated above, to meet expenses, etc., but whether that has been done can only be ascertained by the employment of a net premium derived from a mortality table and calculated at a rate of interest truly representative of the experience of the office under consideration. While such a procedure may be carried out at isolated points and in particular cases, it is not practicable or convenient, as a general rule. Usually the net premium is calculated on a safe basis, that is, assuming a rate of mortality higher than is really expected, and a rate of interest lower, to which a loading is added, smaller, naturally, than would be used with an experience basis. A problem of no small difficulty is to ensure reasonable equity as regards the loadings charged between (a) different ages, and (b)

different classes of assurance. Evidently, the scheme of loading might be such as entirely to deface the salient features of the mortality table, or even the rate of interest, or, again, to throw an undue share of the expenditure on, say, the older lives as compared with the younger, or upon the endowment assurances as compared with the whole life class.

As a corrective to any extreme tendencies of this kind, competition comes in, and places a limit to the total office premium that can be secured, and thus, implicitly, restricts the loading. Most offices will make a series of tests at selected points and for different classes of assurance to determine the true cost of the benefits they are offering, employing experience rates of interest and mortality, as well as the results of a close analysis of expenditure. In calculating the actual scale of premiums, however, a simpler method is frequently adopted, no doubt with the proviso of establishing approximate identity on the whole with the said experience rates. For example, an office which charges, as the office premium for a whole life non-profit assurance, the net premium by the O<sup>(m)</sup> Select Table at 3½ per cent approximately, will have established the general soundness of this by an investigation as outlined above.

Commencing with a net premium by a combined mortality experience, the customary methods of loading may be said to be—

(a) A percentage and/or a constant. If a select table of mortality is employed, a larger percentage and a smaller constant will be more likely than if an aggregate table serves as the basis.

(b) The article on OFFICE PREMIUMS gives examples of the effects of distributing assumed initial and renewal expenses.

(c) In J.I.A. xv. 354, Mr. W. M. Makeham suggested that office premiums, suitably graded, could be derived directly from the net rates by rating-up the age at entry and/or changing (usually lowering) the rate of interest.

(See also LIFE ASSURANCE COMPANIES' SHARES AS INVESTMENTS; OFFICE PREMIUMS; PRINCIPLES OF LIFE ASSURANCE.)

### LOAN (PERSONAL SECURITY) POLICIES.

Loans on personal security may be obtained in connection with life policies, as apart from loans on surrender value. Such loans have the advantage that the security deed is not registered or made public in any

way. As a rule, an assurance—either non-profit whole life or endowment—must be effected for an amount sufficient to afford a substantial margin beyond the amount of the loan, the minimum policy being £300, and this must be assigned to the office granting the loan, as collateral security. Two or more responsible persons—each in a position to discharge the whole loan if called upon, and independent, as regards financial position, of each other and of the borrower—are required to join him as sureties in a joint and several covenant for payment of principal, interest, and premiums. The loan is made repayable by equal half-yearly instalments of principal over three, four, or five years, with provisions securing repayment in full in the event of default in payment of any instalment, interest, or premium, or of the death, bankruptcy, arrangement with creditors, or residence abroad of either the borrower or a surety. The balance of principal due, however, may be paid off at any time in advance, with interest to date of payment, without notice or extra interest in lieu of notice. The advantage of the scheme, apart from the extended period over which repayment may be made, is that in the event of the death of the borrower during the currency of the loan the balance due is discharged out of the policy moneys. All expenses in connection with the loan, including stamp duty, are deducted on completion of the advance.

#### LOAN VALUE (SINGLE PREMIUM POLICY).

(See INCOME TAX.)

#### LOANS ON CONTINGENT REVERSIONS.

(See REVERSIONS AND LIFE INTERESTS.)

#### LOANS ON LEASEHOLD PROPERTIES.

(See FREEHOLD AND LEASEHOLD GROUND RENTS AND PROPERTIES; and HOUSE PURCHASE SCHEMES.)

#### LOANS ON POLICIES.

(See ACCOUNTANCY DEPARTMENT; MORTGAGES OF REAL AND PERSONAL PROPERTY; PROSPECTUS, PREPARATION OF; SINGLE PREMIUM POLICIES.)

#### LOCAL AGENT'S AUTHORITY.

(See AGENT, AUTHORITY AND RESPONSIBILITY.)

#### LOCAL BOARDS OF DIRECTORS.

(See BRANCH OFFICE SYSTEMS.)

#### LOCOMOTOR ATAXY (Tabes Dorsalis).

A disease due to degeneration of the sensory roots of the spinal nerves and brain. It is now regarded as being invariably due to syphilis earlier in life. The common symptoms are loss of muscular co-ordination, causing difficulty in walking and in keeping the balance. Knee jerks are absent and the pupil reflexes altered. It is a bar to life assurance in any form. If it is even suspected, the case must be indefinitely postponed.

#### LOGARITHMIC SERIES.

(See LOGARITHMS, THEORY OF.)

#### LOGARITHMS AND ANTILOGARITHMS UP TO 24 PLACES.

Various methods have been devised for the construction of logarithms beyond the limits usually tabulated. They consist in resolving the number whose logarithm is required into a series of factors. The addition of the logarithms of these factors will then be the logarithm of the number.

The earliest systematic logarithmic method is said to be that of Mr. Manning, communicated in the "Philosophical Transactions" for 1806. A description of this and subsequent developments is given by the late Mr. Peter Gray in his *Tables for the formation of Logarithms and Antilogarithms to Twenty-four or any less number of Places, with Explanatory Introduction and Historical Preface.* (London, Chas. & Edwin Layton, Second Edition, 1900.)

There are two tables, the auxiliary table and the principal table. The former gives simply the logarithms and cologarithms of the natural numbers 1 to 9 to 24 places. The principal table consists of five columns, headed I to V respectively. Three more are required when the table is used to its full extent, but are contained implicitly in V. For VI the last "period," or set of three figures, is dropped from V; for VII, the last two periods; and for VIII, the last three.

The arguments for the use of the table, which extends from 000 to 999, occupy the small side column headed  $n$ , while the figures in the main columns give—

In col. I,  $\log(1 + \cdot 001^n)$ ,  
 II, ..  $(1 + \cdot 001^2n)$ ,  
 III, ..  $(1 + \cdot 001^3n)$ ,  
 IV, ..  $(1 + \cdot 001^4n)$ ,  
 V, ..  $(1 + \cdot 001^5n)$ , and so on.

Mr. Gray's method will be best illustrated by an example, say to find  $\log \pi$ .

	1	2	3	4	5	6	7	8	
$\pi =$	3·141	592	653	589	793	238	462	643	÷ 2
	1·570	796	326	794	896	619	231	322	507 2
		785	0						
		11	326						
		10	990						
1570 795 990		336	794	896	6				214 3
		314	159	198	0				
		22	635	698	61				
		15	707	959	90				
		6	927	738	719				
		6	283	183	960				
1570 796 326 150 342	644	554	759	231	322				410 4
	and so on.								

The process is as follows—

1. If the first digit of the number exceeds unity, divide the entire number by a single figure which will make the initial digit unity, e.g. by 2 in the example.

2. The number has now to be resolved into factors, the dividend being the given number to which the successive divisors approximate.

3. Place a decimal point after the first figure, and separate the following portion into eight periods of three figures each.

4. For the first divisor take the leading figure and the first period, and by it divide the remaining portion until three quotient figures have been obtained.

5. For the second divisor take the leading figure and the first three periods, less the remainder of the previous division. Bring down to the remainder the fourth and fifth periods, and proceed with the division until another triad of quotient figures has been obtained. This will use up the sixth period.

6. The formation of the third divisor is in strict analogy, except that, as only five periods can be used, the divisor is formed only to this extent, one quotient figure being obtained for each figure struck off from the divisor until another triad has been obtained.

7. The fourth divisor is formed in the same way, but so as only to comprise four periods.

8. The columns of the principal table are now entered with the eight triads; the sum of the results (plus the log of the initial divisor obtained from the auxiliary table, if any), with the proper characteristic, will be the required logarithm.

**Logarithms to 12 Places.** Dr. Auguste Guillemin has developed a special method for calculating logarithms to 12 or 13 places, and the corresponding antilogs, which is

described fully and the necessary auxiliary tables supplied in *Tables de Logarithmes à 3 Quadrades et Nombres Correspondants avec 12-13 Chiffres* (Paris, Gauthier-Villars, 1912).

As a preliminary, it may be noted that he represents the degree of approximation of the final digit, namely—

- called "low point," which signifies +  $\frac{1}{2}$  or + .25 ;
- called "line point," which signifies +  $\frac{1}{2}$  or + .50 ;
- called "high point," which signifies +  $\frac{3}{4}$  or + .75.

If it is desired to write the number  $\pi$  successively with 3, 4, 5, 6 . . . decimals, the sequence would be—

- 3·141— which signifies 3·1415,
- 3·1416 " " 3·141 $\bar{6}$ 0,
- 3·14159 " " 3·14159 $\bar{2}$ 5,
- 3·141592 " " 3·14159275.

It will be observed that each number involves an error of less than  $\frac{1}{2}$  of a unit in the final digit.

To take an example, consider  $\pi$  and its logarithm. Both are incommensurable. Writing them with 22 "pointed" decimals, we have—

$$\pi = 3\cdot14159265\ 3589\cdot$$

$$\log \pi = 0\cdot49714987\ 2694\cdot$$

The mantissa of  $\log \pi$  having 12 decimals may be decomposed into three groups of 4, designated the quadrades  $Q_1$ ,  $Q_2$ , and  $Q_3$ . Thus—

- $Q_1 = 0\cdot4971\ 0000\ 0000$ , a log corresponding to a number  $N$
- $Q_2 = 0\cdot0000\ 4987\ 0000$ , a log corresponding to a number  $1 + \alpha$
- $Q_3 = 0\cdot0000\ 0000\ 2694$ , a log corresponding to a number  $1 + \beta$

whence

$$\log \pi = Q_1 + Q_2 + Q_3$$

$$= 0\cdot4971\ 4987\ 2694, \text{ corresponding to a number } N(1 + \alpha)(1 + \beta).$$

But instead of considering  $\pi$  as the product of three factors, it may be regarded as a sum.

$$\pi = N(1 + \alpha)(1 + \beta) = N + N\alpha + N\beta + N\alpha\beta.$$

The tables show how this sum (simplified usually by omission of the fourth term  $N\alpha\beta$ ) may be derived by considering the four quantities—

$$N, \log N, \log \alpha, \text{ and } \log \beta,$$

for which will suffice three parallel columns  $N$ ,  $Q$ , and  $\log a$ .

The series of 10,000  $\log N$  is the series of natural numbers from 0 to 9999.

The table is arranged as follows—

$N$			$Q$	$\log a$		
31405	0869	3876	4970	4·0585	9692·	
12	3190	5986	1	86	8430·	
18.	36.	54-		2.	4.	6- [2.]

The calculation of  $\log \pi$  is as follows—

1. To one quadrade (4 places)—

If  $\pi = 3·1416$ , the logarithm is found at once to be  $\cdot 4972$ —

2. To two quadrades (8 places)—

If  $\pi = 3·1415\ 9265$ , find the nearest value of  $N$ , viz.—

$$N = 3·1412\ 3190 - \log N = \cdot 4971, \text{ hence}$$

$$Q_1 \quad \pi - N = Na = 3\ 6074 \cdot \log Na = \cdot 4·5572$$

$$\log a = \cdot 4·0601$$

whence  $Q_2 = 4987$

3. To three quadrades (12 places).

Here there are three stages to be gone through.

(a) Find the result to two quadrades as above.

(b) Find  $N$  to 12 or 13 places corresponding to the result for two quadrades, assumed to be exact.

(c) Find the difference  $V \mp N_1 = N_1\beta$  and conclude the third quadrade. Thus—

$$\begin{aligned} \text{If } \pi &= 3·1415\ 9265\ 3589 \cdot \\ \log N &= \cdot 4971 \text{ --- } N = 3·1412\ 3190\ 5986 \cdot \\ \text{for } 4987 \\ \log a &= \cdot 4·0600\ 7999 \end{aligned}$$

$$\log Na = \cdot 4·5571 \quad Na = 3\ 6066\ 1679$$

$$\text{for } 7999 \\ \log a_1 = \cdot 4·2652\ 9.$$

$$+ 1.$$

$$\log Na a_1 = \cdot 8·8223\ 0 - Na a_1 = 6\ 6435-$$

$$N_1 = 3·1415\ 9263\ 4100 \cdot$$

Then  $\pi - N_1 = N_1\beta = \cdot 0000\ 0001\ 9489$ ,  
the log of which is  $\cdot 8·2898$

Subtracting first  $4 + \frac{Q}{2}$ , there

remains  $\bar{4}·2897·$   
and then subtracting  $\log N_1$ , which  
is  $\cdot 4971\ 4898$  or  $\cdot 4971-$   
the new remainder is  $\bar{3}·7926.$   
which, entered in the columns of  $\log a$ ,  
gives  $Q_3 = 2694$ .

whence, finally—

$$\log \pi = \cdot 4971\ 4987\ 2694.$$

### LOGARITHMS, THEORY OF.

Logarithms enable the operations of multiplication and division to be replaced by addition and subtraction respectively; while for involution and evolution are substituted multiplication and division. This is achieved by employing the indices of numbers instead of the numbers themselves.

Definition: the logarithm of any number to a given base is the index of the power to which the base must be raised in order to equal the given number.

If  $x^n = y$ , then  $n$  is the logarithm of  $y$  to base  $x$ ; equally expressed by the equation  $\log_x y = n$ .

Any number may be employed as the base, but in arithmetical work 10 is customary, and most tables of logarithms are to this base.

The following points are to be noted—

1. The logarithm of 1 is 0, since  $x^0 = 1$  for all values of  $x$ .

2. The logarithm of the base itself is 1, since  $x^1 = x$  and  $\log_x x = 1$ .

3. The logarithm of a product of several quantities is the sum of the logarithms of the separate quantities.

Let the product be  $ab$ ; then to base  $x$

$$\log_x a = n \text{ say, so that } x^n = a$$

$$\log_x b = m, \text{ say, so that } x^m = b$$

$$\therefore ab = x^n \times x^m = x^{n+m}$$

4. The logarithm of a fraction is the logarithm of the numerator minus the logarithm of the denominator.

$$\frac{a}{b} = \frac{x^n}{x^m} = x^{n-m} \therefore \log_x \frac{a}{b} = n - m$$

5. The logarithm of a number raised to any power integral or fractional is that power multiplied into the logarithm of the number in question.

Let the number be  $a^k$  then if  $\log_x a = n$  so that  $x^n = a$ , then  $a^k = (x^n)^k = x^{nk}$ , whence

$$\log_x a^k = nk = k \log_x a$$

Similarly  $\log_x a^{\frac{1}{k}} = \frac{1}{k} \log_x a$

The convenience of the number 10 as the base for arithmetical calculations is evident, since

$$\begin{aligned} 10^0 &= 1 \\ 10^1 &= 10 \\ 10^2 &= 100 \\ 10^3 &= 1000 \end{aligned}$$

Thus, for example, the logarithm to base 10 of 1000 is 3; of any number between 100 and 1000 will be 2 plus a fraction; of any number between 10 and 100, 1 plus a fraction; between 1 and 10, a fraction only.

The integral part is termed the *characteristic*, and the fractional part the *mantissa*.

From an inspection of the above examples it is seen that the characteristic of the logarithm of any quantity not less than unity is one less than the number of digits in the given quantity.

Passing now to numbers less than unity, since

$$\begin{aligned} 10^0 &= 1 \\ 10^{-1} &= \frac{1}{10} = \cdot 1 \\ 10^{-2} &= \frac{1}{100} = \cdot 01 \\ 10^{-3} &= \frac{1}{1000} = \cdot 001 \end{aligned}$$

it appears that the characteristic of a decimal fraction is one more than the number of cyphers following the decimal point, and is negative in sign.

It is to be observed that the mantissa is always kept positive for convenience, so that, for example, in

$$\log \cdot 0367 = \bar{2}.5647$$

the characteristic is negative =  $\bar{2}$ .

and the mantissa positive =  $\cdot 5647$

which is equal to - 1.4353

The mantissae for all numbers having the same significant digits are the same (the base being 10), since multiplication or division by 10 will not affect the mantissa—only the characteristic.

Thus, provided tables of logarithms are available, all the operations of multiplication, division, etc., may be replaced by addition and subtraction. Many such tables are published, and vary in size from abbreviated tables giving only four figures in the mantissa to others giving as many as seven or eight. The late Peter Gray prepared skeleton tables

for logarithms to 24 places, which are useful in calculating numbers that have to be multiplied by large coefficients (e.g. the rate of interest).

It should be understood that a logarithm as tabulated is not the exact equivalent of the number, and that the anti-logarithm, or number corresponding to the logarithm, is only approximate also. Consequently the use of logarithms may cause a certain loss of accuracy, especially if the short tables be employed, and the effect of this has to be borne in mind in practical work. Four figure tables will be found sufficient for percentages.

Tables of common logarithms are not calculated directly, but found first to another base and then transferred. It is hence desirable to investigate how to transform logarithms from one base to another.

Let  $x^n = w$  so that  $n = \log_x w$ , and let  $y^m = w$  so that  $m = \log_y w$ .

Taking the logarithm to base  $x$  of both sides of the equation  $y^m = w$ , we have—

$$\begin{aligned} m \log_x y &= \log_x w \\ \therefore m &= \frac{\log_x w}{\log_x y} = \frac{n}{\log_x y} \end{aligned}$$

By the Binomial Theorem, if  $n$  is greater than 1,

$$\begin{aligned} \left(1 + \frac{1}{n}\right)^{nx} &= 1 + nx \cdot \frac{1}{n} + \frac{nx(nx-1)}{2} \frac{1}{n^2} \\ &+ \frac{nx(nx-1)(nx-2)}{3} \frac{1}{n^3} + \dots = 1 + x \\ &+ \frac{x\left(x - \frac{1}{n}\right)}{2} + \frac{x\left(x - \frac{1}{n}\right)\left(x - \frac{2}{n}\right)}{3} + \dots \quad (1) \end{aligned}$$

Let  $x = 1$ , then

$$\begin{aligned} \left(1 + \frac{1}{n}\right)^n &= 1 + 1 + \frac{1 - \frac{1}{n}}{2} \\ &+ \frac{\left(1 - \frac{1}{n}\right)\left(1 - \frac{2}{n}\right)}{3} + \dots \quad (2) \end{aligned}$$

But  $\left(1 + \frac{1}{n}\right)^{nx} = \left\{ \left(1 + \frac{1}{n}\right)^n \right\}^x$

$\therefore$  series (1) is the  $x$ th power of series (2).

If in these series  $n$  be increased indefinitely we have—

$$\begin{aligned} 1 + x + \frac{x^2}{2} + \frac{x^3}{3} + \dots \\ = \left(1 + 1 + \frac{1}{2} + \frac{1}{3} + \dots\right)^x \dots \quad (3) \end{aligned}$$

The series  $1 + 1 + \frac{1}{2} + \frac{1}{3} + \dots$ , is usually denoted by the symbol  $e$ , and thus

$$e^x = \left(1 + 1 + \frac{1}{2} + \frac{1}{3} + \dots\right)^x \quad (4)$$

Napier discovered how this series could be employed in calculating tables of logarithms, for which reason logarithms to this base are called, generally, Napierian, or sometimes natural logarithms, because the theory is developed through them. The value of  $e$  is incommensurable: its approximate value is 2.7182818.

**The Exponential Theorem.** Returning to equation (4), in it write  $cx$  for  $x$ , then

$$e^{cx} = 1 + cx + \frac{c^2 x^2}{2} + \frac{c^3 x^3}{3} + \dots$$

If now  $e^c = a$ , and hence  $c = \log_e a$ ; then by substituting for  $c$ ,

$$a^x = 1 + x \log_e a + \frac{x^2 (\log_e a)^2}{2} + \frac{x^3 (\log_e a)^3}{3} + \dots \quad (5)$$

**The Logarithmic Series.** In (5) write  $y$  for  $x$ , and  $(1 + x)$  for  $a$ ; then

$$(1 + x)^y = 1 + y \log_e (1 + x) + \frac{y^2}{2} \left\{ \log_e (1 + x) \right\}^2 + \frac{y^3}{3} \left\{ \log_e (1 + x) \right\}^3 \quad (6)$$

Again, by the Binomial Theorem,

$$(1 + x)^y = 1 + yx + \frac{y(y-1)}{2} x^2 + \frac{y(y-1)(y-2)}{3} x^3 + \dots \quad (7)$$

The coefficient of  $y$  in (6) is  $\log_e(1 + x)$ , and in (7),

$$x - \frac{x^2}{2} + \frac{x^3}{3} - \frac{x^4}{4} + \dots \quad \text{Hence}$$

$$\log_e(1 + x) = x - \frac{x^2}{2} + \frac{x^3}{3} - \frac{x^4}{4} + \dots \quad (8)$$

Changing  $x$  into  $-x$ , this becomes

$$\log_e(1 - x) = -x - \frac{x^2}{2} - \frac{x^3}{3} \dots \quad (9)$$

In (8) write  $\frac{1}{n}$  for  $x$ , then

$$\log_e \frac{n+1}{n} = \log_e(n+1) - \log_e n = \frac{1}{n} - \frac{1}{2n^2} + \frac{1}{3n^3} \dots \quad (10)$$

Similarly, writing  $-\frac{1}{n}$  for  $x$ , we have

$$\log_e n - \log_e(n-1) = \frac{1}{n} + \frac{1}{2n^2} + \frac{1}{3n^3} \quad (11)$$

$$(10) + (11) = \log_e(n+1) - \log_e(n-1) = 2 \left( \frac{1}{n} + \frac{1}{3n^3} + \frac{1}{5n^5} + \dots \right) \quad (12)$$

From (12) natural logarithms can be calculated readily. To convert them into

logarithms to base 10, multiply by  $\frac{1}{\log_e 10} = .4342945$ , called the modulus.

References: *Higher Algebra*, Hall & Knight (Macmillan, London). *Elements of Actuarial Science*, Underwood (Sir Isaac Pitman & Sons, Ltd., London).

**LONDON AND MANCHESTER ASSURANCE COMPANY, LTD.**

Chief Office: 50 Finsbury Square, London, E.C.2.

Incorporated under Act of Parliament, 1869.

The London and Manchester Assurance Company transacts considerable and increasing ordinary life assurance business mainly on plain whole life and endowment, and industrial plans. It issues a special policy in the form of a double benefit assurance which provides for an assurance of £100 payable at death whenever it may occur, together with a guaranteed bonus of £10 per cent per annum, payable if death occurs within the ten year period, or £100 payable at the end of ten years, if the life survive, in which event premiums and bonus additions cease, leaving a further £100 to be paid out on the death of the policy-holder. A similar policy is issued for a term of fifteen years, the guaranteed bonus then being £6 13s. 4d.; or for a term of twenty years, when the guaranteed bonus is £5.

It relies, however, mainly on the popularity of the old-fashioned whole life and endowment assurance tables, and its agents push the issue of policies of this description which the company claims prove more attractive in the long run than any special combination of benefits can hope to do.

**LONDON ASSURANCE.**

Head Office: 1 King William Street, London, E.C.4.

Founded 1720.

Under the authority of the Act of Parliament, 6 Geo. 1, cap. xviii, the London

Assurance was, on the 22nd June, 1720, incorporated by Royal Charter from His Majesty King George the First, for the assurance of ships, goods, and merchandises at sea or going to sea. By another Royal Charter dated the 29th April, 1721, the London Assurance of Houses and Goods from Fire was empowered to grant assurances upon lives, and also against casualties or accidents by fire. Subsequent Acts of Parliament for the regulation of the affairs of the Corporation have been passed from time to time. In July, 1891, the Corporation obtained an Act "To repeal the Special Acts of The London Assurance, and to make further provisions in relation to the laws, objects, and regulations of the London Assurance, and for other purposes," and became empowered—"To carry on the business of marine, fire, and life assurance in all and every of the branches of such businesses as at present carried on by the Corporation, and any further development of such businesses respectively."

The life funds are invested apart from the other funds of the Corporation, and are held for the exclusive security of the life policy-holders. At the same time, the life policy-holders have the guarantee of the shareholders' capital, and of the general reserve funds of the Corporation, and even those of them who participate in the profits incur none of the liabilities of partnership.

The London Assurance issues an interesting policy whereby all the premiums are returned in the event of death before age 60 in addition to the sum assured, and if age 60 is attained several valuable guaranteed options are offered.

There is also the combination policy, an ingenious compromise between a whole of life policy and an endowment assurance. The rate charged is very slightly more than the ordinary whole of life rate, and the novelty is the right to turn the policy into cash at age 60, or 65, as the case may be, the amount of payment being guaranteed by the company.

#### **LONDON GENERAL INSURANCE COMPANY, LTD.**

Head Office: London House, 27-28 Newgate Street, London, E.C.1.

Founded 1906.

This company transacts all classes of life assurance business. Its special feature at the present time is the issue of an investment certificate, which enables the holder on certain conditions, and after a certain

time, to borrow money from the company to acquire house or house and shop property on the usual conditions appertaining to such business.

The company does not transact any life assurance business under "With Profit" tables, but in addition to the "Without Profit" business it issues policies with special guaranteed bonuses.

#### **LONDON LIFE ASSOCIATION, LTD.**

Head Office: 81 King William Street, London, E.C.4.

Founded in 1806 for mutual life assurance.

The Association was formed by an agreement dated 23rd April, 1806, expanded into the deed of settlement of 1st Dec., 1806, but, by the London Life Association Act, 1894 (57 Victoria, Ch. xiv), a consolidation and revision of the constitution were effected and the Association was incorporated on 30th June, 1894, by registration under the Companies Acts as limited by guarantee.

The assets and property of the Association are the security for every policy of assurance and annuity issued or granted by the Association, and no member is liable to any call or contribution for satisfying the demands of the assured or the grantee of the annuity. It is further provided that the utmost that any person who shall become a member of the Association can be called upon to contribute will be ten pounds in the event of the Association being wound up during his membership, or within one year thereafter.

Membership is now obtained by effecting a policy on the member's own life with full participation in reduction of premium or in the ordinary reversionary bonus. Those assured by other policies effected on or after 1st Jan., 1919, are non-members, and are not qualified to become directors or auditors, but they are free from the nominal liability attaching to membership.

The Association does not employ agents on commission, or pay commission in any form for new insurances introduced.

A special feature is the method adopted in 1806 of applying the surplus of each valuation to reducing the premium. The initial rate of premium on with profit policies is somewhat higher than the average, but in the present series it is anticipated that in the eighth year of insurance the premium will be reduced by about 65 per cent, and that in about twenty-five years from the commencement the reduction will cancel out all further premiums, whereas

at valuations subsequent to the cancellation the sum assured will be increased. That is the case at present in the first, second, and third series.

In 1914 a new class of policy on the reversionary bonus plan was first issued.

**The Clergy Mutual Assurance Society** (established 1829) became amalgamated with the Association in 1918 and the Metropolitan Life Assurance Society in 1928.

**Metropolitan Life Assurance Society.** Head Office: 81 King William Street, London, E.C.4. Founded 1835 for mutual assurance.

This Society became associated in 1928 with the London Life Association, Limited, and the Clergy Mutual Assurance Society by an agreement, under the terms of which, *inter alia*, the pooled assets of the three offices became the security for every existing or future policy issued by any of the three offices, and the Metropolitan ceased to transact new business.

Participation in the surplus is granted to policies effected under whole life assurance by premiums payable throughout life; whole life assurance by premiums payable for a limited number of years; and endowment assurances payable at the attainment of a specified age, or at previous death. After payment of five years' premium at the full tabular rates, all participating policies are entitled, in accordance with the series in which they were issued, to reduction of premiums at such a rate as the result of the annual valuation of the assets and liabilities of the Society will allow.

The Society also issued discounted abatement assurances under which a rebate of 33 per cent, which in the ordinary course would not be allowed until the expiry of five years, was anticipated in order to reduce the premium from the commencement of the assurance. In any event the premium remained stationary for the first five years; thereafter the policy participated in any reduction of premium declared in excess of 33 per cent. The premium depended on the future realization of this rate of abatement, and therefore, in the unlikely event of the reduction being less than 33 per cent, the premium had to be proportionately increased. No debt attached to the policy.

#### **LONG TERM ASSURANCE LEAFLETS.**

(See **CANVASSING LEAFLETS**, page 120.)

#### **LONG TERM ASSURANCES.**

(See **CONVERTIBLE TERM POLICIES**.)

#### **LOST POLICIES.**

On receipt by a life assurance company of an intimation of the loss of a policy, a note is made of the fact in the office books. If, however, the intimation is accompanied by a request for a duplicate, the usual practice is to ask the applicant to make further and diligent search. In the majority of cases this further search is successful—especially as the office is often in a position to assist by supplying the names and addresses of persons who have handled the policy, as shown in notices of assignment received.

A life policy is not a negotiable instrument, and its loss is therefore not a bar to the recovery of the policy moneys. The absence of the policy, however, might be held by the Court to be constructive notice of dealings with it, and the company must protect itself by making exhaustive inquiries before paying. Normally, the policy must be deposited with the company in the event of a claim, loan, or surrender, and must be produced for endorsement if a paid-up assurance and, in some offices, if a cash bonus is desired.

It is not the usual practice for a duplicate policy to be issued in case of loss, the better plan being for the office to take a receipt for the surrender value, in which the name of the company is inserted as the payee. Subject to the undermentioned conditions, the company can then issue an entirely new policy in which the surrender value is inserted as the first premium, and in which all the terms and conditions are identical with those of the old policy. The new policy should bear a memorandum to the effect that it ranks for surrender value, paid-up policy, and bonus (if any) in the same way as if it had been effected on the original date at the usual yearly premium. It should also contain a statement of the amount of the reversionary bonuses attaching (if any), and should be stamped for the amount of the sum assured and existing bonuses.

It is probable that the company is entitled to ask for a statutory declaration by the claimant as to the circumstances in which the policy was lost and that a careful search has been made for it. This declaration should also recite that the interest in the old policy has not passed from the claimant by assignment, mortgage, bankruptcy, or in any other manner. Usually, however, the statutory declaration is dispensed with, and the above points included in an ordinary declaration, in which the terms of the old and new policies are set forth, and it is

agreed that the original declaration and statement to the doctor shall be the basis also of the contract for the new policy.

If it is provided in the policy that it must be produced before payment is made, then the company is entitled to an indemnity, but if this is not a condition the position is not so clear. As, however, the company is in a position to delay matters for a considerable time whilst it is satisfying itself as to the position, the claimant will be well advised to agree to the usual practice of giving an indemnity. This may be by the claimant alone, or with sureties, or possibly by a company which issues such guarantees.

In any case, the claimant must pay the stamp duty on the new policy and on the indemnity, and the cost of investigating the title (if any).

#### LOW PREMIUM POLICIES.

(See HALF-PREMIUM POLICIES.)

#### LUMBAGO.

A form of muscular rheumatism (*q.v.*) affecting the muscles of the loins. In itself it is of no importance in its effect on longevity. It must be remembered, however, that it may represent a rheumatic or gouty tendency, and, although one or two attacks in the past may be ignored, if there is a history of repeated attacks, particularly in men of advancing years, the possibility of the tendencies mentioned above being present must be excluded by a complete medical examination. It must be dealt with according to the presence or absence of signs of such constitutional weakness.

#### LUNATICS.

A lunatic is generally incapable of entering into a contract of assurance, since the law requires that there must be a free and full consent to bind the parties thereto; "consent is an act of reason accompanied by deliberation," and therefore there cannot be a contract by a lunatic. When a person of apparently sound mind enters into a contract of life assurance which is *bona fide* and properly completed, and the parties cannot be restored to their previous position, such a contract cannot be set aside. Where a lunatic purchased two annuities for his life, the company at the time having no knowledge of his lunacy, and the purchase being fair and of good faith, and in the usual course of business, it was held that the purchase

money could not be recovered by the personal representatives of the deceased lunatic (*Molton v. Camroux*, 1849, 4 Ex. 17). From this it would seem that a similar transaction, whether for an annuity or life assurance would be equally binding on the office. At the same time, if the company knew of the unsoundness of mind of the assured, and took advantage of it to induce him to enter into the contract, it would be voidable by him or his representatives.

When an originally valid contract has been entered into, it will not be affected by one of the parties becoming lunatic afterwards.

The rule both of law and of equity, as to a contract entered into by a person apparently of sound mind, and not known by the other contracting party to be insane, is that such a contract, if fair, *bona fide*, and completely executed, is valid; and, even though such a contract might be void at law, it will only be set aside in equity for fraud (*Hassard v. Smith*, 1r. R. 6 Eq. 429).

It appears to be the practice of companies to pay the policy moneys to a committee if one has been appointed; or in the case of a lunatic not so found by inquisition, to a person appointed under the Lunacy Act, 1890, Sect. 116.

#### LUPUS.

(See DISEASES OF THE SKIN.)

#### LUXEMBURG.

Regulations Affecting Insurance Companies. Foreign companies' operations in Luxemburg must first be recommended by the State Council for Royal authorization. Life assurance companies deposit an amount equal to the premium reserve on the Luxemburg business, reckoned at 3 per cent of the cashed premiums. When the guarantee reserve reaches 6 per cent of the premium reserve the annual increase is reduced by 50 per cent. This is abandoned when the former reaches 10 per cent of the latter. The fixed amount is Frs. 200,000, reduced to Frs. 50,000 when the premium reserve reaches Frs. 500,000. The fixed deposit for fire insurance companies is Frs. 200,000, for accident Frs. 100,000, and for all other classes Frs. 50,000. After the second year these deposits must be augmented to an amount equal to double the premiums of the preceding business year, for fire and third party, or to an amount equal to the premium income of the last year's business for other classes of insurance. Mutual companies

must deposit Frs. 5,000, subject to monthly revision. Deposits are invested in State securities. Representatives must be resident in Luxemburg, and have full power of attorney. They must send a monthly record of business to the Government authorities, also a statement of accounts and balance sheet within six months of the close of the financial year. The Department of Finance acts as supervising authority. Fire insurance

companies must contribute 3 per cent of their annual net premiums, or a sum not less than Frs. 300 annually, towards maintenance of fire brigades. New companies pay an initial fee of Frs. 500 besides the above tax.

**LYMPHATIC GLANDS, INFLAMMATION  
OF.**

(See ADENITIS.)

**MALARIA.**

A disease contracted in the tropics, transferred to man by the bite of the mosquito, but, after an initial attack, it may occur in temperate climates. The effects of this disease on life assurance are due to its complications and *sequelae*, the commonest of which are anaemia, nephritis, and endocarditis (*q.v.*). As malaria is a recurring disease it is impossible ever to say that a patient is cured. Some additional premium is, therefore, usually required. The cases may be roughly divided into three groups—

1. Those in which a single attack has occurred without complications.
2. Those in which there have been repeated attacks without complications.
3. Those in which *sequelae* or complications have developed.

The first group require little or no addition to the premium.

Class two requires a substantial addition to the premium, and should not be accepted at all until they have been free from attacks or symptoms for at least two years. Cases under this group which are not likely to be travelling abroad again may be accepted at rather less than the full additional rate.

Class three should only be accepted if the general constitution is otherwise good, and the complications themselves are only slight, and then only with a full increase of premium, and on the understanding that they are not returning to a malarial climate.

**MALAY ARCHIPELAGO.**

(See CLIMATIC RISKS.)

**MANAGEMENT.**

(See LIFE OFFICE ORGANIZATION.)

**MANUFACTURERS LIFE INSURANCE COMPANY OF CANADA.**

The Manufacturers Life Insurance Company of Canada was incorporated in 1887, and since that date the growth of the company has been such that the head office has been moved no less than seven times. Between 1887 and 1891 the company established agencies throughout Canada, and in 1893 the first foreign business was written in Bermuda Island. In the remaining years of the nineteenth century agencies were

opened in Jamaica, Trinidad, Japan, and various other places in South and Central America and in Asia, and early in the twentieth century the company commenced to write business in India, Siam, Burma, Cuba, Philippine Islands, and Egypt. In 1903 the company entered the United States, and in the following year established agencies in South Africa. In 1925 the company commenced active business in Great Britain from No. 1 Regent Street, London, S.W.1.

The growth of the company has been phenomenal. In 1918, after having been in existence for thirty-one years, the company had £20,000,000 of insurance in force. This figure was doubled by the end of 1921, was £60,000,000 by the middle of 1925, £80,000,000 in November, 1927, and £100,000,000 in 1930.

The company issues only life insurance and annuity contracts, disability benefit and double indemnity being written only as subsidiary to ordinary policies of life insurance. Profits are distributed to participating policy-holders annually in the form of cash dividends on a modified contribution method of distribution. Surrender values are granted after two years, and are guaranteed and stated in the policies. Policies are written at annual, half-yearly, quarterly, or monthly premiums, the minimum policy being £100 and the minimum periodical premium £1. Up to age 45 applications are considered without medical examination for sums assured not exceeding £1,000.

**MARINE AND GENERAL MUTUAL LIFE ASSURANCE SOCIETY.**

Head Office: 48 Fenchurch Street, London, E.C.3.

Founded in 1852 for the mutual assurance of those engaged in a maritime career.

This Society was founded under the auspices of certain shipping companies, the P. and O. and Royal Mail predominating, with the object of affording those engaged in a maritime career the opportunity, so far lacking, of making provision against retirement and death upon reasonable terms.

The venture proved successful, and at the distribution of profits made seven years from the date of foundation, the policy-holders were rewarded by the receipt of handsome

bonuses. At regular five-year intervals bonuses followed at an increased rate, and the Society has maintained a reputation throughout for the distribution of bonuses upon a very high scale.

The old shipping connections have been maintained, and others have been added, but in the course of time a wider *clientèle* was desired, and the doors were thrown open to the general public. If advantage has not been taken of the "open door" to the extent which might have been expected, the fault lies rather with the Society itself. It advertises itself but little, if at all, and rests content with modest figures and a slow but steady rate of progress. Conservative in its methods, it has aimed always at a sound provident business, and whether new sums assured, premium income, or interest income be tested by this standard, it will be found to apply equally satisfactorily to each in turn.

The Society possesses another distinguishing feature—a marine department, where the baggage and effects of mariners and passengers of some of the leading shipping companies may be insured. If the quantity of business effected is not large, the quality, on the other hand, is of the highest excellence, and the policy-holders reap the advantage of the resulting profits.

## MARRIAGE.

(See ENDORSEMENTS ON POLICIES.)

## MARRIAGE, ANNUITIES DEPENDENT ON.

(See ANNUITIES DEPENDENT ON MARRIAGE.)

## MARRIAGE SETTLEMENTS.

(See VOLUNTARY SETTLEMENTS.)

## MARRIED WOMEN.

The Married Women's Property Act, 1882, Sect. 11, provides that a married woman may, by virtue of the power of making contracts hereinbefore contained, effect a policy upon her own life or the life of her husband for her separate use; and the same and all benefit thereof shall enure accordingly. A policy of assurance effected by any man on his own life, and expressed to be for the benefit of his wife and/or of his children, or by any woman on her own life, and expressed to be for the benefit of her husband and/or of her children, shall create a trust in favour of the objects therein named, and the moneys payable under any such policy shall not, so long as any object

of the trust remains unperformed, form part of the estate of the assured, or be subject to his or her debts. But if it be proved that the policy was effected and the premiums paid with intent to defraud the creditors of the assured, they will be entitled to receive out of the policy moneys a sum equal to the premiums so paid. The assured may appoint a trustee of the policy moneys or appoint a new trustee, and may make provision for the appointment of a new trustee, and for the investment of the policy moneys. If a trustee is not appointed the policy, on being effected, will vest in the assured and his or her personal representatives, in trust for the purposes aforesaid. If, on the death of the assured, or at any time afterwards, there is no trustee, or it is expedient to appoint a new trustee, a trustee may be appointed by the Court. The receipt of a trustee, or, in default of notice to the assurance office, the receipt of the personal representative, will be a discharge to the office for the sum secured by the policy.

**Rights of Husband and Wife.** The voluntary payment by the husband of his wife's premiums on a policy effected by her for her own life for her separate use confers on him no interest in the policy in the absence of a contract between him and his wife (*Burridge v Row*, 1844, 13 L.J.Ch. 173).

A policy effected under the Act of 1882 is not, so long as any object of the trust remains, subject to the control of the husband nor does it form part of his estate; his interest is, however, capable of assignment by him during his wife's lifetime. In *Robb v. Watson* (1910, 1 Ir. R. 243) a policy was effected for the sole benefit of the wife for her separate use. In 1901 the husband made an assignment of all his property for the benefit of creditors. It was held on the death of the wife in 1907 that the husband's interest had passed under the assignment. Where the trust created by such a policy fails, the assurance money forms part of the estate of the assured (*Cleaver v. Mutual Reserve Life*, 1892, 1 Q.B. 147).

Although circumstances might easily arise in which moneys paid within ten years of bankruptcy for the purpose of effecting a policy of assurance which is taken out and settled within that period might constitute a settlement within the meaning of the Bankruptcy Act, yet, where the policy has been taken out and settled at a period more remote than ten years from the date of the

settlor's bankruptcy, the premiums subsequently voluntarily paid by the settlor within the said ten years in order to keep alive the policy do not constitute such a settlement. No proportionate part of the moneys ultimately payable under a policy is represented by the payment of any particular premium (*re Harrison*, 1900, 2 Q.B. 710).

In 1872 a married woman insured her life by a policy which contained a recital that she was desirous of effecting an assurance in terms of the provisions of the Married Women's Property Act, 1870, for the benefit of her children. She survived her husband, and died in 1914, having by her will bequeathed the policy moneys to four of her children only. It was held that the contract was with the married woman alone; that no interest passed to the children by reason merely of their being mentioned in the policy; and that the four legatees were entitled to the policy moneys (*re Burgess*, 1915, 113 L.T. 443).

A married man effected with a life assurance society a policy of assurance, described as an "endowment bond," in terms of which the society undertook, in consideration of the payment of certain annual premiums, to pay to him the principal sum assured with interest and profits on the expiry of twenty years, and, in the event of the husband's death before the expiry of the twenty years, to pay the principal sum assured to his widow, whom failing, to the husband's executors, etc. The husband died a bankrupt within the twenty years, and was survived by his widow. It was held that the policy was one "for the benefit of his wife" within the meaning of Sect. 2 of the Married Women's Policies of Assurance (Scotland) Act, 1880 (compare Sect. 11 of the Act of 1882, *ante*), and that the proceeds thereof fell to the widow and not to the husband's creditors (*Chrystal's Trustee v. Chrystal*, 1912, S.C. 1003).

In *re Ioakimidis' Policy* (1925, 60 L.J.N. 463), it was held that an endowment policy effected for the benefit of the wife of the assured in the event of assured's death before a certain date, leaving his wife surviving him, but if assured survived that date, the policy moneys were to be payable to him in cash or to his executor, etc., is effected on the assured's own life, and impressed in the event which happened with a trust for the wife, and is a valid policy within Sect. 11 of the Act of 1882, so far as it created a trust for the wife in the event which happened,

and the policy moneys were not liable for the debts of the assured.

By the Act of 1880 (*supra*), the facilities given by the Act of 1870 (re-enacted in the Act of 1882) for effecting policies of assurance for the benefit of married women and children were extended to Scotland. Sect. 1 provides that a married woman may effect a policy of assurance for her separate use, and Sect. 2 that a policy effected by a married man on his own life for the benefit of his wife and/or children shall be deemed a trust for them, and such policy shall vest in him and his legal representatives in trust for the purposes so expressed, or in any trustee nominated in the policy, or appointed by separate writing duly intimated to the insurance office.

The Law of Property Act, 1925, provides by Sect. 170 that a married woman married after 31st Dec., 1882, is able to acquire as well from her husband as from any other person, and hold any interest in personal property (e.g. assurance policy) either solely or jointly with any other person as a trustee or personal representative as if she were a *feme sole*, and no such interest in such property shall vest or be deemed to have vested in the husband by reason only of the acquiescence by his wife. She is able without her husband to dispose of, or to join in disposing of, any interest in personal property held by her solely or jointly with any other person in like manner as if she were a *feme sole*.

## MARRIED WOMEN'S PROPERTY ACTS.

(See TRUST POLICIES.)

## MASTITIS (Inflammation of the Breast).

This may be either acute or chronic. Acute mastitis is a frequent complication of lactation in women following child birth, and is usually amenable to treatment without any bad after effects.

A history of uncomplicated mastitis, even though accompanied by abscess formation, need not affect a life assurance proposal, provided the breast has completely recovered. If, however, it is associated with septicaemia or pyaemia (*q.v.*), the proposer must be examined to determine that no ill effects of the general infection have been left behind.

In the case of chronic mastitis the problem is more complicated, owing to the undoubted fact that cancer is more likely to develop in such a breast than in a normal one. A medical examination must be insisted on, and the case has to be regarded by the

medical examiner with special reference to the age of the patient, extent of the mastitis, and the presence of enlarged glands in the axilla. These latter will add very considerably to the risk, and such a case should be postponed or declined altogether. Other cases usually demand an addition to the premium. If a breast has been removed because of mastitis, a full medical report must be obtained from the operating surgeon.

#### **MASTOIDITIS.**

(See OTITIS MEDIA.)

#### **MATURITY CLAIMS.**

(See CLAIMS.)

#### **MEASLES.**

The only importance of this disease in life assurance lies in its complications, which may be bronchitis, otitis media, mastoiditis, and nephritis. In a case with a recent history of measles care must, therefore, be taken to exclude these complications. If they are not present, a policy may be granted at ordinary rates. Should any of them be present, the proposal should be dealt with as indicated under the respective headings.

#### **MEDIAN.**

(See AVERAGES.)

#### **MEDICAL ATTENDANT'S REPORT FORM.**

(See PROPOSAL FORM, page 431.)

#### **MEDICAL EXAMINATION.**

(See PROPOSAL FORM; PERIODICAL MEDICAL EXAMINATIONS; POST OFFICE LIFE ASSURANCE; INDUSTRIAL ASSURANCE, HISTORY OF.)

#### **MEDICAL INVALIDITY.**

(See UNDER-AVERAGE LIVES.)

#### **MEDICAL REPORT.**

(See PROPOSAL FORM, page 427.)

#### **MEDICAL SELECTION.**

(See SELECTION.)

#### **MENINGITIS.**

An inflammation of the coverings of the brain. There are a large number of causes to which the disease may be due, among the most important of which are—

1. Epidemic cerebro-spinal meningitis (spotted fever).

2. Inflammation of the ear (otitis media, *q.v.*) or of the scalp.

3. A general septic infection (septicaemia, *q.v.*).

4. Specific fevers or general infection, e.g. pneumonia, typhoid.

5. Tubercle.

6. Syphilis.

If there are any signs of the disease when the proposal is made, it must be declined. If there is a past history, it need not affect the proposal, provided there is no question of tubercle or syphilis. These cases do not, as a rule, give rise to much difficulty, as a past history of meningitis is rarely due to tubercle, for these cases are usually fatal, and a medical examination, which is essential in all cases with a history of any form of meningitis, will determine at once whether any abnormality is present. If there be none, a policy may be granted at ordinary rates.

#### **MERCANTILE AND GENERAL INSURANCE COMPANY, LTD.**

Head Office: 25-31 Moorgate, London, E.C.2.

Founded in 1907. Reorganized in 1915, for the transaction of reinsurance only. A life department was opened for reinsurances only in 1918, and considerable progress has been made.

The company issues reassurances on all classes of life business, either by accepting a quota share of the original policy at the ceding office's rates of premium and conditions, or reassuring only the death risk from year to year on the renewable term or risk premium plan, for which it quotes a rate of premium increasing with the duration of the reinsurance on a sum assured decreasing with such duration, as the reserve applicable to the assurance, held by the ceding office, increases.

None of its guarantees carries any right of participation in the profits made by the company.

#### **MERCANTILE MARINE.**

(See OCCUPATION RISKS; also PROPOSAL FORM.)

#### **METRITIS (Inflammation of the Womb and its Lining (Endo-metritis)).**

It is caused by infection of the womb, either by organisms from the blood stream, particularly if the organ is congested owing to displacement, or by organisms from without, the commonest of these being the gonococcus. A metritis, if neglected, may

give rise to chronic ill-health, or the symptoms attributed to a metritis may be due to some more serious condition. The wisest course to adopt, if the proposer is suffering from a metritis, is to postpone the policy until the symptoms have cleared up. The same care is needed in dealing with a case due to the gonococcus as in the case of a male proposer suffering from gonorrhoea.

(See VENEREAL DISEASE.)

**METROPOLITAN LIFE ASSURANCE SOCIETY.**

(See LONDON LIFE ASSOCIATION, LTD.)

**MEXICO.**

(See CLIMATIC RISKS.)

**MIDDLE EAR DISEASE.**

(See OTITIS MEDIA.)

**MIGRAINE.**

A disease characterized by severe headaches and visual disturbances. Its cause is unknown. Its symptoms sometimes closely resemble those of cerebral tumour, and a proposer giving a history of migraine must be submitted to a medical examination.

Cases of pure migraine may be accepted without additional premium.

**MINING, EXTRA PREMIUM FOR.**

(See OCCUPATION RISKS; PROPOSAL FORM.)

**MINISTRY OF HEALTH.**

(See MORTGAGES OF REAL AND PERSONAL PROPERTY, page 357.)

**MINUTES.**

(See BOARD MEETINGS AND MINUTES.)

**MISCELLANEOUS TRADES, RISKS OF.**

(See OCCUPATION RISKS.)

**MISREPRESENTATION.**

(See CONTRACT, PARTIES TO; WARRANTIES; AGENT, AUTHORITY AND RESPONSIBILITY.)

**MODEL OFFICES.**

The term "model office" is applied by actuaries to a combined body of experience of lives assured or of annuitants, which consequently may be regarded as representing an average or model life assurance office. This experience or business in force of the imaginary office is valued by different mortality tables at a number of rates of interest at successive quinquennial periods in the existence of the office.

The valuation results of such a model office afford direct answers to a number of interesting questions, and are of much value for comparative and educational purposes. Thus the relative stringency of different tables of mortality becomes clear, as well as the effect of increasing or decreasing the valuation rate of interest, while, within limits, the result of a changed rate of interest as an offset to a different table of mortality can be measured as well as the future consequences of such alterations.

By considering the valuation results at different periods, allowance can be made for a greater or less proportionate influx of new business. First developed by the late Mr. H. W. Manly, President of the Institute of Actuaries, 1898-1900, nearly seventy years ago (J.I.A. xiv, 292), and followed by others, it is to Mr. George King that we are indebted for the model office now used (see more particularly J.I.A. xxxvii, 453, and New York I.C., I, 203, etc.). In J.I.A. xxxvii Mr. King had also directed some study to the effect of reversionary bonuses on the results, and in J.I.A. xxxix, Dr. James Buchanan developed this aspect further in order to determine what it would cost to make a reserve for existing bonus on a given basis, and what it would cost to declare a new bonus at a given rate. Taking an  $O^m$  3 per cent reserve, it appeared that the percentage of the reserve value on the amount of the existing reversionary bonus additions at 30s. per cent per annum was as follows—

	Age of Office.				
	10 years.	20 years.	30 years.	40 years.	50 years.
Simple Bonus . . . . .	50.5	56.1	61.1	65.0	67.6
Compound Bonus . . . . .	50.5	56.2	61.3	65.5	68.3

**MODE.**

(See AVERAGES.)

From this it would seem that, although the way in which the bonus is allotted has

RELATIVE RESERVES BY VARIOUS MORTALITY TABLES COMPARED WITH THOSE BY THE  $O_m$  TABLE AT 3 PER CENT INTEREST

Table of Mortality.	Date of Interest.	Whole Life Assurances. <sup>1</sup>						Endowment Assurances. <sup>2</sup>					
		Age of Office.			Age of Office.			Age of Office.			Age of Office.		
		5 years.	25 years.	50 years.	5 years.	25 years.	50 years.	5 years.	25 years.	50 years.	5 years.	25 years.	50 years.
		Actual Reserve.	Compara- tive Reserve $O_m$ 3% = 10,000.	Actual Reserve.	Compara- tive Reserve $O_m$ 3% = 10,000.	Actual Reserve.	Compara- tive Reserve $O_m$ 3% = 10,000.	Actual Reserve.	Compara- tive Reserve $O_m$ 3% = 10,000.	Actual Reserve.	Compara- tive Reserve $O_m$ 3% = 10,000.	Actual Reserve.	Compara- tive Reserve $O_m$ 3% = 10,000.
$H^m$ Select . . . . .	3	28,978	11,629	352,803	10,206	689,931	10,014	107,363	10,166	1,478,143	9,820	1,478,881	9,913
$H^m$ and $H^{m5}$ ( $H^m$ alone first 5 years). . . . .	3	24,166	9,698	340,282	9,843	682,535	9,906	107,363	9,820	1,485,890	9,820	1,478,881	9,966
$H^m$ . . . . .	3	24,166	9,698	351,989	10,182	698,313	10,106	114,634	10,184	1,528,584	10,184	1,490,896	10,252
$O_m$ . . . . .	3	26,754	10,737	365,246	10,566	750,035	10,450	109,329	10,000	1,490,896	10,000	1,454,227	9,752
	2½	24,918	10,000	345,693	10,000	688,989	10,000	104,273	9,537	1,504,938	9,537	1,478,881	9,919
	3	23,211	9,315	327,247	9,466	639,362	9,570	114,767	10,497	1,504,938	10,497	1,478,881	9,919
	4	21,661	8,683	310,006	8,968	631,297	9,163	107,094	9,795	1,496,206	9,795	1,496,206	10,035
$O_m$ Select . . . . .	3	28,430	11,410	375,582	10,344	700,420	10,166	107,094	10,000	1,496,206	10,000	1,496,206	10,035
$O_m5$ . . . . .	3	23,954	9,613	338,188	9,783	678,222	9,844	107,094	10,000	1,496,206	10,000	1,496,206	10,035
$O_m$ and $O_m5$ ( $O_m$ a one first 5 years). . . . .	3	24,918	10,000	350,215	10,131	693,884	10,071	109,329	10,000	1,496,206	10,000	1,496,206	10,035

<sup>1</sup> Reduced from extensive tables contributed by Mr. George King to New York I.C., I., 203, etc.

<sup>2</sup> Reduced from extensive tables contributed by Mr. James Buchanan, M.A., D.Sc., J.I.A., xl, 50.

little effect on the reserves, the selection of a model office of suitable age is of importance, the influence of the values of bonuses on the comparative valuation results being considerable.

In J.I.A. xxx, 194, Sir Gerald Ryan constructed a model office for annuities, with numerous valuations on bases in favour then—thirty years ago. Mr. H. J. P. Oakley extended the work in J.I.A. xliii 281 (1909), brought it up to date in co-operation with Mr. W. Palin Elderton in J.I.A. lv, 211 (1924), employing the latest tables, and, further, added a new model office derived from the experience of British offices. A brief abstract is subjoined, but reference should be made to the original papers for a full understanding of the methods adopted in compiling such tables, as well as for many instructive illustrations of the uses to which they can be put.

To find the alteration in the reserves when the basis of valuation is changed, the reserves required for the model office on each basis are calculated, and the proportion ascertained. In the model office, it is assumed that the same amount of new business is transacted each year. Equally it is assumed that the business is non-participating—or that the bonuses for life assurances are distributed in cash. If comparisons are required involving only the valuation rate of interest, i.e. the same business, and the same mortality table, the comparison by means of the model office is most reliable, but where the mortality table is changed rather more caution is requisite. Thus the H<sup>m</sup> and the O<sup>m</sup> tables differ materially. The O<sup>m</sup> tables give higher reserves for policies at the younger ages at entry, and lower reserves for those at the older ages at entry than does the H<sup>m</sup> table.

RYAN'S MODEL OFFICE FOR ANNUITIES, MALE AND FEMALE

Basis of valuation.		Rates of interest.	Actual reserve.	Comparative reserve (British offices, 1863-1893 all select, 3% = 100).
Government Annuities, 1883.	Average annuities	3%	£ 2,172,158	94.2
British offices, 1863-1893 "	All select	3%	2,222,340	96.4
" "	All ultimate	3%	2,210,843	95.9
" "	Select and ultimate	3%	2,241,751	97.2
" " 1900-1920	All select	3%	2,583,593	112.0
" " "	All ultimate	3%	2,551,588	110.6

BRITISH OFFICES' EXPERIENCE MODEL OFFICE (1914-1920), MALE AND FEMALE

Basis of valuation.		Rates of interest.	Actual reserve.	Comparative reserve (British offices ult. 1900-1920 = 100).
Government Annuities, 1875-1904	All select	3%	£ 2,353,065	90.6
" " "	Select and ultimate	3%	2,287,879	88.1
" " 1900-1920	Ultimate	3%	2,532,972	97.5
British offices 1863-1893	All select	3%	2,336,505	90.0

For ages 40-80 of the model office 1914-1920 (select annuity values beyond age 80 for the Government experience, 1900-1920, not being available), a valuation by the Government experience 1900-1920 called for reserves of £2,282,983, and by the British offices' experience 1900-1920, for reserves of £2,303,209, select annuities at 4 per cent being used in both cases—the ratio being 99.1 per cent.

In changing the mortality table, bonuses should be valued separately, but this is scarcely necessary in a variation of the rate of interest only—and the same may be said of reductions of premium if they are of any magnitude.

All minor classes also may be included, but endowment assurances must be considered separately. A device for this is to apply the model office first to the entire

business, and then to endowment assurances, and to take only one-half of the difference in the endowments' section which the operation indicates—a sufficiently close result for ordinary purposes.

**MODIFIED PRELIMINARY TERM PLAN.**

(See VALUATION METHODS.)

**MONTHLY PREMIUMS.**

(See INDUSTRIAL ASSURANCE: TYPES OF POLICY ISSUED.)

**MORTALITY.**

Man, like other creatures, is born, grows to maturity, thereafter gradually loses vitality, and finally dies. Throughout the ages, speculation and investigation have been directed to his span of life, as, for example, the Biblical admonition that “the bays of man are three score years and ten,” showing not only that the “mode” or maximum number of deaths occurring about that age had not escaped notice, but also suggesting that, in spite of remarkable alterations in environment, no very great change has taken place, since age 71 or 72 still presents the same feature.

With most living creatures, the limit of life is some five to seven times the period of growth. Man is usually considered as arriving at full growth at the age of 21, and five times this gives 105 as a limit, which is in fact but rarely attained, and very seldom exceeded. (See *Centenarians*, by T. E. Young, and *Longevity of Man*, by W. J. Thoms, London, 1873.)

Mortality tables exhibit a minimum rate of mortality at about age 13, which opens up the inquiry whether man attains to full growth by drawing upon his store of vitality, since maximum growth does not coincide with minimum mortality.

Distinct periods in human life have long been recognized—who does not recall Shakespeare's description, and also that grim representation of the journey across the broken bridge beset by lurking dangers? It is of scientific interest that these ideas, possibly deemed fanciful by many, have been established on a firm basis by statisticians. Nearly a century ago T. R. Edmonds divided lifetime into three spans, viz. infancy, manhood, and old age, the first being characterized by a decreasing rate of mortality of about 32½ per cent per annum to about 8 years of age; the second by an increasing ratio of 3 per cent from 12 to 55 years of age; and the last by the

more rapidly increasing ratio of 8 per cent in each successive age to the close of life (J.I.A. I 26). Much more recently Professor Pearson employed his statistical methods to analyse death distributions, and, basing his investigations upon British and French material, arrived at the following classification—

DISTRIBUTION OF 1,000 DEATHS

Group.	Period of life to which applicable	British statistics.	French statistics.
A	Old age . .	484	411
B	Middle age .	173	180
C	Youth . .	51	78
D	Childhood .	46	47
E	Infancy . .	246	284
		1,000	1,000

For group E the curve had to be extended to a period of nine months before birth, in order to ensure a smooth junction. (Phil. Trans. London, 1895.)

Such presentations of the case, however instructive in themselves, are yet not in the form required for the purposes of life assurance, for which recourse must be had to mortality investigations.

(See also LAWS OF MORTALITY; MORTALITY EXPERIENCE AS COMPARED WITH EXPECTATION; MORTALITY OF ANNUITANTS; MORTALITY INVESTIGATIONS; MORTALITY TABLE, THE; MORTALITY TABLES; MORTALITY TABLES FOR ASSURED LIVES; NATIONAL DEATH RATES; NATIONAL LIFE TABLES; SELECT TABLES.)

**MORTALITY EXPERIENCE.**

(See CLOSED FUNDS; LIFE OFFICE VALUATIONS.)

**MORTALITY EXPERIENCE AS COMPARED WITH EXPECTATION.**

In the annual reports of most of the life assurance offices there appears a statement to the effect that the mortality during the preceding year was a certain percentage of the expectation—usually appreciably less. A few remarks may be made by way of explaining what is meant by this statement.

The periodical valuations of life offices, made at intervals of five years or less, are based upon the assumption that the mortality of the office will be that of a table derived from the collected experience of many offices. The O<sup>m</sup> Table may be cited, as it is the table most favoured in practice at the present time. It represents the experience

of sixty offices during the thirty years 1863-1893, and is in aggregate form, that is, there is no distinction between more or less recently assured lives. As regards the thirty years in question, it is certain that the experience of some offices was more favourable than that of the *O<sup>m</sup>*, as that of others must have been less. Equally, those offices which contributed a relatively large proportion of recently accepted lives should have had a lower mortality ratio, other things being equal.

To ascertain the expected mortality, after the close of each year's operations, the rate of mortality by the table used in the valuation is multiplied into the appropriate number "exposed to risk" at each age, that is, the average number out of which the claims of the year have arisen. The total of these calculations is then compared with the actual claims, which, expressed as a percentage, is the result desired. Now, although the method of computation is similar, three kinds of comparison may be made, namely, lives, policies, or sums assured, with or without accrued bonuses. Some policy-holders are assured many times, and to make the comparison by lives, it would be necessary to eliminate all duplicated cases. If the duplicates are not eliminated, then the comparison is by policies. Duplicating is, however, a laborious process, unless the books of the office have been designed to keep this feature in view, and many offices are content with the comparison by policies, which, moreover, is adequate for the end in view. The comparison, again, may be by sums assured, and then the resultant statement is to the effect that while the expected claims were so much, the actual claims were only so much, or equal to such and such a percentage. This may or may not include the bonuses, which, moreover, are occasionally stated separately.

Such statements do not, however, mean that the differences between actual claims and expected claims can be regarded as profit from mortality, for that is not likely to be so. An illustration will bring out this point most clearly. If a claim arises on a recently effected policy, the office will have received but few premiums, will have accumulated only a small reserve, and a loss from mortality will have resulted. On the other hand, a claim under a very old policy will be quite a different matter, since the office will have a reserve available approximating probably to the full amount assured. Evidently the amount of profit depends on

the duration of the policies (see ANALYSIS OF SURPLUS), and the above statements are insufficient for the purpose.

Returning to the actual mortality comparison, its significance is affected by the following considerations—

1. It is based upon a table (assuming the *O<sup>m</sup>* to be used) whose average date is about 1880—and hence to an extent out of date.

2. With such an aggregate table, no distinction is made between policies of different duration, and the relative proportions of recently selected lives in the particular office and in the *O<sup>m</sup>* table respectively may be very different.

3. The normal class of lives assured in the particular office may be other than the average of the stock embraced in the *O<sup>m</sup>*. No exception can be taken to the comparison on this account, but it has to be borne in mind.

As to the first point, it is known that the rate of mortality generally, and among lives assured particularly, has been decreasing, on the whole, for a long time. This is ascribed partly to a general improvement in the vitality of the community, and partly to the increased efficiency of medical examiners for life assurance. The Institute and Faculty of Actuaries are at present engaged in analysing the mortality experience of the offices, which will assign a precise measure to this improvement. It is quite likely that the improvement will be almost as great as was shown by the *O<sup>m</sup>* table in comparison with its predecessor, the *H<sup>m</sup>* table, whose observations closed in 1862. At age 20 the rates of mortality by the *O<sup>m</sup>* are barely two-thirds of those by the *H<sup>m</sup>*, but approach each other gradually as the age advances, being, for example, about nine-tenths at age 40, and still closer, proportionately, to each other at old ages. It is not improbable that the further improvement expected will follow a somewhat similar distribution.

As to the second point raised above, evidently an office transacting a progressive new business, forming a relatively large proportion of the total in force, should show better results when displayed in this way than a long-established office, whose new business, it may be, barely repairs wastage, and yet its mortality experience may be no better—possibly even inferior, when tested by means of select tables of mortality. To mention a few figures bearing upon this aspect of the matter; while the *O<sup>m</sup>* aggregate rate of mortality at age 20 is roughly

4 per thousand, the corresponding rate by the O<sup>(M)</sup> select table, for lives just accepted for assurance, is less than 3 per thousand, although it is fully 4 per thousand if the lives have been assured for a year. Of course, of the lives assured at so early an age, the majority will be very recent entrants. At age 40, the aggregate rate of mortality is 9 per thousand, and the select rate only one-half as much, the aggregate rate being reached only by lives of this age who have been assured for seven years. At age 60, when the aggregate rate is 29 per thousand, the select rate is still only 15, or little more than half, and it is only those who have been assured for ten years and upwards who exhibit so high a rate as 29 per thousand.

If it be asked why select tables are not used for the purpose, the reply must be that, except for a few offices, it would be too cumbersome a task to keep the necessary books of record up to date. The necessary items are many times more numerous than for the application of an aggregate table, and the results would not justify the labour and expense. As it is, however, these comparative statements have created a popular impression that there has been such an improvement in mortality that the offices are charging premiums altogether too high, although, as has been shown, the statements do not of themselves support such a conclusion, the testing of which requires examination on different lines.

#### MORTALITY INVESTIGATIONS.

Modern life assurance depends on accurate measurement of human mortality at each age, and information on the point is obtained primarily by analysing past records. The object of mortality investigations is thus to determine and describe qualitatively and quantitatively the effect of all those causes and circumstances which lead to the gradual exhaustion and ultimate extinction of human vitality.

Since these causes and circumstances occasion the death of each individual, they are described broadly as "causes of death," that final circumstance which involves dissolution being known as "the" cause of death. The mere enumeration of all these causes and circumstances demonstrates sufficiently the complexity of the problem. Among general causes affecting all, even if unequally, are climatic conditions, economic position, and hygienic surroundings; while among general causes operating partially are sex, age, occupation, etc.

**Causes of Death** have been divided by Quetelet (*Physique Sociale*, 1869) into "natural" and "accidental," and a similar idea underlies Makeham's formula for the law of mortality. Colajanni (*Manuale di statistica teorica, Naples*, 1904) makes three classes—

1. Physical, such as climate.
2. Anthropological, such as age, sex, race.
3. Social, such as density of population, occupation, etc.

Then there are particular causes such as physical and temperamental characteristics.

Some important aspects of this enumeration have to be borne in mind. First, that many of the causes are subject to periodic fluctuations, such as climate and social position, while others have exhibited progressive improvement, such as hygienic conditions generally in civilized countries. Second, with regard to causes affecting groups and individuals, the collective effect will depend on the distribution, i.e. as to age, etc.

Time affects the problem variously; absolute time, i.e. in terms of the calendar, will determine the period of birth of an individual or the epoch of a group: equally the period of observation.

Of the relative time factors, the first is the age, i.e. the period elapsed since birth, and the duration or period under observation. Thus at any moment an individual may be characterized by several time factors, such as year of birth, age, period of observation, the difference depending on the starting point of the enumeration.

As to the form in which the results are to be given, many and various have been the means employed—representing always a compromise between the theoretically ideal and the practically attainable.

[Compare Czuber, *Wahrscheinlichkeitsrechnung II*, 79, 3rd edition, 1921, Leipzig, B. G. Teubner.]

(See also INSTITUTE OF ACTUARIES.)

#### MORTALITY, LAWS OF.

(See LAWS OF MORTALITY.)

#### MORTALITY OF ANNUITANTS.

The longevity of annuitants has always been proverbial. This is no doubt attributable to the circumstances in which in most instances they are placed. Freedom from the strain of wage earning and the assured provision of necessaries conduce, it would seem, to a quietude of outlook favourable to length of life.

Further, there is the element of self-selection, as it is called, intuitive perhaps, but none the less real. No one would buy an annuity entailing loss of capital if early death comes, and if there is the slightest indication that this is likely.

Medical science and the improved conditions of life generally have contributed to longer life all round, and this has had its bearing in a progressive improvement in annuitant mortality.

Before any reliable mortality tables relating to annuitants had been framed, i.e. back in 1808, and when from that date the Government first granted life annuities as a means of reducing the National Debt, they made the mistake of basing the charges for annuities on a mortality table, the Northampton table, which had proved profitable as a basis for calculating life assurance premiums.

They overlooked the fact that granting annuities is the converse of life assurance, a person who effects an annuity being a seller, and one assuring his life a buyer. One bargains to live long, the other profits if he dies early.

The adoption of the Northampton table for annuities involved a serious loss to the Government amounting to £2,000,000 (see Comparative Rates of Annuity, given below).

Incidentally, it may be mentioned that the data of the Northampton table overstated the death rate, and thus its use accentuated the natural difference due to selection between the mortality of annuitants and assured lives of general population.

**Government Experience.** When the error was discovered, a mortality table was prepared in 1829, based on the experience under the various tontines from 1695 to 1789, Government annuities, and other data, including 66,036 lives, with the result that a more reliable table was brought out, and one which distinguished between male and female lives, showing the great superiority of the latter. (Comparative annuity rates based on this table are given below.)

EXPECTATION OF LIFE

Age.	Govt. annuitants, 1829		Northampton.
	Male.	Female.	
20	38-74	43-27	33-43
40	27-11	29-90	23-08
60	14-41	16-16	13-21
80	5-22	5-68	4-75

In 1860 another investigation was made, covering 20 years' experience of Government annuities, but not adopted. The expectations of life were almost identical with those of 1829.

The number of lives observed was 27,692, namely, 11,154 males, and 16,538 females.

In 1883 a third mortality investigation was made, the experience used being the Government annuities 1808-75, the mortality of males and females being investigated separately.

In this the mortality was traced through each year of age, it being assumed that each life on the average came under observation four months after the preceding birthday—the annual rate of mortality based on the experience of the following eight months being taken as the rate for the whole year. After the first year the mortality was traced through exact years of age, i.e. from birthday to birthday.

The number of lives was 30,788, of whom 10,929 were males. The effects of selection were traced for 0, 1, 2, 3, and 4 years and upwards from the date of purchase. The select tables were graduated by the formula of Gompertz, and then truncated by the method of Woolhouse.

This annuity experience brought into prominence the "effect of selection," the mortality during the five years immediately following purchase of annuity being lighter than that thereafter.

The 1883 tables were used by the Government and many life offices in their annuity departments for over 20 years.

In 1912 was published the results of another investigation covering the period from 1st Jan., 1875, to 31st Dec., 1903, made by Mr. J. Blakey. In this the nearest age at date of purchase was adopted as the age at entry, involving an error of between 2-3 weeks in understatement of the age, but enabling the effects of selection to be traced more satisfactorily. The period of observation began either from the anniversary in 1875 of the date of purchase of the annuity or from the actual date of purchase in 1875-1903, and continued until the anniversary in 1904 or until previous death. The data embraced 5,504 males and 13,863 females, the exposed to risk being 57,652 with 4,168 deaths for males, and 163,378 exposed to risk with 9,333 deaths for females.

The following abstract compares the two experiences, viz. 1808-1875, and 1875-1904, in terms of the mean of five values of the curtate expectations of life as at the date of purchase.

Group of ages at purchase	Males.		Females.	
	1808-1875	1875-1904	1808-1875	1875-1904
40-44	—	—	27.97	29.01
45-49	—	—	24.51	25.17
50-54	18.60	18.89	21.07	22.21
55-59	15.66	16.15	17.72	18.13
60-64	12.77	12.80	14.50	15.42
65-69	10.22	10.26	11.48	12.35
70-74	7.98	8.58	8.85	9.36
75-79	—	—	6.74	6.98

The amount invested in Government annuitants gradually attained large dimensions, exceeding a million and a quarter pounds sterling in 1923. In 1924 was published the mortality experience of Government life annuitants, 1900-1920 (H.M. Stationery Office), being a report by the

decline in mortality was very marked, particularly among female lives. It was investigated further by analysing the experience in three periods 1900-1907, 1907-1914, and 1914-1920, with some suggestive speculations as to the future trend of the rate of mortality.

The diminution in mortality called for an increase in the purchase price of annuities amounting for male lives to 7 per cent at age 40, dropping to 1 per cent at age 80; and for female lives, 6 per cent to 4 per cent. As, however, the improvement in vitality appeared to be continuing, a further increase in charge, amounting to 4 per cent for female lives and 3 per cent for male lives, was recommended.

The following table gives a comparison of the 3 per cent annuity values from the Northampton Table down to 1920.

VALUE OF LIFE ANNUITY OF £1 PER ANNUM ACCORDING TO VARIOUS MORTALITY TABLES BASED ON ANNUITANT LIVES, INTEREST BASIS 3 PER CENT

Age.	Northampton 1735 to 1780 $a_x$	Government annuities 1829 $a_x$	Government annuities 1883 $a_{ x }$	Government annuities 1900-1920 with allowance for forecasted improved vitality $a_{ x }$	British offices annuities 1893 $O^{(am)}$ & $O^{(af)}$ $a_{ x }$	British offices annuities 1900-1920 with allowance for forecasted improved vitality ( $a_{ m }$ ) $a_{ x }$	Assured lives $O^{(M)}$ for comparison $a_{ x }$
<i>Males</i>							
40	14.848	16.562	16.376	19.329	17.604	18.924	17.623
50	12.436	13.372	13.813	15.819	14.403	15.724	14.441
60	9.777	9.979	10.601	11.728	10.882	11.952	10.965
70	6.734	6.767	7.299	7.856	7.441	8.199	7.594
80	3.781	4.000	4.553	4.742	4.537	4.921	—
<i>Females</i>							
40	14.848	17.742	18.180	20.804	18.257	20.263	17.792
50	12.436	14.952	15.271	17.689	15.514	17.471	14.785
60	9.777	11.405	11.791	13.799	12.221	13.883	11.173
70	6.734	7.674	8.000	9.479	8.406	9.731	—
80	3.781	4.461	4.937	5.668	5.054	5.722	—

Government actuary and the actuary to the National Debt Commissioners. This related to 23,230 male lives and 57,551 female, the deaths being 12,226 and 26,457 respectively, and the exposed to risk 227,083 and 627,531 respectively. As compared with the preceding investigation, the actual deaths were 88 per cent of the expected for males, and 81 per cent for females.

The experience is based upon contracts instead of upon lives, and it may be noted that the percentage of actual to expected deaths was almost invariably lower for contracts than for lives; those in existence under contracts effected before 1900 came under observation on the anniversary date in that year as at the nearest age to that date, new entrants being entered similarly at age nearest birthday, and observations closed on anniversary dates in 1920. The

**Life Offices' Experience.** Two important investigations have been prepared by life offices, based on their own annuity data. That known as the British Office Tables 1863-1893 (the  $O^{(am)}$  and  $O^{(af)}$  being the designation) was based upon the experience of male and female annuitants who had effected annuities with life offices, which offices contributed their data to the Institute and Faculty of Actuaries for the purpose referred to.

Forty-three offices contributed data, which was organized under the supervision of Mr. T. G. Ackland for the Institute and the Faculty of Actuaries. A summary is shown at the top of page 344.

The data was divided into "old" and "new," the former relative to contracts effected before 1st Jan., 1863, brought under observation at the anniversary in 1863, and

BRITISH OFFICES' ANNUITIES, 1863-1893

Description.	Symbol.	No. of cards.	Deaths.	Exposed to risk.	
				Select.	Aggregate.
Males . . . . .	<i>Oam</i>	9,700	4,427	67,250	53,599
Females . . . . .	<i>Oaf</i>	24,300	11,100	207,324	173,519

the latter applying to annuities issued between 1st Jan., 1863, and 31st Dec., 1892. In the volume [*Combined Experience of Annuitants* (1863-1893), London, C. and E. Layton, 1899], select tables are given for each age at purchase and for each year subsequent, showing the numbers entered existing, died, and exposed to risk for "old," "new," and "combined" respectively. Aggregate tables are also included. For the majority of the ages at purchase, i.e. all except the extremes, the select annuity values for males are slightly higher than those of the Government Tables, 1808-1875 (1883), and are throughout higher for females, against which must be set the more recent period of observation. The age at entry was taken as the nearest birthday, an error of little more than a fortnight, and the tables were based upon lives. Full particulars as to tabulation and graduation are given in *Principles and Methods*, etc. (London, C. & E. Layton, 1903).

(select and ultimate) were based, are set out for ages 40 to 100 in tabular form.<sup>1</sup> For the graduated results, however, the full period of twenty-one years is taken. In comparing the rates of mortality in the present experience with those brought out by that of 1863-93, the authors point out that the former rates are on the average materially lighter than the latter, but that the difference is less noticeable in male than in female annuitants. This circumstance, they believe, is mainly due to "an advance in medical knowledge and in the services that make for welfare." An interesting feature of this portion of the work is the construction of a "table showing the mortality among annuitants in force in a given future year." This table exhibits the rates of mortality at groups of quinquennial ages to be expected in the years 1925, 1935, and 1945, and is based upon the rates shown in the two experiences respectively.

The following is a summary—

BRITISH OFFICES' ANNUITIES, 1900-1920.

Description.	Symbol (forecast tables).	No. of cases.	Deaths.	Exposed to risk.	
				Select.	Ultimate.
Males . . . . .	<i>a(m)</i>	19,946	10,091	64,500	116,266.5
Females . . . . .	<i>a(f)</i>	51,892	21,924	168,931	355,221

The most recent experience is *The Mortality of Annuitants, 1900-1920*, by W. Palin Elderton and H. J. P. Oakley (C. & E. Layton). The *Post Magazine* reviewed this work as follows—

"The number of offices contributing their experience was 49, the observations being restricted to normal immediate annuities on single lives, resident in the United Kingdom. These observations, which comprised 19,946 males and 51,892 females, were divided into groups of three periods—(1) 1900-7, (2) 1907-14, and (3) 1914-20—and for each of these periods the unadjusted data upon which the exposed to risk and the ratio of mortality

Throughout the investigation, ages last birthday were used for age at entry, curtate durations for death, exact durations for existing, and curtate durations for withdrawals, which were given half a year's exposure in the year of withdrawal. The effect is to obtain the rate of mortality for approximately half a year older than the age recorded. The facts for the select tables were tabulated in groups of ages, usually five.

Novel suggestions were put forward by Messrs. Elderton and Oakley, who prepared the report, viz. that for practical purposes—

<sup>1</sup> Extended Tables back to age 20 were published in 1929.

1. Selection as between recent entrants and ultimate experience should be assumed to cease after the first year of duration.

2. That at any age the mortality of the first year is proportionate to the ultimate mortality at the same age—in this experience 63 per cent.

Of interest is the comparison hereunder between the rates of mortality (excluding the first year after purchase) of the two recent experiences (British offices' annuitants and Government annuitants)—

Age.	British offices' annuitants, 1900-1920		Government annuitants, 1900-1920	
	Male.	Female.	Male.	Female.
50	-010	-008	-010	-009
60	-022	-014	-021	-014
70	-047	-030	-052	-033
80	-118	-083	-126	-092

The rates, approximate as regards a unit in the last place, exhibit clearly the superior vitality of female annuitants over males, and a slight advantage of the offices' experience over the Government rates—due possibly to an infusion of higher social groups in the former, and possibly to the inclusion in the

is given in *Reform des Rechnungswesens or Reform of the Methods of Calculation of the Gotha Life Office, Germany*, by Dr. Johannes Karup, published by Gustav Fischer, Jena, 1903. A description is given in T.F.A., v, pages 108, 120. Some comments on the subject were also made—J.I.A. liii, pages 35 and 40—the latter regarding calculations by Mr. F. B. Wyatt, in connection with the Welsh Disestablishment Act.

The graduated monetary tables (select and ultimate) have been compiled for values of annuities on the lives of single males and single females, and of two males, two females, and one male and one female, respectively, both for joint life and for last survivor annuities, the rates of interest employed being 2½, 3, 3½, 4, 5, and 6 per cent. The two-life tables are, however, given for triennial ages only, each being preceded by a table of equal ages, with instructions as to obtaining the values for other combinations of ages by means of a method of interpolation.

The following extract from a table published by the authors, referred to above, indicates the trend in life offices' annuity rates since 1886, and completely bears out the necessity for, and the wisdom of, having repeated investigations as to annuity mortality from time to time (*vide* J.I.A., lv, pages 211-4)—

COMPARATIVE OFFICE RATES OF ANNUITY PER £100 PURCHASE MONEY

Age	Average of same 3 offices.			Average of 3 offices writing largest business in 1920.	O <sup>(am)</sup> 3½ 1863/93 loaded for expenses.	a <sup>(m)</sup> 1900/20 loaded for expenses.
	1886.	1909.	1920/21.			
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
			<i>Females.</i>			
60	8 13 3	7 19 2	8 10 11	8 17 10	7 18 2	7 10 6
70	12 12 1	11 12 4	12 1 6	12 7 5	11 6 8	10 7 6
			<i>Males.</i>			
60	9 5 4	8 17 10	9 10 6	9 17 5	8 17 -	8 12 6
70	13 9 2	12 16 6	13 10 8	13 16 7	12 14 8	12 3 2

latter of more annuities purchased under wills, i.e. without self selection."

For a fuller study of the question of forecasting the future trend of mortality, reference should be made to the two reports above mentioned, also to a paper by Mr. D. C. Fraser, M.A., F.I.A. (J.I.A. lv page 160).

An earlier consideration of the subject

**MORTALITY PROFIT.**

(See ANALYSIS OF SURPLUS.)

**MORTALITY, RATES PER 1,000.**

(See VITALITY, RECENT IMPROVEMENTS IN.)

**MORTALITY, SAVING IN.**

(See WELFARE SERVICES.)

**MORTALITY TABLE, THE.**

The mortality table is the instrument by which are measured the probabilities of life and the probabilities of death. It shows, out of an assumed number born, how many die in each successive year of life, until all have passed away, and hence enables us to calculate by proportion the probabilities of dying or surviving so far as affected by age. The introduction of factors other than age will be discussed later.

If we could imagine a very large number of persons all born absolutely simultaneously, and if further it could be assumed that their environment remained unchanged during the century approximately that would elapse before the last individual had died, then an enumeration recording how many lives failed during each successive year of age would yield the information required, and would constitute a mortality table.

Thus, suppose the number born be  $l_0$  and the number dying during the first year of life be  $d_0$ , and those dying during the second year of life be  $d_1$ , and so on, until all have gone, then clearly  $l_0$  will equal the sum of all the  $d$ 's, that is,

$$l_0 = \Sigma d_0$$

Equally, if  $l_1$  represent the number who attain the exact age 1, then

$$l_1 = l_0 - d_0, \text{ and similarly}$$

$$l_2 = l_1 - d_1$$

$$l_x = l_{x-1} - d_{x-1}$$

$$l_\omega = l_{\omega-1} - d_{\omega-1} = 0, \text{ using the Greek}$$

letter omega to stand for the limiting age of life entered upon, but not completed by the last survivor. For convenience also it is usual to use the symbol  $x$  to designate an exact integral age, ( $x$ ) being employed to mean "a person of the exact age  $x$ ," while  $t$  or  $n$ , or both, denote time.

Now, by definition, of  $l_x$  persons who attain the exact age  $x$ ,  $d_x$  die during the ensuing year of life, and thus the probability of the death of ( $x$ ) within one year is  $d_x \div l_x$ . Representing this by  $q_x$ , we have

$$q_x = \frac{d_x}{l_x}$$

This is termed the rate of mortality, while

$$\text{for its complement, } 1 - q_x = 1 - \frac{d_x}{l_x} =$$

$$\frac{l_x - d_x}{l_x} = \frac{l_{x+1}}{l_x}$$

the probability of surviving a year, the symbol  $p_x$  is used.

$$\text{Similarly, of course, } p_0 = \frac{l_1}{l_0}$$

$$p_1 = \frac{l_2}{l_1}$$

Hence,  $l_0 p_0 = l_1$ ,  $l_1 p_1 = l_2$ , etc., and so, having  $l_0$  and the successive probabilities of surviving a year, the entire  $l_x$  column can be obtained, and the  $d_x$  column from it by successive subtraction. Alternatively,

$$l_0 \cdot q_0 = d_0, \text{ and } l_0 - d_0 = l_1$$

$$l_1 \cdot q_1 = d_1, \text{ and so on.}$$

By suitable combinations of these symbols the various probabilities of life and death can be calculated, when the  $d$  column is available, since from it the other functions can be derived.

It is evident, however, that the conditions laid down for the construction of a mortality table cannot be fulfilled practically. To establish a reliable average, large numbers are required, and are not available. Even if they were, the constant environment does not exist, while the long period of time demanded would defer the results hopelessly. Supposing that 100,000 births had been recorded as simultaneous—even in a crude sense—in 1820, the changes in the conditions of life meantime would have rendered the mortality table so obtained of but limited value. In it the mortality of children would have been that of a century ago, and that of the oldest survivors would have reflected the conditions of the twentieth century.

Thus the issue cannot be faced directly. But there are other ways of meeting it. If the population of a country had been quite stationary for a very long time, there would be living, simultaneously, people of all ages who would correspond, roughly, to the  $l_x$  column of the mortality table, and by recording the deaths at the successive ages that occurred during a given calendar year, an approximation to the  $d_x$  column would be obtained. This is more nearly obtainable, but still is not satisfactory, for in every country, every community, every body of lives, there are fluctuations too great to be ignored. For example, in this country the most aged are the survivors from a period when the annual births were barely a third of those at the present time. A nearer approach to success can be made by abandoning the attempt to construct the  $l_x$  or  $d_x$  column directly, and considering  $q_x$ . As above stated,  $q_x$  represents the ratio between the number alive at the exact age

$x$  and those out of that number who die during the ensuing year of life. If, then, at any given moment we have the numbers living at successive ages, and record the numbers dying corresponding to them, then the ratio between living and dying at each age will yield the values of  $q_x$ , and, since  $q_x$  is a proportion, it will not matter if the numbers living at each age do not correspond, provided only that the deaths apply to the living at each age. Having thus obtained  $q_x$ , and from it  $p_x$ , then repeated multiplication into any arbitrary number selected as  $l_0$  will give the  $l_x$  column.

Considering now the population of this country, the numbers living at each age are recorded at a census date, while the deaths at each age are also tabulated. Thus we have the means of calculating ratios between living and deaths at each age. Apart from questions as to the reliability of these records, there is, however, still a theoretical difficulty. The numbers given at the census are of people aged  $x$  last birthday, and thus on the average their true age is approximately  $x + \frac{1}{2}$ . Our symbols can be developed readily to cope with this point, as follows—

Let  $L_x$  represent the number living in a stationary population aged between  $x$  and  $x + 1$ . Then, on the assumption that the deaths during  $(x + 1)$  the year of age are distributed uniformly over that year of age,

$$L_x = l_x + \frac{1}{2} = \frac{1}{2}(l_x + l_{x+1}) = l_x - \frac{1}{2}d_x$$

If, then,

$$m_x = \frac{d_x}{L_x} = \frac{d_x}{l_x - \frac{1}{2}d_x} = \frac{2d_x}{2l_x - d_x} = \frac{2q_x}{2 - q_x}$$

and from this,  $m_x(2 - q_x) = 2q_x$

$$\text{whence } q_x = \frac{2m_x}{2 + m_x}$$

Thus, having obtained a column of  $m_x$  from the population and corresponding deaths,  $q_x$  can be derived by means of the above relation, and thence the  $l_x$  and  $d_x$  columns of the mortality table.

The first problems that beset the compiler of a mortality table are—

1. To ensure that the general causes affecting all lives work evenly throughout the period under observation—climatic conditions, hygienic surroundings.

2. To eliminate or trace separately those general causes that operate partially, i.e. sex and age.

3. To obtain a body of lives as large as possible, so that the resulting averages may be of the utmost reliability.

Clearly (1) and (2) are opposed to (3), and compromise is inevitable. What happens in practice is that the period of observation is limited as far as possible, to give effect to (1), while generally the sexes, known to be subject to different rates of mortality, are considered separately, the body of lives being as homogeneous as can be obtained, bearing in mind the results aimed at. If the number of lives is limited, then condition (3) will require that the period of observation be extended, and groups of lives that it might be desired to leave out must be included. Where the population of a great country is in question, or the combined experience of many insurance companies, a short period may be reasonably sufficient, although even here conditions (1) and (2) reduce seriously the available material.

The history of mortality tables will show how progress has been made gradually, although much yet remains to be done.

#### MORTALITY TABLES.

There are fugitive hints in history extending even to remote times suggesting that human life was the subject of transactions resembling insurance, apparently, however, based on no scientific data, the lives being either those of slaves, regarded as chattels, or of members of semi-fraternal or trade associations, where the object was to provide suitable burial at death.

An exception possibly should be made in regard to the table of the Roman Ulpianus, utilized in connection with leases for terms of life. It appears too reasonable to be entirely guesswork, but the method of its structure has not been discovered.

In spite of the widespread activity of guilds and of the dreadful effects of occasional scourges, which, with religious teachings, made the question of death prominent and ever present during long ages, as is clear from the records of literature and sculpture, nothing like a scientific study of the statistics of mortality is forthcoming until the seventeenth century. The progress of the Great Plague of 1665, grim successor of others, had, however, been exhibited in weekly bills of mortality compiled by Captain Graunt (1620–1674), and seem to have attracted the attention of Halley (1656–1742), astronomer and man of science. Obtaining tables showing deaths at successive ages in Breslau during 1687–1691, he demonstrated how a life table could be constructed. Although open to question in itself, his table, published in 1693, started the wheels of progress

(J.I.A. xviii, 251, 262). In 1725 De Moivre initiated a more philosophical treatment, in his *Treatise of Annuities on Lives*, by attempting to generalize, formulating a kind of law of mortality even on the scanty material at his disposal. He proposed that the limit of age should be considered as 86, and that the numbers living should decrease in a uniform arithmetical progression, i.e. of say 86 born, one would die each year. Some years later appeared Simpson's table, based on London mortality (1728-1737). During the eighteenth century a number of able writers on the Continent also dealt with the subject, and prepared mortality tables, but in Great Britain the next serious contribution was the Northampton Table. This table played a leading part in life assurance from the middle of the eighteenth century to the middle of the nineteenth. It was constructed by Dr. Richard Price, a pioneer in this work, from the records of 4,689 burials in the parish of All Saints, Northampton, from 1735 to 1780. As the burials exceeded the christenings, Dr. Price assumed that 13 per cent of the deaths were to be ascribed to immigrants into Northampton at age 20, apparently unaware of the large number of dissenters in the parish, who contributed nothing to the christenings. Dr. Price, not knowing this, may well have felt himself justified in making the adjustment that he did, by considering the table of Simpson, based on London mortality in 1728-1737. An abstract of the expectation of life by the two tables will illustrate this point—

Age.	London.	Northampton.
0	18.93	25.18
20	29.31	33.43
40	19.42	23.08
60	11.81	13.21
80	5.24	4.75

As a result, however, the rate of mortality is exaggerated, especially at younger ages. The life assurance offices made large profits in consequence, but the Government, which sold annuities on the same basis, lost two million pounds sterling. (See Sutton, J.I.A., xviii, page 107.)

The Carlisle Table was constructed by Joshua Milne, actuary of the Sun Life Office in London, from records published by Dr. Heysham in 1797, consisting of a detailed census of Carlisle in Jan., 1780, and

an enumeration in Dec., 1787, together with the deaths in the same district during the nine years 1779-1787. Although Dr. Heysham distinguished the sexes, Milne combined them. He appears to have performed the following steps—

1. The second rough census was completed by adjustment, to correspond with the first.

2. The results of the two censuses were combined, giving the numbers living at various age-groups.

3. These figures were multiplied by four, to give numbers living for eight years.

4. The nine years' deaths were reduced by one-ninth, to give totals for eight years also.

5. The population living at each age was obtained approximately by a graphic process; the corresponding deaths at each age being derived separately by a similar process.

6. The ratio between the deaths and the living at each age gave the series of  $m_x$ , and then  $q_x$  which, applied to a radix of 10,000, supplied the  $l_x$  column of the life table. For a precise detailed description, see George King, J.I.A., xxiv, page 186—a striking example of reconstructive work.

Although for its period a fine illustration of scientific method, the inclusion of 55 per cent of female lives caused the rate of mortality at advanced ages to be too low for the table to be favoured for life assurance purposes altogether. Yet its value was great, and progress facilitated. The double graduation led to several irregularities in the final table, which might have been removed by a subsequent adjustment, or obviated by constructing the ratio  $m$  for the age-groups as given, and then graduating that function only. In J.I.A., xxii, page 221, King and Hardy give a completely reconstructed Carlisle Table, employing Makeham's formula, and in J.I.A. xlii, 225, etc., Mr. King furnishes further regraduations. Extensive tables of monetary functions were published on the Carlisle basis, of which the full sets of joint life annuities at various rates of interest deserve special mention (given in *Jones on Annuities*, London, 1843). They have had an extended vogue, particularly in connection with reversions, and are still employed occasionally.

**Summary.** A short summary of the principal mortality tables, showing the nature of the experience, data, methods of construction, mortality, characteristics, and uses, will no doubt prove useful to students of the subject.

NORTHAMPTON

*Experience.* General population.

*Compiler.* Dr. Price (1783).

*Data.* Registered deaths (4,689) in the parish of All Saints, Northampton, for the 46 years 1735-1780 inclusive.

*Method.* Adjusted numbers of deaths on the assumption of a stationary population.

*Graduation.* None, except for adjustments only.

*Mortality.* Heavy, especially at young ages. Expectation of life at birth, 25.18.

*Characteristics.* High premium rates. Very inadequate reserves, due to the incidence of the mortality.

*Defects.* Erroneous method of construction based on deaths alone. Population

*Defects.* (1) Faulty graduation; (2) 55 per cent female lives; (3) limited data; (4) low reserves.

*Uses.* Formerly much used. Extensive tables of monetary functions based on the table. Now obsolete except occasionally for (1) premiums for minor classes of risks, e.g. contingent assurances; (2) annuity values for reversionary transactions; (3) valuation of endowments, and deferred and survivorship annuities. (Female lives taken three or more years younger.)

ENGLISH LIFE, 1-9

*Experience.* General population.

*Compiler.* Government.

*Data—*

Table.	Census.	Deaths.	Published.	Expectation of life at birth.	
				Males.	Females.
1	1841	1841	1843		
2	1841	1838-44	1853		
3	1841 and 1851	1838-54	1864	39.91	41.85
4	1871 and 1881	1871-80	1885	41.35	44.62
5	1881 and 1891	1881-90	1897	43.66	47.18
6	1891 and 1901	1891-1900	1907	44.13	47.77
7	1901 and 1911	1901-10	1914	48.53	52.38
8	1911	1910-12	1914	51.50	55.35
9	1921	1920-21	1927	55.62	59.58

was assumed stationary—though actually increasing.

*Uses.* Net rates used by "Equitable" as office premiums (1781). Basis of Government life annuity rates, 1808 (loss of £2,000,000). Sometimes used in West Indies, as it closely corresponds with the mortality rates there. Otherwise obsolete.

CARLISLE

*Experience.* General population.

*Compiler.* Joshua Milne (1815). Data furnished by Dr. J. Heysham.

*Data.* Population and deaths of the parishes of St. Mary and St. Cuthbert, Carlisle. Censuses 1780 (7,677), and 1787 (8,677). Deaths 1779-1787 (1840).

*Method.* Decennial groups—eight-ninths of deaths divided by four times the sum of the two censuses.

*Graduation.* Graphic Method. Population and deaths separately.

*Mortality.* Fairly light—especially at old ages. Expectation of life at birth, 38.72.

*Characteristics.* Low reserves. Premium rates approximating to  $H^{(M)}$

*Method.* Details of construction vary slightly. Early tables, e.g. No. 3, central values of  $m$  for decennial age-groups deduced from  $\frac{d_x}{l_x}$ , intermediate values being interpolated; male and female separate and together. Later tables, after highly technical adjustments, were based on relation

$$L_x + \frac{1}{2}d_x = l_x.$$

*Graduation.* Various methods.

*Mortality.* Progressively lighter, see above. Tables (1), (2), and (3), mortality very similar.

Table (4), mortality much lighter at young ages and heavier at older ages.

Table (5), mortality at ages under 45 lighter, and over 45 heavier than in (1), (2), (3), and (4).

Table (6), child mortality 2 per cent greater, and slight increase in males 55-65, and females 65-75. Decrease elsewhere, especially 5-35.

Table (7), lighter mortality, generally, than previous tables.

Table (8), still lighter mortality.

Table (9), still lighter mortality.

*Characteristics.* Progressive decrease in mortality, generally. Child mortality particularly heavy in the earlier tables.

Table (3), constructed by Dr. Farr in three sections, persons, males, and females.

Table (5), more scientific methods used.

Table (7), an actuary first employed—Mr. George King. Clear explanation of methods.

Table (8), separate tables for spinsters, wives, and widows. Also sectional tables, (population adjusted to 30th June, 1911; deaths, 1911–12), for (i) Administrative County of London, (ii) county boroughs, (iii) urban districts, (iv) rural districts.

(9) Numerous sectional tables, including geographical areas and density of population.

*Defects.* In the early tables, overstatement of ages and unscientific methods.

*Uses.* Government and general purposes. Industrial assurance companies.

HEALTHY ENGLISH

(3 Tables)

*Experience.* General population in healthy districts.

*Compiler.* Government.

*Data*--

aggregate table constructed. Policies treated as lives.

*Mortality.* Light, especially at young ages. Female considerably heavier than male, and Irish much heavier than the average.

*Characteristics.* Earliest British combined experience. Never published—only a few private copies circulated.

*Defects.* Unreliable for very young and for old ages owing to paucity of data.

*Uses.* Now obsolete except in U.S.A. The Life Assurance Companies Act, 1872, and a New Zealand Act of 1873 made it the standard table for valuing policies for purposes of winding up assurance companies.

TWENTY OFFICES—INSTITUTE OF ACTUARIES H<sup>M</sup>

*Experience.* Assured lives.

*Compiler.* Institute of Actuaries (1869).

*Data.* 160,426 lives, 130,243 healthy male lives (up to 1863). Average exposure to risk 9.12 years.

*Method.* "Calendar Year." Lives assumed to enter on 30th June and to reach age next birthday on the following 31st December.

Tables constructed, H<sup>M</sup>, H<sup>F</sup>, H<sup>MF</sup>, D<sup>MF</sup>,

Table	Census.	Deaths.	Districts.	Death rate.
1	1851	1849–1853	63	Less than 17½ per thousand
2	1881 and 1891	1881–1890	263	15 " "
3	1891 and 1901	1891–1900	260	11 " "

*Mortality.* Very light.

*Characteristics.* Group experience.

*Uses.* Where light mortality is known to exist; and Textbook Part II Table (George King).

These tables are now replaced by the sectional tables based on the 1911 and 1921 censuses, where the mortality varies in the following order, from light to heavy: (1) rural districts; (2) urban districts; (3) Administrative County of London; (4) county boroughs.

SEVENTEEN OFFICES

*Experience.* Assured lives.

*Compiler.* Committee of London Actuaries (1843).

*Data.* 83,905 policies (up to 1837); 25,247 deaths; average duration 8½ years.

*Method.* Male and female together. Only

E<sup>MF</sup>, H<sup>M(5)</sup> (i.e. excluding first 4½ years of assurance), Dr. Sprague's select tables (1896), 1st year of assurance, "year 0" = six months only.

*Graduation.* Woolhouse for H<sup>M</sup> and H<sup>F</sup>.

*Mortality.* Light, especially at young ages. Lighter than "seventeen offices."

*Characteristics.* First select tables, though method of construction unsuitable for them.

*Defects.* Calendar year method, making the first year of assurance only six months.

*Uses.* Calculation of premiums (except contingent assurances): Valuations, H<sup>M</sup>, or more stringent method H<sup>M</sup> for π and H<sup>M(5)</sup> for a and A.

Now superseded, generally by O<sup>M</sup>.

BRITISH OFFICES—O<sup>M</sup>

*Experience.* Assured healthy lives in U.K.; normal risks; sixty British offices.

*Compiler.* Institute of Actuaries and Faculty of Actuaries.

*Data.* 1,037,233 assured lives, 1st January, 1863 to 31st December, 1892. Two series: "Old," i.e., those alive 1st January, 1863, and "New," i.e. those entering between 1st January, 1863 and 31st December, 1892. Males 959,892, females 77,341. Separate tables of unadjusted data for males and females in whole life (with profit and non-profit) and endowment, temporary, contingent, and joint life assurances; and annuities. In whole life, male and female together and separate, 735,039 lives, average exposure to risk 13 years. (See page 353.)

*Method.* "Policy Year." Nearest age at entry. Duration = (year of exit) - (year of entry).

*TABLES.*— $O^M$ ,  $O^{(5)}$ ,  $O^{[10]}$  (10 years to ultimate),  $O^{[NM]}$ ,  $O^{[am]}$ , and  $O^{[af]}$ . The graduated tables combined "Old" and "New."

*Graduation.* Makeham throughout, except  $O^M$ .

*Mortality.* Lighter than  $H^M$ .  $O^{[am]}$  and  $O^{[af]}$  very light, and female much lighter than male, and "0-4" less than 5 and over. ( $O^E$  slightly heavier than  $O^{(a)}$ .)  $O^{[a]}$  lighter than  $O^E$ , lighter than  $O^{LP}$ , lighter than  $O^M$ , lighter than  $O^{[NM]}$   $O^c$ ,  $O^r$ .

*Characteristics.* Premiums by  $O^M$  lighter than  $H^M$ , and reserves  $O^M$  heavier than  $H^M$ , generally.

Annuities—purchase is stronger selection than medical examination.

*Uses.* Premiums,  $O^{[M]}$  and  $O^{[NM]}$ ; valuation,  $O^M$ ,  $O^M$  and  $O^{(5)}$ .

#### AMERICAN, 1867

*Experience.* Assured lives.

*Compiler.* S. Homans (1867).

*Data.* Mutual of New York and previous tables of data.

*Uses.* Official standard table for New York State and many others. All New York companies for premiums, valuations, and distributions.

#### THIRTY AMERICAN OFFICES

*Experience.* Assured lives; thirty companies.

*Compiler.* L. W. Meech.

*Data.* Thirty years (1844-74).

*Method.* Policies and sums assured separately. Same as  $H^M$  except that entry ages were taken "nearest" birthday. "Existing" were treated by the "Final Series" method.

*Mortality.* Rate of loss heavier than rate of mortality.

*Characteristics.* The "Final Series" plan tended to "force" the statistics, and to overestimate the mortality.

*Defects.* "Final Series" method was ingenious but arbitrary, and rather vitiated the results.

*Uses.* Considerably used in America.

#### GOVERNMENT ANNUITANTS

(5 in all)

*Experience.* Annuitants, male and female.

*Compilers.* (1) J. Finlaison; (2) A. G. Finlaison (1860); (3) A. J. Finlaison (1883); (4) J. Blakey (1910); (5) Government Actuary's Department.

*Data.* (1) Eighteenth century; (2) up to 1808; (3) 1808-75, males 10,929, females 19,859, deaths 22,998; (4) 1875-1903; (5) 1900-20 (three seven-year periods).

*Graduation.* (3) Gompertz (0-4), Woolhouse (aggregate); (5) Gompertz and Makeham.

*Mortality.* (1) Light, males heavier than females; (2) heavier than (1); (3) light, female lighter than male, and (0-4) lighter than "ultimate"; (4) lighter than (3), especially females, and in early years after purchase; (5) lighter still, generally.

*Characteristics.* (3) Entries mostly between 50 and 70; (5) grouped in three periods, 1900-7, 1907-14, 1914-20, including both National Debt and Savings Bank Annuities.

*Uses.* (1) Showed loss to Government by using Northampton table; (3) annuity rates, and valuation of annuities and reversions; (4) Government annuity rates and by British offices for rates and valuations.

#### ELDERTON AND OAKLEY'S TABLES

*Experience.* British offices' annuitants.

*Data.* 1900-20 (three periods).

*Mortality.* Very light, especially female.

*Characteristics.* "Projected" mortality.

#### PEERAGE

*Experience.* Peers, sons and daughters of peers, and eldest son's children.

*Compilers.* A. H. Bailey and A. Day.

*Data.* Burke's peerage for period 1800-1855.

*Method.* "Life Year," male and female separate. Birthdays in 1800 of those then living and dates of birth since up to 31st December, 1855.

*Graduation.* None.

*Mortality.* Very light, especially female at old ages; mortality lighter than English life tables.

*Characteristics.* Class mortality, first of its kind.

*Defects.* No graduation.

*Uses.* Issue investigations, and where light mortality is believed to prevail in certain classes of assurance.

*Other Tables Based on Peerage Statistics.*

1. Dr. Sprague—Probabilities of Marriage and Issue.

2. J. R. Hart—Mortality of Married Females.

3. M. M. Lees—Mortality of Daughters of Peers and Heirs-apparent.

### MORTALITY TABLES FOR ASSURED LIVES.

The first table representing the mortality of assured lives was published by Griffith Davies in 1825, being based upon broad comparisons made in 1800 by the then actuary of the Equitable as to the mortality of that society in relation to the Northampton Table—it was, of course, much lower.

In 1834 Mr. Arthur Morgan, actuary of the Equitable, published a mortality table of the Equitable experience from its foundation up to 1st Jan., 1829, employing the calendar year method. The effect of selection was realized, and the way prepared for the subsequent combined investigation, which resulted in the *Seventeen Offices Table* of 1843. The latter was based upon policies, the calendar year method being used, and the graduation made by Mr. Woolhouse.

The average duration of the policies was less than  $8\frac{1}{2}$  years, and the mortality of females was found to exceed that of males for ages 20–50, being less for ages 50–70. New light was thrown on the question of selection.

**H<sup>m</sup> Table.** In 1869 there appeared the results of an investigation into the combined experience of twenty British offices. This was tabulated on cards, preferable to the schedules formerly employed, the office age at entry being recorded. The 180,000 cards were sorted into four groups. 1. Healthy males, H<sup>m</sup>. 2. Healthy females, H<sup>f</sup>. 3. Diseased males and females, D<sup>m,f</sup>. 4. Extra risks. Duplicates were eliminated, then the cards were sorted according to the method of passing out of observation, (a) by death, (b) by discontinuance, (c) existing at the close. Next, all of the same age at entry were brought together, and arranged according to age at exit. The tables were formed

by the calendar year method. The principal table, the H<sup>m</sup>, was arranged in aggregate form, the H<sup>m(5)</sup> table being derived by the exclusion of the first five calendar years after entry; it appeared that selection failed to exert any appreciable influence after that period. The tables were graduated by the formula of Woolhouse. The results confirmed those of the 17 Offices Tables as regards the relative mortality of males and females.

The effect of medical selection on the mortality of lives assured was now studied closely in the light of the H<sup>m</sup> experience. Mr. J. A. Higham had delivered papers on the subject before the Institute of Actuaries in 1850–1851 (J.I.A., I, page 179), and in 1876, Mr. George King contributed his *Analysed Tables* (J.I.A. xix, 381 and J.I.A. xx, 233), while in 1879, Dr. T. B. Sprague followed with the H<sup>m</sup> Select Tables (J.I.A. xxi, 229 and J.I.A. xxii, 391), in which, by extensive grouping and re-arranging, he was able to overcome the disadvantage of the calendar year method in representing the experience in broken years of duration, i.e. approximately  $\frac{1}{2}$ ,  $1\frac{1}{2}$ , etc. The effect of selection on the rate of mortality was now clear, and, with it, a fuller knowledge of correct assessing of premiums, and, further, means of estimating more closely the reserves that should be made for existing contracts. Although the consequences were not immediately evident in practice, customary methods were subjected at all points to tests based on the new knowledge, and, where necessary, revised. It was certain that the next investigation would be arranged in select form.

**British Offices Experience, 1863–1893.** In the early nineties, it became evident that the rate of mortality among assured lives was changing, and a new investigation was determined upon. In 1894 cards were issued, and sixty offices sent in returns. Rated-up lives and those subject to extra risk were excluded, the experience being restricted to healthy lives resident in Great Britain when the policies were issued. The period of observation extended from the policy anniversary in 1863, or subsequent entry, to the policy anniversary in 1893 or previous exit. The unadjusted experience was arranged to show the effects of selection up to 10 years after entry (the exclusion of the longer periods having relatively little influence) with “truncated” tables showing the effect of omitting the first 5, 6, 7, 8 and 9 years of duration.

Duplicate policies were eliminated from the aggregate tables, but all except those effected simultaneously were retained in the select tables, since policies taken out at different dates affect different sections of the select experience. The material relative to the assurances already existing at the commencing date in 1863 was tabulated separately from that of those effected later, then the with profit policies in all the main classes were separated from those without profits, while the experience kept quite distinct each class of assurance, as also male and female lives.

The age at entry was the nearest at the date of entry, Dr. Sprague's "commencing age"; for deaths, the curtate duration; for the existing, the exact integral duration

upon the policy anniversary in 1894; for withdrawals and terminations, a modification of the nearest duration, with an allowance for the days of grace.

References: British Offices' Life Tables, 1893, *An Account of the Principles and Methods, etc.*, London, C. & E. Layton, 1903, New York I.C., I, 176 (George King).

Sources and Characteristics of the Principal Mortality Tables—New York—The Actuarial Society of America, 1919.

For a detailed description of the functions calculated at various rates of interest for the principal tables below (including also annuities) see the *Synopsis of British Life Tables*, 1893, published by the Institute and Faculty of Actuaries, 1908.

Comparing the O<sup>M</sup> Table with the H<sup>M</sup>,

BRITISH OFFICES' LIFE TABLES, 1893

		Exposed to Risk.	Deaths.
Whole Life, Males, with profits . . . . .	O <sup>[M]</sup>	8,647,246	177,279
	O <sup>M</sup>	7,056,863	140,889
	O <sup>M(5)</sup>	5,324,862	129,001
	O <sup>M(10)</sup>	3,918,038	112,831
" " " without profits . . . . .	O <sup>[NM]</sup>	659,111	18,492
	O <sup>NM</sup>	602,591	16,446
	O <sup>NM(5)</sup>	436,444	14,480
	O <sup>NM(10)</sup>	317,752	12,315
" " Females with profits . . . . .	O <sup>[F]</sup>	553,886	15,789
	O <sup>F</sup>	507,042	14,153
	O <sup>F(5)</sup>	389,853	12,843
	O <sup>F(10)</sup>	297,311	11,240
" " " without profits . . . . .	O <sup>[NF]</sup>	122,481	4,116
	O <sup>NF</sup>	112,010	3,757
	O <sup>NF(5)</sup>	80,397	3,276
	O <sup>NF(10)</sup>	58,513	2,785
Endowment Assurances, Males, with and without profits . . . . .	O <sup>[EM]</sup>	947,753	6,021
	O <sup>EM</sup>	897,673	5,729
	O <sup>EM(5)</sup>	443,074	3,855
	O <sup>EM(10)</sup>	222,549	2,388
" " Females, with and without profits . . . . .	O <sup>[EF]</sup>	42,646	304
Whole Life, limited payments, males, with and without profits . . . . .	O <sup>[LM]</sup>	410,251	5,050
	O <sup>LM</sup>		
" " ascending scale, males, with and without profits . . . . .	O <sup>[JM]</sup>	207,709	3,064
Joint life assurances, males . . . . .	O <sup>[JM]</sup>	90,171	1,684
Contingent " " . . . . .	O <sup>[CM]</sup>	15,586	278
Temporary " " . . . . .	O <sup>[TM]</sup>	36,489	401
All minor classes females . . . . .		109,015	1,733

omitting the extreme ages where there are irregularities, the rates for the former are— at ages 20–30, about 70 per cent of the latter; at ages 30–40, about 83 per cent; at ages 40–50, about 93 per cent; 50–70, about 97 per cent; from 70–80, about 95 per cent; and from 80–90, about 97 per cent.

The  $O^{(5)}$  rates are throughout lower than those of the  $H^{(5)}$  except at ages 10–18, being approximately--

at ages 20–30 . . .	65 per cent
30–40 . . .	85 „
40–60 . . .	93 „
60–70 . . .	95 „
70–85 . . .	94 „

The rates by the  $O^{(5)}$  table are closer to the  $H^M$  than are the  $O^M$  rates, and there is a closer approximation between the  $O^{(5)}$  and the  $H^M$  than between the  $O^{(5)}$  and  $H^{(5)}$  tables. The  $O^{(5)}$  rates are less than  $H^{(5)}$  at all ages except 10–20, 24–8, 69, and 70 (at which ages there is coincidence).

The  $E^M$  rates of mortality are less throughout than the  $O^M$ , falling from about 90 per cent at age 20 to 67 per cent at 34, rising to 75 per cent at 44, and to 90 per cent at 60. Similarly the  $E^{(5)}$  is throughout less than  $O^{(5)}$  (after age 24), falling from an excess at age 20 to about 75 per cent at 27, 70 per cent at 30, rising to 80 per cent at 43, and 90 per cent at 60.

As regards the temporary assurances, the rates of mortality at the youngest ages round 20 are abnormally high, and actually decline up to age 40.

References: T. G. Ackland, *The British Offices' Life Tables*, 1893, J.I.A., xxvii, 113.

“ It appears that insurance offices would have found a lighter mortality for the business as a whole in 1893 than that of the published  $O^M$  Tables, and a rough estimate leads to the view that the mortality when the tables were published was 15 per cent lower, except in old age. Carrying this estimate forward and assuming that class selection has continued to improve, it seems probable that the rates of mortality prevailing at the present time are 30 per cent less than the  $O^M$  Table up to age 60, and this percentage-decrease would drop thereafter to about 10 per cent at age 95.” [Elderton, J.I.A., lv 9 (1924).]

**MORTGAGE.**

(See HOUSE PURCHASE SCHEMES; LEGAL CONVEYANCES; MORTGAGES OF REAL AND PERSONAL PROPERTY.)

**MORTGAGE, DEFINITION OF.**

(See LEGAL CONVEYANCES; MORTGAGES OF REAL AND PERSONAL PROPERTY.)

**MORTGAGEE.**

(See LEGAL CONVEYANCES.)

**MORTGAGES OF REAL AND PERSONAL PROPERTY.**

It is convenient to deal, under this heading, with all forms of loans upon security which are found among the investments of life assurance companies, with the exception of loans upon reversions and life interests. The latter present special features and are more suitably treated under a separate heading. The aggregate life assurance funds of the British offices are of such magnitude that it is a matter of both policy and necessity to embrace a wide area of investment. Furthermore, the individual offices are for the most part of sufficient size to support the staff necessary for the selection and adequate supervision of mortgage securities. It will be found, therefore, that a large sum is invested in mortgages and various forms of loans, although the proportion of the total life funds so invested is not nearly so large as was the case prior to 1914. During the war years the normal process of repayment and the cessation of private building resulted in an actual decrease in the amount invested in this manner, but there has been a substantial growth of late years.

In view of the semi-permanent nature of mortgages, they are obviously suitable to business of the nature of life assurance and it is to be expected that offices confining their operations to this class of insurance should show a greater proportion of their funds to be invested in this manner. Offices with large fire and general accounts require ready convertibility of a substantial proportion of their funds and, from the international nature of their business, they are compelled to retain considerable sums in foreign convertible securities. Nevertheless, some of the great composite offices invest freely in mortgages, and thus obtain valuable fire and general insurance business. It is clear that no company would be justified in entertaining an unsatisfactory security for the sake of the insurances, but where the security is suitable it is a legitimate and common practice to stipulate for the transfer of any business within the borrower's control. There are, however, objections to any reduction in the rate of interest on this account if the investment is allocated to the life fund, since the

latter is thus deprived of interest yield for the sake of the miscellaneous insurance profit, in which it does not usually share.

Mortgages in their ordinary form are repayable at the option of either party, upon six months' notice by the borrower and three months' notice from the lender. It follows, therefore, that no question of fluctuation of capital value arises upon an alteration in the market rate of interest, but the party benefited by the changed conditions will seek to take advantage of them, on the one hand, by offering repayment and obtaining a new loan at a lower rate of interest, and on the other hand by demanding repayment if the interest rate is rising. The majority of transactions, in practice, remain undisturbed, the terms being varied by mutual consent. A practical point arising is the possibility of the increase in mortgage interest being controlled by legislation in times of crisis, of which the Rent and Mortgage Interest Restriction Acts constitute an example. On the general question of repayment, lenders sometimes impose a restriction, but if advantage is taken of this when the borrower is paying a rate of interest substantially above the market rate, there is a possibility of discontent among borrowers and connections. In contrast, the lender may be asked to waive his right to repayment for a fixed period, which may extend to the full term for which the transaction was originally arranged. Such an undertaking must be given with caution, since more weight is thus thrown upon the borrower's personal covenant, and it would be well to limit the waiver to a moderate term of years.

Life assurance companies exercise a careful selection of mortgage securities, and they usually contemplate leaving the borrower undisturbed, provided there is no material change in the value of the security. They, therefore, stipulate usually for some provision for ultimate redemption, either by means of annual instalments in reduction of the loan, or, more commonly, the inclusion of a policy in the security. The most attractive policy is an endowment assurance upon the borrower's life by which the loan is repaid at the end of a fixed term or previous death, but in the case of corporate bodies, sinking fund policies would be accepted unless endowment assurances upon a selected body of lives, such as partners or officials, could be arranged. So far as house and landed property are concerned, the term of years usually arranged varies with the class of security. Private dwelling-houses and leaseholds with

a rather short unexpired term are usually repaid within the limits of 15 to 25 years, but loans on office and some types of commercial property, either freehold or long leasehold, are sometimes extended to 30 or 40 years.

With regard to the yield to be obtained from loans on landed and house property, the class of security suitable to life office funds varies only within narrow limits, so that there is a corresponding absence of variation in interest rates. The average yield from the most attractive English securities may be taken to be about one-half per cent per annum above that obtained from the most favourable British Government security with a possible extra one-half per cent for mortgages of slightly inferior class, the duration of loans of the latter class being reduced as an additional safeguard. In Scotland, rates of interest appear to rule somewhat lower. It is now the practice with some offices to charge a fixed net rate of interest, throwing fluctuations of income tax upon the borrowers, to whom such a scheme is favourable in a period of falling income tax. When the tax is rising the company, of course, obtains the advantage. Another common custom is to impose a higher rate if interest remains unpaid at the expiration of a period of grace, usually fixed at 15 or 30 days, but a deed drawn in this form would contravene the usury laws. It is necessary, therefore, to stipulate for the higher rate in the deed and provide for a reduction on punctual payment.

A constant flow of proposals is received by an office which entertains mortgage investments, and a strict process of selection and investigation is necessary. Particular cases are sometimes pressed for the sake of the connection introducing the business, but such a consideration should not outweigh any defect in the security. Nevertheless, the source of introduction is important, and it is desirable to keep a register of proposals with the object of tracing their history. Good mortgage securities are readily absorbed, and if a particular proposition is "hawked" it will not usually be difficult to find flaws. A proposal having been received from an acceptable source, however, the next step is to analyse the security. If a loan is agreed in principle, a survey is then arranged. The custom of offices in this respect varies considerably. Some employ a large number of local surveyors upon the assumption that a knowledge of local conditions will produce the most reliable estimate of value. In a large and important district like the London

area, it is sometimes the practice to employ different surveyors for each class of security. Other companies concentrate their work in a few hands in order to obtain a broad view and avoid an unduly optimistic attitude towards local conditions.

It will now be convenient to describe the principal characteristics of the various types of security.

**Private Houses.** The first group to receive consideration consists of private dwelling-houses in the borrowers' occupation. Objection has been taken to such securities on the score of the expense and trouble involved, but life assurance companies have, in fact, joined with the building societies in providing the facilities which have been so necessary under recent conditions, for the purchase of houses by lending on mortgage. If mortgages of this nature are entertained, it is probably best to do so on a considerable scale, and to select well-grouped properties in favoured districts. The expense of general supervision will thus be reduced. It will be well, also, to confine loans to properties of medium size, avoiding both unduly lightly built property and exceptionally large houses, which are often quite unsaleable.

Trustees of private funds are authorized to advance upon mortgage of real property, two-thirds of a surveyor's valuation, and this proportion is adopted by many of the life insurance companies. There is, however, a general demand for a larger proportion to be lent, and some companies are willing to increase this figure substantially, following the practice of many building societies. The objection is that many loans are required to be based on purchase prices during a period of inflated building costs, and deficiencies in value might appear if the need to realize the security arose when prices had fallen. For this reason the value of the personal covenant requires close attention in this class of loan, and borrowers with settled occupations and steady incomes are preferred.

The repayment of private house loans is usually secured by an endowment assurance policy, and reduced scales of survey and legal fees are generally quoted.

Private houses let to tenants are not a common type of security under present-day conditions, but occasionally an opportunity arises to lend on a large urban estate containing, probably, many ground rents. Subject to consideration of possible political developments, such securities are particularly attractive to composite offices who value the fire insurance business involved.

Weekly properties are generally regarded as an unsuitable type of security. Present legislative conditions are all in favour of tenants, and close and expert management is required if property of this class is to show a return commensurate with the labour involved. Repairs, rates, and trouble in collecting arrears of rent all constitute difficult problems. Moreover, there is a very limited market if a lender desires to realize his security. Values may also suffer from a shifting of local industries.

Another type of security often offered is building estates in course of development. These are, necessarily, propositions of a speculative nature, and, if the promoters fail, a derelict property may be left on the lender's hands. They are probably more suitable for a temporary advance by a bank, who can accurately assess the value of the personal covenant.

**Flats.** It has sometimes been the custom to decry flat property as a mortgage security, but it is doubtful whether there is any real objection to blocks of flats in central, or good suburban districts, let at moderate rents, in view of the popularity of such accommodation. Such properties are often purchased by property-owning companies or syndicates for whom reputable firms of surveyors act as managers. These are excellent borrowers, and if they consider that a property forms a good investment it is unlikely that a mortgagee will suffer. A rather long term loan is usually required, however, in order to reduce the sinking fund premium and increase the income from the equity. While flat blocks let at popular rents or containing a proportion of statutory tenants, from whom increased rents may ultimately be obtained, may be quite satisfactory, there are certain objections to luxury flats as mortgage securities. The high rents charged in the latter case necessarily limit the demand, and if such propositions are entertained the amount to be lent should be carefully restricted.

Converted houses are not usually attractive unless the site is exceptional and rents are reasonable. When the supply of flat accommodation overtakes the demand, properties of this nature are likely to be the first to suffer. Properties held on a short lease, purchased at a low figure, are often converted, let at inflated rents, and a mortgage required on the basis of these inflated rents.

**Office Property.** Blocks of offices with favoured situations in London or large provincial cities are among the most desirable

propositions which can be offered to insurance offices. It is important that the property should produce an income providing ample margin above the annual service of the proposed loan, derived from moderate rents paid by substantial tenants. If default occurs under these conditions, it should prove a simple matter to obtain sufficient income, if a receiver be appointed, or to realize the property at a figure sufficient to clear the debt. Some of the properties recently built at high cost, however, require cautious treatment in view of the heavy rents which are demanded for accommodation therein. Mortgages are often required upon the basis of anticipated rentals, before such buildings are fully let, and in many cases there is doubt whether the tenancies actually granted will be maintained. Similar considerations apply to leaseholds where the ground rent represents an excessive proportion of the rack rents. It is to be expected that ground rents in the city of London will constitute a rather high proportion of the rack rents, but in other parts of London there has been difficulty in obtaining tenants at rents sufficient to support the ground rents charged under recent leases. Freeholds or long leaseholds are a most desirable class of security, but it is sometimes possible to deal with a short lease, e.g. 20 to 30 years, if the term of repayment is short and the lender is willing to consider the security entirely upon an income basis.

**Shop Property.** This may form a satisfactory security if the property is let to good tenants conducting successful businesses in good neighbourhoods, but it is highly speculative where the tenants are not well established or the property is situated in a neighbourhood in course of development.

**Factory and Hotel Property.** These present points of similarity in that their future depends upon the success of the business conducted therein. They are usually suitable only to the business for which they are constructed, and they may be difficult to sell if the need arises. Neither class, therefore, is generally acceptable as a security except in cases where a special value can be placed upon the site, and the amount of the loan is restricted accordingly.

**Public Houses.** This is also a type of property depending upon the risks of a particular trade, and is of doubtful attraction to an insurance company, particularly in isolated examples. A different view, however, might be taken of a large group of houses backed by the covenant of a well established and successful brewery company.

**Agricultural Estates and Mansions.** This is a type of property which is passing through a difficult time, and, if considered, the anticipated rent must be conservatively estimated and a substantial allowance made for failure of tenancies. Mansion houses with large and expensive grounds are extremely difficult to sell, and are generally quite unsuitable as mortgage securities under present conditions. Many propositions to form hotels and clubs are put forward, but they are obviously too speculative to warrant consideration as mortgage securities.

**Mortgages Out of the United Kingdom.** A certain amount is invested by British offices on mortgage of property out of this country. The chief requirement is that selection and management shall be in the hands of capable local representatives, and they are therefore particularly suitable to companies transacting substantial foreign and colonial business. In many countries there is need for cautious selection from among many securities of widely varying class.

**Loans on Parochial and Other Public Rates.** The larger public bodies in this country usually raise money by public issues of stock, but the smaller bodies often obtain accommodation from individual lenders by means of a loan on the security of the rates. Considerable sums are lent in this way by insurance companies. The usual arrangement is to pay the lenders a fixed annual sum compounded of principal and interest, the loan thus being repaid at the end of a fixed term of years. Insurance companies would prefer a sinking fund policy which would produce the same result, but the Ministry of Health will not sanction this arrangement.

The likelihood of default in this class of security is remote, but consideration must be given to the extravagant tendencies of some local bodies, and in other cases possible difficulty from the adverse experience of some industry upon which local prosperity is entirely dependent.

On account of the high degree of security, and the readiness with which loans are absorbed, the interest yield is hardly attractive to life offices, but from the point of view of a composite office this may be offset by the valuable insurance business often attached to a loan.

**Loans on Stocks and Shares.** This type of security does not form a material proportion of the assets of life offices. Securities of a speculative or semi-speculative nature are more suitable to the short-term operations

of a bank, and if such loans were entertained by a life office the proportion of the value of the securities which could be advanced would probably be insufficient for the borrower's needs. Offices are, however, occasionally asked to lend upon the better class securities, coupled with an endowment assurance policy as collateral. The security should be taken in the form of a transfer to the lender where stocks are inscribed, but registered stocks, certificates and, of course, bearer bonds, may be deposited, accompanied by a blank transfer form in the former case, and usually a notice of *dis-tringas*.

**Loans on Policies within the Surrender Value.** Life policies almost invariably carry the right to a loan of about 90 or 95 per cent of the surrender value, and it is the custom to grant these loans at a moderate rate of interest, often somewhat below the prevailing market rate for any other form of mortgage security. The right to such loans has become, by custom, an integral part of the service rendered by life offices to their policy-holders.

In the case of a few offices there are substantial items in the balance sheets representing nominal loans made to holders of single premium policies effected with the object of reducing sur-tax. Roughly, a premium on a policy is replaced by interest on a loan, and the latter is allowed as a deduction from taxable income before assessing the rate of sur-tax.

**Loans on Personal Security.** This is an item of small importance, and the number of companies transacting the business is very limited. It is necessary to restrict the period of the loan to five years or ten years in exceptional cases only, and a life policy for one-and-a-half times or twice the amount of the loan must be included in the security. The real security depends upon the personal covenants of guarantors, who are never less than two in number and must be persons of substance.

**Mortgagee's Precautions.** A well-selected group of mortgage investments should give little trouble, but there are certain questions which require consideration from time to time—

(a) Periodical evidence that ground rents have been paid, fire insurance policies renewed for an adequate sum, and property maintained in a proper state of repair.

(b) The terms of new tenancies must be approved and the leases verified by the lender's solicitors. If premiums for leases are received, it will be necessary to consider

whether any part is required in reduction of the loan.

(c) Borrowers sometimes wish to dispose of portions of the security. Lenders must consider what portion of the purchase price is to be applied in reduction of the loan, and ascertain that the property disposed of will not be used in any manner detrimental to the remainder of the security.

Properties sometimes change hands without a request to the lender to release the original borrower from his covenants, the latter being satisfied with a counter indemnity from his purchaser. Mortgagees must then consider whether they are satisfied with the new management and whether to permit the loan to remain.

**The Remedies of a Mortgagee.** (a) The lender can sue on the borrower's personal covenant. This remedy would be taken only in exceptional cases, the lender having usually to rely upon his security.

(b) He can enter into receipt of income from the property or appoint a receiver. In the former case the lender is accountable to the borrower or subsequent mortgagee for his actions, but a receiver is deemed to be the agent of the mortgagor.

(c) Exercise of the power of sale. The sale must be a *bona fide* sale in the open market, and a mortgagee will, therefore, put up his security to auction for his own protection. The exercise of the power is sometimes avoided by a subsequent encumbrancer, who pays off the first mortgage in order to preserve his own security. Out of the proceeds of sale, the lender is entitled only to principal, interest, premiums where covered by the deed, and costs. The balance is payable to the mortgagor or subsequent mortgagees.

(d) Foreclosure is a process by which the mortgagee acquires the absolute interest in the security. The procedure is to bring an action in the High Court to which all interested in the equity of redemption are made parties. The Court makes an order giving a period, usually of six months, during which any party can pay off the mortgage. Failing repayment, the Court will vest the property in the mortgagee, absolutely, at the end of this period, and the equity of redemption is extinguished. The process is expensive, and is less used than the other remedies in the case of mortgages of land and house property.

## MORTGAGOR.

(See LEGAL CONVEYANCES.)

**MOTOR UNION INSURANCE COMPANY, LTD.**

Head Office: 10 St. James's Street, London, S.W.1. Founded in 1906.

The Motor Union Insurance Company, Ltd., transacts all classes of insurance business. Life business was commenced in 1918, and the life fund is not only kept apart from the other funds of the company, but is separately invested.

The profits of the life department are ascertained every five years, and, of the amount declared divisible, 95 per cent is allotted to the participating policy-holders, and 5 per cent to the shareholders whose capital forms part of the security for every life assurance contract made by the company. Profits are distributed to policy-holders as reversionary bonus additions payable with sums assured. Bonuses, which vest immediately on declaration, accrue in respect of each full year's premium due and paid during the valuation period.

"With Profit" policies are of two classes—"Ordinary" and "Abstainers": the premiums are the same, but in allocating bonuses any difference between the mortality of the two classes is taken into account. Total abstainers of at least two years' standing are eligible for admission to the abstainers' class in respect of whole life assurances and endowment assurances for terms of twenty-five years and upwards.

**MOVABLE KIDNEY (Nephroptosis).**

A condition in which one or both kidneys are abnormally mobile. This increased mobility may vary from such slight displacement as is only to be detected by careful examination, and which gives rise to no symptoms, to a "floating" kidney, which may be movable to almost any part of the abdomen.

The effect of a movable kidney on the longevity of a patient is therefore extremely variable. In slight cases, unaccompanied by symptoms, a policy may be granted without extra premium. In other cases no hard and fast rule can be laid down, and each case must be judged on its merits. The mobility of the kidney is often only a part of a general dropping of the intestines (visceroptosis), which may be accompanied by chronic ill health, and be associated with a generally flabby condition of the patient.

It may also lead to urinary complications in well marked cases, owing to kinking of the ureter and the development of hydro-nephrosis (*q.v.*) or pyonephrosis.

**MUNICIPAL RATES, LOANS ON.**

(See LOANS ON MUNICIPAL RATES.)

**MUTUAL LIFE AND CITIZENS' ASSURANCE CO., LTD.**

Head office for United Kingdom: Effingham House, Arundel Street, London, W.C.2.

The Citizens' Life Assurance Co., Ltd., was established in 1887 by the late James P. Garvan, at one time Minister for Justice, and at another Colonial Treasurer, for the State of New South Wales, and it reached its present prominent position under the direction of his son, the late Sir John Garvan, who controlled its operations for thirty years until his death in 1927. It was the first office in Australia to make a success of industrial assurance business. In its ordinary branch, its constitution is co-operative, the shareholders taking one-fifth of the profits and the policy-holders the remaining four-fifths.

The Mutual Life Association of Australasia, a mutual "ordinary" company, which was established in 1869, amalgamated with the "Citizens" in 1908, and the company thereupon changed its name to the Mutual Life and Citizens' Assurance Company, Ltd., or the M.L.C. for short.

The Australian Widows' Fund Life Assurance Society, Ltd., also a mutual ordinary company, which was established in 1871, joined forces with the M.L.C. in 1910. For the past three years the policy-holders of the M.L.A. and A.W.F. groups have been allotted reversionary bonuses, the cash value of which has practically equalled the premiums received. The explanation is to be found in the amalgamation agreement. Each of the amalgamated offices was given a guarantee by the Citizens that the expenses charged would be 10 per cent of the premium income, and provision was made that the three groups should pool their mortality and general profit.

Under the constitution of the Citizens the expense ratio in the ordinary branch is limited to 15 per cent of the income. From its earliest days the company has maintained a reputation for efficiency and economy. The expense rate in the ordinary branch last year was no more than 8 per cent of the income.

The company's investments are largely placed in Government securities. The M.L.C. subscribed £1,000,000 to the first Commonwealth War Loan, thereby ensuring the success of the issue, setting, as it were, the fashion of subscriptions for large sums.

It took up in all more than £12,000,000 of war and peace loans and, in order to be able to help to the uttermost, pledged its future accumulations.

### MUTUAL LIFE ASSURANCE COMPANIES.

The following is a list of the British mutual life assurance companies (excluding colonial), and the dates of their establishment—

Blackburn Philanthropic Mutual Assurance Society (1863).

Equitable Life Assurance Society (1762).

Friends' Provident and Century Life Office (1832).

London Life Association, Ltd. (1806).

Marine and General Mutual Life Assurance Society (1852).

Medical, Sickness, Annuity, and Life Assurance Society, Ltd. (1884).

National Mutual Life Assurance Society (1830).

National Provident Institution (1835).

Norwich Union Life Insurance Society (1808).

Provident Mutual Life Assurance Association (1840).

Royal London Mutual Insurance Society, Ltd. (1861).

Salvation Army Assurance Society, Ltd. (1867).

Scottish Amicable Life Assurance Society (1826).

Scottish Equitable Life Assurance Society (1831).

Scottish Legal Life Assurance Society (1852).

Scottish Provident Institution (1837).

Scottish Widows' Fund and Life Assurance Society (1815).

Standard Life Assurance Co. (1825), mutualized, 1925.

United Kingdom Temperance and General Provident Institution (1840).

Wesleyan and General Assurance Society (1841).

### "MUTUAL" OFFICES.

(See LIFE OFFICE CONSTITUTIONS, TYPES OF.)

### MYXOEDEMA.

A disease due to deficiency of the internal secretion of the thyroid gland. It is sometimes due to congenital defect, and sometimes follows operations on the gland, if too much of this has been removed. Although its symptoms of mental degeneracy and overgrowth of the tissues may be checked indefinitely by the taking of thyroid extract, any patient suffering from this disease is uninsurable.

**NAMES AND ARMS RISKS.**

Very occasionally, in terms of wills, settlements, or trusts, estates or properties of importance are conferred on certain persons provided that they assume such names and arms as may be provided by the deed, in substitution for their own. Moreover, such possessions may be tenable only so long as the assumed names and arms are maintained; i.e., the enjoyment of them may be forfeited unless the conditions are kept. It may become necessary for the present or prospective holder of possessions on such terms to make financial arrangements depending on the security afforded, and in such a case an insurance may be required to safeguard the interests of those who advance money against the possibility of the person in question renouncing the names and arms in question, and with them the estates, and consequently the lender's security. Some insurance offices are prepared to consider insurances of this kind, and an effective clause in a policy of the kind might be as under—

Now these Presents witness and declare that the company on such evidence as the directors think necessary being furnished of the assured having forfeited and become divested of all interest in the estates passing under the (*will, settlement, etc.*), dated the .....day of.....by reason of his neglecting or discontinuing to use and bear the surname and/or the arms of..... in accordance with the proviso and declaration in the said ..... contained, will pay to any *bona fide* mortgagee or mortgagees or assignee or assignees for value of the said assured the amount which shall be proved to the satisfaction of the said company to be a loss sustained by such mortgagee or mortgagees or assignee or assignees through and in consequence of the forfeiture of the life estate of the assured, but only to the extent of .....pounds which is the maximum sum insured by this policy.

Particular inquiry into the circumstances would be made, of course, including the possibility of the person becoming entitled to still larger estates on similar conditions of changing his name and arms again, etc. Usually, however, such policies are only

called for to make a title legally complete in all respects.

**NATION LIFE AND GENERAL ASSURANCE COMPANY, LTD.**

Chief Administrative Offices: 40 Hampton Road, Teddington, Middlesex; Executive and London Offices: 95/99 High Holborn, W.C.1.

The New Ireland Assurance Company, a company registered in the Irish Free State, which had grown out of an Irish collecting society established in 1918, found itself with a valuable connection in Northern Ireland, and also in England, which it could not develop and utilize to its full advantage on account of the passing of the Industrial Assurance Act (Northern Ireland), 1924.

The Nation Life and General Assurance Co. was formed in May, 1925, to take over the England and Northern Ireland business from the New Ireland Assurance Co. of Dublin, the reorganization being necessary under the 1923 Industrial Assurance Act. The company in May, 1928, came under the control of the present management, a new board with Mr. H. Cox, A.I.A., as Chairman, being formed. The company was floated with a capital of £25,000 in £1 shares, in May, 1925, which was increased to £30,000 in May, 1928, and subsequently increased to £40,000 in March, 1929. All shares issued since the present board of directors took over control have been issued at 6s. per share premium.

**NATIONAL DEATH RATES.**

Apart from their humanitarian, sociological, and economic aspects, national vital statistics, and, in particular, death rates, are of interest to students of life assurance, by portraying the characteristics of the stocks of humanity from which life offices draw their members. If the stock is good, the office has an easier task in selecting lives of satisfactory quality. The following table shows the rates of mortality at about the same time in a number of different countries at several stages of life. The differences are extraordinary—for the first quinquennium of life, the mortality of the least fortunate country in the list is more than three times as great as that of the country

DEATH-RATES OF MALES PER 1,000 LIVING AT EACH AGE-GROUP

Country.	Date of Experience.	0-5	35-45	45-55	55-65
New Zealand . . . . .	1900-02	25.0	6.9	11.9	22.0
Queensland . . . . .	1900-02	31.8	10.8	16.5	22.0
Denmark . . . . .	1900-02	42.1	8.1	13.5	24.7
Sweden . . . . .	1899-1901	40.3	8.3	12.4	22.0
Italy . . . . .	1900-02	76.9	8.4	13.6	27.0
Netherlands . . . . .	1898-1900	55.4	7.6	12.9	25.4
Belgium . . . . .	1899-1901	59.4	9.1	16.4	30.1
Switzerland . . . . .	1899-1901	50.6	10.4	18.8	34.3
England and Wales . . . . .	1900-02	58.3	10.9	18.7	34.8
France . . . . .	1900-02	51.7	11.6	17.5	31.5
Germany . . . . .	1901	80.3	10.1	17.7	32.5

at the head of the list, while for the other age-groups there are various countries whose experience is some 50 per cent inferior to the best. The position of England and Wales in this comparison affords no grounds for national complacency, and clearly there is here much scope for hygienists. The distinctions are almost certainly too great to be accounted for by any likely inaccuracy in the method of enumeration of the statistics, and there seems no reason why one community should pay such a heavy toll in infant lives in comparison with another, more particularly when that other is of similar race.

International comparisons of death-rates according to age. The Registrar-General's Annual Report for 1909; quoted from *The Elements of Vital Statistics*, by Sir Arthur Newsholme, K.C.B., M.D., F.R.C.P.

As regards the mortality of infants, an Italian priest and statistician, Don Guiseppe Toaldo, pointed out, nearly two centuries ago, the heavy toll due to the custom of

taking the little ones for baptism in the early days of life (J.I.A., xlv, 76), and doubtless the habits of the different peoples play their part in influencing the rates of mortality, apart from industrial conditions and social well-being. Another table of comparison is subjoined, giving the rates for exact ages, and at uniform intervals. Here, again, some of the features are remarkable. Australia and Norway, on the whole, come out best—both, be it observed, non-manufacturing. The genial climate of the former may be reflected in the vitality exhibited in the first half of life, with possibly, as concomitant, a tendency to age rather earlier, while to the robustness of the Norwegian people may be ascribed their tenacity of life in old age.

The following table showing male death-rate per 1,000 living at 5-yearly intervals of age, based on the experience of 1901-10, is derived from the United States life-tables, published 1921, and quoted by Sir Arthur Newsholme in *The Elements of Vital Statistics*.

Death-rate per 1,000 at Age	Australia.	England.	Germany.	Norway.	Italy.	United States.
0-1	95.10	144.34	202.34	81.45	167.71	127.38
5	2.81	5.42	5.28	4.38	7.68	5.24
10	1.79	1.82	2.44	2.98	2.26	2.61
15	2.55	2.61	2.77	4.08	4.12	3.19
20	3.70	3.78	5.04	9.07	6.19	5.46
25	4.48	4.54	5.13	8.78	6.85	6.22
30	5.19	5.66	5.56	7.57	6.67	7.31
35	6.33	7.32	6.97	7.35	7.06	9.14
40	8.16	9.31	9.22	7.78	8.48	10.40
45	10.83	12.23	12.44	8.92	10.31	13.10
50	13.95	16.57	16.93	11.11	13.45	15.28
55	18.16	23.08	23.57	14.16	17.73	21.38
60	25.84	32.62	32.60	19.14	26.62	29.90
65	38.59	45.57	47.06	28.80	39.83	42.92
70	61.62	67.08	69.36	42.76	64.49	59.90
75	96.10	100.62	106.40	66.91	102.62	90.15

NOTE.—The death-rates are for the stated year of life, not the average death-rate for quinquennial periods.

**NATIONAL LIFE TABLES.**

The compulsory registration of births, deaths, and marriages, which, in England, came into force in 1837, placed the study of national vital statistics on a sound footing. The devoted labours of Dr. William Farr, of the Registrar-General's Office, during the next forty years, yielded results of the utmost value in regard to questions affecting the health and well-being of the community. We are concerned here more particularly with the series of National Life Tables, inaugurated by him, which follow in order.

third was contributed by Dr. J. C. Dunlop and Mr. R. M. Hunter (T.F.A. vii), derived from the census population, 1911, and the deaths registered in 1910, 1911, and 1912. Dr. Dunlop added a fourth table in a paper read before the Faculty of Actuaries in 1924 (T.F.A., x 1).

For this he made use of the 1921 census population and deaths registered during 1920-1922, furnishing six distinct tables, three for males and three for females. The three for each sex consist of (1) a general or combined table, (2) a table for the married,

ENGLISH LIFE TABLES

No. of Table.	Based on		Reference
	Census of	Deaths during	
No. 1	1841	1841	5th Report of the Registrar-General.
2	1841	7 years, 1838-1844	12th Report of the Registrar-General.
3	1841-1851	17 years, 1838-1854	English Life Tables, Longman Green & Co., London, 1864.
4	1871-1881	10 " 1871-1880	45th Report of the Registrar-General.
5	1881-1891	10 " 1881-1890	55th " " "
6	1891-1901	10 " 1891-1900	65th " " "
7	1901-1911	10 " 1901-1910	75th " " "
8	1911	3 " 1910-1912	" " " "
9	1921	2 " 1920-1921	85th " " "

HEALTHY DISTRICTS (ENGLISH) LIFE TABLES

No. 1	1851	5 years, 1849-1853	33rd Report of the Registrar-General (63 districts which during 1841-50 had death rate not exceeding 17%)
2	1881-1891	10 years, 1881-1890	(in 263 districts with corrected death rate not exceeding 15%)
3	1891-1900	10 " 1891-1900	(in 260 districts with corrected death rate not exceeding 14%)

CLASSIFIED DISTRICTS

	1911	3 years, 1910-1912	75th Report of the Registrar-General. Life Tables Supplement (London; County Boroughs, Urban Districts, etc., Rural Districts).
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(For numerous references, see Index to first forty volumes of J.I.A., published 1907, also Index to Vols. 41 to 55, published 1925, both by Messrs. C. & E. Layton, London.)

**Scottish National Life Tables.** Complete life tables for Scotland have been published on four occasions. The first was based on the population according to the census of 1871, and deaths registered during the same year (Nineteenth Annual Report of the Registrar-General, 1877). The second appeared in the Journal of the Royal Statistical Society (vol. lxvii, 448) applicable to the censuses of 1891 and 1901, and relative deaths during these intervening periods. The

and (3) one for the unmarried. The widowed are included with the married. Broadly speaking, the method of construction was that laid down by Mr. George King (75th Report of the Registrar-General and J.I.A., xliii, 109).

A comparison is given of the rate of mortality according to each of the four tables. Improved and altered methods of construction may have made some difference, but it is probably very slight.

Speaking generally, both for males and for females, there is evidence of a decrease in the rate of mortality at all ages up to 70 in the later tables as compared with the

SCOTTISH NATIONAL LIFE TABLES

Rate of Mortality,  $q_x$

Males.				Age.	Females			
I 1871	II 1891-1900	III 1911	IV 1921		I 1871	II 1891-1900	III 1911	IV 1921
.140	.143	.119	.106	0	.121	.118	.097	.083
.009	.006	.004	.004	20	.008	.006	.004	.004
.015	.012	.009	.007	40	.013	.010	.008	.007
.034	.036	.033	.029	60	.027	.029	.026	.022
.140	.135	.138	.146	68	.119	.125	.120	.126

This table is reduced from a more extended comparison supplied by Dr. Dunlop.

earlier, and but little significant change at older ages. Throughout life the vitality of Scottish females is superior to that of the ma'es, conforming to English experience.

**NATIONAL MUTUAL LIFE ASSOCIATION OF AUSTRALASIA.**

London Head Office : 5 Cheapside, London, E.C.2.

Founded 1869.

The Association issues policies on the usual whole life and endowment plans, with profits. It was the first to apply the surrender value of a life policy to maintaining the premiums so as to prevent the policy lapsing until the surrender value has been exhausted. Claims have been paid on policies kept in force under these provisions for as long a period as fifteen years. Female lives are accepted at ordinary rates. The children's endowment and children's provident policies are particularly interesting on account of the value of the options given.

There are no shareholders. Bonuses are distributed exclusively amongst the policy-holders themselves.

The investments of the Association have, from its establishment, consisted almost entirely of Government securities and first class mortgages of freehold property, and the whole funds are invested within the British Empire.

The rates of premium are low, and its policies attractive. The rates for whole life assurances by limited payments and for endowment assurances, in each case with immediate bonus, are favourable. Children's policies contain liberal conditions, which provide for every contingency likely to arise.

Bonuses have been declared continuously from the commencement, even during the War years. They are allotted annually.

At first the Association confined its business to Australia and New Zealand. It has

now extended its operations to England, South Africa, Ceylon, and India, but no branches or agencies have ever been established outside the British Empire. The English business is controlled by a London Board of Directors, and proposals are accepted, policies issued, and claims settled, by the London Board.

**NATIONAL MUTUAL LIFE ASSURANCE SOCIETY.**

Head Office : 39 King Street, Cheapside, London, E.C.2.

Founded, 1830, for mutual life assurance.

This society is an amalgamation of the National Life Assurance Society and the Mutual Life Assurance Society, which was brought about in the year 1896, thus greatly strengthening the position of the policy-holders in both institutions.

At present it does not issue policies to new entrants for a less amount than £500.

As will be seen elsewhere in this work, there are many interesting points of discussion in systems of dividing bonus, but under the compound bonus plan after the policy duration has exceeded, say, 20 years, the difference between the value of the policy and bonuses on the compound principle and that on the simple principle becomes very marked in favour of the policy-holder. Since 1924 the National Mutual has declared annual compound reversionary bonuses at a high rate.

The National Mutual has for many years shown the full value of its securities in the balance sheet. Speaking generally, the practice of life offices is to show the values of securities at cost price, or at market value on the date on which the balance sheet is signed, whichever is lower. The consequence is that in most offices the actual amount shown as the value of the assets is considerably less than the true market value on the given

date. It will be seen that this difference constitutes a secret reserve, of an undisclosed amount, which can be held for emergencies. The National Mutual, on the other hand, publishes in the balance sheet the full value of its assets as they stand in the market on the given day of account, and carries forward as a balance the sum that would otherwise be considered secret reserve.

#### NATIONAL PROVIDENT INSTITUTION.

Head Office: 48 Gracechurch Street, London, E.C.3.

Founded 1835 for the transaction of mutual life assurance, and for granting annuities and endowments, and was incorporated by the National Provident Institution Act of 1910.

The Institution's progress since the beginning has been steady and continuous.

Although a mutual office, the assured are exempt from any personal liability, the accumulated funds alone being liable. There are no shareholders, and the whole of the profit divided is distributed amongst the members entitled to share by the terms of their policies.

Valuations are made every five years, and policies entitled to share are allotted a year's bonus in respect of each year's premium paid during the quinquennium. The bonuses vest immediately, and the assured may either take their share in cash, or increase the sum assured, or reduce permanently the premiums payable on the policies.

The conditions of the National Provident policies are clear and favourable to the assured. Discounted bonus policies are issued, and a policy, which has been called the "Sixty," issued nominally as a whole life policy without profits, subject to premiums ceasing before age 60, is convertible at the end of five years into a with profit endowment assurance payable at age 60 or previous death.

#### NATIONAL SAVINGS SCHEMES.

The National Savings Committee came into being with the object of encouraging thrift through the medium of National Savings Certificates. Several schemes have been inaugurated, and amongst them are two which have been introduced at the request of employers who desire a simple means of enabling their employees to save regularly, and who are prepared to offer practical encouragement by contributing financial assistance. The particular scheme here described is one where the employers are not in a position to

set up a superannuation scheme, but are prepared to meet the payments under a group insurance policy to provide for payments in the event of the early death of a member of their staff.

As the Committee expresses it, "one of the most valuable features of the scheme is that it helps employees by encouraging them to help themselves."

#### Outline of Scheme.

(1) The employer establishes a "Savings Association," the affairs of which are managed and controlled by a Committee representing the employer and the employees.

(2) The object of each employee joining the Association is to accumulate £50 by saving 1s. a week, or any larger weekly sum not exceeding 4s. But for purposes of illustration, 1s. per week will be assumed.

(3) In the event of a member's death before his savings have accumulated to £50, the employer undertakes to make up the difference and pay it to the legal personal representatives of the deceased.

(4) Subscriptions are invested weekly in National Savings Certificates, which are held by the Money Order Department of the Post Office on behalf of the Association. When a member's subscriptions amount to 16s., one of the certificates is allotted to him in the Association's books, although it is retained by the Money Order Department until he requires it to be issued or repaid to him.

(5) The certificates are the member's own property and he can withdraw them at any time, but if he does so he automatically ceases to have any further claim on the Association or the employer. The Rules of the Association, however, may provide for partial withdrawals without loss of benefits in special emergencies.

(6) A member's subscriptions, including interest, will amount to £50 in a little less than 15 years. The liability of the employer then ceases.

(7) Although normally no one may hold more than 500 savings certificates, any certificates acquired under this scheme will not be reckoned in the 500.

(8) The table at the top of the next page shows the position year by year.

(9) The following table shows that the employer's liability in the event of death decreases year by year and ceases altogether in the last year. And it should be noted that his expenditure in meeting or covering his liability will be treated as a trade expense for Income Tax purposes.

At the end of the	A member's total payments at the rate of 1s. per week.	The increasing value of a member's investments, including accrued interest.	The diminishing liability of the employer.
	£ s. d.	£ s. d.	£ s. d.
1st year	2 12 -	2 12 -	47 8 -
2nd year	5 4 -	5 5 6	44 14 6
3rd year	7 16 -	8 1 3	41 18 9
4th year	10 8 -	10 19 3	39 - 9
5th year	13 - -	13 19 9	36 - 3
6th year	15 13 -	17 4 -	32 16 -
7th year	18 5 -	20 9 6	29 10 6
8th year	20 17 -	23 17 3	26 2 9
9th year	23 9 -	27 7 9	22 12 3
10th year	26 1 -	31 - 9	18 19 3
11th year	28 13 -	34 18 10½	15 1 1½
12th year	31 6 -	38 19 10½	11 - 1½
13th year	33 18 -	43 3 3	6 16 9
14th year	36 10 -	47 8 -	2 12 -
15th year	39 2 -	51 14 3	Nil

(10) The employer can cover his liability by effecting a group insurance policy with a life assurance company. The premium will, of course, vary according to age and nature of occupation, but the following table, furnished by the Life Offices' Association (with which is federated the Associated Scottish Life Offices), shows the approximate cost per employee per annum in normal circumstances for each 1s. per week savings--

Age at Entry.	1st Year.	5th Year.	10th Year.	15th Year.
	s. d.	s. d.	s. d.	s. d.
20	5 2	4 3	2 6	- 2
25	5 6	4 6	3 1	- 3
30	6 1	5 6	3 8	- 3
35	7 5	6 8	4 7	- 5
40	9 -	8 3	5 11	- 6
45	11 1	10 8	8 7	- 9

In a normally constituted group the annual cost is not likely to exceed 17s. 6d. per £100, calculated on the aggregate amount at risk, e.g. if the average age be 35, the cost would be about 15s. per £100; if 40, about 18s. per £100; and if 45, about £1 2s. per £100.

The Committee will furnish, on application, Model Rules for Savings Associations established on the above lines. These Rules provide for such matters as the appointment and duties of officers and committee, affiliation to the National Savings Committee, membership, collection of subscriptions, custody of certificates, allotment of certificates, benefits payable by employer in the event of

death, duties of honorary secretary and honorary treasurer, provisions as to arrears, withdrawals, termination of membership and re-admission, procedure on death, provisions in regard to meetings, audit, annual returns, suspension, alteration or termination of benefits, change of officers, alteration of rules, dissolution, and disputes.

Full details as to how to conduct a Savings Association, including "Notes for Honorary Officers," are also supplied by the Committee.

As an alternative to a group insurance policy, many companies are prepared to issue individual policies on the lives of the members of an employer's staff. These policies, of course, are in the form of fifteen-year decreasing term assurances, subject to premiums diminishing proportionately to the sum assured.

**NAVY, ARMY AND AIR FORCE EXTRAS.**

(See OCCUPATION RISKS ; also PROPOSAL FORM.)

**NEPHRITIS.**

(See BRIGHT'S DISEASE ; also ALBUMINURIA.)

**NET PREMIUM METHOD.**

(See VALUATION METHODS ; LIFE OFFICE VALUATIONS.)

**NET PREMIUM POLICY VALUE.**

(See POLICY VALUES.)

**NET PREMIUM VALUATION.**

(See VALUATION METHODS ; CLOSED FUNDS.)

**NET PREMIUMS.**

The essential elements in a net premium are the table of mortality and the rate of interest. In the earlier days of life assurance, say up to the middle of the eighteenth century, when contracts were, as a rule, only for short periods, the item of interest was in all probability ignored entirely, and the rates based upon either Halley's Breslau Table or Simpson's, derived from the London Bills of Mortality, 1728-1737. (See *Willich's Popular Tables*, sixth edition, London, 1867.) Even the age of the life does not appear to have played a prominent part in the heavy rates charged. With the founding of the "Equitable" Society in 1762 a more scientific era opened. Whole life assurances by uniform annual premiums were issued, and these premiums were graded according to age. A little later, Dr. Price's Northampton Table (1735-1780), although defective, led to

further improvements, while a further step forward was made on the appearance in 1815 of Milne's Carlisle Table (1779-1787). It had meantime become clear that mortality tables derived from statistics of the general population were not suitable for the calculation of premiums for life assurance, as was proved by tables published by the Equitable Society, for example, based upon its own experience. As a result, the 17 Offices' Table was compiled, which, as the title conveys, combines the observations contributed by 17 different offices. This table, published in 1843, is still employed to some extent, particularly on the Continent. By it, another feature, important in the calculation of premiums, was brought clearly into view. It had long been realized that the mortality of lives assured was affected by the period of time that had elapsed since they had been assured, and the extent to which this affected premiums was now demonstrated (see J.I.A., xx, page 1, J. A. Higham, read 25th March, 1850). Still, even with the publication of the next combined table of British life assurance offices in 1869, the H<sup>M</sup>, allowance for selection, as it is termed, was more arbitrary than scientific, until the late Dr. Sprague rearranged the material comprised in it, and produced his select tables. Now another point arose. It was perceived that the vitality of the lives accepted for assurance was different from the average, according to the class of assurance for which application had been made, although the acceptance had been at the ordinary rate of premium. The following great investigation into the mortality of assured lives, namely, the British Offices Tables, 1863-1893, brought light to bear upon this. It was proved that the mortality of lives assured under policies with participation in profits was lighter than that of those without participation, and that endowment assurances were more favourable in this respect than ordinary whole life assurances, i.e. generally speaking, the higher the rate of premium charged, the lower the mortality of the group. Probably the majority of offices now make some allowance for these factors in the calculation of net premiums. Apart from these, separate tables of mortality will be used by offices transacting business in the tropics, but, beyond that, adjustments are made in the office premiums where some measure of extra risk may be anticipated, due to a degree of impairment of the life, to sex, or to occupation.

Passing now to the second element in the net premium, namely, the rate of interest assumed, this was 3 per cent in the earlier period, crystallized in the opinion expressed by De Morgan (*Probabilities*, page 261, quoted by Mr. Higham, see *ante*), to the effect that "no office would be justified in assuming more than 3 per cent with tables that come any ways near to the actual experience of mortality." More recently, however, a higher rate was employed frequently, say 3½ per cent, and has been recommended by various writers. By the time that Dr. Sprague's Select Tables were available, the offices had been earning round about 4 per cent on their investments, and accordingly he proposed the use of that rate in the calculations of net premiums, and doubtless this course was often followed. In spite of a subsequent fall in the rate of interest earned by the offices, it has since risen again, and it is unlikely, so far as can be judged, to fall below 4 per cent for a very long time to come. Evidently, at the same time, the use of a low rate of interest in preparing a table of net premiums can be compensated by a smaller addition for expenses, etc., to arrive at the premium to be charged, so that it is not always easy to deduce from any given set of office premiums how the underlying net premiums were determined. Indeed, it would seem that a few offices quote a net premium on a three and a half per cent basis without any loading at all in connection with certain classes of policy.

The above discussion has been throughout directed to the net premium for the purpose of calculating a new set of rates. In this connection it has to be borne in mind that most tables of premium rates used by the offices have been extant for many years, and it is neither convenient nor expedient to change them frequently. This does not preclude the application of an up-to-date net premium by way of analysis. The valuation net premium affords another aspect of the matter. In making its periodical valuations, an office will assume certain scales of net premiums, which are rather unlikely to be the same as those adopted in arriving at the rates charged for the various kinds of policies. Hence, in any discussion centering around net premiums, it is important to have a definite understanding whether (a) the historical, or original net premium, or (b) such a net premium as would now be employed, or (c) the valuation net premium, is intended to be dealt with.

In the following summary, various of the remarks made above are brought to a common focus—

O<sup>(nm)</sup> with 3 per cent interest is generally recommended.

(See PREMIUMS; also OFFICE PREMIUMS.)

SUMMARY OF ANNUAL NET PREMIUMS TO SECURE £100 AT DEATH BY VARIOUS LIFE TABLES

Rate of Interest.		3 per cent.			4 per cent.		
Age.		20	40	60	20	40	60
Table							
(1)	Northampton . . . . .	2.179	3.397	6.366	2.024	3.197	6.104
(2)	Carlisle . . . . .	1.494	2.599	5.790	1.319	2.376	5.532
(3)	Equitable(Davies) . . . . .	1.525	2.647	5.462	1.350	2.427	5.202
(4)	17 offices . . . . .	1.473 <sup>1</sup>	2.605 <sup>1</sup>	6.025 <sup>1</sup>	1.295 <sup>1</sup>	2.368 <sup>1</sup>	5.755 <sup>1</sup>
(5)	H <sup>m</sup> . . . . .	1.427 <sup>1</sup>	2.589 <sup>1</sup>	5.987 <sup>1</sup>	1.245 <sup>1</sup>	2.352 <sup>1</sup>	5.715 <sup>1</sup>
(6)	H <sup>(m)</sup> Select . . . . .	1.499 <sup>1</sup>	2.604 <sup>1</sup>	5.914 <sup>1</sup>	1.330	2.365 <sup>1</sup>	5.634 <sup>1</sup>
(7)	O <sup>m</sup> . . . . .	1.306 <sup>2</sup>	2.524 <sup>2</sup>	5.872 <sup>2</sup>	1.114 <sup>2</sup>	2.285 <sup>1</sup>	5.600 <sup>1</sup>
(8)	O <sup>(m)</sup> Select . . . . .	1.365 <sup>3</sup>	2.457 <sup>3</sup>	5.444 <sup>3</sup>	1.177 <sup>3</sup>	2.211 <sup>3</sup>	5.152 <sup>3</sup>
(9)	O <sup>(nm)</sup> . . . . .	1.461 <sup>3</sup>	2.612 <sup>3</sup>	5.888 <sup>3</sup>	1.274	2.370	5.615

<sup>1</sup> J. I. A. xx, page 105.

<sup>2</sup> British Offices Life Tables, 1893—Whole Life Participating Assurances on Male Lives. London, C. & E. Layton, 1902.

<sup>3</sup> British Offices Life Tables, 1893—Select Tables, London, C. & E. Layton, 1907

The high net premiums of the Northampton Table are striking, and as the rates in use prior to the construction of that table were larger still, it is not surprising that the offices of that period were successful in disclosing large surpluses, although the mortality among assured lives was not as low then as it is now. As the senior office, the Equitable, was a mutual institution, the policy-holders did not lose, collectively, since the surplus was returned in the shape of bonuses, and the reputation of life assurance was established on a solid basis. Then the differences between the premiums by aggregate and select tables respectively, and again, between with and without profit policies, will not escape notice, i.e. for the former, compare H<sup>m</sup> and H<sup>(m)</sup> select, also O<sup>m</sup> and O<sup>(m)</sup> select, and for the latter, compare O<sup>(m)</sup> select and O<sup>(nm)</sup> select, the last named being derived from the experience of non-participating assurances.

If, then, a brief picture may be attempted of a state of affairs which is in fact very varied, it may be said that the O<sup>m</sup> Table is that most often employed for the valuation net premium, at 3 per cent, and as a basis for new office premiums, the O<sup>(m)</sup> select table with either 3½ or 4 per cent interest for all the full premium classes. Many offices apparently use the same table for non-profit policies, though others favour the O<sup>(nm)</sup> or O<sup>m(5)</sup> for these. For short term assurances and ascending scale policies, the

#### NEURALGIA.

Pain confined to the distribution of individual nerves. Facial neuralgia and sciatica are the commonest forms. The causes are very numerous, e.g. it may follow exposure to cold, injury, or to neuritis (*q.v.*). Neuralgia is in reality only a symptom and may be of no more significance in a proposal for life assurance than a decayed tooth. It is, however, essential to obtain full details as to the cause in every case, as it is sometimes a symptom of serious importance.

(See NEURITIS.)

#### NEURASTHENIA.

A condition of nervous debility, which may be associated with most variable symptoms, either local or general.

The primary cause of the condition is not known, but it may follow any nervous strain or shock, or may be associated with quite trivial physical abnormalities, which may affect a patient who constantly worries about them. A history of neurasthenia must always be investigated carefully. Its effect on life assurance may either be nil or else a complete bar. For example, a man of 35 who has a history of an attack of neurasthenia 15 years previously, lasting for a short time and following some temporary and definite mental strain or physical shock, with no subsequent history of nerve trouble, may be accepted without additional premium.

On the other hand, a man of the same age who on investigation is found to have recurring attacks associated with mental depression, an unstable nervous system, and possibly bad habits, must be declined. All cases of neurasthenia must, therefore, be subject to the very fullest medical investigation, and each case must be judged on its merits.

**NEURITIS (Inflammation of a Nerve).**

The only symptom may be pain in the distribution of the nerve, but some muscular wasting may be associated with it. The underlying cause may be trivial or very serious, viz., exposure to cold, mild or serious injury, local septic infection, specific fevers (typhoid, diphtheria, influenza, etc.), poisoning from metals or their salts, tumours, innocent or malignant, alcohol.

It is therefore clear that all cases in which a recent history of neuritis is present must be subject to a strict medical examination, as the cause must be determined, and may prove a bar to any form of life assurance.

Sciatica, a form of neuritis, if persistent, must be regarded with the greatest suspicion, as it may be a symptom of growth in the pelvis, or of tubercular trouble in the hip, or sacro-iliac joints.

The abuse of alcohol is frequently associated with neuritis.

**NEW BUSINESS DEPARTMENT.**

This department, sometimes known as the policy department, attends to the proposals that are made to the company up to the point when (with the exception of those that are declined or set aside on account of non-completion) the proposers' names are included among the company's list of policy-holders.

The first step in dealing with the proposals received is to enter them in a Proposals Received Book, thus forming a record of all proposals made to the company. Brief particulars only need be set forth in it, for example—

- Date of receipt.
- Full name of proposer.
- Agency.
- Branch office.

In some offices the proposals and amounts to be assured are totalled, and are taken as the data for the statement usually included in the annual report, giving the total amount of the assurances proposed to the office.

From this book also the agency department will post the details of the proposals received to each agent's new business record, and again to the branch office records.

Some companies dispense with the Proposals Received Book and keep instead a New Business Completed Book, which meets all practical purposes. Until completion, proposals can be kept in suitable files for convenient reference.

In connection with each proposal reports are required from referees, agent, medical examiner, and, in certain cases, the medical attendant. The report forms are usually issued by the branch office or agent, but where this is not done by them the new business department must attend to their issue. The procedure for the issue of these reports will be found under their respective headings.

It is desirable to have a form on which branch offices and agents shall advise the head office when sending up proposals the exact position in regard to the issue of reports, and also to draw attention to any feature out of the ordinary in the proposal, and to make any special notes as to the issue of the acceptance, the form of the policy, instructions for future renewal notices, and so on, the object being to ensure that all the facts of the case shall be correctly noted and picked up at head office, which is not always done when such points are dealt with in a haphazard fashion.

Where the department pays the medical fees, a book should be kept in which every examination made is entered, the name and address of the doctor, and the date on which the fee is despatched. A receipt for the latter must be secured, preferably by means of a cheque with receipt at foot.

The reports should either be attached to the proposal papers by a stout clip or the whole should be secured in an envelope. If the former plan be adopted the papers should be unfolded, so that they may be easily referred to: if the latter, the envelope should be printed with particulars as to the date of issue of reports, etc., which should be marked "Received" as the reports arrive, so that it is not necessary to withdraw the papers to see how the case stands.

The proposal and the reports must be scrutinized in the department, and special points bearing on the eligibility of the life proposed should be blue pencilled. Should the life be already assured in the company the old proposal papers must be attached

to the new set, and the new particulars compared with those in the original proposal, useful information being occasionally yielded thereby. Where further information on any point is considered desirable, this must be obtained either direct or through the branch office or agent, and when the papers are complete an entry of the proposal is made in another book with the following particulars.

Agency.	Already assured for.
Name.	Amount proposed.
Occupation.	Class.
Age.	Decision.

This book provides a record of the total assurances "considered," with the decisions, some being accepted at tabular rates and some on special terms; some being deferred and yet others declined. The particulars must be posted by the agency department to the agents' and branch offices' new business records. In many companies statistics are prepared periodically, tabulating the decisions taken from the book, thus—

	£	Amount completed. £
Proposals considered . . . . .	508,000	402,000
Accepted at ordinary rates . . . . .	400,000	380,000
Plus 5 years . . . . .	25,000	22,000
Plus 7 years . . . . .	6,000	nil
Plus 10 years . . . . .	10,000	nil
Declined . . . . .	59,000	nil

In some offices proposals are accepted subject to a loan.

Frequently these statistics are built up so as to show similar details for the different branch offices, thus affording information as to the quality of the business submitted by each.

This book may be conveniently combined with the "New Business Completed" Book mentioned above, if tabulated records of cases "not carried out" are required in addition to the card index referred to below.

The papers are then handed to the medical officer for his written summary of the risk and his recommendation in connection with it, and afterwards passed on to the chief officer for his, or the Board of Directors', decision. In cases where the decision is made by the chief officer, it is usual for the papers to be afterwards placed before the Board for confirmation. (See BOARD MEETINGS AND MINUTES.)

Proposals are either accepted at ordinary rates or on special terms, deferred for a

period for further consideration, or declined outright. It is desirable that a space on the proposal form be set aside "for office use only," and tabulated as follows—

Decision.....	.....
Date .....	.....
First premium to (date)	£
Renewal premium to (date)	£
Extra premium	£

Alternatively, a "facing" paper is affixed to the proposal and reports, showing all these particulars, with full name and sum assured, and a space for the acceptor's signature or initials.

The premiums to be charged are usually worked by the new business department, and should be checked, if possible, by the actuarial department, as any error herein is likely to be perpetuated throughout the currency of the policy. This work is, therefore, of the highest importance.

Notices of acceptance, deferment or rejection are then despatched to the branch office or agent, or direct to the proposer, as the case may be; and where sent to the branch office or agent a first premium receipt is usually included.

**First Premium Receipts.** In most offices the receipt given in exchange for the first premium constitutes a certificate that the assurance is in force, and it embodies a statement that a policy is being prepared and will be forwarded in due course.

The sum payable at death under the assurance and the amount of the first premium received appear on all receipts.

*Specimen Receipt*

ANCHOR ASSURANCE COMPANY,  
39 Reliance Street, E.C.

Received the first day of January, 1930, the sum of One Hundred Pounds — shillings — pence the amount of the first premium on an assurance on the life of John Jones for Two Thousand Pounds for which a policy will be prepared and forwarded in due course bearing to-day's date.

£100 0s. 0d.                      Agent.....

.....  
*Manager.*

2d.  
stamp.

Any alteration in this receipt will render it invalid.

Where the period covered by it (annually, half-yearly, quarterly, or monthly), is also stated, the receipt will usually be accepted by the Surveyor of Taxes, when a claim for rebate of income tax is made, as evidence that the assurance has been effected. Occasionally, however, the Surveyor of Taxes will ask for the production of the policy.

**Filing Routine.** A card index of rated up cases, and also of declined cases, should be kept, and the proposal papers numbered and filed. The only information that need be recorded in the index is—

Surname	No.
Christian Names in full	Town
Date of Birth	Occupation
Decision	Date
Agency	Date of proposal

It is better to file numerically than alphabetically, because, although no index would be required for the latter, the numerical system relegates out of date papers to the back of the file and renders the newer and more frequently required papers easily accessible.

The accepted proposals, with all the relative papers attached, should be placed aside in readiness for the preparation of the policy. In some companies this is done immediately on acceptance, but more frequently the policy is not prepared until the first premium has been paid. A point of some practical importance may be mentioned here. The new business department should be provided with ample cupboard accommodation, so that proposals awaiting the receipt of reports, further information, and the payment of the first premium may be readily available for reference when required.

When the first premium has been paid, the policy issued, and a receipt for it obtained, a copy of the policy should be inserted with the dossier of proposal papers and the whole filed.

Proposal papers are extremely important documents, and secure accommodation must be provided for them. They are frequently referred to after the issue of the policy, and when any set of papers is taken from the file a slip bearing the initials of the official for whom they have been withdrawn should be inserted in their place until replacement.

#### NEW BUSINESS, PROCURATION OF.

(See INDUSTRIAL ASSURANCE ACT, 1923.)

#### NEW ZEALAND GOVERNMENT LIFE INSURANCE DEPARTMENT.

The Department was founded in 1870 (a year which, it will be recalled, saw the failure of certain large life insurance concerns in Great Britain) "for the purpose of giving those who insured the greatest possible amount of security at the least possible cost." The Department is, of course, in effect a mutual insurance office, conducted entirely for the benefit of the policy-holders; there are no shareholders, and the profits are divisible among the assured by statute. The State guarantees the payment of every claim on death or maturity.

Policies issued by the Department appear to be singularly free from restrictions; even the provision relating to suicide—that the contract may be declared void if the assured commits suicide within six months after entry—may be waived, and the claim paid if the Commissioner is satisfied that no suicidal intention existed at the time the proposal was made.

Under the non-forfeiture regulations, a policy remains in force so long as the surrender value exceeds the accumulated amount of the premiums outstanding, the surrender value being recalculated for this purpose as each additional premium falls due. In the event of death or maturity a payment is made of the sum assured (with bonuses, if any) less the arrears accumulated at interest. This arrangement is said to give some remarkable results, especially under endowment assurance policies, cases having occurred where policies have remained in force for as long as twenty years although only four or five premiums have been paid. With a few exceptions, policies are by the laws of the Dominion protected from bankruptcy to the extent of £2,000 (exclusive of bonus) or £104 per annum in the case of annuities, provided, of course, that it is not proved that the policy was taken out by the bankrupt to defraud his creditors.

A system of which wide use is made is the payment of premiums by deduction from Post Office Savings Bank accounts.

Premiums are charged according to *nearest* age at entry, not age next birthday.

Assurance may be effected without medical examination at the normal rates of premium, subject to certain conditions—the proposer's age must not exceed 45, the sum assured is limited to £300, and the policy is governed by special conditions during the first year. This system is found particularly useful in

out-of-the-way districts where no doctor is available.

The tabular rates of annual premiums for the main classes of business are shown below at specimen ages at entry.

Bonuses are allotted triennially, but upon

WITH PROFITS

Age nearest birthday at entry.	Endowment Assurances payable at age 80 or death.			Endowment Assurances—term.				
	Whole term.	15-year term.	35-year term.	10 yrs.	20 yrs.	30 yrs.	40 yrs.	50 yrs.
20	£ 1 15 7	£ 3 5 11	£ 2 0 5	£ 9 11 6	£ 4 9 1	£ 2 17 7	£ 2 3 11	£ 1 17 10
30	2 5 5	3 17 7	2 8 11	9 13 3	4 11 9	3 1 4	2 9 6	..
40	3 1 3	4 13 9	3 2 7	9 16 5	4 17 -	3 9 7	..	..
50	4 9 2	5 17 10	..	10 4 5	5 10 3	..	..	..

WITHOUT PROFITS

Age nearest birthday at entry.	Whole-Life premiums payable for		Endowment Assurance 30 year term.	Children's Deferred Assurances.		
	Whole term.	20-year term.		Age.	On death after age 21.	On death after age 21, or at age 50.
20	£ 1 8 7	£ 2 1 10	£ 2 10 9	4	£ 14 3	£ 1 2 11
30	1 17 5	2 11 9	2 14 5	9	17 5	1 8 9
40	2 11 4	3 5 9	3 2 3	14	1 1 7	1 16 8
50	3 15 4	4 7 11	..			

(Premiums payable throughout term of policy, and refunded in event of death before age 21.)

policies becoming claims in the triennium the full amount of accrued bonus for each premium paid since the last valuation is added. These interim bonuses are also included in all calculations of surrender values. Bonuses are payable with the sum assured, no matter how soon after issue a policy may become a claim.

The business of the Department is restricted to New Zealand—a fact which, it is claimed, gives the assured the financial advantage of the lowest rate of mortality in the world. The premiums charged are stated to be the lowest in Australasia. All the Department's funds are invested in New Zealand. The Department holds over one-third of the business in force in the Dominion.

Policies acquire surrender values two years after issue, when proportionate paid-up policies, sharing in future profits, are also available.

In addition to whole-life and endowment assurances and annuities, the Department has tables for limited premium, joint-life and short-term policies, pure endowments, and deferred assurances for children.

Endowment assurances, and children's endowment assurances, can also be taken out under a "with extra profits" table; in these cases, a special reversionary bonus of £1 per cent per annum is allotted in addition to participation in ordinary profits.

NON-APPORTIONABLE ANNUITY.

(See ANNUITY PROPOSAL AND POLICY FORMS.)

NON-COLLECTING AGENTS.

(See BRANCH OFFICE SYSTEMS.)

NON-FORFEITURE.

(See POLICY FORM AND CONDITIONS; PROSPECTUS, PREPARATION OF; LICENCES TO TRAVEL OR RESIDE ABROAD.)

NON-MEDICAL POLICIES.

(See PROPOSAL FORM; POST OFFICE LIFE ASSURANCE.)

NON-MEDICAL SCHEME LEAFLETS.

(See CANVASSING LEAFLETS, page 124.)

NON-PROFIT POLICIES.

(See separate headings.)

**NORMAL STANDARD.**

(See UNDER-AVERAGE LIVES.)

**NORTH AFRICA.**

(See CLIMATIC RISKS.)

**NORTHAMPTON MORTALITY TABLE.**

(See MORTALITY TABLES ; MORTALITY OF ANNUITANTS ; NET PREMIUMS.)

**NORTH BRITISH AND MERCANTILE INSURANCE COMPANY, LTD.**

Chief Offices: 61 Threadneedle Street, London, and 64 Princes Street, Edinburgh.

As the result of a meeting held in the Royal Exchange Coffee House in Edinburgh, an advertisement appeared in the principal papers of that city on the 17th April, 1809, announcing a proposal to form a company under the name of the North British Insurance Company. It was pointed out that no less than twenty English companies were then flourishing in Scotland, and that these had "early availed themselves of our want of capital and enterprise, by appointing agents in Scotland, who, for more than a century, have drained from us the profits of this species of secure and useful speculation." This appeal to Scottish national feeling was rewarded by an encouraging support, and the company was launched on its prosperous voyage with a capital of £500,000 in shares of £200 each with £20 paid. At a meeting on the 19th October, 1809, at the same Coffee House, progress was reported and a contract of co-partnership was submitted. It was then decided that business should be commenced on the 11th November, 1809, in a flat situated in what is now Parliament Square, for which the modest rent of £30 per annum was paid. In 1825 the company moved to more spacious quarters at No. 1 Hanover Street, and it was not until 1842 that the site of the present building at 64 Princes Street was purchased.

In 1822 the directors began to consider the desirability of undertaking life business, and the decision to take this step was made at a meeting held on the 25th April, 1823. To provide for this additional responsibility the capital was increased to £1,000,000 in 1824.

It was felt that the company's success would be promoted by obtaining a Royal Charter, and at a meeting of the proprietors on the 29th March, 1824, it was announced that the Charter had been granted. This stimulated further activity. In 1823 branches had been opened in Liverpool, Manchester,

and other large towns in the north, and further important connections were thereafter formed. But it was not until 1832 that a branch was established in London; nor until 1835 that business was commenced in Ireland. Acts of Parliament were obtained in 1845 and 1860 to extend the company's powers and its range of business. As a result, active operations were soon started in India, Canada, and other parts of the world.

In 1862 the business of the recently established Mercantile Fire Insurance Company of London was transferred to the North British, and this fusion resulted in the company adopting its present title. About the same time the United Kingdom Life Assurance Company was acquired, and a few years later the Volunteer Assurance Company and several other minor companies were absorbed. More important mergers, however, included the Scottish Provincial Assurance Company in 1889 and the Universal Life Assurance Society in 1901. The Ocean Marine Insurance Company, Ltd., was purchased in 1908, the Railway Passengers Assurance Company in 1910, and the Fine Art and General Insurance Company, Ltd., in 1917. The three last-mentioned companies are still run under their own names.

The conduct of the company's affairs has always been distinguished by sound management combined with foresight and enterprise. Its present magnitude, prosperity, and world-wide reputation, though remarkable, are not therefore altogether surprising.

**NORTHERN ASSURANCE COMPANY, LTD.**

Chief Offices: 1 Moorgate, London, E.C.2, and 1 Union Terrace, Aberdeen.

Founded 1836.

The Northern was founded in Aberdeen by a contract of co-partnership under the title of North of Scotland Fire and Life Assurance Company, with a capital of £1,000,000 in 50,000 shares of £20 each. In 1848 an Act of Parliament was obtained incorporating the company under the name of the Northern Assurance Company, and in 1865 provision was made for a head office in London as well as at Aberdeen. Other Acts of Parliament were obtained, and the last, in 1908, provided that the company should be incorporated under the ordinary Companies Acts as "The Northern Assurance Company, Ltd." There are two head office's Boards of Directors, one at Aberdeen

and one in London, each with its sphere of jurisdiction, and the company generally is directed by the "General Court," consisting of the two boards of directors sitting together. The principal officers, the General Manager, and the Actuary, are at the London offices.

The company undertakes all classes of insurance business. Its life department is divided into two distinct branches, the "Non-Participation," and the "Participation." On account of the non-participation branch, both assurance and annuity contracts are issued, the resulting profit or loss being solely for account of the shareholders. In the participation branch policies are issued only with profits, and all surplus accruing in the branch belongs to the policy-holders thereof. In reckoning this surplus the company is precluded from deducting anything beyond what is actually paid away as commission to agents, and a fixed charge for expenses of management and guarantee of the sums assured, and declared bonuses. This maximum fixed charge is 10 per cent of the premiums, but at present only  $7\frac{1}{2}$  per cent is charged against the branch in addition to commission.

The company was among the first to give prominence to endowment assurances, which have helped so much to popularize assurance as a means of saving, and as a provision for the assured's latter years. It initiated the practice of paying claims immediately upon proof of death and title, instead of waiting some months, as had been the custom of all companies.

**London and Scottish Assurance Corporation, Ltd.** Chief Office: King William Street House, London, E.C.4. Founded 1862.

This company was incorporated on the 4th August, 1862, under a deed of settlement and under the title of London and Lancashire Life Assurance Company. The business of the company was originally confined to life assurance. It was registered under the Companies Consolidation Act, 1908 on the 15th June, 1910. In August, 1910, the name was changed to London and Lancashire Life and General Assurance Association, Limited, and the business was extended to fire and accident insurance. In July, 1919, this somewhat lengthy title was curtailed, and the present name of the company was adopted. In 1911 the company purchased the shares of the Welsh Insurance Corporation, Ltd., a company transacting similar classes of business, with the exception of life assurance. In 1912

the shares of the Scottish Metropolitan Assurance Company, Ltd., were purchased. This company was then transacting life and accident business, but its operations have since been extended to practically all classes of insurance. In August, 1923, a controlling interest in the company was purchased by the Northern Assurance Company, Ltd., but the London and Scottish Assurance Corporation, Ltd., retains its identity and continues to transact business under its own name.

The company has branches in the leading towns in the United Kingdom, and branches or agencies throughout the world, including the U.S.A., Canada, South Africa, and Australia.

#### NORWAY.

**Regulations Affecting Insurance Companies.** Foreign companies in Norway must be authorized by the Norwegian State Supervision Council. Applications, giving full information concerning the company and its statutes, should be accompanied by a notarially certified declaration and copies of balance sheets for the last ten years. The Norwegian representative must reside in the country, and his power of attorney must be in the original language as well as in a Norwegian translation. Kr. 100,000 must be deposited in Norwegian securities, and the company must be registered in Handelsregistret. A report on Norwegian business, together with a statement of accounts and balance sheets, must be sent to the State Insurance Council within eight months of the close of the financial year. Statement of accounts and balance sheet of the head office must be sent to the above not later than two months after approval by the company. The deposits of life, fire, and marine insurance amount to Kr. 100,000; third party, accident, motor car, motor boat, fidelity guarantee, and machine insurance Kr. 50,000; for storm and hail Kr. 10,000; for plate glass Kr. 5,000; and Kr. 25,000 for other registered classes of insurance. Forsikeringsraadet, Oslo, is the supervising authority. Foreign insurance companies pay 3 per cent income tax on the gross premiums on Norwegian business. Property tax is assessed at ten times the net income.

#### NORWICH UNION LIFE INSURANCE SOCIETY.

Chief Office: Norwich. Principal London Offices: 49 Fleet Street, E.C.4; 71-72 King William Street, E.C.4; 39 St. James's Street,

S.W.1; 1 Victoria Street, S.W.1; 10 Southwark Street, S.E.1; Finsbury Pavement House, 120 Moorgate, E.C.2.

Founded 1808 for mutual life assurance; there are no shareholders, and all the profits go to the assured. In the year 1866 the Norwich Union Office absorbed the Old Amicable Society, which was founded in 1706, and is believed to be the oldest life office.

The progress of the Norwich Union Society has been remarkable even in the history of life assurance, and the expansion has not been accompanied by an undue expenditure in the procuration of new business.

On the occasion of the centenary of the office in the year 1908, the Society published a very interesting history of its career. Like that of most of the old offices, the earlier minute books contain much that is amusing and interesting, and indicates the great care taken in those days by the full boards over the most trifling matters. No doubt it was that detailed care at the start which accounts for the steady progress of the offices concerned.

The Society issues a number of interesting combinations of insurances, of which, perhaps, the most notable are the "Eight Option" policy, which gives various options to the policy-holder at a given age, and the "Norwich" policy which combines the best features of whole life and endowment insurance. A specially attractive leaflet is that describing "The Double Benefit" policy, under which, in conjunction with the Norwich Union Fire Office, accident and disability benefits are guaranteed.

The Norwich Union Life Office acquired in 1925 as an investment the whole of the shares of the Norwich Union Fire Office, formerly in the possession of the Phoenix Assurance Company. It is believed that the working of the two well-known Norwich companies under one sole direction will prove very remunerative to the new proprietors.

#### NOTATION.

An inevitable feature in the development of actuarial science was the construction of a suitable scheme of notation. By notation is meant that abbreviated method of setting out formulae, etc., of various kinds, whereby letters of the alphabet replace elaborate descriptions, and arithmetical operations are indicated by various arrangements of these letters, with the assistance of arbitrary signs and conventions. At first each writer on the subject evolved his own scheme of notation, and, naturally, each

individual investigator would do as seemed best to him. In Great Britain the system favoured by the Institute of Actuaries for life contingencies speedily became supreme, as its advantages were evident, and, with limited exceptions, this was the case in the United States and the British Dominions also. But in other countries various schemes of notation were in use, making more laborious the task of students. When International Actuarial Congresses were inaugurated, this difficulty became much more pronounced, and accordingly a leading topic of discussion at the first Congress (Brussels, 1895) concerned the possibility of establishing a uniform notation for all countries. The second Congress accepted in the main the Institute of Actuaries' scheme as the international basis of notation for life contingencies, applicable to life tables, both aggregate and select. This scheme is capable of expansion, but no universal basis has yet been accepted for sickness and invalidity insurance, or for the special developments connected with superannuation funds, although there is a considerable amount of material available.

For a system of notation to be good it must have at least five characteristics. It must be easy to remember; it must be easy to teach; it must be easy to write; easy to print; and it must readily admit of additions (George King, J.I.A., xxxiii, 37).

References: *Universal Notation*, A. Begault; Brussels, I.C., 31; London, 582; I. C. Pierson, Brussels, 58; G. King, London, 598; Committee on Notation, London, 618; T. B. Sprague, Paris, 634; J.I.A., A. Begault, xxxiii, 1. See also Indexes, I.C. and J.I.A.

#### NOTICE OF ASSIGNMENT.

(See ASSIGNMENT.)

#### NOTICES, SERVICE OF.

(See ASSURANCE COMPANIES ACT, 1909.)

#### NOTIFICATION OF CLAIM.

(See CLAIMS.)

#### NURSES' EXTRA PREMIUM.

(See PROPOSAL FORM.)

#### NURSING FEE BENEFIT POLICIES.

(See SURGICAL AND NURSING FEE BENEFIT POLICIES.)

#### NURSING SERVICE.

(See WELFARE SERVICES.)

### OCCUPATION RISKS, EXTRA PREMIUMS FOR.

The premiums charged for ordinary life assurance are based on the mortality experience of first-class lives engaged in non-hazardous occupations. The expression "non-hazardous occupation" is, of course, a comparative one, as every occupation necessarily has its hazards, and in life assurance practice it is interpreted as meaning an occupation which has no specific hazards likely to cause of themselves an increase in the rate of mortality. This definition, however, is rather wide, and it is not the practice to charge an extra premium unless the extra risk is sufficient to justify an addition of at least 5s. per cent (say) to the ordinary premium. Generally speaking, the type of business transacted by "ordinary" life offices does not include many lives which are hazardous on account of their occupation, and in only a small proportion of the cases is an extra premium necessary for this reason.

In the case of the industrial offices a much larger proportion of the lives proposed in the ordinary branch belong to the hazardous trades, and it might be expected that it would be a very general practice to charge extra premiums for this risk. Such a practice, however, would lead to a very wide classification of lives for assurance purposes, with consequent difficulty in transacting business. In order to avoid this, therefore, it is usual only to charge an extra premium for exceptional hazards, such as the fighting services and the liquor trade, and to accept all other lives at ordinary rates so far as occupational risk is concerned.

It will readily be appreciated that the effect of this plan is to lower the standard of the first-class lives, thus rendering it necessary for each member of the group to share the extra risk and pay a slightly higher premium.

With industrial business the position is again different. Here the premiums are either based on a national census table or on the experience of the particular office, and all risks of occupation are, therefore, to a certain extent provided for. The only necessity, therefore, is to provide against the receipt of an undue proportion of

hazardous risks, and it is felt that this is sufficiently secured by excluding or surcharging lives engaged in the fighting services and the liquor trade, and occasionally a few other occupations, such as seafaring and mining.

(See also CLIMATIC RISKS.)

**Army, Navy, and Air Force.** The extra risks attaching to life in the Navy are not great in time of peace, except in those cases where the life assured is engaged in some special service, such as the submarine service. Even when the life assured is stationed abroad, the conditions are usually very favourable, and there is but little extra risk, especially in view of the limitation of time permitted to be spent on a foreign station. Most offices, therefore, are willing to issue policies to lives in the Navy in time of peace without an extra premium. In such cases, however, the policies would usually contain a clause providing for the payment of an extra premium in the event of active service conditions and this extra might be considerable. It should be mentioned, however, that in the case of one or two offices no such restriction applies, and a policy effected in time of peace without an extra premium would cover war conditions without additional charge. One of these offices, however, charges a small extra premium, payable from the outset, if a whole-world licence is required.

Under modern conditions in the Navy, the majority of the personnel are required, at one time or other during their service, to serve on a submarine for a period. This temporary risk would not usually attract an extra premium. When, however, the life assured specializes in submarine work, it is usual to charge an extra of from £1 to £2 per cent per annum to cover all risks of peace and war. At least one office, however, is willing to run even this risk without an extra charge.

Peace conditions in the Army at home would seem to be almost as healthy as those in the Navy, and an extra premium is not required. A restricted policy, however, would usually be given and an extra premium charged in the event of residence outside the free limits or active service abroad.

Every soldier is now required to fly in an aeroplane as a passenger, should circumstances require it. No extra charge is usually demanded for this risk. The offices which are willing to grant unrestricted policies in the case of the Navy are also willing to do so in the case of the Army, but at least one would charge a small annual extra premium if possible future foreign residence is to be covered.

It will be observed that although naval and military men may be accepted without additional premium, yet unrestricted policies are not usually given. Under this plan, therefore, the life assured is required to pay a large extra premium in the event of being sent on active service. Such a condition is far from being satisfactory, especially as in such circumstances he would probably be involved in other pressing expenditure, and practically all offices are willing to offer an alternative. The most usual method is to offer a "whole-world and occupation free" licence in return for a small annual extra premium of about 10s. per cent, payable from the time of effecting the policy until permanent retirement from the service. In the case of the Army, however, a further extra premium would be required if the life assured were abroad (i.e. outside the free limits) or under orders for abroad, at the time of effecting the policy. Such additional premium for foreign residence is not usually charged in the case of the Navy.

Another method is to charge a somewhat smaller extra (say 7s. 6d. per cent per annum), payable throughout the duration of the policy, whether the life assured has retired or not. This plan is not altogether satisfactory in practice, as the life assured usually pleads on retirement that he did not understand the conditions and expected that the extra premium would be removed on his leaving the service.

A few offices offer unrestricted policies in consideration of the assured paying the with-profit premium, but not receiving profits until retirement. This is not a good arrangement for the assured, as the bonus loading usually exceeds the normal extra premium, and varies according to the age at entry and the class of policy. Further, the bonuses forfeited are usually of greater value than the loading.

Another plan, usually only adopted on the Continent, is to charge an extra premium depending on rank in the service, all extra premiums being kept in a separate fund.

Part only of the sum assured is guaranteed, the balance being payable out of the separate fund, if it is sufficient. Any surplus is allotted to the policy-holder in proportion to the amount of the extra premium paid.

Members of the Territorial Force are usually granted free policies without additional charge. In the case of the regular reserves of the Army or Navy, however, the usual practice is to grant a restricted policy, unless a small extra premium is paid for an unrestricted licence.

The risks incidental to pilots in the Air Force are, even in time of peace, far more serious than is the case with members of the Army or Navy. The extra premiums now charged for officer and airman pilots by a few offices who compete for the business are calculated on the basis of 9d. per flight per cent, as this is considered a better measure of the risk than the number of hours of flying. Most companies charge, in addition to the ordinary military extra, a maximum flying risk extra of £5 per cent for any one year. If the total extra at 9d. per flight exceeds £5, the cost of the excess is carried forward to the following year and, until paid, is treated as a debt on the policy in the event of death or surrender. The total flying risk extra premium is usually limited to £20 per cent or £25 per cent on the sum assured. Pilots' log books, of course, have to be produced as evidence of the number of flights made each year.

In addition to pilots, there is, of course, a very large personnel belonging to the Air Force, some of whom fly as passengers only and some of whom rarely, if ever, fly at all. In such cases the extra premiums generally charged are—

(i) <i>Non-flying Officers</i> , including chaplains and officers in medical, dental, stores, accountancy, and legal branches of the service . . . . .	Per cent per annum s. d. 7 6
(ii) <i>Aero Engine Fitters</i> . . . . .	10 -
(iii) <i>Acroplane Riggers</i> . . . . .	7 6
(iv) <i>Wireless Telegraph Operators</i> . . . . .	12 6
(v) <i>All other trades</i> . . . . .	5 -

**Civil Aviation.** During the last few years it has become a fairly general practice to permit civilian policy-holders to engage in flying as passengers without an extra premium. Most offices, however, discourage assurances on the lives of civilian pilots.

Of those offices which are willing to undertake the risk, one quotes £3 3s. per cent to £5 5s. per cent for pilots on cross-Channel services, or £3 3s. per cent for pilots in England.

**Mercantile Marine.** The mortality experience of the Mercantile Marine has not proved unfavourable during recent years, and in some instances an extra premium is not asked for, no matter what the class of boat or part of the world to which it travels.

A more common plan, however, is to charge 5s. per cent per annum extra premium for most cases, and rather more if the life assured calls regularly at the West Coast of Africa, or is engaged permanently on the coastwise trade of an unhealthy country. Refunds would not be allowed for time spent on shore, but the extra would be removed on retirement to a normal occupation.

Under another plan, voyages in first-class vessels between ports within the free limits are permitted free, but a charge of from 5s. to 10s. per cent per annum is made in other cases, according to circumstances. Occasionally a charge of about 20s. per cent per annum is made, and refunds are allowed for periods spent at home on shore.

Sometimes a higher rate of extra premium is charged for stewards, as they so frequently enter the licensed victualling trade on retirement from the service. A lower rate is usually charged, however, in the case of endowment assurances.

**Liquor Trade.** The experience of persons engaged in the liquor trade has been very bad from a life assurance point of view, and the extra premiums charged in practice are more than justified by statistics. In addition to many deaths which cannot be traced directly to the occupation, but which are probably accelerated thereby, there is a heavy mortality amongst such lives from cirrhosis of the liver, cerebral hæmorrhage, apoplexy, diabetes, Bright's disease, and pneumonia.

The normal extra for publicans, and others having duties in the bar, is 20s. per cent per annum, although one office which has investigated its own experience, charges as much as £2 per cent for whole-life policies and 30s. per cent for endowment assurances. Commercial travellers who call on licensed houses in the course of their occupation are also usually charged the same extra, as are clerks and others whose duties involve calling on licensed houses to collect accounts.

Proprietors of first-class residential hotels are not usually charged an extra premium, but persons who have duties in the bar would usually pay from 10s. per cent to 20s. per cent, according to the circumstances.

The nature of the licence held by a grocer

or wine merchant is always the subject of inquiry, and where this permits the sale of intoxicants in bulk, a charge of from 10s. per cent to 15s. per cent would be made in England or Scotland, and probably 20s. per cent in Ireland. It is not usual to charge an extra premium for an off-licence, where only the sale of unbroken bottles is permitted. Brewers are not now usually charged an extra premium.

**Miscellaneous Trades.** The heavy mortality experienced in certain trades is usually due to one of the following causes: (a) Accident, (b) Pneumonokoniosis (i.e. diseases of the lungs caused by dust), (c) Poisoning, (d) Heat and noise.

It is rather difficult to determine the extra mortality caused by a given trade, for the following reasons—

(1) When the occupation is heavy or particularly trying, only persons of exceptional physique can engage in it.

(2) As soon as a life begins to feel the strain of a given occupation, he or she endeavours to transfer to a less trying occupation. This has the effect of lightening the mortality in the bad occupations by removing the affected lives, and increasing the mortality in some other occupations by introducing impaired lives.

(3) Classification of trades is unsatisfactory, since a man may belong to one trade and work at another.

All these reasons have their effect on the death rates per thousand classified according to occupation, as published in the periodical supplements to the Annual Returns of the Registrar-General. In addition, only the experience of the working years of life is included in these figures and allowance is not made for the age distribution. This latter point is of considerable importance, since an occupation which for some reason attracted chiefly young people would show an unduly light death rate per thousand, whereas with an occupation which attracted only older lives the contrary would be the case.

In view of the above, life offices do not attempt to make any careful analysis of trades, but charge an extra premium, varying from about 5s. per cent per annum to 15s. per cent, in those cases where general indications suggest that it is justified. A few examples will serve to illustrate the risks incidental to certain trades—

(a) *Accident risk.* Builders, slaters, carpenters, bricklayers, engineers, joiners, mechanics, and the like, where the risks are

due to working on scaffolds or with machinery in motion. Railway workers, who have duties on the permanent way, and also engine drivers, stokers and engine cleaners, who are liable to accidents and chest diseases through heat. Miners and others, in coal mines, who are liable to accidents and also bronchitis and miner's phthisis. Quarry workers who assist in shot-firing.

(b) *Pneumonokoniosis*. Grindstone building, file-cutting and steel-grinding are dusty trades, stone and steel being inhaled, which cause phthisis. Stonemasons and grinders, and lead miners inhale particles of stone, which affect the lungs, and, in the case of potters, phthisis is caused by dust from the fired clay. In the case of china and earthenware manufacturers, sharp particles of flint and dust from the clay cause potter's rot (which is non-tubercular) and asthma. Colour grinders and makers inhale oxides of iron, which cause siderosis. Many of the processes in cotton or flax mills are very dusty, causing chest troubles.

(c) *Poisoning*. Dye-workers, compositors, plumbers, coach and house painters, and others, suffer from lead poisoning, due to dust, which, in the case of painters, is caused by burning-off and sandpapering paint. Painters also contract it from mixing paint, the lead being absorbed into the skin and also mixed with food when eating if the hands have not been properly cleansed. Arsenical poisoning arises in the smelting of ore, in colour grinding, and also in wool dyeing and handling. Brassfounder's ague is caused by fumes in the melting and moulding processes. White lead is inhaled in glass-polishing and pottery-glazing, mercurial poisoning occurs from dust in the felt-hat trade, and poisonous fumes are inhaled in phosphorous and lucifer-match making.

(d) *Heat and Noise*. Rheumatism and chest trouble are common amongst workers in heat, such as furnace workers and stokers, and changes of temperature cause liability to chill. Also, the heavy strain of working conditions sometimes causes heart trouble. Nervous diseases arise in the noisy trades, such as boiler-making and the like.

**Double Endowment Assurances.** The remarks regarding double endowment assurances in the section relating to extra premiums for various countries and latitudes under CLIMATIC RISKS apply equally to occupational extra premiums, and an extra premium would not usually be charged for any of the above-mentioned trades under this class of policy.

## OFFICE PREMIUMS.

The office premium for a whole life assurance policy is that payment which is made by a member of the public to secure various benefits in terms of his contract. Naturally, the premium will vary with the extent and nature of these benefits, which, being far from uniform in the different institutions, result in a marked diversity of their office premiums, even for the same kind of policy.

Office premiums are occasionally called gross premiums, and this brings into relief the fact that the office premium has to provide not only for the sum assured under the contract, but also for other benefits and concessions possibly, such as bonuses, and, further, for the necessary expense of carrying on the business. The features that have to be allowed for in calculating office premiums are—

- (a) Mortality.
- (b) Interest.
- (c) Loading, and, as subsidiary aspects.
- (d) Competition, and
- (e) Consistency.

(a) and (b) are dealt with separately under the head of NET PREMIUMS (*q.v.*). The loadings must be adequate to meet expenses and possible adverse fluctuations in mortality and interest, as well as to provide bonuses to policy-holders and shareholders of the office, if there are any of the last mentioned. These requirements alternatively may be met by an extremely cautious attitude in estimating for mortality and interest. Clearly, if it is assumed that future mortality and interest will be much less favourable than they are at all likely to turn out to be, then it is the less necessary, or indeed feasible, to make the same charge for loading as is requisite when the estimates for mortality and interest are taken much closer to the probable future experience. Competition will play its part here in preventing ultra conservative views from achieving success. As to the final point of consistency, equity obviously demands that the premiums for different kinds of assurance should be based on the same broad principles, so that, in fact, it should be a matter of indifference to the office which form of policy is selected, or perhaps, even more, that no adverse selection against it can be exercised. Yet cases have been known where it has been possible in the same office to get a manifestly greater benefit for a less premium.

There is another point that may just be adduced in connection with the preparation of premium rates, especially those for what may be termed the cheaper classes, and that is as to the relation of these premiums to the net premiums used in the valuation. While it is not a serious matter, unless a great deal of business is transacted under this class, still it is well to bear in mind that if the office premium is less than the valuation net premium, which may happen easily, then the new business will be a strain on the surplus at the valuation, unless special arrangements are made for the class in question, which may not be desirable.

A retrospect of the historical development of premiums will best prepare the way for a consideration of the present position. When the Equitable Society started, about the middle of the eighteenth century, the best available rates were those based upon the London Bills of Mortality. These, however, included many deaths due to epidemics, and were otherwise faulty. A few specimens head the summary below.

It will be seen how high they are as compared with other rates in the list. The society in question, being mutual, was able to make large returns to its members, and

thus accustomed the public to the bonuses, or reversionary additions to the sum assured, which have been ever since such a prominent feature of life assurance as conducted in this country. As a result, with the introduction of improved mortality tables, while the premium rates were reduced to some extent, the reduction did not go so far as it might have done, bonuses being allowed instead of a reduction in the premium. Nevertheless, there are, of course, always some persons who desire to pay the smallest possible premium for the utmost amount of cover. Accordingly, when experience had shown what could be done with safety, a number of offices gave effect to a presumed future rate of bonus by allowing an equivalent reduction from the usual annual premium, thus arriving at a premium for a policy without right to future profits. Cases are known where this happened instead of what might have been expected, namely, to calculate a new premium *ab initio* for a non-profit policy. With participating premiums that remained fairly stable, scientific attention was directed towards sounder methods for distributing the resulting surpluses. Several quaint systems were abandoned, and the two reversionary bonus methods

SUMMARY OF OFFICE ANNUAL PREMIUMS PER CENT FOR A WHOLE LIFE ASSURANCE

	Date when used.	Age.		
		20	40	60
1. Equitable Society (London Bills of Mortality)	1762 81	2.767	4.608	8.258
2. Northampton 3% + 15%	1781-86	2.508	3.908	7.325
3. " " net	1786-	2.179	3.396	6.367
4. Carlisle 4% + 40% }	1815-	1.846	3.329	7.746
5. " 3% + 25% }		1.867	3.250	7.238
6. Davies' Equitable 3% + 25%	1829-	1.908	3.308	6.825
7. 17 Offices 3% + 25% (a)	1843-	1.842	3.258	7.525
8. (Hm 3% + 5s.) + 15% (Sorley) (b)	1878	1.925	3.275	5.175
9. (Hm 4% + 3s. 6d.) + 8.6% (Sprague)	1880	1.688	2.742	6.192
10. do. do. do. = without profits				
11. do. do. do. = uniform bonus		2.029	3.202	6.721
12. (c) H[m] 4%, A[r] + .02 (Rothery)	1892	2.104	3.271	6.771
13. do. do. do. = increasing bonus		1.633	2.712	6.262
14. Average premium of offices with profits				
15. O[m] 3½ + 9% + constant 4s. 3d. % (Rietchel) without profits	1910	2.050	3.242	6.825
16. do. do. uniform bonus		1.979	3.238	6.929
17. O[m] 4% [ p[x] + .02/a[x] + .00175 ] 1.06 (Hooker)	1923	1.592	2.754	5.988
18. do. do. for uniform bonus		2.000	3.300	6.696
19. do. do. for compound bonus		1.542	2.658	5.838
20. O[m] 3½ net		1.863	3.129	6.471
		1.938	3.200	6.538
		1.265	2.329	5.295

became popular, as it was found that customary scales of premium accorded with reasonable accuracy. Thereafter the without profit premium becomes the most sensitive measure of changing views and growing experience. The introduction of select tables meant the raising of rates at the younger ages, and this was accentuated by a change in the scale of commission paid. With a more intensive prosecution of the business, there arose a class of agents who had to be remunerated more liberally at the inception of a policy, even at the cost of what they might receive later on. Thus, instead of an initial commission of 10 per cent of the first premium and 5 per cent of renewals, the usual scale now became 1 per cent of the sum assured as an initial fee, and  $2\frac{1}{2}$  per cent of renewal premiums. While the latter is still quite a usual rate, there are many offices which pay more, although the initial payments frequently depend on the volume of business which the agent is able to send. All this naturally mounts up in the accounts of the office, and so the premium formulæ are modified to meet the new circumstances. Thus Dr. Sprague's formula, in place of the percentage additions of its predecessors, distributes an initial 1 per cent over the duration of the policy, Mr. Rothery's distributes 2 per cent, and Mr. Rietchel's as much as 4 per cent to cover initial commission and expenses. As against these tendencies of the present time, which would raise the cost of life assurance, are to be set recent improvements in the value of investments, a rise in the average rate of interest earned, and a lowering in the rate of mortality, the extent of which is as yet uncertain, although it is probably mostly to be ascribed to the younger ages. The most recent views on these factors are brought to a head in the premium rates proposed by Mr. Hooker, although the bonuses charged for in his rates are only 1 per cent on the sum assured, which in itself is just a little lower than is necessary probably to maintain the larger bonuses. These rates, however, calculated by formula, do give a fair idea of the average of the rates of premium at present demanded by life offices in this country. As regards non-profit policies, it will be noticed that a simple geometrical progression would represent them roughly, and is easily remembered, as follows—

Age 20, 30s. per cent; age 40, 60s. per cent; age 60, 120s. per cent.

As these figures depict an average, it will

be understood that some offices charge more and some less, and it is not without interest to note that one office at least is prepared to accept a premium that runs very close indeed to the  $O^{(m)}$  select net rate at  $3\frac{1}{2}$  per cent without any loading for expenses at all. This means that the office is able to secure lives so superior to those of the  $O^{(m)}$  select table, and to invest its funds at a rate of interest so much in excess of  $3\frac{1}{2}$  per cent that it can meet all expenses out of the margins derived in this way.

The earlier rates in the list have been taken from the *Insurance Guide and Handbook*, sixth edition, vol. II, page 66, which, with further particulars, also gives the references for the sources from which they have been assembled. Mr. Sorley's formula is stated by him in J.I.A. xxi, 194, to represent fairly the average with profits rates of his time. He showed that under contemporary conditions, the higher expense of new business as compared with renewals was nearly equivalent to the gain from mortality due to recent selection. His reasoning is based on the  $H^m$  table for mortality and initial expenses of one half of the first premiums. Dr. Sprague's formulæ have exercised great influence on insurance practice, even after the publication of further mortality experiences (British Offices Tables, 1893), and a discussion of their applicability will be found in an instructive paper on "Office Premiums" by Mr. Henry Moir, T.F.A., II, page 207, with a number of examples. The growing importance of initial expenses as compared with renewals necessitated some modifications in certain cases, and these are given effect to in the formulæ of Messrs. Rothery, Rietchel, and Hooker, which are subjoined for convenience—

#### FORMULA FOR OFFICE ANNUAL PREMIUMS WITHOUT PROFITS

T. B. Sprague,  $P_x' = 1.075 \left( \pi_{[x]} + \frac{\cdot 01}{a_x} + \cdot 00125 \right)$ , by  $H^{(m)}$  Select Table at 4 per cent.

H. J. Rothery,  $P_x' = \frac{A_x + \cdot 02}{92 a_{[x]} - \cdot 05}$   
by  $H^{(m)}$  Select Table at 4 per cent.

H. J. Rietchel,  $P_x' = 1.09 \pi_{[x]} + \cdot 00214$ , by  $O^{(m)}$  Select Table at  $3\frac{1}{2}$  per cent.

P. F. Hooker,  $P_x' = 1.06 \left( \pi_{[x]} + \frac{\cdot 02}{a_{[x]}} + \cdot 00175 \right)$ , by  $O^{(m)}$  Select Table at 4 per cent.

These formulae are founded upon the following considerations—

**Sprague**: An initial commission of 1 per cent, annual expenses of 2s. 6d. per cent, calculated upon the sum assured;  $2\frac{1}{2}$  per cent for renewal commission,  $2\frac{1}{2}$  per cent for renewal expenses, and  $2\frac{1}{2}$  per cent as a margin for contingencies, all calculated on the annual premium, the last mentioned being omitted in the case of with profit policies, and a bonus loading substituted.

**Rothery**: 2 per cent on the sum assured, 5 per cent on the first office premium, plus 8 per cent on each office premium (see J.I.A. xxx, 131).

**Rietchel**: 9 per cent on the premiums, plus .214 per cent on the sum assured (see J.I.A. xlv, 415). Neither of the latter formulae was suggested for general use, but as having a particular application. All the same, they have instructional value.

**Hooker**: In this, the initial allowance in Sprague's formula is increased to 2 per cent; a uniform 1s. per cent on the sum assured replaces the  $2\frac{1}{2}$  per cent of the premium to cover contingencies (dropped in the case of with profit policies), plus 1 per cent for early payment of claims (see *Journal of the Institute of Actuaries Students' Society*, II, 126).

(See also PREMIUMS and NET PREMIUMS.)

#### OFFICE SYSTEM.

(See LIFE OFFICE ORGANIZATION.)

#### OHIO STANDARD.

(See VALUATION METHODS.)

#### OM TABLE.

(See MORTALITY TABLES FOR ASSURED LIVES.)

#### OPTIC NEURITIS (Inflammation of the Optic Nerve).

It is caused by some irritant acting on the nerve. It is a common result of serious brain or meningeal trouble. It may be due to syphilis, nephritis, or other form of toxæmia (e.g. from the bowel). It may cause blindness, and, therefore, if progressive, is a bar to life assurance. If stationary and of old standing, and there are no signs or history of other intra-cranial trouble, the proposal may be accepted at ordinary rates. A full medical report is, of course, essential.

#### OPTION POLICIES.

(See GUARANTEED OPTION POLICIES.)

#### OPTIONS.

(See HISTORY OF LIFE ASSURANCE.)

#### ORCHITIS (Inflammation of the Testicle).

May be due to venereal disease (gonorrhoea or syphilis), tubercle, or to injury. It may be secondary to a cystitis. It sometimes follows infective fevers (e.g. mumps or scarlet fever).

Uncomplicated cases, due to injury or specific fevers, need not be penalized for life assurance.

Other cases have to be considered according to the causes. Reference, therefore, to the medical attendant must always be made, and cases in which an orchitis is present when the proposal is made must be subject to a medical examination.

#### ORGANIZATION.

(See LIFE OFFICE ORGANIZATION.)

#### ORGANIZATION, BRANCH OFFICE.

(See BRANCH OFFICE SYSTEMS.)

#### ORIGIN OF LIFE ASSURANCE.

(See HISTORY OF LIFE ASSURANCE.)

#### OSTEO-ARTHRITIS.

(See ARTHRITIS.)

#### OSTEOMYELITIS.

Inflammation of a bone including its medulla (marrow), caused by infection of a bone by septic or tubercle bacilli.

It may be acute or chronic.

The acute form is not likely to come under discussion in connection with a life proposal. It has a high rate of mortality in children, and operation is usually necessary for its cure.

A history of acute osteomyelitis is sometimes obtained. If of recent date, i.e. within two years, the proposal must be postponed owing to the possibility of a trivial injury or strain lighting up the inflammation again.

If there has been no sign of inflammation for two years, and the proposer is satisfactory in other respects, a life policy with a decreasing debt may be issued.

The chronic form frequently follows the acute, and the individual may be left with a persistent discharge from the bone for years. Such cases are not insurable.

In chronic cases, it is always necessary to exclude tubercle as a cause, as, if present, the case cannot be accepted.

**OTITIS MEDIA** (Inflammation of the Middle Ear).

It may be, and probably usually is, caused by infection spreading up from the throat via the eustachian tube. It is a common complication of scarlet fever, measles, and influenza.

It usually starts as an acute attack of pain in the ear (earache) followed by a discharge of pus from the ear, causing relief from the acute symptoms. This discharge may cease and the aperture in the drum from which it comes may close, but more frequently a chronic discharge (otorrhoea) results.

The dangers of otitis media and of otorrhoea are that the infection may continue to spread deeply and may give rise to a mastoiditis, or inflammation of the bone immediately behind the ear. This is followed by acute symptoms and necessitates operative treatment, as otherwise the infection may involve the base of the brain, with fatal results. Or infection may spread to

the veins of the skull and brain, causing septic thrombosis, a condition very likely to prove fatal.

It is thus clear that a proposer with a history of otorrhoea, otitis media, or mastoid disease (mastoiditis) must be treated with great caution, and only accepted after full medical evidence has been obtained and the chief medical adviser of the company consulted. Here it may be said that a recent attack, i.e. within two or three years, followed by persistent discharge from the ear is best declined, or postponed. In older cases, particularly if the condition has been present since childhood without any signs of progression, and with no symptoms of any sort, except the discharge, a proposal may be accepted with a slight increase of premium or, as is the custom of some offices, exclusion of this risk.

**OTORRHOEA.**

(See OTITIS MEDIA.)

**PAID-UP POLICIES.**

The description "paid-up policy" is applied to that amount of assurance payable at the same time and on the same conditions as the original policy that can be allowed by a life office when no further premiums are to be paid. As regards bonuses, some adjustment may be made, either as to amount or as to future participation in profits.

Dealing first with assurances for the whole of life by annual premiums, there are various

stant, a correction is made automatically for expenses of management and adverse selection by the assured. For the purposes of illustration, Dr. Sprague calculated a set of office premiums by the formula  $P'_x : 1.1 P_x + .001$  employing the O<sup>[M]</sup> table of mortality at 3½ per cent interest, and the following, taken from an extended series given by him, compares the paid-up policy so obtained with the full theoretical amounts on the O<sup>U</sup> 3 per cent basis, and also with the total premiums paid.

PAID-UP POLICIES. AGE AT ENTRY (30), SUM ASSURED £1,000, WITHOUT PROFITS

Duration	O <sup>m</sup> 3% net.	Office.	Total Premiums.	(3) (2)	Percentage.	(3) (4)
(1)	(2)	(3)	(4)	(5)	(6)	
5	154	114	10	74	111	
10	291	250	207	86	121	
15	412	374	310	91	121	
20	520	486	413	93	118	
30	695	669	620	96	108	
40	819	798	827	97	97	
50	899	883	1034	98	86	

methods of calculation available, based either on the surrender value or on the original sum assured, probably the most satisfactory being that developed by Dr. A. E. Sprague (T.F.A., III, page 201). This consists in granting a paid-up policy of

$$\left(1 - \frac{P'_x}{P'_{x+n}}\right)$$

for each unit of the original sum assured,  $P'_x$  being the usual office premium, for an assurance effected at age  $x$ . The rationale of this method is as follows: Assuming the assured to be in good health at age  $x + n$ , a new assurance can be effected

for  $\frac{P'_x}{P'_{x+n}}$  at the old premium, namely  $P'_x$ .

Consequently, the reserve under the policy should secure, theoretically, a paid-up policy

for  $\left(1 - \frac{P'_x}{P'_{x+n}}\right)$ . An adjustment to allow

for the comparatively heavy initial expenses accounts for the substitution of  $P'_{x+1}$  for  $P'_x$ , while by using office premiums based on select mortality tables, and loaded, as is customary, with a percentage plus a con-

The paid-up policies for other classes of assurance are derived on similar principles (and are exemplified in the paper above referred to) with the important exception of limited payments and endowment assurances. For these groups, a deviation from the strict theoretical method of calculating the paid-up policy has been caused by the growing popularity of a simple rule, whereby the amount is determined by simple proportion. Thus, if the original term for the payment of annual premiums be 20 years, then each annual premium paid secures automatically one-twentieth of the sum assured as a paid-up policy. The values so obtained are rather smaller than those on the theoretical basis, except for the older ages at entry, say above 50, and also under endowment assurances for a short term of years.

As to the granting of such policies generally, here, again, the practice of offices varies. Frequently two or three premiums must have been paid before the option can be exercised; in some cases the reduced policy does not share in future profits, although the original policy may have been participating; and while sometimes the

existing reversionary bonuses are transferred in full to the paid-up policy, they are reduced occasionally in the same proportion as the original sum assured.

#### PARAGUAY.

(See CLIMATIC RISKS.)

#### PARALYSIS.

(See HEMIPLEGIA; INFANTILE PARALYSIS; GENERAL PARALYSIS OF THE INSANE.)

#### PARLIAMENT, ANNUAL RETURNS TO.

(See BOARD OF TRADE, POWERS OF.)

#### PARMOOR COMMITTEE.

(See INDUSTRIAL ASSURANCE ACT, 1923; BOARD OF TRADE, POWERS OF; POST OFFICE LIFE ASSURANCE.)

#### PARTNERSHIP INSURANCE.

(See PARTNERSHIP POLICIES; JOINT-LIFE POLICIES; also CANVASSING LEAFLETS, page 121.)

#### PARTNERSHIP POLICIES.

The function of this class of policy is to provide a fund to replace capital which may have to be withdrawn from a business either on the death or retirement of a partner. The death of a partner may often necessitate paying out his share of the capital by the surviving partner or partners at a time when it may be inconvenient or disadvantageous to the business to find the money. Apart from this it may happen that the withdrawal of the special skill and knowledge of a working partner in a concern proves a source of loss to the survivors in the firm. Even in cases where it is arranged for the interest of a deceased partner to be paid out of profits over a number of years, the surviving partners' income may be affected during that period of time. In either case the course is to effect a partnership policy to provide against such contingencies. This is generally done by making the necessary premium a charge on the partnership profits. In this way the possibility of having to borrow, of realizing any portion of stock, or of incurring any temporary reduction of income to the survivors is avoided. There are a number of forms of policy covering partnership risks, and some carry several useful options which enhance the value of the scheme. The general method is to cover the contingencies by means of a special joint life policy and, of course, three or more partners can be covered. The most

general way is to effect a policy payable at the death of whichever partner may die first. In some cases the office issuing the policy undertakes at any time, whether on dissolution of the partnership or not, to exchange the policy for separate policies, one on each partner, for an equal proportion of the total sum assured. These separate policies are issued at the ordinary whole life rates for the ages at which the policy was originally effected, a very useful option. Such policies carry a definite surrender value. Alternatively, the whole life partnership policy may be by limited payments, so that the necessity of providing the premiums ceases after an agreed term of years. This form of policy carries the same option of exchange into separate policies. The surrender value naturally is higher than in the first case.

Where one or more partners have the intention of retiring at a certain age, and withdrawing capital accordingly, the policy can be taken on a joint-life endowment plan. This would replace a partner's capital at maturity when he retires or, of course, at his previous death. The cheapest form of partnership cover, however, and one which is sometimes the most useful in the early years of a partnership when a business is being built up, and the smallest possible call on its resources is desirable, is the effecting of a "convertible term" assurance for a fixed number of years. In the case of partners taking out a twenty-year convertible term assurance, for instance, the sum assured would be payable on the first death of either, if it should occur during the twenty years, whilst at any time up to five years before the expiration of the full term of the assurance the partners would have the right to convert the policy without undergoing any further medical examination. The policy may be converted in three ways to whole life or endowment policies, either with or without profits, the options available being as follows—

(1) The policy may continue on their joint lives for an amount not exceeding the original sum assured.

(2) It may be divided into separate policies on each life, the sum in each case not exceeding the original sum assured.

(3) A policy may be taken on the life of only one of the partners for an amount not exceeding the original sum assured.

Whichever option is exercised the premiums required for the converted policies would be the company's ordinary rates for

the ages attained by the partners at the date of conversion.

Where it is desired to cover temporary arrangements, policies for short terms, such as three, five, or seven years, can be effected, and such policies can be taken with the option that, should extended protection be required, they can be converted to ordinary whole life policies without further medical examination. Sometimes it proves more suitable for each partner to carry a single policy on his own life for the benefit of the partnership, and, in the event of the partnership coming to an end, each retains his own policy. In whatever way the object is achieved it is very desirable to cover all the risks of the partnership. In any event, such policies issued with options are very useful individual contracts in the event of a dissolution.

Specimen rates: Whole life partnership policy for £1,000, sum assured payable on death of the first of two lives—Annual premium for two partners aged 30 and 35, £30 19s. 2d. Two aged 35, £33 1s. 8d. Two aged 35 and 40, £36 2s. 6d.

Twenty-year limited payment policy—Ages 30 and 35, £38 7s. 6d. Two aged 35, £40 5s. Aged 35 and 40, £42 17s. 6d.

Twenty-year endowment—Ages 30 and 35, £47 15s. 10d. Two aged 35, £48 13s. 4d. Ages 35 and 40, £50 2s. 6d.

Twenty-year convertible term—Ages 30 and 35, £26 14s. 2d. Two aged 35, £28 13s. 4d. Ages 35 and 40, £31 18s. 4d.

Short-term convertible policy—Approximate premium for two partners aged 35 next birthday—three-year term, £18 10s.; five-year term, £19; seven-year term, £20 10s.

#### PEARL ASSURANCE COMPANY, LTD.

Chief Office: High Holborn, London, W.C.1. Founded in 1864.

This company was incorporated under Act of Parliament in 1864, and since then has made consistent and rapid progress. It

possesses a very powerful agency organization, both for ordinary and industrial life assurance, and opened a fire and general branch covering all miscellaneous classes of business in the year 1919. This is already making great progress.

In both ordinary and industrial branches valuations are made annually.

The company confines itself mainly to the issue of plain whole life and endowment assurances, on the usual tables, both in the industrial and ordinary branches, but there is also a policy combining accident and disease benefits, the amount of each being fixed according to the amount at risk under the life policy. The additional extra premiums are moderate. Policies are indisputable on any ground, save fraud and misrepresentation. They are issued free from restrictive conditions as to foreign residence, military or seafaring risk, and occupation.

#### PENALTIES.

(See ACCOUNTANCY DEPARTMENT.)

#### PENSION POLICIES.

Such policies are really forms of Deferred Annuity (*q.v.*), with variants, which make them rather more attractive. They secure a pension, payable either monthly, quarterly, half-yearly, or yearly, to commence on attainment of an agreed age, with the option of taking a cash sum at maturity. Under one plan the balance of the cash sum which would have been payable at maturity is paid to the representatives of the policyholder if he or she dies after the pension vests and before the equivalent of the cash sum has been received in instalments. Such policies may be effected either with or without return of premiums in the event of death before the pension age is reached. They may also be had including a life assurance feature to cover such a contingency, and also be made to include a total disability feature which provides for (a) waiving of

SPECIMEN ANNUAL PREMIUMS TO SECURE MONTHLY PENSIONS OF £10 TO COMMENCE AT 50, 55, OR 60.

Age nearest Birthday.	50		55		60	
	Without Return of Premiums					
	Males.	Females.	Males.	Females.	Males.	Females.
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
30	60 18 -	64 9 -	38 2 -	40 14 -	23 17 -	25 11 -
35	91 3 -	96 10 -	53 15 -	57 5 -	32 7 -	34 13 -
40	153 12 -	162 10 -	80 16 -	86 3 -	45 16 -	49 1 -
45	345 7 -	365 8 -	137 1 -	146 2 -	69 9 -	74 7 -

## With Return of Premiums

30	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
35	67 17 -	71 17 -	44 6 -	47 5 -	29 5 -	31 5 -
40	99 18 -	105 14 -	61 11 -	65 12 -	39 5 -	41 19 -
45	164 13 -	174 5 -	90 14 -	96 15 -	54 14 -	58 11 -
	360 7 -	381 5 -	150 - -	159 18 -	81 2 -	86 17 -

## OPTIONAL CASH SUM ON ATTAINING THE UNDERMENTIONED AGES

50		55		60	
Males.	Females.	Males.	Females.	Males.	Females.
£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
1,899 8 -	2,009 16 -	1,732 14 -	1,847 16 -	1,559 6 -	1,670 - -

premiums, and (b) payment of a monthly income equal to the pension provided for during disability until the policy matures.

Above are specimen annual premiums to secure a pension of £10 per month with the return of balance of cash option in the event of death after pension vests.

Under a second pension scheme, instead of deciding the age from which the pension is to become payable, the policy-holder has the option—subject to the pension age being at least ten years later than the age at entry—on reaching age 55, 60 or 65, to cease payment and enter upon the pension or take the cash payment due at either of these ages. For instance, a man aged 30 next birthday effecting a policy at an annual premium of £20 could, on reaching 55, cease payment and commence to receive a pension of £57 18s. per annum, payable half-

yearly, or take a cash payment of £714. If he decided to continue payment to age 60 his pension would then amount to £87 2s. per annum, and the cash payment to £930, or he could continue payment to 65, and then receive £130 14s. per annum, or £1,184 in cash. In the event of death before reaching the pension age all premiums paid, less the first, are returnable, with 3 per cent compound interest, or an equivalent amount may be claimed as surrender value in the event of discontinuance. After three years' payments have been made a paid-up policy, carrying proportional benefit, will be granted provided the proportionate pension amounts to not less than £10 per annum.

Amount of pension, commencing optionally at age 55, 60, or 65, and equivalent cash payment, which may be secured by each £10 per annum—

## PENSION AGE

## Males

Age next birthday	55		60		65	
	Pension.	Cash.	Pension.	Cash.	Pension.	Cash.
30	£ s. d.	£	£ s. d.	£	£ s. d.	£
35	28 19 -	357	43 11 -	465	65 7 -	592
40	21 7 -	263	33 7 -	357	51 9 -	465
45	14 15 -	182	24 14 -	263	39 8 -	357
	9 2 -	112	17 1 -	182	29 1 -	263

## Females

30	£ s. d.	£	£ s. d.	£	£ s. d.	£
35	26 8 -	357	39 - -	465	58 1 -	592
40	19 9 -	263	29 17 -	357	45 14 -	465
45	13 9 -	182	22 - -	263	35 - -	357
	8 6 -	112	15 5 -	182	25 16 -	263

The foregoing are two variants of schemes for providing a deferred annuity by means of periodical payments out of income.

The term "pension policies" is also sometimes applied to endowment assurances carrying an annuity option.

#### **PENSION SCHEMES, STAFF.**

(See **GROUP LIFE ASSURANCE**; **DEFERRED ANNUITIES**; **PENSION POLICIES**.)

#### **PERICARDITIS (Inflammation of the Pericardium).**

It may arise apparently spontaneously, but usually follows acute rheumatism, scarlet fever, pneumonia, or septicaemia.

The symptoms may be very slight or very profound, and may be accompanied by effusion of fluid, either clear or containing pus. If effusion is present, there will be marked symptoms of cardiac embarrassment, i.e. shortness of breath, palpitation, and pain in the chest. It frequently happens that a patient is quite unaware of any pericardial trouble until he undergoes a routine examination for life assurance, or the public services, when a pericardial "rub" is detected.

Pericarditis with effusion is a definite bar to the issue of any policy. In simple cases, without effusion, if there has been only one attack and no recent symptoms and if, in addition, the physical signs as disclosed by medical examination are slight, the case may be accepted with an increased premium provided there is no accompanying endocarditis.

All cases must necessarily be referred to a medical referee of experience, as a reasonably safe opinion can only be formed after an exhaustive medical examination inquiry.

If pericardial adhesions (i.e. adhesions between the heart and pericardium) are present, the case is uninsurable.

#### **PERINEPHRIC ABSCESS (Abscess Round the Kidney).**

The cause of this may be the infection of the tissues round the kidney from organisms in the bowel; renal calculus; spread of infection from the kidney to the surrounding tissues in cases of nephritis due to tubercle or other organisms.

A case with a history of this condition cannot, therefore, be accepted for life assurance without reference to the medical attendant, and then only if several years have elapsed since the attack, and the genito-urinary tract is perfectly normal.

All cases with such a history must be submitted to a medical examination, and an addition to the premium is usually necessary even in the most favourable cases.

#### **PERIODICAL MEDICAL EXAMINATIONS.**

**Life Extension in America.** In January, 1914, the Life Extension Institute of New York was organized for the purpose of developing a specialized organization for carrying on work upon the lines of periodical medical examination. It was organized on the basis of a self-sustaining public service with a board of one hundred advisers, and with the intention also of collecting data regarding personal hygiene. By 1917 there were twenty-three life insurance companies in America which were giving some form of periodic health examination to some of their policy-holders, and one company was giving periodic examinations to all its policy-holders as a policy provision. Since that date the tendency in America has been for more and more companies either to provide periodic medical examinations themselves, or to arrange for such examinations to be made at the expense of the company by the Life Extension Institute.

**Great Britain.** In the summer of 1923 the Legal and General Assurance Society announced that its future policy-holders would be entitled to a free periodical medical examination; and almost simultaneously the Wesleyan and General Assurance Society of Birmingham announced that past and present policy-holders alike, who were assured for at least one thousand pounds, would be given the offer of a free periodical medical examination once every two years.

The schemes of these two societies have this in common, that in both cases no charge whatever is made for the examination, and, of course, the offer is quite optional, each policy-holder being free to decide whether he will or will not avail himself of the opportunity to be overhauled. In other respects it is important to notice certain essential differences between the schemes of the two societies. That of the Legal and General is applied to policies of any amount, but the scheme was not made retrospective. The doctor who makes the medical examination reports to the company, and the company after perusing the report forwards it to the policy-holder. It will be clearly understood that no matter what may be discovered by the examination, the policy is not in any way affected. The scheme of

the Wesleyan and General Assurance Society was made retrospective, but at first only applied to those policy-holders who were insured for a total of at least one thousand pounds: however it has now been made operative upon the lower minimum of five hundred pounds. A more important distinction is that under the scheme of the Wesleyan and General the result of the medical examination and the report made thereon is entirely confidential between the doctor and the policy-holder. The latter is then in a position to take any steps he may consider necessary in the light of the report to prolong his life. The Society does not know what the medical examination reveals.

It is clear that people are at last recognizing that it is as necessary for them to be periodically examined by a doctor as it is for them to have their teeth periodically inspected by a dentist. In this connection it must be borne in mind that the man who will benefit most from the examination by the doctor is he who imagines himself to be perfectly fit. One concrete example will suffice to illustrate this point. A man 50 years of age, examined in a group of supposedly healthy workers as a matter of routine, claimed to be in good health and had no complaint except callouses on his feet. On examination, he was found to have a blood pressure of 220, his kidneys were advanced in disease, he had septic teeth and tonsils, his vision was defective, and he was wearing defective glasses, purchased at a shop.

Subsequent experience appears to indicate that the percentage of policy-holders who attend a second or third time for a medical overhaul is very high.

#### PERIODICAL RETURNS.

(See BOARD OF TRADE, POWERS OF.)

#### PERITONITIS.

(See GENERAL PERITONITIS.)

#### PERNICIOUS ANAEMIA.

(See ANAEMIA.)

#### PERPETUAL ANNUITY.

(See PERPETUITY OR PERPETUAL ANNUITY.)

#### PERPETUITY OR PERPETUAL ANNUITY.

This is an annuity which is interminable, and instalments thereunder are usually

payable annually. There is one instance, however, namely, the value of future fines for the renewal of a lease (in Scotland known as duplicands of feu duty) which partakes of the nature of a perpetuity, but payments of the fine are only due perpetually at intervals of several years corresponding to the length of the lease or feu.

If a period is to elapse before the perpetuity is to be entered upon, it is then known as a *deferred perpetuity*, and, again, if the first payment of such perpetuity falls due immediately the perpetuity is granted, it is known as a *perpetuity due*.

The most common example of perpetuity is an irredeemable stock or perpetual debenture, and Consols constitute a perpetuity of 2½ per cent (payable quarterly) until the option to redeem the same is exercised by the Government. Sheffield Water Progressive Annuities are another example.

The only redemption right an investor or purchaser of a perpetuity commands is the sale in the open market, but in several cases of otherwise irredeemable bonds and loans, provision is made for independently setting aside an internal sinking fund with a view to ultimate redemption, but in such cases the actual amount of the perpetuity is not affected, that is to say, no part of the income received by the investor can be considered as constituting repayment of principal for the sum invested in the same way as under an ordinary annuity.

(See also ANNUITIES.)

#### PERSONAL SECURITY LOAN POLICIES.

(See LOAN (PERSONAL SECURITY) POLICIES.)

#### PERU.

(See CLIMATIC RISKS.)

#### PETIT MAL (Minor Epilepsy).

(See EPILEPSY.)

#### PETTY CASH BOOK.

(See CASH DEPARTMENT.)

#### PHARYNGITIS (Inflammation of the Pharynx).

Its cause may be cold or exposure; infection from septic organisms; or irritation from drinking or smoking to excess.

A past history of one or two attacks of pharyngitis is of very little, if any, importance in life assurance, but the chronic form may be of importance in indicating some

chronic nasal infection, a septic condition of the mouth and teeth, or it may be a sign of excess in smoking or drinking. These points can only be cleared up after a complete medical examination.

If the signs of a chronic pharyngitis are marked when the proposal is made, the case should be postponed. Slight cases, with no other adverse indications, may be accepted at normal rates.

#### PHŒNIX ASSURANCE COMPANY, LTD.

Chief Office: King William Street, London, E.C.4. Allied Companies: The Union Marine Insurance Co., Ltd., London Guarantee and Accident Co., Ltd., etc.

Founded 1782.

In 1680 the first Phœnix Insurance Company was formed, the "Phœnix" being adopted for its badge, although its official name was "The Fire Office." James II granted this company a charter in 1688, and in 1705 it adopted the title of "Phœnix," and ultimately closed its books in 1760.

The existing company commenced business in 1782, and at once took over the badge of its predecessor in addition to its earlier name, being known as the "New Fire Office." It was promoted by the sugar refiners of London as a protest against the high rates charged by the two insurance offices who were willing to underwrite their risks. Efforts were made to obtain a Royal Charter, a petition to George III being lodged in May, 1782. Competing companies, however, successfully opposed the grant of the charter, and the company decided to work under a deed of settlement. The directors were not satisfied with the name of the company, many alternatives being considered, and in the formal deed of settlement the name was entered as "Ye New Fire Office or Phœnix Society." This was in June, 1783, but in May, 1785, it was decided "that in the next edition of the policies the form of the office do stand thus—The Phœnix Assurance Company or New Fire Office in London."

In the nineteenth century the company developed rapidly, acquiring the business of the Herts, Cambridge and County Fire Office, and the Berkshire and Gloucestershire Office in 1831, and that of the Protector Fire Office in 1836.

As early as 1785 the question of undertaking life assurance was considered, and in 1797 premises were purchased, and the Pelican Life Insurance Company was formed, shares being offered *pro rata* to the

Phœnix shareholders. The name referred to the "Pelican in her Piety" of the early Church, sacrificing her life blood for the benefit of her nestling brood, and was an appropriate embodiment of the idea that has made life assurance so widely esteemed.

The Pelican followed the practice of the Phœnix by absorbing the Manchester Office in 1846. In 1903 it took over the "British Empire Mutual Life Assurance Co.," and was renamed the "Pelican and British Empire Life Office." In 1907 it was realized that the "Phœnix" and the office with which it had always been closely associated had been apart long enough, and as from 1st Jan., 1908, the Life Office was amalgamated with, and became part of, the "Phœnix."

The company had commenced accident business also in 1907, and in 1910 extended its life connection by taking over the Law Life Assurance Society. In the same year the underwriting of marine risks was first undertaken, and in 1911 the shares of the Union Marine Insurance Company, Ltd., were purchased, and control of that important company secured. In 1922 the company acquired a majority of the shares of the London Guarantee Accident Co., Ltd.

The business had reached large proportions, and had outgrown the Lombard Street Office. A site having been purchased in King William Street, the present offices were erected, and they were ready for occupation in 1915.

#### PHTHISIS.

(See TUBERCULOSIS.)

#### PILOTS, AIR FORCE.

(See OCCUPATION RISKS.)

#### PIONEER LIFE ASSURANCE COMPANY, LTD.

Chief Office: 67 Dale Street, Liverpool. Founded 1891 for life assurance of various kinds.

The company was founded with the object of transacting ordinary life and accident business only, but with the advent of Mr. J. Redman Ormerod as manager, in 1898, industrial life assurance was begun, and now forms the greater part of the company's operations.

"With profits" policies are not issued, with the exception of certain endowment policies which confer a guaranteed bonus of £2 per cent per annum. Most of the ordinary branch policies issued by the

company carry a disablement benefit which provides that in the event of the loss of two limbs or two eyes or one limb and one eye by accident, all premiums shall cease, the assurance remaining in force as a paid-up policy for the full amount, which becomes payable at death or maturity.

The basis of the actuarial valuation of the industrial branch has been very considerably strengthened in recent years.

There is a small accident branch, all risks under which are re-insured.

#### PLEURISY (Inflammation of the Pleura).

This may be tubercular or due to pneumonia or simple exposure to cold. All cases must be regarded with suspicion as, although some cases occur in which pleurisy shows itself on only one or two occasions, and the patient afterwards shows no sign of any lung trouble, in many cases a pleurisy is only an early sign of tubercle. In order to distinguish between these cases many factors have to be considered, and the most important of these are—

1. The nature of attacks that have occurred.
2. The date of the last one.
3. The family history.
4. The general condition of the patient both from the point of view of his physique and of his lungs in particular.
5. His occupation.

The significance of each factor may be of the greatest importance, and in some cases the comparative insignificance of each individually may amount to some seriousness when taken together.

1. The nature of the attacks is of obvious importance. A single attack may be of no significance, whereas repeated attacks are gravely suggestive of tubercle.

2. The date of the last onset is of greater importance. No proposer with a history of recent pleurisy, i.e. within two years, should be accepted. The case must be postponed. In cases of less recent date, provided the medical examination is satisfactory, policies may be issued loaded with an initial but decreasing debt, or at an increased premium.

Cases in which effusion of blood has occurred or in which there has been an empyema, unless many years have elapsed, are uninsurable, or must be postponed for one or two years.

3. All cases in which a history of pleurisy in the proposer is associated with a family history of tubercle must be declined. Cases in which the pleurisy followed or

accompanied a definite attack of pneumonia may be accepted, subject to a satisfactory medical examination.

(See EMPYEMA.)

#### PNEUMONIA (Acute Lobar).

This is an acute affection of the lungs caused by the pneumococcus. The disease is sudden in onset, and terminates either fatally or by a sudden crisis in seven to ten days.

Apart from its immediate danger to life, pneumonia may affect the longevity of a patient in several ways. This is due to the complications which may occur, viz., pleurisy, endocarditis, pericarditis. A case with a history of pneumonia must, therefore, be subjected to a careful medical examination to exclude such complications, for with these present the case may be uninsurable. It must also be borne in mind that a history of pneumonia, either in the personal or family history, may be a misnomer, and the patient may be innocently hiding a history of phthisis. Such cases must, therefore, be closely scrutinized; but, subject to a careful medical examination, may be accepted at ordinary rates.

#### POISONING.

(See OCCUPATION RISKS.)

#### POLAND.

**Regulations Affecting Insurance Companies.** Foreign companies, on obtaining a concession to transact business in Poland, pay a fee of 5 per cent on the working capital fixed for Polish business. The deposit for life assurance is Zloty 400,000; for fire insurance, Zloty 300,000; other classes, Zloty 200,000. In cases where several classes of insurance are combined the joint deposit may be reduced, the minimum being Zloty 500,000. These deposits, in Polish State securities, are to be lodged with the State bank. Foreign companies pay a stamp duty of 3 per cent of the premiums, and 1 per cent of the sums assured on paid claims. The offices of the State supervision authority are Panstwowego urzedu Kontroli Ubezpieczen, Ulica Nowy Swiat 69, Warsaw. By a recent decree the deposit for transport business is Zloty 200,000. At the end of the first business year the company must deposit 25 per cent of the premiums from transport business, and within four months from the end of each subsequent financial year report to the Insurance Department, which will decide on the amount to be deposited.

**POLICE MUTUAL ASSURANCE SOCIETY.**

Head Office: 161 Corporation Street, Birmingham.

Commenced operations 16th January, 1922. A development of the Police Mutual Assurance Association, established 1866.

The Society's endowment scheme is only available for serving members of the police services of Great Britain and the wives of such men. It is managed by police officers, acting under actuarial advice. The Society is registered as a friendly society under the Act of 1896.

The premiums are fixed on a basis of a yearly premium of £2 12s., payable by weekly instalments of 1s., and the sums assured vary according to the age at entry and the number of years during which the endowment assurance has to run.

No medical examination is required in the cases of the male lives for assurances in accordance with this table. Larger or smaller insurances may be effected up to a maximum of £300, but for larger sums than those provided by 1s. per week the committee of management may require medical evidence.

With regard to female lives there has to be either a satisfactory declaration of health or a medical certificate.

Valuations are made at the end of every five years. Police officers of all ranks, from Constable to Chief Constable, are eligible for election to the Committee of Management. The Society is carrying out a very useful purpose in a very economical manner.

**POLICIES, NUMERICAL INDEX.**

(See BRANCH OFFICE SYSTEMS.)

**POLICIES OF ASSURANCE ACT, 1867.**

(See ASSIGNMENT; and TITLE, PROOF OF.)

**POLICIES, VALUATION OF.**

(See VALUATION METHODS; WINDING-UP.)

**POLICY DEPARTMENT.**

(See NEW BUSINESS DEPARTMENT.)

**POLICY ENDORSEMENTS.**

(See ENDORSEMENTS ON POLICIES.)

**POLICY FORM AND CONDITIONS.**

In the definition of life assurance given in Sect. 30 of the Assurance Companies Act, 1909, the following words appear: "(a) 'Policy on human life' shall mean any instrument by which the payment of money

is assured on death (except death by accident only) or the happening of any contingency dependent on human life, or any instrument evidencing a contract which is subject to payment of premiums for a term dependent on human life; (b) where the company grant annuities upon human life, 'policy' shall include the instrument evidencing the contract to pay such an annuity, and 'policy-holder' includes 'annuitant.'"

Although the word "policy" is defined by Act of Parliament, the companies are under no legal requirements as to the form that the policies shall take. These documents being, however, written in the language of the assurance company, any ambiguity in the wording will be construed against the office, and consequently, although very few companies use identical forms, it will be found that almost all life assurance policies are expressed with great clearness.

Policy forms may be divided into two main classes—

(a) Those in which the particulars relating to the assurance are included in the body of the policy, and

(b) Those in which the particulars are placed in a framework that is incorporated by reference in the policy.

At the present time most of the companies issue the latter type of policy, known as "the schedule policy," the advantages of which may be summarized in the following words—

(i) Repetitions in the wording are avoided.

(ii) The intention of the policy can be more easily ascertained, the whole document being much clearer owing to the avoidance of repetitions.

(iii) A smaller number of different types of form are required, as variations can be given effect to more readily.

(iv) A considerable saving in clerical labour is effected, as the particulars can be expressed more concisely in the schedule than in the spaces left in the older type of form.

The schedule type of policy has nearly always the same characteristics, slight modifications being necessary, of course, in forms relating to fundamentally different classes of assurance. The following is an outline of the main features of a schedule policy, and relates in particular to a with-profit assurance in connection with which there has been a medical examination.

1. The name of the company or society, the principal place of business, the policy number, and a short description of the

policy appear at the head of the document, together with, in the case of a proprietary company, short particulars as to its capital.

A perusal of the policy form of any company will show that where the subscribed capital is indicated the paid-up capital is also shown—this procedure is compulsory under Sect. 12 of the Assurance Companies Act, 1909. Immediately after the principal place of business will usually appear a note to the effect that in pursuance of "The Policies of Assurance Act, 1867," all notices of assignment must be sent to that address alone. The policy number and a very brief indication as to the policy, e.g. "endowment assurance with profits," is usually given in the heading for convenience.

2. The wording of the policy commences with a preamble referring to the proposal and the declaration, and incorporates them in the policy, together with the answers made to the medical examiner. If it be desired that any other matters shall be the subject of warranty, they must also be included in the policy.

3. Next follows the statement of the contract. This usually states that the first premium has been paid, and recites that if the subsequent premiums (if any) as set out in the schedule be paid, the company will, upon proof of the happening of the event referred to in the schedule, pay the sum assured named in the schedule. This recital usually includes also any other conditions or requirements precedent to the payment of the claim, such, for instance, as proof of age and title, and how the policy would be affected if the age had been incorrectly stated. Any clause limiting the liability of the directors or shareholders or a statement showing which funds are liable for the carrying out of the contract would also be included in this part of the policy, as well as, in the case of a mutual office, any clause admitting the life assured a member of the society.

4. The next section is usually devoted to a clause incorporating the schedule and the regulations or conditions endorsed on the policy in the contract, and it is convenient to include here any necessary reference to participation in profits.

5. Then follows the schedule, which consists of a framework with printed headings and spaces for filling in the necessary particulars of the contract. The actual headings used by the various offices are not always the same, but the information

designed to be given in the spaces does not usually vary.

6. The signatures appear, as a rule, beneath the schedule, and the remainder of the form is devoted to the conditions or regulations.

The specimen policy form on page 394 will give an indication of the general outlines of a schedule policy.

The general conditions to be found on policies are required for three purposes; firstly, to give further information about the contract; secondly, to restrict the assurance; and, thirdly, to give certain benefits not otherwise mentioned in the policy.

Conditions giving further information about the contract are not always present. One that appears fairly frequently, however, relates to jurisdiction. Offices that are generous with regard to their rules as to occupation and residence will often include a condition that will come under this heading, i.e. a clause stating that, unless otherwise stated, the policy is free from all restrictions as to residence or occupation, either at once or after a certain date.

Conditions inserted with the object of restricting the assurance usually relate to the following subjects: suicide, occupation, naval or military service or service in the Royal Air Force, and foreign residence or travel.

**Suicide.** Many policies contain a clause providing that if suicide occur within a specified time, which varies from six months to five years, the policy shall be void, except for the *bona fide* interests of third parties.

**Occupation.** The majority of offices now make no restrictions with regard to residence or occupation if the life is not incurring any extra risk on these accounts at the inception of the assurance, and has no prospects of doing so. Some, however, require notice and the payment of an extra premium if an occupation is engaged in more hazardous than the life assured's occupation at the time when the policy was effected. Again, some offices impose this restriction, but remove it after the assurance has been in force for a certain period. A few of the offices specifically refer to the liquor trade and aviation, and provide for the payment of extra premiums if the life assured shall engage in either of these occupations.

**Naval and Military Service, and Service with the Royal Air Force.** In the case of civilians who at the time of assuring have no prospect of entering these services, many offices place no restrictions, but a few provide

.....ASSURANCE COMPANY, LTD.

Established.....

Head Office.....

Being the principal place of business to which alone notices of assignment may be sent in pursuance of The Policies of Assurance Act, 1867.

Policy Number..... Assurance with profits.

WHEREAS the Assured named in the schedule hereto is desirous of effecting an assurance with the \_\_\_\_\_ Assurance Company, Ltd. (hereinafter called "the Company"), and has signed and caused to be delivered to the Company the proposal and declaration mentioned in the Schedule, such proposal and declaration and also the answers made to the Company's medical examiner being hereby declared to be the basis of the contract between the Company and the assured.

And whereas the Assured has paid to the Company a first premium of the amount stated in the Schedule.

Now this policy witnesseth that in consideration of the payment of the subsequent premiums (if any) as provided by the Schedule the Company will subject as hereinafter mentioned pay the sum assured mentioned in the Schedule upon proof satisfactory to the Directors having been received as to (1) the correctness of the age mentioned in the Schedule, (2) the happening of the event in respect of which the sum assured is stated in the Schedule to be payable, and (3) the title of the applicants.

Provided that if it be proved that the age as stated in the Schedule has been understated the Company shall pay such an amount only as would have been payable in respect of the premiums actually received if the age had been stated correctly.

Provided always and it is hereby declared that the Schedule and all the conditions endorsed hereon are to be deemed part of this policy and of the contract made between the Company and the Assured and that this policy confers the right to participate in any profits declared to be divisible during its currency amongst the participating policy-holders in such manner and to such extent as may be prescribed by the Regulations of the Company in force from time to time.

SCHEDULE

The Assured.		
The Life Assured.		
Date of proposal and declaration.		
Age next birthday of the Life Assured as stated in the proposal and declaration, and whether admitted or not.		
Sum Assured.	Amount.	
	To whom payable.	
Event on the happening of which the sum assured is to become payable.		
Premium.	Amount.	
	Date or dates when payable.	
	Period during which payable.	
Special conditions.		

In witness whereof I, being one of the Directors of the Company have hereunto set my hand this.....day of .....One thousand nine hundred and .....

.....Director

for the payment of an extra premium should the life assured subsequently engage in one of these professions.

**Foreign Residence and Travel.** A large number of offices impose no restrictions if the life assured has no prospect of going abroad, whilst a few provide for the payment of an extra premium if the life assured go outside the "Free Limits of Residence," but arrange for the provision to be cancelled after, say, five years from the outset if the life assured has attained age 30 and has not been outside the "Free Limits."

The conditions giving additional benefits are those relating to surrender values and paid-up policies, days of grace, non-forfeiture and reinstatement of lapsed policies.

**Surrender Values and Paid-up Policies.** Almost all policies that carry surrender values and paid-up policy values include a condition relating to them. Some conditions merely state that the policy has a surrender value, or may be converted into a paid-up assurance for a reduced amount, after a certain number of premiums have been paid; others state minimum amounts, whilst some include actual figures appropriate to the policy.

In the case of participating policies, the mode of treatment as regards future profits in the event of conversion into a paid-up assurance is often indicated; and where proportionate paid-up policies are allowed, the method of calculation is stated as a rule.

**Days of Grace.** As a policy is drafted the premiums must be paid on the due date. It is an almost invariable practice, however, to allow 30 days of grace for the payment of each renewal premium, and the intention is that, if the premium is paid within this period, no interest or fine shall be charged, and that, even if the event on the happening of which the sum assured is to become payable occur, no bar will be raised to the payment of the premium. A condition embodying this privilege will be included in the policy.

In connection with the renewal of an assurance it should be noted that no provision is made in the policy for the issue of a reminder to the policy-holder. Whilst the offices maintain that the issue of renewal notices is an act of grace, it is an almost universal practice to issue such a notice when each renewal premium becomes due, and an office will usually accept instructions from a policy-holder as to whom renewal notices are to be sent.

**Non-forfeiture.** The principle of non-forfeiture is, broadly speaking, that if a policy has any value for the purpose of surrender the policy-holder shall not immediately lose the benefit of assurance because of inability to pay a premium within the days of grace. Should death occur during the non-forfeiture period, the sum assured would be paid after deduction of the overdue premiums with interest, and possibly a fine. Almost all offices include a condition providing for a benefit of this nature, but the actual schemes vary considerably in detail. They may, however, be roughly grouped as follows—

1. The surrender value, less any loan and interest, is applied to keep the assurance in force for the full sum assured for one year (from the renewal date in some cases, and from the end of the days of grace in others) or, if the surrender value be insufficient, for such period as it will cover. At the end of the period the balance of the surrender value is either held at the disposal of the policy-holder for a certain period or, in the case of some companies, applied to secure a non-participating paid-up policy.

2. Loans are granted year by year to pay the amounts due, interest at varying rates being charged on the sums advanced. The surrender value increases in the normal way with each premium paid, and the non-forfeiture period continues until the surrender value is insufficient to afford security for any further loan.

3. The surrender value, less any loan and interest, is utilized to keep the assurance in force for such a period as the amount available will cover. For instance, if the surrender value, less any loan granted and interest, equals  $A$ , and the annual premium under the policy is  $P$ , then the assurance is kept in force for  $\frac{A}{P}$  years. The policy-holder does not have the advantage of the increasing surrender value as in (2), but on the other hand he is not charged interest in respect of the portions of surrender value used in paying premiums.

4. This method, which only applies to whole of life assurances, subject to a limited number of premiums, endowment assurances, double endowment assurances, pure endowments, and a few other types of policy under which the maximum number of premiums is definitely fixed at the outset, is to convert the policy automatically at the end of the days of grace, if the premium be unpaid, into a paid-up policy for such a

proportion of the original sum assured as the number of premiums paid bears to the maximum number originally payable.

Non-forfeiture schemes on the lines of (1) aim at keeping the assurance in force for a reasonable period to enable the policy-holder to rectify any omission to pay the premium or to surmount any financial difficulties. Arrangements similar to those outlined in (2) and (3) have for their object the continuance of the policy for the full sum assured for as long a period as possible, whilst under method (4) the assurance is kept in force for a reduced amount for the whole of the original term. It is impossible to pronounce any judgment upon the respective merits of the methods, as the suitability of any particular scheme depends entirely upon the circumstances of each individual policy-holder.

**Reinstatement of Lapsed Policies.** It will generally be found that provision is made in a policy for the reinstatement of the assurance should the premium be not paid within the days of grace. The majority of offices stipulate that the critical event shall not have occurred, although a few do not. The time during which reinstatement will be allowed will usually depend upon the particular type of non-forfeiture condition adopted by the company. In the case of scheme (1) it will be seen that this particular type of non-forfeiture automatically restricts the period of reinstatement to one year owing to the necessity of maintaining the surrender value intact thereafter. A similar reason prevents any extended period being allowed at all in the case of a policy having a non-forfeiture regulation on the lines of method (4). Except under policies having non-forfeiture conditions of this latter type and, of course, policies such as term assurances which carry no surrender values, offices will usually allow reinstatement within a period of twelve months from the end of the days of grace, and those companies having non-forfeiture conditions similar to methods (2) and (3) will generally allow policies to be reinstated during any further periods for which they may be kept in force under the non-forfeiture condition.

The practice with regard to requiring evidence of health at the time of reinstatement varies considerably, some offices insisting upon such evidence at any time after the expiry of the days of grace. Most companies, however, waive any evidence for a year after the end of the days of grace, but if reinstatement be contemplated there-

after it is not infrequently the practice to insist on a medical examination or some satisfactory proof of health.

Provision is always made for the payment of interest (the rate being usually 5 per cent per annum) on the overdue premiums in the event of reinstatement, and sometimes a fine in addition.

(See also SURRENDER VALUES AND LAPSED POLICIES.)

#### **POLICY FORMS (ANNUITIES).**

(See ANNUITY PROPOSAL AND POLICY FORMS.)

#### **POLICY FORMS (INDUSTRIAL ASSURANCE).**

(See INDUSTRIAL ASSURANCE: POLICY FORMS; and INDUSTRIAL ASSURANCE ACT, 1923.)

#### **POLICY, GROUP LIFE.**

(See GROUP LIFE ASSURANCE.)

#### **POLICY-HOLDERS, ALPHABETICAL LIST.**

(See LIFE OFFICE ORGANIZATION; BRANCH OFFICE SYSTEMS.)

#### **POLICY-HOLDERS' INDEX.**

(See LIFE OFFICE ORGANIZATION.)

#### **POLICY-HOLDERS, RIGHTS OF.**

(See ASSURANCE COMPANIES ACT, 1909.)

#### **POLICY LOAN INTEREST.**

(See ACCOUNTANCY DEPARTMENT; also INCOME TAX.)

#### **POLICY, LOSS OF.**

(See LOST POLICIES.)

#### **POLICY REGISTER.**

(See LIFE OFFICE VALUATIONS.)

#### **POLICY RESTRICTIONS.**

(See FREEDOM OF POLICY FROM RESTRICTIONS; and LICENCES TO TRAVEL OR RESIDE ABROAD.)

#### **POLICY, RULE FOR VALUING.**

(See WINDING-UP.)

#### **POLICY VALUES.**

In the article on the theory of annuities and assurances, it is explained that at the inception of a life assurance there is

equality between the present value of the benefits and of the premiums. So soon, however, as the policy has acquired a duration, this equality is disturbed. An inspection of a life table will show that at all adult ages the rate of mortality increases year by year with the age. Hence with any assurance by uniform annual premiums, the premiums paid during the early years must be larger than the corresponding claims, in order that there may be something in hand to meet the inevitable increase in the death rate later on. This balance in hand is known as the policy value.

Suppose that a whole life policy was effected  $t$  years ago on a life then aged  $x$ , and that a premium is just due, what should be the policy value  ${}_tV_x$ ? As the life is now aged  $x + t$ , the value of the sum assured is  $A_{x+t}$ . The value per unit of the future premiums is  $a_{x+t}$ , and, as the policy was effected at a premium  $P_x$ , the value of the future premiums is  $P_x \times a_{x+t}$ . The difference between the value of the sum assured and the value of the premiums is the amount the office must have in hand, i.e.

$${}_tV_x = A_{x+t} - P_x \cdot a_{x+t} \quad (1)$$

This is known as the net premium policy value, since it takes no account of office expenses, and the line of reasoning by which it is arrived at is called the prospective method, since it looks forward from the time of valuation. As, however, the policy value can only have been built up by accumulating premiums paid in the past, less claims that have arisen, it is evident that looking backwards towards the beginning of the policy should lead to the same result.

Now since  $v^t p_x$  is the present value of an endowment payable only if ( $x$ ) survive  $t$  years,

hence  $\frac{1}{v^t p_x}$  is the endowment in  $t$  years

secured by a payment of 1. As the present value of the first  $t$  premiums under the policy was  $P_x \cdot a_{x:t}$ , the value after  $t$  years is

$\frac{P_x \cdot a_{x:t}}{v^t p_x}$ . Again, the value of the first  $t$

years' claims was  $A_{x:t}$ ; the accumulated

amount of this is  $\frac{A_{x:t}}{v^t p_x}$ . Hence, from this

point of view,

$${}_tV_x = \frac{1}{v^t p_x} \left( P_x \cdot a_{x:t} - A_{x:t} \right) \quad (2)$$

$$\text{and this} = \frac{1}{v^t p_x} \left[ P_x \cdot (a_x - v^t p_x \cdot a_{x+t}) - (A_x - v^t p_x A_{x+t}) \right]$$

$$= A_{x+t} - P_x \cdot a_{x+t}, \text{ as before, since } P_x \cdot a_x = A_x.$$

On similar lines may be derived the values of other classes of assurance. Thus for an endowment assurance of  $n$  years' term,  $t$  years in force, the prospective value is

$${}_tV_{x:\overline{n}} = A_{x+t:\overline{n-t}} - P_{x:\overline{n}} \cdot a_{x+t:\overline{n-t}} \quad (3)$$

and by the retrospective method,

$${}_tV_{x:\overline{n}} = \frac{1}{v^t p_x} \left( P_{x:\overline{n}} \cdot a_{x:t} - A_{x:t}^1 \right) \quad (4)$$

the identity of which can be shown similarly.

Both whole life and endowment assurances may be subject to annual premiums payable for a limited number of years, say,  $h$  ( $h > n$ ). Then, by the prospective method—

$${}_tV_x = A_{x+t} - {}_kP_x \cdot a_{x+t:k} = A_{x+t} \text{ when } t \geq k \quad (5)$$

$${}_tV_{x:n} = A_{x+t:n-t} - {}_kP_{x:n} \cdot a_{x+t:k-t} = A_{x+t:n-t} \text{ when } t \geq k \quad (6)$$

and by the retrospective method

$${}_tV_x = \frac{1}{v^t p_x} \left( {}_kP_x \cdot a_{x:t} - A_{x:t}^1 \right) \text{ which} \\ = \frac{1}{v^t p_x} \left( {}_kP_x \cdot a_{x:t} - A_{x:t}^1 \right) \text{ when } t \geq k \quad (7)$$

$${}_tV_{x:n} = \frac{1}{v^t p_x} \left( {}_kP_{x:n} \cdot a_{x:t} - A_{x:t}^1 \right)$$

$$\text{which becomes } \frac{1}{v^t p_x} \left( {}_kP_{x:n} \cdot a_{x:t-k} - A_{x:t-k}^1 \right)$$

$$\text{when } t \geq k \quad (8)$$

**Fractional Durations.** To determine the values of policies, subject to annual premiums, at periods intermediate to the premium dates, it is usual to adopt a first difference interpolation between the policy values at the beginning and at the end of the year of duration. For a whole life policy by

annual premiums, duration  $t + \frac{1}{s}$ , the  $(t + 1)$ th premium was paid at the beginning of the year, and hence the value then was  ${}_tV_x + P_x$ , the value at the end of the same year of duration, just before the next premium falls

due, being  ${}_t+1V_x$ . Thus the value required

$$\begin{aligned}
 t \times \frac{1}{s} V_x &= ({}_tV_x + P_x) + \frac{1}{s} [ {}_t+1V_x - \\
 &({}_tV_x + P_x) ] \quad \dots \quad (9) \\
 &= {}_tV_x + \frac{1}{s} ({}_t+1V_x - {}_tV_x) \\
 &+ \left( 1 - \frac{1}{s} P_x \right) \quad \dots \quad (10)
 \end{aligned}$$

Considering this result, it will be noticed that starting the year of duration with the value  $({}_tV_x + P_x)$ , this value is *increased* during the year by a proportion of  $({}_t+1V_x - {}_tV_x)$ , and *decreased* by a corresponding proportion of the premium  $P_x$ .

From another point of view, to the value obtained by interpolating between  ${}_tV_x$  and  ${}_{t+1}V_x$ , there must be added a proportion of the annual premium corresponding to that portion of the year still to run before another premium falls due. In other branches of insurance this adjustment is the reserve for unexpired premiums.

**Selection.** If policies are valued by select tables then the formulae require to be modified suitably. Thus formula (1) becomes

$${}_tV_x = A_{[x]+t} - P_{[x]} \cdot a_{[x]+t} \quad \dots \quad (11)$$

if the duration  $t$  is less than the period during which selection is allowed for, or

$${}_tV_x = A_{x+t} - P_{[t]} \cdot a_{x+t}$$

for more extended durations.

**Variations in Policy Values.** To consider the causes of changes in policy values, formula (1) may be transformed,

$$\begin{aligned}
 {}_tV_x &= A_{x+t} - P_x \cdot a_{x+t} \\
 &= 1 - d \cdot a_{x+t} - P_x \cdot a_{x+t} \\
 &= 1 - \frac{a_{x+t}}{a_x}
 \end{aligned}$$

Hence changes in policy values depend upon changes in the relation between the values of annuities at different ages.

If the rate of mortality above age  $x+t$  be increased, remaining constant below

that age, the ratio  $\frac{a_{x+t}}{a_x}$  diminishes in value

and  ${}_tV_x$  increases in consequence. In other words, if a higher mortality relatively is to be expected after age  $x+t$ , a larger provision must be made for it, calling for an increased policy value. The converse argument equally applies.

The relation between the policy values

of two mortality tables I and II is defined as follows—

$${}_tV_x^I > < {}_tV_x^{II}$$

according as  $1 - \frac{a^I_x + t}{a^I_x} > < 1 - \frac{a^{II}_x + t}{a^{II}_x}$

$$\frac{a^{II}_x + t}{a^{II}_x} > < \frac{a^I_x + t}{a^I_x}$$

$$\frac{a^I_x}{a^{II}_x} > < \frac{a^I_x + t}{a^{II}_x + t}$$

By forming, therefore, a table of ratios at each age of the annuity values by each table, inspection will show those ages at entry and durations of assurance for which the policy values by one table exceed those by the other table.

Since  $a_x = a_x:\bar{i} + v^t p_x \cdot a_{x+t}$ , we may write

$${}_tV_x = 1 - \frac{a_x:\bar{i}}{a_{x+t}} + v^t p_x$$

As  $a_x:\bar{i}$  and  $v^t p_x$  affect only the mortality prior to the date of valuation  $t$ , and  $a_{x+n}$  only the mortality afterwards, it appears that if the mortality rises up to age  $x+t$ , the reserve is decreased; while if the mortality rises after age  $x+t$ , the reserve is increased. E.g. if the mortality rises after age  $x+t$ ,

then  $a_{x+t}$  will be diminished;  $\frac{a_x:\bar{i}}{a_{x+t}}$  will be

increased;  $\frac{a_x:\bar{i}}{a_{x+t}} + v^t p_x$  will be diminished,

and hence  $1 - \frac{a_x:\bar{i}}{a_{x+t}} + v^t p_x$  will be increased.

If the mortality rises or falls throughout the table, another line of investigation is open. In order that the policy values should remain unaltered we must have, as above shown,

$$\frac{a^I_x}{a^{II}_x} = \frac{a^I_x + t}{a^{II}_x + t} = \frac{1}{1+k} \text{ where } k \text{ is a}$$

constant, or  $a^I_x (1+k) = a^{II}_x$ , and equally

$$a^I_{x+1} (1+k) = a^{II}_{x+1}$$

And since  $a_x = v p_x (1 + a_{x+1})$ , i.e.

$$(1 + a_{x+1}) = \frac{a_x}{v p_x}$$

$$\text{hence } a^I_x = 1 + v p_x^I : a^I_{x+1}$$

$$= 1 + v p_x^I \frac{a^{II}_x}{1+k}$$

$$= 1 + \frac{p_x^I \cdot a_x^{II}}{p_x^{II} \cdot 1+k} = \frac{a_x^{II}}{1+k}, \text{whence}$$

$$p_x^I = p_x^{II} \left(1 - \frac{k}{a_x}\right)$$

If  $k > 0$ ,  $p_x^{II} < p_x^I$ ; if  $k < 0$ ,  $p_x^{II} > p_x^I$ , the policy value remaining unchanged in either case. If the relationship follows a different law, the policy values will vary.

If  $\frac{k}{a_x} = c$ , a constant, then if  $c > 0$ , the values increase; and if  $c < 0$ , they decrease.

### POLYPUS.

(See TUMOURS.)

### PORTUGAL.

**Regulations Affecting Insurance Companies.** All insurance companies in Portugal are under the supervision of the Board of Assurance and the Inland Revenue Department. Half yearly and yearly statements have to be submitted to these authorities, showing the amount of business done. The office of the Board is at the Ministry of Labour, Lisbon. Foreign companies must make the following deposits with the Caixa Geral des Depositos:—life insurance, Escudos 75,000; marine insurance, Escudos 25,000; other branches, Escudos 50,000. They must also deposit the full premium reserve for the life branch, and guarantee reserves for other branches, in cases where deposits do not cover 2 per cent of the incurred liabilities. There is a tax of 2 per cent on premiums, an industrial tax of 5 per cent on the rental value of premises, plus Escudos 40 for each clerk, and a further tax of from 8 per cent to 10 per cent on profits. This latter must not be proportionately less than that paid by the home companies, which are taxed according to a different scale. There is a stamp tax of 5 per cent on property and goods insurance, and 3 per cent on marine insurance—recovered annually from the insured. The Institute of Social Assurance takes 2 per cent on premiums received, while municipalities may levy as much as 10 per cent on premiums received towards upkeep of the fire brigade. The Board of Assurance also claims a share to help defray its expenses.

### POSTAGE STAMP SYSTEM.

(See POST OFFICE LIFE ASSURANCE.)

### POSTER PUBLICITY FOR LIFE ASSURANCE.

(See ADVERTISING LIFE ASSURANCE.)

### POST-NUPTIAL SETTLEMENTS.

Unless made in pursuance of a binding agreement capable of proof, and made prior to the marriage, a post-nuptial settlement is a form of gift, and may be the subject of a voluntary settlement. A voluntary settlement is the voluntary transfer of any property, including a policy of assurance, from one person to another without consideration, with the intention that the property transferred shall not be returned to the donor, and with the intention on the part of the donee to retain the property as his very own without restoring it.

A post-nuptial settlement is only protected in so far as it corresponds with the ante-nuptial articles (*Cormick v. Trapaud*, 1818, 6 Dow 60). A settlement made after a marriage in Scotland does not become an ante-nuptial settlement by reason of the re-celebration of the marriage in England (*ex parte Hall*, 1812, 1 Ves. & B. 112).

By the Act 13 Eliz. c. 5, any alienation made with intention to defraud creditors is void against such creditors. For creditors to be in a position to impeach an alienation of property by their debtor they must prove not only fraudulent intent, but also that the alienation was made without consideration. Marriage is a sufficient consideration. C, in contemplation of his marriage, settled on his intended wife, through trustees, the sum of £20,000, for her separate use, with remainder in trust for the children. The recital, that C was indebted to his intended wife, was false; he was at the time of the marriage insolvent, both facts of which were unknown to the wife. C became bankrupt, and the trustee in bankruptcy sought to set aside the settlement. The settlement was, however, sustained by the consideration of marriage, notwithstanding the falsity of the recital (*Kevan v. Crawford*, 1877, 6 Ch. D. 29). But if the wife takes the settlement with notice of an available act of bankruptcy committed by the husband, she cannot hold the property against his trustee (*Frascr v. Thompson*, 1859, 4 De G. & J. 659).

Evidence may be given to show that a deed in form voluntary was in truth for valuable consideration. The Statute of Frauds excludes such evidence in the case of a post-nuptial settlement, unless there is a signed agreement, or note or memorandum (*re Holland*, 1902, 2 Ch. 388).

An agreement for a settlement made by parol before marriage may be evidenced by a memorandum in writing made after the marriage, so as to be enforced against a

party to the agreement, and any person identified in interest with him.

The execution of a post-nuptial settlement in pursuance of a parol ante-nuptial agreement is not a part performance which avoids the statute. Apparently, there can be no such part performance in the case of a parol agreement for a marriage settlement unless some part of the agreement is to be performed by a third party (*Warden v. Jones*, 1857, 23 Beav. 487).

A parol ante-nuptial contract is not a good consideration to support a post-nuptial settlement as against creditors (*Goldicutt v. Townsend*, 1860, 23 Beav. 445).

*In re Pilkington* (1923, 129 L.T. 629), by a settlement the income of two-thirds of the settled fund was to be paid to the wife for life, but if she survived her husband and married again, only one-fifth of the two-thirds was to be paid her. Power to appoint two-thirds of the fund in favour of her children was given to her, to be reduced to one-fifth of two-thirds in case of re-marriage. She obtained a divorce, and by a deed poll appointed the two-thirds, reserving a power of revocation. She married again, and it was held that she was still entitled to receive the income of two-thirds of the fund, but in future she could only appoint one-fifth of such share.

A post-nuptial settlement was made by A and his wife of a share of real and personal estate of the wife, in the hands of trustees. No notice was given to the trustees, and no fine was levied. The deed recited the ante-nuptial agreement, but it was proved that there never was any. The effect of the settlement was to give the husband a life estate, with remainder absolutely to the survivor, and there was no provision for children. It was held, both husband and wife desiring it, that this deed was a nullity; that as against the husband it was voluntary; and that it was not such a settlement as the Court would enforce against the wife. The property was, therefore, treated as if it had never been settled (*Hogarth v. Phillips*, 1858, 4 Drew. 360).

The owner of an estate which was worth, beyond a mortgage upon it, about £1,300 was persuaded by K to make a post-nuptial settlement of it upon his wife and children. K thereupon agreed to advance him £150 on his promissory note to meet the interest on the mortgage, which was then in arrear. No mention was made in the settlement of the advance of £150. It was held that the advance of £150 was a sufficiently valuable

consideration to support the settlement (*Bayspoole v. Collins*, 1871, L.R. 6 Ch. 228).

Where the post-nuptial settlement is the result of a bargain made after the marriage between the husband and wife, each of them having interests, no matter how much, or of what degree, by which their respective interests are altered, then such a settlement is with valuable consideration. A post-nuptial settlement made in order to avoid proceedings for contempt being taken against the husband, who had married a ward of Court without leave, contained a covenant to settle the wife's after-acquired property, and a covenant by the husband to pay the premiums on a policy of assurance which he had assigned to the trustees of the settlement. It was held that there was sufficient consideration for the covenant to settle the wife's property, and that it was capable of being enforced by the Court (*Stephens v. Green*, 1895, 2 Ch. 148). But although there may be valuable consideration as between husband and wife in regard to a post-nuptial settlement, the consideration does not extend to the children of the marriage, unless they are parties to it, or there is an executed trust in their favour.

#### POST OFFICE AND INDUSTRIAL ASSURANCE.

(See AGENTS AND COLLECTORS.)

#### POST OFFICE LIFE ASSURANCE.

The system of life assurance through the medium of the Post Office was inaugurated by Act of Parliament in 1864. Prior to that date, the National Debt Commissioners had power to grant Government life assurances for sums not exceeding £100; this power was, however, not utilized, as a condition of its exercise was that the person to whom the assurance was granted should also take out a deferred annuity or old age pension.

The main reason underlying the passing of the Act of 1864 appears to have been the unsound financial condition of certain friendly societies and assurance companies, which rendered it desirable that the working classes should be provided with a means of assurance based upon unimpeachable security. The Bill, as presented by the Government of the day, evoked strong opposition from interested quarters, and during its passage through Parliament a considerable number of conditions and limitations were imposed upon the scheme as originally formulated.

The purport of the Act, as finally placed

on the Statute Book, was to enable both annuity and assurance business to be transacted with the Government through the medium of the Post Office. The minimum and maximum amounts which could be assured were fixed at £20 and £100 in the case of life assurance, and £4 and £50 per annum in the case of annuity business. No connection was at this date established between the scheme and the Post Office Savings Bank, and transactions could only be effected at certain specified post offices. The funds accumulated from the payment of premiums were to be invested in Government securities.

**The Select Committee of 1882.** The provisions of the Act of 1864 remained in operation in their original form until 1882. During the intervening period it was realized that the scheme had not achieved the success anticipated at its inception, the average annual numbers of assurances, immediate annuities and deferred annuities effected during the 19 years 1864-1882 being only 372, 505, and 51 respectively. In 1882, therefore, a Select Committee of the House of Commons was appointed to inquire into the operation of the system. This Committee reported that the comparative failure of the system was, in their opinion, to be accounted for by—

1. The absence of personal solicitation and collection, and the necessity of visiting post offices for the payment of premiums.
2. The limited number of post offices available for annuity and assurance business.
3. The maximum and minimum limits of amount.
4. The complicated nature of the formalities required.

The Committee made various recommendations with a view to removing these obstacles to the success of the scheme. They gave consideration to the employment of canvassers, but found themselves not in favour of such a measure. They suggested, however, that annuity and insurance business should be linked up with the savings bank work transacted by post offices, so that savings bank accounts could be utilized for the payment of premiums and business transacted at every savings bank post office. This latter suggestion in itself involved a very considerable expansion in the range of the scheme; under the previous arrangements, only 2,000 post offices were enabled to conduct assurance business, the number of savings bank offices being in 1882 about 6,700.

The Committee also recommended extensions of the limits, both of the amounts for which insurances and annuities could be purchased, and of the ages at which they could be purchased, and suggested a revision of the rates of premium and certain simplifications in procedure.

**Government Annuities Act, 1882.** These recommendations were substantially adopted in the Government Annuities Act, 1882, which prescribed limits of £5 and £100 for insurances, and £1 and £100 per annum for annuities. The business was attached to the Post Office Savings Bank, the limits of age were extended, procedure simplified, and tables of reduced rates of premium prepared. These rates, which were rendered possible by reductions in working cost effected by the adoption of the savings bank system, were subsequently applied to existing contracts, the Act of 1882 providing that persons entitled to assurances in force at a time when reduced tables are made may receive a just proportion of the surplus which has enabled the reduction in rates to be effected.

The Act also provided that the tables of premiums should be framed upon the principle that they should be adequate to finance the operations of the scheme without causing any loss to the Exchequer.

In addition, provision was made for the introduction of endowment assurances and of whole life insurances payable by single premiums or by annual premiums for a limited period, and for assurances for sums not exceeding £25 without medical examination.

The scheme came under further examination in 1893, when an Inter-Departmental Committee was set up to consider suggestions for a reduction of rates and also a proposal that the services of school teachers should be enlisted to obtain new business on a commission basis. The Committee discovered that considerable profits were being realized on the assurance side of the business, and recommended that the existing rates of premium should be somewhat lowered. The employment of teachers as agents does not seem to have been viewed with enthusiasm. The Committee noted the need for extending the field of investment, but recognized that under the existing law no extension could be effected which would result in any considerable gain.

As a result of the Committee's findings, new and reduced tables came into force in 1896, existing contracts, as before, being given the advantage of the new rates.

About this time the need for further advertisement of the system seems to have been realized by the Treasury, but the steps (if any) which were taken to this end seem to have been disappointing in their results, for, although an increase of business followed the introduction of the 1896 rates, no lasting improvement was displayed, and in the subsequent 12 years the average annual number of new contracts was 720 only, the amount insured per contract being £49.

The Departmental Committee of 1907. This melancholy state of affairs led to yet a further application of the usual remedy, and in 1907 a Departmental Committee was appointed to consider, *inter alia*, whether it was desirable to take steps to encourage the use of the system, and, if so, what steps.

This Committee reported that they considered that assurance through the Post Office possessed particular advantages from the point of view of the working classes, and that the extension of its operations should be attempted along the following lines—

1. The upper limit of insurance should be raised to £300.
2. The payment of premiums more frequently than annually if so desired.
3. The modification of the tables of premiums to bring them more into harmony with modern requirements.
4. Surpluses revealed on the valuation of the fund should be applied for the benefit of existing policyholders, and distributions of surplus should not be dependent upon the formation of new tables. (*Note.* Under the 1864 Act, deficiencies revealed on valuation are chargeable upon the Consolidated Fund, and surpluses, to the extent of not more than 1/10ths, utilized for the reduction of the National Debt.)
5. The insurance fund and the deferred annuity fund should be kept separately.
6. A more equitable system of loading for expenses should be adopted.
7. A substantial portion of the fund should be invested in the most remunerative Parliamentary securities.
8. Greater and better publicity should be given to the system.
9. The payment in bulk of the premiums of members of friendly societies should be encouraged.
10. Extension of "non-medical" insurance to £50.
11. Simplification of the proposal form.
12. Relaxation of residential restrictions.
13. The omission of special provisions relating to suicide.
14. Modification of surrender values paid, and their application to maintain policies in arrears of premium.
15. Granting of loans on policies at a fair rate of interest.
16. Scheme should be available to persons who are not Savings Bank depositors.
17. The National Debt Commissioners should only be concerned with the general finance of the system, the administration being confined to the Post Office Savings Bank.

18. The Controller of the Savings Bank should report annually to the Postmaster-General on the working of the scheme.

#### Introduction of Postage Stamp System.

Very few of these recommendations appear to have been adopted, the most notable innovation resulting from the findings of the Committee being the introduction of a system of weekly payment of premiums by means of postage stamps. It will, however, be convenient to deal with this arrangement in a general survey of the whole system. To this we now proceed.

The minimum and maximum amounts for which assurances could be effected prior to 1st January, 1929, were, as previously indicated, £5 and £100 respectively, the classes of assurances available being as follows—

#### 1. Whole Life—

- (i) Single premium.
- (ii) Annual premiums through life.
- (iii) Quarterly premiums ceasing at age 60.

#### 2. Endowment Assurance—

- (a) Maturing at age 55, 60, or 65—
  - (i) Single premium.
  - (ii) Annual premiums for the term of the endowment.
- (b) Maturing at the end of 10, 15, 20, 25, 30, 35 or 40 years: single premium only.

In all these cases, with the exception of (1) (iii), the payment of premiums is effected by annual deductions from the balance standing to the account of the insured person in the Post Office Savings Bank, into which the sum assured is payable when due.

The Postage Stamp System. In the case of whole-life "limited payment" policies, the premiums are payable by means of ordinary postage stamps to be affixed weekly by the insured person within a premium book. At the end of each 13 weeks the stamped page containing the quarter's premiums is withdrawn on presentation of the book at a post office, a receipt for the amount being given on the counterfoil.

It will be seen that the system has points in common with that of industrial assurance, as transacted by assurance companies and collecting societies, in that the premiums are, in theory at any rate, payable weekly, and moreover the amount of the sum assured is determined by the size of the weekly premium, and not vice versa as in the case of the other post office tables and

ordinary life assurance. In other points, however, the weekly premium system of the Post Office differs fundamentally from that of industrial assurance, and to this aspect of the matter we shall return later.

The "postage stamp" system is only available to proposers between the ages of 14 and 50. In the case of all the other tables, the corresponding limits of age are 8 and 65, but the maximum sum insurable at ages less than 14 is £5.

**Medical Examination.** A medical examination (which is provided free of charge) is compulsory upon all proposers for insurances exceeding £25, and policies for smaller sums effected without medical examination are subject to certain special conditions. In the first place, if death occurs within the first year of the policy, the sum assured is not paid, but the purchase money is returned; while if death occurs in the second year, half the sum assured, or the purchase money (whichever is the greater), is paid.

These conditions are, however, not applicable if it is proved that death was caused by accident.

**Surrender Values.** A surrender value (of such amount as the National Debt Commissioners shall determine) is payable under all policies after two years' premiums have been paid; or, alternatively, a paid-up policy of equivalent amount is granted.

**Nominations.** Insured persons aged 16 and upwards may effect nominations indicating to whom the money is to be paid at death.

**Special Arrangements for Collection of Premiums.** Special arrangements exist for the bulk payment of premiums in the case of blocks of insured persons. Thus members of friendly or provident societies insured under the scheme can arrange to have their premiums collected by their own society and handed over periodically to the post office; while employees of firms and public bodies may, with their employers' consent, arrange for the deduction of premiums from their wages.

**Proposal Form.** Despite the recommendations as to the simplification of the formalities of the system, a wealth of personal information was required to be furnished by the prospective applicant on the proposal form. In addition to the elementary particulars as to name, address, and age, the proposer had to state his occupation, marital status, and size of family; to provide particulars of the ages and state of health of living and dead relatives; to give an account of his own medical history and

any previous attempts to insure; to state whether he has been vaccinated; the average amount of "fermented or spirituous liquors" taken daily; particulars of residence abroad, and its effect on health, and of service in the Army or Navy. Finally, the names and addresses of two "respectable householders" had to be supplied for purposes of reference.

**Comments of Parmoor Committee, 1920.**

Before examining the rates of premium charged for the various types of insurances under the scheme, and considering generally the characteristics of the system, reference may be made to certain comments made by Lord Parmoor's Committee on Industrial Life Assurance, which reported in 1920 (Cmd. 614). The Committee, in the course of their deliberations, made some examination of the Post Office insurance system. They noted that although the expenditure incurred in administration was low and the terms of assurance should therefore be so much better than those offered by the assurance companies as to attract a large number of proposers, the number of such persons was in fact extremely small, and the system as at present administered could only be described as a failure. Various reasons were adduced for this. The Committee thought that in so far as the Post Office was not competitive and did not adopt canvassing methods, it must always be at a great disadvantage; but apart from this, they were of opinion that the system was not conducted vigorously enough or with due regard to the requirements of the public. They found, for example, that although the cost of administration was so small, the sums assured at no age compared to marked advantage with those offered by the companies. The Committee thought that the chief explanation was that under the Post Office plan the premiums cease to be payable at 60 years of age, whereas under the usual system they continue for the whole duration of life or, in certain cases, to the age of 75. (N.B. The Committee appear to have overlooked the fact that while, under the "postage stamp" system, premiums cease at age 60, insurances may be effected under the other "whole-life" table either by premiums ceasing at 60, or by premiums continuing throughout life.) The Committee were of opinion that while the Post Office system might be the better one, the system to be adopted should be that which appeals most to the public, who would naturally consider the amount of

the premium rather than the period over which the payments were to be made.

The Committee felt that the Post Office system was open to criticism in other respects, and that, if it were to be maintained, it should be thoroughly examined by experts and so remodelled as to afford the prospect of attracting persons who, given the opportunity, would surrender the convenience of paying premiums to a collector for the advantage of a substantial addition to their policies.

It seems surprising that such a definite pronouncement of opinion from a strong Committee should have produced no response, but reference to the published lists of Government publications reveals no sign of any further report on the working of the system, until the Select Committee on Estimates reported in July, 1928, recommending that Post Office life assurance business should be discontinued. Moreover, no changes had been effected in either the general character of the scheme or the rates of premium charged. It appears, indeed, that the tables in use were those issued in 1896, as mentioned above.

In these circumstances it is perhaps of more than ordinary interest to look into the system a little more closely.

**Rates of Premium.** In the first place, it is interesting to compare the rates of premium chargeable under the scheme with those charged by assurance companies. This is done in the table below with regard both to whole-life and to endowment assurances, the Post Office rates being shown in conjunction with average rates derived from the tabular premiums of ten of the leading companies.

It will be seen that, broadly speaking, the Post Office rates are about midway between the with-profit and without-profit rates of the companies, in spite of the fact that distributions of profit under the Gov-

ernment scheme are only of a very limited nature and very occasional in occurrence. The explanation of what, in view of this consideration, must be regarded as an unduly high rate of premium lies in the fact that the present tables have not been revised since 1896, and that persons insured in the Post Office scheme are denied the benefit of the improvement in mortality since that date. The basis of the premium rates is stated to be the H<sup>m</sup> table of the Institute of Actuaries; this was published in 1872, and related, of course, to the experience of assured lives before that date. Moreover, the rate of interest assumed in the calculation of the premiums is stated to be as low as 2½ per cent. These facts are ample explanation of the comparative unattractiveness of the Post Office premium rates. Though a comparison has only been made in the table below in respect of two of the chief types of assurance, similar features would doubtless be displayed with regard to the other tables, as the basis described above is common to them all. In this connection it is rather surprising, perhaps, that a more up-to-date basis was not employed in the calculation of the rates under the postage-stamp system, this being, as previously indicated, a comparatively recent innovation.

**Number of Premiums Payable.** Turning now to the tables under which premiums are payable up to a specified age, it is observed that if a policy is taken out at age next birthday  $x$ , and the premiums thereunder are payable until age  $x + n$  is attained, the number of premiums payable is  $n + 1$ . With regard to whole life assurances, this point is immaterial, except that it is not in conformity with the usual practice, i.e. the payment of a certain fixed number of premiums rather than their cessation at a particular age. As to endowment assurances, however, the difference in practice

Age next birthday at entry.	Whole Life Assurance of £100 (premiums payable throughout life).			Endowment Assurance of £100 maturing at 60.		
	Post Office.	Average of Companies.		Post Office.	Average of Companies.	
		With Profits.	Without Profits.		With Profits.	Without Profits.
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
20	1 13 -	1 19 6	1 8 10	2 2 6	2 9 -	1 17 5
30	2 3 -	2 9 5	1 17 7	2 19 6	3 7 4	2 14 3
40	2 18 -	3 5 3	2 11 6	4 13 6	5 5 4	4 8 7
50	4 4 0	4 11 -	3 15 1			
60	6 10 6	6 15 2	5 16 4			

is of greater significance. The payment of  $n + 1$  premiums indicates that the sum assured is payable on the birthday at which the specified age is attained, so that if the assured person is very near this age next birthday when the policy is taken out and the first premium paid, he will have to make a final payment almost immediately before the assurance matures—hence the extra premium payment. From the point of view of the assured person, this arrangement compares unfavourably with either of the methods normally adopted by assurance companies; either the endowment assurance is effected for a term of  $n$  years, and the  $n$ th premium falls due a year before maturity, or, if the policy is to mature at a specified age, it is in fact payable on the policy anniversary next preceding the maturity age, so that in this case also no premium is paid within a year from maturity.

Viewed in conjunction with the absence of any marked generosity in the amounts of the premiums themselves, to which reference has previously been made, this arrangement was not likely to conduce to the popularity of the Post Office endowment assurance tables.

**Sums Assured under Postage Stamp Table.** In the "postage stamp" table a further variation from the practice of industrial assurance companies is presented. It is observed that there is no apparent relation between the sums assurable by weekly premiums of 2d., 3d., 4d., etc., respectively, whereas 4d. a week paid to a company secures the assurance of a sum exactly double that provided by a 2d. payment. The actual sums assured under the "Postage Stamp" table at age 25 are as follows—

Weekly Premium.	Sum Assured.
	£ s. d.
2d.	14 14 -
3d.	23 19 -
4d.	34 8 -
5d.	44 17 -
6d.	55 6 -

The fact that the sums assured for each rate are obviously calculated independently seems to indicate that the adjustment made for expenses varies according to the size of the premium, a proportionately smaller adjustment being made as the size of the policy increases. If this is so, it is, of course, a logical procedure, since the cost of maintaining a 4d. policy must be less than twice the cost of maintaining a 2d. one; but the

arrangement is a further indication of the isolation of the Post Office system from general insurance practice.

While it is not proposed in the present article to enter upon any detailed criticism of the scheme, or to offer suggestions for its improvement, reference may be made to a few points arising out of the lengthy list of recommendations of the Committee of 1907 which have been enumerated above.

**Limits of Assurance.** In recommending that the upper limit of assurance should be raised to £300, the Committee had in mind the statutory amount of compensation for the death of a wage-earner under the Workmen's Compensation Act. The recent increase in the sums payable under that Act, of course, strengthens the argument for an expansion of the limits of post office assurance business, apart from other considerations relating to the rise in wages and the decreased purchasing power of money.

**Relations of Assurance Fund and Deferred Annuity Fund.** The Committee's recommendation that the deferred annuity fund and the assurance fund should be kept separate is important in view of the fact that, at the time of their report, while the insurance fund was in surplus, the annuity fund was heavily in deficiency. In view of the continued improvement in mortality, resulting in increased longevity of annuitants and the obsolescence of the premiums chargeable for post office assurances, this state of affairs in all probability still exists, and its continuance must affect adversely the position of policy-holders; though it is not clear how, if the two funds are to be considered as one, the statutory provisions as to the distribution of surpluses arising on the insurance side of the business can be made to function, as apparently they have been in the past.

**Publicity.** The Committee were in favour of greater efforts in the direction of publicity. It is difficult to consider this question apart from the general consideration of competition with assurance companies, which the special characteristics of the Government scheme would make difficult, even if it were desired. However this may be, it probably remains true that the majority of the persons for whom the scheme was primarily designed have never heard of its existence. The rarity of applications for information across the counter of a post office was demonstrated to the writer recently, when a request for a proposal form in a fair-sized London office necessitated a search through drawers and

among papers which appeared not to have been disturbed for some time.

"Non-medical" Policies. The recommendation of the Committee that the limit of assurances without medical examination should be raised to £50, shares with the original provision limiting the amount to £25 the distinction of extreme conservatism, and perhaps calls for no other comment than a reference to the present-day practice of most of the leading assurance companies.

**Discontinuance of New Business.** The issue of new policies through the Life Assurance Department of the Post Office was discontinued at the end of 1928. The Select Committee on Estimates in July, 1928, referring to the Life Assurance Department, reported: "Your Committee consider that it results in mere distraction of Post Office energies which might be better employed. Taking into consideration the immense strength of commercial insurance companies, the necessary restriction of the investment of Post Office insurance funds to British Government securities, and the extreme difficulty of competing seriously for new business, they recommend that the Post Office life assurance business should be discontinued." Policies in force on 31st December, 1928, amounting to about £500,000, are not, however, in any way affected. For some years prior to the closing of the books to new business, the number of policies issued each year only averaged some two or three hundred, the sum assured averaging under £50 per policy. As a result, the Postmaster-General stated in answer to a question in the House of Commons on 19th December, 1928: "The amount of new business during the past decade has been too small to warrant the continuance of the system." Accordingly no further policies were issued after the end of 1928.

#### POST REMITTANCES RECEIVED BOOK.

(See CASH DEPARTMENT.)

#### POWERS OF INDUSTRIAL ASSURANCE COMMISSIONER.

(See INDUSTRIAL ASSURANCE ACT, 1923.)

#### POWERS OF BOARD OF TRADE.

(See BOARD OF TRADE, POWERS OF.)

#### PRELIMINARY TERM PLAN.

(See VALUATION METHODS.)

#### PREMIUM.

(See ACCOUNTANCY DEPARTMENT; CASH

DEPARTMENT; CONVERSION TABLES; GROUP LIFE ASSURANCE; INCOME TAX; INDUSTRIAL ASSURANCE; TYPES OF POLICY ISSUED; NET PREMIUMS; OFFICE PREMIUMS; PREMIUMS.)

#### PREMIUM ACCOUNT.

(See ACCOUNTANCY DEPARTMENT.)

#### PREMIUM CONVERSION TABLES.

(See CONVERSION TABLES.)

#### PREMIUM PAYMENTS.

(See ENDORSEMENTS ON POLICIES; also CASH DEPARTMENT.)

#### PREMIUM REBATE.

(See CONVERTIBLE TERM POLICIES WITH PREMIUM REBATE; GROUP LIFE ASSURANCE.)

#### PREMIUM RECEIPT BOOKS.

(See INDUSTRIAL ASSURANCE ACT, 1923.)

#### PREMIUMS.

A life assurance premium is the consideration for the sum assured under a life assurance contract, such sum assured being a larger payment to be made upon the happening of a contingency involving human life. The contingency may be certain or uncertain, near or remote, while the premium may be a single payment down, or an equivalent series of payments, uniform or variable in amount, extending over the whole term of the assurance, or some shorter period. Spoken of in this way, such a life assurance premium is in fact the premium which is payable by a member of the public to the assurance office, that is, it is what is termed the "office premium," corresponding to the retail price of an article in ordinary commerce. Such an office premium may be subdivided into—

- (a) The net premium, and
- (b) The loading.

The net premium, with which may be compared the manufacturing cost of an article, is that portion of the premium which is required to provide the sum assured, that is, it is the statistical equivalent of the contingency assured against, on the assumption of a given mortality and a given rate of interest. The loading is that addition to the net premium which is required to meet the expenses of conducting the business of the office, of meeting any adverse fluctuations due to the inadequacy of the said assumptions, and of providing a margin of

profits for distribution among policy-holders or shareholders, or both.

In practice the bulk of premiums is payable in uniform instalments throughout the currency of the policy, usually annually,

The few examples of premiums for different kinds of assurance given in the accompanying table will illustrate these remarks.

(See also NET PREMIUMS; OFFICE PREMIUMS; and LOADINGS.)

NET PREMIUMS PER 100 FOR VARIOUS BENEFITS<sup>1</sup>

Age 40 at entry, interest 3%

Description.	Table.	Symbol.	Single premium	Symbol.	Annual premium.
Whole Life Assurance	O[m]	$A_{[40]}$	45.758	$P_{[40]}$	2.457
"    "    "    20 limited payments	"	"	"	$20P_{[40]}$	3.273
Endowment Assurance, 20 years	"	$A_{[40]:\overline{20} }$	59.276	$P_{[40]:\overline{20} }$	4.239
Short Term           5 years	O[m]	$A_{[40]:\overline{5} }$	4.372	$P_{[40]:\overline{5} }$	.942

<sup>1</sup> Refer to *British Offices Life Tables, 1893, Select Tables for Whole Life Assurances on Male Lives*, London, C. & E. Layton, 1907 (Blue Volume).

although there is a certain proportion payable half-yearly, and, less so, quarterly, and to a still less degree, monthly. Yet there are many policies issued where the premiums run for a shorter term than the full currency of the policy. Such premiums are called "limited payments," or single premiums, if there is but one payment.

In the earliest days of life assurance the usual contract appears to have been to secure the payment of a sum on the failure of a life, provided that this took place within a very short period of time, say one or at most a few years; after that, up to about a generation ago, the most favoured form was that of a policy payable at death, whenever that might occur, by premiums payable annually throughout. These are called ordinary whole life assurances. About this time, however, endowment assurances began to attract notice, and have been growing in popular favour ever since. Under this class of policy, a certain age is selected at the start, and the sum assured is paid if the life fails before attaining that age, and is payable in any event on his reaching that age. The premiums are usually payable uniformly by annual instalments throughout the term fixed. Of course, the premiums for this kind of policy are higher than those for the whole of life, and become increasingly so as the term is shortened. Yet, when the age at maturity is, say, 60 or 65, the advantage of providing financial assistance at a time of life when the earning powers are waning, and after the requirements of a family have been met, is so evident that the rapid growth of these policies is not surprising.

**PREMIUMS FOR GOVERNMENT LIFE ASSURANCE.**

(See POST OFFICE LIFE ASSURANCE.)

**PREMIUMS—INCOME TAX RELIEF.**

(See INCOME TAX.)

**PREMIUMS ON INDUSTRIAL ASSURANCE.**

(See INDUSTRIAL ASSURANCE, HISTORY OF; INDUSTRIAL ASSURANCE: TYPES OF POLICY ISSUED.)

**"PRESENTATION" POLICIES.**

These policies are an adaptation, on the lines of a child's educational endowment policy, to cover the cost of a girl's presentation at Court and her "coming out" as a débutante. This entails an expense in outlay for Court dress, feather, veil, and flowers, etc., as well as necessary clothes for the London season, which may be estimated in essentials at nearly £500, apart from other outlay. For the débutante presentation at Court is usually the event and time of her life, but to the parents it is, of course, an expensive time. By means of a "presentation" policy, however, they can provide a capital sum by annual premiums which make a comparatively small call on income. The policy is quite simply effected, and no medical examination is required. The ages for effecting the policy range generally from age 1 to age 12 next birthday, the sum which has been assured becoming payable when the girl reaches either 18 or 19 years of age. If the child insured should die before reaching the age selected, the whole of the payments made are returned. The following

are specimen annual premiums to assure a sum of £500—

Child's age next birthday.	Policy payable at	
	Age 18.	Age 19.
	£ s. d.	£ s. d.
1	21 11 8	20 - 10
2	23 6 8	21 11 8
3	25 6 3	23 6 8
4	27 11 8	25 6 3
5	30 3 9	27 11 8
6	33 5 -	30 3 9

**PRIME COST POLICIES.**

Very many persons who are anxious to secure the maximum amount of immediate

sharing for the first time, the bonus may possibly repay the charge, and at subsequent declarations some margin may be looked for, these margins becoming more and more substantial as the policy increases in duration. In the unlikely event of the profits at any division proving insufficient to meet the charge due, either the assured could pay off the balance due or an equivalent deduction would be made from the sum assured. Surrender values are calculated as in the case of ordinary full premium policies, but are subject to deduction of the current charge.

The assured may at any division of profits terminate the arrangement for paying the prime cost premiums. The ordinary full profit premium would thenceforward be

SPECIMEN ANNUAL PREMIUMS PER £100 ASSURED

Age next birthday.	Whole life assurance.	Endowment payable at age			
		50.	55.	60.	65.
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
30	1 16 2	4 2 1	3 3 11	2 12 9	2 5 8
40	2 9 7	9 2 11	5 16 11	4 6 1	3 9 2
50	3 12 1	—	—	9 8 5	6 4 8

assurance protection feel that they are more or less compelled to do so by effecting a non-participating contract, while a participating contract may possess greater attraction for them. They, therefore, either effect a smaller assurance than they really desire in order that they may share in profits, or imagine that they must forgo any opportunity of bonus privileges in order to obtain the larger cover at the outset. To such persons the prime cost system of assurance makes a very special appeal, as they attain both objects. The initial premium required is very moderate in comparison. For instance, in one office the annual premium for a fully participating policy of £1,000 would secure a prime cost assurance of £1,315, which in itself is the equivalent of an immediate bonus. But the premium, although so moderate, gives the privilege of participation later. The underlying principle of the prime cost system is that a certain proportion of the ordinary full profit premium is advanced annually by the office and accumulated at interest until the next distribution of profits. At each bonus declaration the portions of premium advanced are treated as a charge against the cash bonus. In the case of a policy

payable and the policy from that date would rank in every respect as a fully participating one.

(See also DISCOUNTED BONUS POLICIES.)

**PRINCIPAL AND AGENT.**

(See AGENT, AUTHORITY AND RESPONSIBILITY.)

**PRINCIPLES OF LIFE ASSURANCE.**

The object of this section is to explain on broad lines, and in simple language, free from technicalities, the principles on which the business of life assurance is built up and carried on. The basic principle, then, is that a number of persons shall contribute to one common fund in order to make financial provision for dependants or others in the event of one or more of the contributories dying at any time. One of the outstanding features of life assurance contracts is equality of treatment of all the contributories, i.e. assuming the issue of an exactly similar type of policy to four individuals of equal age and condition of health, and that the first assured for £100, the second for £250, the third for £500, and the fourth for £1,000, the rate of contribution required from each would be exactly

*pro rata* to the amount of his policy. Each is, therefore, assured of equal benefit according to his means, and rich and poor alike can make provision. Those who live long, however, help to pay for those who do not do so, and here another principle comes into operation. Any number of contributories to a common fund would be of differing ages. The older members would be likely to die sooner than the younger, and, therefore, they are called upon, in equity, to pay a higher contribution in relation to their age to cover this extra risk. The first essential, therefore, is to fix the amount of each individual contribution according to age, in order that it shall be (1) fair to the members of every age, and (2) adequate to meet the whole of their claims on the common fund as they fall due. In order to do so it is necessary to ascertain, first of all, the number of deaths which are likely to occur among the members of various ages in each year. The law of averages as regards human mortality is brought into requisition for this purpose. The number of expected deaths among any large number of persons can be calculated with a fair amount of accuracy from census returns, the experience of mortality of the life offices themselves, etc. To take the figures of one table of mortality, it shows that out of 90,538 men living at age 29 the number who may be expected to die within a year is 673, and of the 89,865 surviving to age 30, the number dying in the next year is 694. The assurance office has, therefore, first of all to ascertain what the net amount per annum is which each member should have to pay. If the assurance were only for one year, the average actual amount required from each member to provide the sums assured to them would be simple to calculate. But each member would then be paying a higher premium every year as he grew older, until it became more or less prohibitive. This, however, is a system which has been found to be bad in practice. (See ASSESSMENT ASSURANCE.) The office, therefore, calculates the average, or level, premium required at each age, so that it remains constant in amount. Actually, the member pays in the earlier years of his policy something more than the premium required for the risk from year to year, but the surplus is carried forward and reserved, and so in the later years provides the deficiency at the time when the level premiums would be insufficient to meet the yearly claims. Where a policy-holder

pays for a policy at death or at the end of a number of years by a single premium, all that is necessary is to calculate the present value of the risk, which would be the net premium for it. But if he were paying annually throughout life, or for a fixed term, the office would calculate what annual payment in the circumstances would be exactly equal to the present value of its liability under the contract, and the present value of such payments would be equal to the single premium. In this way the necessary annual level premium would be ascertained.

So far, we have dealt principally with the importance of mortality and the expectation of life in the fixing of the necessary contributions. The question of present value brings us now to another very important principle of life assurance. This is interest. The fund created by the contributions of the policy-holders must be available to meet their claims as these are likely to arise. Therefore, it must be safe-guarded by being well and carefully invested. This means a substantial income from interest. One effect of this is that the members' actual contributions can be based on a scale somewhat lower than would otherwise be necessary, while the interest also provides an important source of profit to the office. In calculating its premiums an office takes their present value by finding the annual total sum of premiums which, if put out at a safe rate of interest, will provide the amounts due for claims at the end of the various years indicated. On the contra side of the account it sets the present value of the probable cost of claims at the dates when they are calculated to fall due. It should then be found that the assumed rate of interest on the reserve fund at the beginning of the year, and on the premiums received at the beginning of the year, will balance the claims of the year, and leave an increase in the fund to meet the reserve required to augment the level premiums at the older ages. Theoretically, therefore, if the mortality table employed worked out exactly as regards claims, and the assumed rate of interest were exactly realized, the premiums, if correctly calculated, would just meet every claim as it fell due. In practice, however, this is not quite the case. The premiums also would be merely the actual mathematical cost of the risk, with no provision for carrying on the business of the office. What happens is that the office makes an addition to the mathematical, or net cost, premium to safeguard

against any fluctuations in mortality and interest, or depreciation of investments, which may occur, and it also adds to it a percentage, or margin, which is likely to prove sufficient to meet working expenses. This is the premium charged to the policyholder, and is known as the "office premium," in contradistinction to the "net premium," the difference between the two being called the "loading." The office can now go safely to work, provided it selects with care the lives which it assures. If the number of deaths expected proves smaller than that provided for, there is a profit from that source. If the interest actually earned is higher than that assumed, there is another source of profit; while a third source of profit is afforded if the business is conducted at a figure within the margin allowed for expenses. Taking these factors together, the office discovers, by periodical valuation, how it stands as regards its liabilities and commitments, and whatever margin it has over and above these is surplus, out of which it is enabled to declare bonuses to its participating policy-holders, etc.

The foregoing, however, is only a broad general statement of the sources of profit. As regards mortality, the profit or loss is not, strictly, the number of claims made against those expected, but the difference between the expected loss over and above the accumulated reserves on the policies and the actual loss by claims. This is known as the expected strain on the funds, and if the actual strain is lighter a profit results.

The next source of profit is interest, but this is not necessarily the difference between the assumed rate of interest used in calculating the premiums and that actually earned in the valuation period. The office may, for instance, assume a lower rate of interest in its valuation, and thus strengthen its reserves, for it must be remembered that the lower the rate of future interest assumed the greater the amount which must be held to meet future claims, so that if an office, in its valuation, assumes to earn only  $2\frac{1}{2}$  per cent on its reserves, and has actually earned 5 per cent during the period being valued, then there is a clear margin of  $2\frac{1}{2}$  per cent gain from this source after augmenting the reserves. As regards the profit from loading for expenses, this is the difference between the value of the total net premiums shown in the valuation summary, and the total of the premiums

receivable, or "office" premiums, shown. If this gives a ratio which is within the actual expense ratio of the office, then there is a profit. The actual expense ratio may be calculated as the percentage of the annual premium income absorbed in commission and expenses during the valuation period, and the difference readily seen.

There are several minor sources of profit. In the case of surrenders, for instance, the office cannot, in equity, very well return the whole of the reserve to the policy-holder; so that a small profit results. There is also a margin of profit from lapses, but not, as is so widely and erroneously supposed, the whole of the policy-holders' payments, because part of them must necessarily bear their allotted share of contributing to policies which become claims, to covering current risks, and to the expenses of carrying on the business. Having found that it has got a surplus from these various sources, after providing for all future liabilities, the office can then proceed to distribute its available balance—or surplus—to the policy-holders; and it does this by way of bonus. These may be either cash bonuses or reversionary bonuses. In the latter case they are in the form of an addition to the original sum assured under the policy, but payable only when the policy itself falls due. To this end an additional sum has to be added to the reserves to meet them, and this is calculated and set aside just as a single premium would be for a policy. That is why a reversionary bonus cannot be had in cash for its full amount, but only its cash surrender value, which gradually increases, just as does that of a policy, owing to the growth of the necessary reserve held against it.

It will be seen that the principle of co-operation, in conjunction with the law of average applied to mortality, backed by the power of compound interest, gives to every individual the opportunity of making provision for dependants and old age out of comparatively small periodical payments. By no other form of investment can this be achieved, for the result of taking out a policy is to create a capital sum immediately for protection, and pay for it by future instalments, and, if the contract is an endowment assurance, no investment can be safer.

#### PRIVATE REFEREE'S REPORTS.

(See PROPOSAL FORM, page 426.)

**PROBABILITIES.**

The future is veiled from the knowledge of mankind, and we possess no certain means to penetrate it. We have, however, some machinery for framing approximate ideas of what is likely to happen, and to this, in the widest sense, the name of probabilities may be attached. The object of probabilities—chances—is to assign a number between 0 and 1 which will measure the likelihood that a future event will take place, certainty that it will take place being denoted by unity, and certainty that it will not take place being denoted by zero.

The most important item is the law of causality, by which we regard it as certain that if all the causes that will affect an event are known, and can be measured quantitatively, then it can be determined whether the event will take place or not. Of this law every one makes use in some way or other, more or less rough.

A further law, implicitly assumed, is that of the continuity of natural phenomena, i.e. that the causes in operation will lead to no sudden or violent change. That they are indeed not invariable is evident from the occurrence of occasional earthquakes and other catastrophes. Any attempt to meth-odize forecasts of the future accordingly involves two stages—

1. To determine what causes operate.
2. To measure as far as possible the relative effect of each cause quantitatively.

Since the future is unknown, study can only be directed to the experience of the past, and it has to be borne in mind that even when the fullest available knowledge of the past has been obtained, there is always some possible unknown cause that may intervene, and prevent the prognostication becoming a fact.

Taking the simplest case of throwing a coin, our researches may tell us emphatically that the chance of a head falling uppermost is one half, yet the outside chance may occur—the coin may never be thrown—there is always an intangible margin of difference between past and future, however slight it may appear to be. Thus there is always some degree of uncertainty, of not knowing, of ignorance, in our knowledge of the past as applied to the future, and our machinery, the theory of probabilities, endeavours to utilize our existing knowledge, whether much or little. If that knowledge be complete, the law of causality teaches us to expect that our forecast will be accurate; and, in fact, in those cases where tests

can be applied, it appears to be so. Yet even in so simple a matter as throwing a coin, deviations from what we consider to be the actual law do occur, although as the number of experiments is increased, the proportions in the results tend to approximate very closely to those expected. From this it is inferred that dependence may be placed on the law, but that there are small causes or influences at work, such as unevenness in the throw, and of the surface on which the coin falls, and a lack of balance in the coin itself, which in the result may affect the perfect symmetry that would be expected in terms of the theory.

Such deviations, however, exercise proportionately less influence on the results as the number of experiments is increased; either they tend to balance each other, or, if constant, their magnitude is too slight to be taken into account. In any particular instance, of course, the uniformity of the conditions would have to be determined in advance, as far as possible. Evidently weighted coins or dice would vitiate all conclusions. Now, just as in Euclid our reasonings are based upon conditions that cannot be found precisely in practice, such as a perfectly straight line, so in the theory of probabilities theorems are worked out on the assumption of perfect conditions. These theorems, when tested in cases where the law is known to us, and accidental disturbances can be almost altogether eliminated, such as in tossing a coin, or throwing dice, have been found to yield results closely in accord with the theory. The deviations found in this way have been discovered to follow a law of their own, and to them again, the theory of probabilities has been applied with reasonable success. This is the case with games of chance, in connection with which the theory was principally developed. It is, however, quite different with the phenomena of Nature, such, for example, as the rate at which human beings die at the different ages. Here the law of causation is unknown to us. While we can assess closely the chance of throwing a head with a coin, or a six with dice, there is no knowledge available of anything so precise affecting the vitality of mankind. Accordingly, to deal with these, a sort of reverse process has to be gone through, namely, from the observed results or frequencies, as they are termed, some conception of the law which gave rise to them must be formed. Clearly, something of the kind could be done as regards coins, dice, or cards. Presuming their

law to be unknown, its nature could be determined approximately by a study of a table of actual frequencies. This process is rather like endeavouring to determine the presumed unknown properties and direction of a straight line from a child's attempt to draw one, or, preferably, its successive attempts. Returning to the question of human mortality, long experience had shown that it possessed a certain stability; that if the mortality of a given population at a given time were 25 per thousand of that population, then the mortality of that population at some other time might be expected to be rather close to it, and the mortality of another population similarly circumstanced to deviate not very greatly. This, the law of averages, formed indeed the foundation of life assurance, and there is still no final line of demarcation between averages and probabilities as applied in practice. It is evident, however, that if there be such a law operating behind natural phenomena, for instance, human mortality, as is presumed by the application of the theory of probabilities to its frequencies, this law will not be so simple in its elements as that of coins, or dice, or cards. Nor, being complex in their nature, are these phenomena in their operation so balanced and stable, except to a limited extent, that they can be aggregated under a few simple heads. As to this, reference may be made to the article on the law of mortality.

Thus the application of the theory of probabilities to life contingencies must be considered under two heads—

1. From the observations of experience, a series of frequencies is constructed, by the best means known to us, which is presumed to conform to the unknown theoretical law. This is the process of arriving at a life table.

The process is not at all convincing as to the applicability of the theory of probabilities to vital contingencies at the extremes of life, infancy and old age—the periods of undeveloped and fading vitality—although at other stages satisfactory, and this defect has led a number of statisticians to view the theory askance in this connection. The formulae of the theory of probabilities to be applied to the life table will engage our attention shortly.

2. The life table being presumed to be in accordance with the true law of mortality, the theory of probabilities is again brought in to deal with the problems connected with the accidental deviations to be expected in

any new body of data, depending on their extent, etc.

**Hypothetical Judgments.** If a certain condition exists, or if a certain event takes place, then another definite event will follow, or if  $A$  exists  $B$  will invariably follow.

**Hypothetical Disjunctive Judgments.** If  $A$  exists, then either  $B_1, B_2, B_3 \dots$  etc., or  $B_n$  will follow. An analysis of the method of determining the probability of an event shows that it here must be—

1. A total area of action embracing all possible events.

2. A limited domain wherein particular events are produced.

If these areas and domains can be determined quantitatively, then the ratio of the limited domain to the total area is the probability of the happening of the event associated with the domain (Arne Fisher).

The difficulty in application lies in deciding whether all the cases in the total area are to be considered as equally likely. J. Bernoulli and Laplace so consider them, on the principle known as "insufficient reason," i.e. insufficient to support any other view. Other writers, e.g. J. von Kries show that "insufficient reason" may lead to anomalous results, and bring forward a principle of "cogent reason," i.e. they deny a calculation at all where no cogent information is available. The Danish statistician, Westergaard, in turn, shows that cogent reason is unattainable, and accordingly Arne Fisher, in *The Mathematical Theory of Probabilities* (New York, the Macmillan Company, 1922), suggests as a compromise for a definition of equally likely cases: "Equally likely cases are such cases in which we, after an exhaustive analysis of the physical laws underlying the structure of the complex of causes influencing the special event, are led to assume that no particular case will occur in preference to any other." This introduces a certain subjective element. In cases where nothing is known, either we must assume them to be equally likely, or we must leave them alone altogether.

In dealing with chance, or accident, or equally likely cases as regards the events under consideration, three different forms must be distinguished according to H. Poincaré (*Calcul des Probabilités*, 1912).

1. Trifling variations in the causes, which on account of their minuteness, escape our perceptions or means of measurement.

2. The impracticability of following precisely the effects of a complicated set of causes.

3. The limitations of human faculties, as a result of which various causes are inevitably overlooked.

If our positive knowledge of a complex of causes admits of the arrangement of the possibilities in an enumerable body of equally likely cases, then probabilities affecting them may be defined as the quotient of the favourable cases to the total of equally possible cases.

If  $E$  denotes an event, and  $P(E)$  the probability of its occurrence, then if of  $t$  cases,  $f$  are favourable,

$$P(E) = \frac{f}{t}$$

This is known as the mathematical probability, and the method, as expressed in the above definition, as the determination of probabilities a priori—a description first applied in this connection by J. Bernoulli (d. 1705).

The  $f^{\wedge} = t - f$  cases, which remain after eliminating those favourable to the event, have a probability of  $P(\bar{E})$ , signifying the non-occurrence of  $E$ . Thus—

$$P(\bar{E}) = \frac{f^{\wedge}}{t} = \frac{t - f}{t} = 1 - P(E), \text{ and hence}$$

$$P(E) + P(\bar{E}) = 1.$$

If the events in the series  $E_1, E_2, E_3 \dots E_n$  are mutually exclusive, and the cases favourable to them,  $f_1, f_2, f_3 \dots f_n$ , exhaust all possibilities, so that  $f_1 + f_2 + f_3 + \dots + f_n = t$ , then

$$P(E_1) + P(E_2) + \dots + P(E_n) = 1$$

Mutually exclusive means that if one event occurs, the other cannot.

This theorem is known under various names, complete, total, direct, or simple probability, or the probability of "either or," or in its final form as the addition theorem. The various events, however, hitherto considered as mutually exclusive, may occur in connection with each other. The joint occurrence is then termed a compound event, and the probability again is termed compound or indirect, or the probability of "as well as." Problems arise where conditions are attached which affect the value of the probability in question. Such a probability is said to be relative, as against the absolute, to which no further condition is attached.

An event  $E$  may happen when every one of the mutually exclusive events  $E_1, E_2, \dots E_n$  has occurred previously. The time or order of the  $n$  events is not significant, but only whether they are independent or

dependent on each other. If independent, then the probability  $P(E)$  for the joint happening of the mutually exclusive events  $E_1, E_2, \dots E_n$  is equal to the product  $P(E_1, E_2, E_3 \dots E_n)$ , of the separate probabilities of the  $n$  events.

For of the  $f_1, f_2 \dots f_n$  favourable cases, one must happen, and since every case of the first group must combine with every case of the second group, and every one of these combined cases with every one in the third group, and so on,  $\therefore f = f_1 f_2 f_3 \dots f_n$  represents the favourable and equally likely cases.

Similarly the total possible cases is found to be

$$t = t_1 t_2 t_3 \dots t_n$$

and since  $P(E_1) = \frac{f_1}{t_1}, P(E_2) = \frac{f_2}{t_2}$ , etc.

$$\therefore P(E) = P(E_1 E_2 E_3 \dots E_n) = P(E_1) P(E_2) \dots P(E_n)$$

This is known as a combined probability, and leads to the multiplication theorem, namely, the probability for the occurrence of several independent events is the product of the probabilities of these events.

If the events  $E_2 E_3 \dots E_n$  agree with the first  $E_1$ , then  $E$ , which will now be denoted by  $E_1^n$ , will consist either in the occurrence of  $n$  equally likely events, or in  $n$  repetitions of the same event, the probability of which is

$$P(E) = P(E_1^n) = P(E_1)^n.$$

Hence the probability of  $n$  repetitions of the same event is equal to the  $n$ th power of its probability.

If the simple events  $E_1 E_2 \dots E_n = E$  are not independent, but the probability of one event in the series depends on the occurrence or non-occurrence of preceding events, the multiplication theorem becomes applicable.

In this instance, starting with the second event, relative and not absolute probabilities are required, presuming that all preceding events have occurred. Thus instead of  $P(E_2)$  we now have  $P_{E_1}(E_2)$ , and instead of  $P(E_3)$ ,  $P_{E_1 E_2}(E_3)$ , and finally instead of  $P(E_n)$ ,  $P_{E_1 E_2 \dots E_{n-1}}(E_n)$ , so that  $P(E) = P(E_1) P_{E_1}(E_2) P_{E_1 E_2}(E_3) \dots P_{E_1 E_2 \dots E_{n-1}}(E_n)$ , whence the probability for the occurrence of several mutually dependent events is the product of their probabilities, the probability of each individual event being calculated on the assumption that all preceding events in the series have happened.

EXAMPLE. To find  $p \frac{[r]}{wxyz \dots (m)}$ , the probability that *exactly*  $r$  lives out of  $m$

lives will survive a year. To find this, all possible combinations of  $m$  factors  $r$  at a time must be formed, and summed. If we take one such factor

$$p_1 \cdot p_2 \cdot \dots \cdot p_r \cdot (1 - p_m) (1 - p_{m-1}) \cdot \dots \cdot (1 - p_{r+1})$$

and multiply out the result will yield terms with factors of  $p_1, p_2$ , etc.

If this be done, with each such factor, the total sum will be a series of products of  $p_1 \cdot p_2 \cdot \dots \cdot p_m$  from  $r$  upwards. Let  $Z_k$  represent the sum of  $k$  factors of the series  $p_1 \cdot p_2 \cdot \dots \cdot p_m$ . Then

$$p \frac{[r]}{xyz \dots (m)} = A_0 Z_r + A_1 Z_{r+1} + \dots + A_{m-r} Z_m \quad (1)$$

where  $A_0, A_1$ , etc., are coefficients independent of  $p$ , which have to be determined. To evaluate these coefficients, assume all  $p$ 's to be equal. Then each term of

$$p \frac{[r]}{xyz \dots (m)} \text{ becomes clearly } p^r (1 - p)^{m-r} \text{ and the sum of all such terms is}$$

$$(m, r) p^r (1 - p)^{m-r} \quad (2)$$

where  $(m, r)$  denotes the combinations of  $m$  things  $r$  at a time,

Equation (1) then becomes

$$(m, r) p^r + A_1 (m, r + 1) p^{r+1} + A_2 (m, r + 2) p^{r+2} + \dots + A_{m-r} p^m \quad (3)$$

$A_0 = 1$ , since all products of  $r$  factors  $p$  occur only once.

By comparing the coefficients of the successive powers of  $p$  in (3) and in (2) expanded we have

$$\begin{aligned} -(m, r) (m - r, 1) &= A_1 (m, r + 1); (m, r) \\ (m - r, 2) &= A_2 (m, r + 2) \\ -(m, r) (m - r, 3) &= A_3 (m, r + 3) \dots \\ (-1)^{m-r} (m, r) (m - r, m - r) &= A_{m-r} \end{aligned}$$

whence

$$\begin{aligned} A_0 &= 1, A_1 = -(r + 1, 1), A_2 = (r + 2, 2) \\ A_3 &= -(r + 3, 3) \dots A_{m-r} = (-1)^{m-r} \\ &(m, m - r). \end{aligned}$$

Substituting these values in (1), finally,

$$p \frac{[r]}{xyz \dots (m)} = Z_r - (r + 1, 1) Z_{r+1} + (r + 2, 2) Z_{r+2} \dots + (-1)^{m-r} (m, m - r) Z_m \quad (4)$$

Now if the expression

$$\frac{Z^r}{(1 + Z)^{r+1}} = Z^r (1 + Z)^{-(r+1)}$$

be expanded, it will be found to reproduce the successive terms of equation (4).

Accordingly, remembering the exact meaning to be attached to the  $Z^r$ , and stopping at  $Z^m$ , we may write symbolically

$$p \frac{[r]}{xyz \dots (m)} = \frac{Z^r}{(1 + Z)^{r+1}} \quad (5)$$

This is the result as stated in Mr. George King's *Textbook of the Institute of Actuaries*, Part II, page 18, derived by a slightly different process given by Czuber, vol. 1, pages 120, etc., and II, page 280, etc., also quoted by Arne Fisher, page 42, etc.

Passing to the allied problem: to find

$p \frac{r}{xyz \dots (m)}$ , the probability that at least  $r$  lives out of  $m$  will survive a year. This is the sum of the probabilities that exactly  $r$  lives will survive; that exactly  $r + 1$  lives will survive, and so on, up to and including the probability that all the  $m$  lives will survive, or

$$\begin{aligned} \frac{r}{xyz \dots (m)} &= p \frac{[r]}{xyz \dots (m)} \\ &+ p \frac{[r + 1]}{xyz \dots (m)} + \dots + p \frac{[m]}{xyz \dots (m)} \end{aligned}$$

which, with the aid of the symbolical formula (5), becomes

$$\begin{aligned} &= Z^r - (r + 1, 1) Z^{r+1} + (r + 2, 2) Z^{r+2} \\ &+ \dots + (-1)^{m-r} (m, m - r) Z^m \\ &+ Z^{r+1} + (r + 2, 1) Z^{r+2} + \dots \\ &+ (-1)^{m-r-1} (m, m - r - 1) Z^m \\ &+ Z^{r+2} + \dots + (-1)^{m-r-2} \\ &(m, m - r - 2) Z^m \end{aligned}$$

$$\begin{aligned} &+ Z^m \\ &= Z^r - r Z^{r+1} + (r + 1, 2) Z^{r+2} + \dots \\ &+ (-1)^{m-r} (m - 1, m - r) Z^m \end{aligned}$$

which may be represented analogously by

$$p \frac{r}{xyz \dots (m)} = \frac{Z^r}{(1 + Z)^r} \quad (6)$$

Formulae (5) and (6) are of great utility in dealing with joint life probabilities. They apply correspondingly to probabilities for  $n$  years, or to joint life annuities, assurances, etc. (See *Text Book*, Part II, page 133.)

(For simple applications to life contingencies, see **PROBABILITIES OF LIFE**.)

**PROBABILITIES OF LIFE.**

If there be  $l_x$  persons aged  $x$  exactly, and of these  $l_{x+n}$  attain age  $x+n$ , then the probability that a person aged  $x$  will survive  $n$  years is  $\frac{l_{x+n}}{l_x}$ . The symbol for this is  ${}_n p_x$ , hence

$${}_n p_x = \frac{l_{x+n}}{l_x}$$

from this, if  $n = 1$ ,  ${}_1 p_x$  or, as it is written,

$$p_x = \frac{l_{x+1}}{l_x}$$

Equally for a person aged  $y$ , we have

$${}_n p_y = \frac{l_{y+n}}{l_y}$$

The probability that  $x$  and  $y$  will both survive  $n$  years is  ${}_n p_x \times {}_n p_y = {}_n p_{xy}$

$$= \frac{l_{x+n}}{l_x} \cdot \frac{l_{y+n}}{l_y} = \frac{l_{x+n} \cdot l_{y+n}}{l_{xy}}$$

The probability that  $x$  will not live  $n$  years, that is, that he will die within  $n$  years,

$$\text{is } 1 - {}_n p_x = \frac{l_x - l_{x+n}}{l_x}$$

$$= {}_n q_x, \text{ or } q_x \text{ when } n = 1$$

$$\therefore {}_n q_x = 1 - {}_n p_x = \frac{l_x - l_{x+n}}{l_x}$$

The probability that  $x$  will die within the year is  $q_x = \frac{d_x}{l_x} = \frac{l_x - l_{x+1}}{l_x}$ ; that  $x$  will die in the  $n$ th year is  ${}_{n-1} | q_x = \frac{d_{x+n-1}}{l_x}$

$$= \frac{l_{x+n-1} - l_{x+n}}{l_x} = {}_{n-1} p_x \cdot q_{x+n-1} \text{ or}$$

$$= \frac{l_{x+n-1}}{l_x} \cdot \frac{d_{x+n-1}}{l_{x+n-1}} = {}_{n-1} p_x \cdot q_{x+n-1}$$

The probability that neither  $x$  nor  $y$  will survive  $n$  years, that is that both will die within that time, is  ${}_n q_x \times {}_n q_y$  or  ${}_n q_{xy} = (1 - {}_n p_x)(1 - {}_n p_y)$ .

The complementary probability, that one at least of the two will survive, namely  ${}_n p_{xy}$ , is the probability that both will not die during the  $n$  years, i.e.  $1 - {}_n q_{xy}$ , or

$${}_n p_{xy} = 1 - (1 - {}_n p_x)(1 - {}_n p_y) = {}_n p_x + {}_n p_y - {}_n p_{xy}$$

The probability that  $x$  will survive and  $y$  die within the  $n$  years is

$${}_n p_x(1 - {}_n p_y) = {}_n p_x - {}_n p_{xy}$$

The probability that exactly one of the two lives will survive without specifying which of them is the probability that  $x$  will survive and  $y$  die, plus the probability that  $y$  will survive and  $x$  die. From the last equation this sum is seen to be

$${}_n p_x + {}_n p_y - {}_n p_{xy}$$

The probability that one at least of  $x$  and  $y$  will die within  $n$  years is the probability that the joint lives will fail, i.e.

$${}_n q_{xy} = 1 - {}_n p_{xy}$$

(For fuller treatment see G. King, *Text Book*, Part II, c. II, and for general formula involving  $m$  lives refer to article **PROBABILITIES**.)

**PROBABILITIES OF LIFE AND DEATH.**

(See **PROBABILITIES OF LIFE: MORTALITY TABLE, THE**.)

**PROBATE.**

(See **CLAIMS**.)

**PROFIT AND LOSS ACCOUNT, SPECIMEN.**

(See **ACCOUNTANCY DEPARTMENT**.)

**PROFITS.**

(See **ANALYSIS OF SURPLUS; SOURCES OF SURPLUS; BONUS**.)

**PROFITS, DISTRIBUTION OF.**

(See **DISTRIBUTION OF PROFITS**.)

**PROFITS, DIVISION OF.**

(See **DISTRIBUTION OF PROFITS; PROSPECTUS, PREPARATION OF**.)

**PROOF OF AGE.**

(See **PROSPECTUS, PREPARATION OF; AGE, PROOF OF**.)

**PROOF OF DEATH.**

(See **CLAIMS**.)

**PROOF OF TITLE.**

(See **TITLE, PROOF OF; TITLE, INVESTIGATION OF**.)

**PROOFS ON POLICIES.**

(See **WINDING-UP**.)

**PROPOSAL.**

(See **CONTRACT, PARTIES TO**.)

**PROPOSAL FORM.**

Doctrine of "Uberrima fides." In life assurance, as in every form of commercial

transaction, there must be an offer of business on the one hand and an acceptance on the other. The offer in life assurance is known as the proposal, and since the assurance office before the receipt of the proposal is ignorant of the premises upon which the contract is to depend, it is imperative that the form upon which the proposal is made be framed so as to elicit all necessary information. As the statements made in the proposal become the basis of the contract the truth of these statements with regard to material facts is essential. Not only must the proposer abstain from making any misrepresentation, but for the contract to be valid he must disclose all material information. In short, he must exercise the utmost degree of good faith—this is known as the doctrine of *uberrima fides*.

The questions to be asked in a proposal form will, of course, depend upon the particular type of assurance for which it is to be used. Many offices in order to simplify matters make one kind of proposal form relate to as many classes of policy as possible. On the other hand, a considerable and growing number of offices now make it a practice to issue leaflets describing the characteristics of particular types of assurance, and embody in each leaflet a form of proposal specially adapted to the policy concerned. Opinions differ as to the practical merits of these methods of dealing with proposals, but whatever view be taken it will be agreed that all the common classes of life assurance and annuity granted at the present day can be grouped under five headings, each of which can be dealt with upon the basis of one proposal form. These groups are—

(a) Assurances subject to medical examination.

(b) Assurances in connection with which the office must be satisfied that the life proposed for assurance is in good health, but where no actual examination is to be insisted upon (i.e. non-medical schemes).

(c) Cases in which no evidence as to state of health is necessary.

(d) Children's deferred assurances.

(e) Annuities.

In this section the specimen forms and the remarks thereon will relate to ordinary life assurances as distinguished from industrial assurances. The underlying principles of the two classes of business are identical, but certain differences occur in the practical conduct of industrial assurance business

to which attention is drawn in the section relating to industrial assurances.

Considering first (a) assurances subject to medical examination, which form the bulk of the ordinary life assurance business transacted in this country at the present time, it will be at once realized that certain questions that might be included in the proposal form can, if desired, be left for the doctor to ask at the time of the medical examination. A certain minimum amount of information is essential, and consequently a short form of proposal necessitates a relatively long medical report form and vice versa. The forms used by assurance offices vary considerably, but in these days of increased competition the tendency appears to lie in the direction of shortening the proposal form as much as possible. This meets with the approval of the proposer and the agent, although no doubt the change is not so appreciated by the medical examiner, for whom it means additional work. However short a proposal form may be, certain questions must be asked in it, and it is important that they should be couched in simple and straightforward language so as to avoid any possible error in their interpretation. The following specimen form contains what may be regarded as the minimum number of questions that can be included in a proposal form that is to be used for all kinds of assurance in connection with which a medical examination of the life proposed for assurance is to be obtained.

It should be remarked in passing that the foregoing form and the other forms included in this section should be regarded, not as standard forms but merely as specimens, included for the purpose of illustrating the main points of interest arising in life assurance practice.

Question No. 1 is required in a case in which one person is proposing to effect an assurance upon the life of another. Although many proposers appear to be ignorant of the fact that it is possible to assure the life of another, quite a number of policies are effected in this way, particularly in connection with financial transactions. Before an office will agree to grant such a policy it will, of course, satisfy itself that the person proposing to effect the assurance has an insurable interest in the life to be assured, in accordance with the provisions of the Life Assurance Act, 1774. The answer to question No. 1 (e) will furnish information upon this point which can, of course, if the office think fit, be amplified by subsequent

PROPOSAL FORM—GROUP (a)

Assurance Company

Head Office :.....

PROPOSAL FOR AN ASSURANCE OF £.....

Description of Assurance . . . . .
Whether with profits or without profits . . . . .
Are premiums to be paid annually, half-yearly, or quarterly? . . . . .
Are premiums to be paid throughout the whole duration of the assurance or for a shorter period? . . . . .

1. (a) Name in full of the person proposing to effect the assurance . . . . . (a)
(b) Whether married or single . . . . . (b)
N.B.—If a female and married please state maiden surname and also full name and profession or occupation of husband . . . . .
(c) Address . . . . . (c)
(d) Profession or occupation . . . . . (d)
(e) Nature and extent of interest in the Life Proposed (to be completed in cases in which one person is proposing to assure the life of another) . . . . . (e)

2. (a) Name in full of the person whose life is proposed for assurance (herein called the Life Proposed) . . . . . (a)
(b) Whether married or single . . . . . (b)
N.B.—If a female and married, please state maiden surname and also full name and profession or occupation of husband . . . . .
(c) Address . . . . . (c)
(d) Profession or occupation . . . . . (d)
(e) Age next birthday<sup>1</sup> . . . . . (e)
(f) Date and place of birth . . . . . (f) (date) (place)
<sup>1</sup> N.B. Proof of age will be required before a claim is paid and it is suggested that this be produced at the outset.

3. Has the Life Proposed ever suffered from any serious illness, disease, or accident? If so, give dates and particulars . . . . .

4. (a) Does the Life Proposed usually enjoy good health? . . . . . (a)
(b) Is he in good health at the present time? . . . . . (b)

5. (a) Are the habits of the Life Proposed strictly sober and temperate? . . . . . (a)
(b) Have they always been so? . . . . . (b)

6. (a) Has the Life Proposed ever resided abroad? If so, state when, where, and for how long? . . . . . (a)
(b) Has the Life Proposed any prospect or intention of going abroad, or of engaging in any business or occupation more than usually hazardous? If so, give particulars . . . . . (b)
(c) Has he any prospect or intention of engaging in Naval or Military service or in aviation? . . . . . (c)

7. (a) Has any proposal on the Life Proposed ever been made to this or to any other office? . . . . . (a)
(b) If so, state in each case the name of the office, the date of the proposal, and whether it was accepted on the ordinary terms or postponed, declined, or withdrawn . . . . . (b)

8. What are the name and address of the Medical Attendant of the Life Proposed? . . . . .

9. What are the names, addresses, and professions or occupations of two intimate friends (not interested in the proposed assurance) to whom reference can be made ?

Name \_\_\_\_\_  
 Address \_\_\_\_\_  
 Occupation \_\_\_\_\_  
 How long known \_\_\_\_\_

DECLARATION

I..... (the Life Proposed) do hereby declare that all the answers to the foregoing questions, numbered 1 to 9, both inclusive, are in every respect true and correct.

Dated this.....day of.....19...

Signature .....

and I.....(the person proposing to effect the assurance) do hereby declare that all the answers to the foregoing questions, numbered 1 to 9, both inclusive, are in every respect true and correct. And I do hereby agree that this Proposal and Declaration, and the answers to the questions asked by the Company's medical examiner with reference to this Proposal, shall be the basis of the contract between me and the..... Assurance Company.

Dated this.....day of.....19...

Signature .....

- N.B.—(1) In the case of a person proposing to effect an assurance on his own life he is to sign in both places.  
 (2) The Company is under no liability in respect of this Proposal until it has been passed by the Directors at the Head Office, and the Company's printed receipt issued in exchange for the first premium.

inquiry. Most offices use a special proposal form in cases where persons are proposing to assure their own lives, in which case this question as well as the first portion of the declaration appearing at the foot of the specimen proposal form are omitted.

Sects. (a), (b), and (c) of question No. 2 are self-explanatory. Sect. (d) relating to occupation is most important, and this subject will be dealt with fully at a later stage under the heading of "Effect of Occupation."

It will be observed that at the foot of this question a note is inserted suggesting that proof of age should be produced at the outset. It will be realized that proof of age before the issue of a policy will often save considerable trouble later, but for obvious reasons assurance companies are not in a position to insist upon this practice in general. The evidence of age preferred is a certificate of birth or of baptism, provided the date of birth is inserted, with the addition, in the case of a married woman, of a certificate of marriage to identify her with the person to which the certificate of birth or baptism refers. In the case of persons of advanced age, particularly annuitants, it is occasionally necessary for an office to admit the age upon the evidence furnished by an entry in a family Bible, whilst in exceptional cases, generally relating to lives of foreign origin, it may be necessary to

accept what is really no evidence at all, a small extra premium beyond that applicable to the alleged age being sometimes charged for waiving the production of the usual evidence.

Questions No. 3 and 4 call for no comment. The answers to question No. 5 are usually "yes." Apart from the fact that a proposer realizes that a hint of intemperance will seriously prejudice his chances of acceptance, very few people will admit to themselves that they are not temperate in their habits. Reference will be made to the important question of habits under a later heading (page 433).

Question No. 6 with regard to residence and occupation will be dealt with later.

Great importance is attached to question No. 7 with regard to proposals made to other offices, and if the information given is not satisfactory further inquiries will be made.

The information for which question No. 8 asks is to enable the office to obtain full details in doubtful cases with regard to illnesses from which the life proposed has suffered. In any such case a special form, technically known as the medical attendant's report form (see below), will be dispatched to the doctor named.

Question No. 9 asks for the names of two friends to whom forms known as friend's report forms (see below) are sent.

PROPOSAL FORM—GROUP (c)

.....Assurance Company

Head Office :.....

PROPOSAL FORM

Description of Policy.....	Sum proposed £..... Or amount of each instalment £..... Number of instalments.....	Age at which the endowment or the first instalment is to become payable.....
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1. (a) Name in full of the person proposing to effect the endowment . . . . .	(a) .....
(b) Address . . . . .	(b) .....
(c) Profession or occupation . . . . .	(c) .....
(d) Relationship to person proposed . . . . .	(d) .....
2. (a) Name in full of the person upon whose life the endowment is to depend . . . . .	(a) .....
(b) Address . . . . .	(b) .....
(c) Profession or occupation (if an adult) . . . . .	(c) .....
(d) Age next birthday <sup>1</sup> . . . . .	(d) .....
(e) Date and place of birth . . . . .	(e) ..... (date) ..... (place) .....
<sup>1</sup> N.B.—Proof of age will be required before the endowment is paid, and it is suggested that this be produced at the outset.	
3. (a) Name in full of the person to whom the endowment is to be payable . . . . .	(a) .....
(b) Address . . . . .	(b) .....
(c) Profession or occupation . . . . .	(c) .....
4. (a) Name in full of the person to whom the premiums are to be returned should the person upon whose life the endowment is to depend die before the endowment becomes payable . . . . .	(a) .....
(b) Address . . . . .	(b) .....
(c) Profession or occupation . . . . .	(c) .....

DECLARATION

I.....(the person proposing to effect the endowment) do hereby declare that all the answers to the foregoing questions numbered 1 to 4, both inclusive, are in every respect true and correct, and I do hereby agree that this Proposal and Declaration shall be the basis of the contract between me and the.....Assurance Company.

Dated this.....day of.....19....

(Signature).....

The declaration at the foot of the form to which reference is made elsewhere under the heading of "Policy Form and Conditions" must be signed by both the person proposing to effect the assurance and by the life proposed. It will be noted that the former agrees that the answers to the various questions and also the answers made to the questions to be put by the medical examiner shall be the basis of the contract.

Leaving for a moment group (b), assurances in connection with which it is necessary that the assurance office be satisfied as to the state of health of the life proposed but where medical examination is to be waived, which will be considered in detail under the heading of "Life assurance without medical examination," we pass to group (c). In this group we include all forms of assurance for which the office requires no evidence of health whatever, e.g. pure endowments, whether on the lives of adults or of children, educational endowments, and, in fact, any kind of contract under which a sum of money is to be paid only in the event of survivance to a definite fixed date.

Since this type of policy involves no actual life assurance it is unnecessary for the office to ask any questions in the proposal form with regard to personal or family history. The proposal form is therefore very simple, and contains only a few questions asking for short particulars with regard to the persons concerned, and to the destination of the policy-moneys. A typical form is given on page 419, the questions of which are self-explanatory.

It should, perhaps, be mentioned that pure endowments and educational endowments

are often issued subject to premiums the payment of which is dependent upon the survivance of the person effecting the policy, usually a parent or guardian. In such a case information with regard to the personal and family history of this life would be required, and a supplementary form of proposal is usually attached to the pure endowment proposal form, asking the questions usually included in a proposal form for "Life Assurance without Medical Examination" (see below). It is unusual for an actual medical examination to be made.

We now pass to group (d), children's deferred assurances, and before proceeding to deal with the particular type of proposal form used in these cases, mention should be made of the fact that, as indicated by the title, the office is not at risk under a policy of this type until the expiry of the deferment period. In the majority of cases by that time a considerable reserve has accumulated, and partly on that account and partly because medical examinations of children are not considered to be satisfactory from the point of view of assurance, it is very unusual for a child to be medically examined. Accordingly it will be realized that in the proposal form, since evidence of health is necessary, questions very similar to those asked in a proposal form designed for use under a scheme for "life assurance without medical examination" must be asked, with the omission for obvious reasons of certain inappropriate questions, such as those relating to habits. The following is a specimen form of proposal for this class of contract—

PROPOSAL FORM—GROUP (d)

..... Assurance Company

Head Office :.....

PROPOSAL FOR £.....

Description of policy required, i.e. whole of life assurance or endowment assurance—if the latter, state the age at which the policy is to mature. At what age is the assurance to commence? . . . . .	----- ----- ----- -----
1. (a) Name in full of the person proposing to effect the assurance . . . . . N.B.—If a married woman, please state maiden surname and also full name and profession or occupation of husband.	(a) ----- -----
(b) Address . . . . .	(b) -----
(c) Profession or occupation . . . . .	(c) -----
(d) Relationship to Life Proposed . . . . .	(d) -----

2. (a) Name in full of the person whose life is proposed for assurance (herein called the Life Proposed) . . . . . (a) \_\_\_\_\_

(b) Address . . . . . (b) \_\_\_\_\_

(c) Age next birthday<sup>1</sup> . . . . . (c) \_\_\_\_\_

(d) Date and place of birth . . . . . (d) \_\_\_\_\_ (date) \_\_\_\_\_ (place) \_\_\_\_\_

<sup>1</sup> N.B.—Proof of age will be required before the policy is issued.

---

3. Has the Life Proposed ever suffered from any illnesses? If so, give dates and particulars. \_\_\_\_\_

---

4. (a) Is the Life Proposed healthy? . . . . . (a) \_\_\_\_\_

(b) Has he any bodily infirmity? . . . . . (b) \_\_\_\_\_

---

5. Is there any present prospect or intention of the Life Proposed going abroad or entering the Army or Navy or engaging in aviation? If so, give particulars. . . . . \_\_\_\_\_

6. Family History. State the particulars required in the following table with regard to each of the member of the Life Proposed's family.

RELATIVE.	IF ALIVE.			IF DEAD.		
	Age.	State of Health. <sup>1</sup>	Age at Death.	Cause of Death.	Duration of Illness.	Year of Death.
Father . . . . .						
Mother . . . . .						
Brothers . . . . .						
Sisters . . . . .						

7. Have any near relatives of the Life Proposed died of or been afflicted with insanity or consumption? . . . . . \_\_\_\_\_

---

8. (a) Has any proposal on the Life Proposed ever been made to this or to any other office? (a) \_\_\_\_\_

(b) If so, state in each case the name of the office, the date of the proposal and whether it was accepted on the ordinary terms, or postponed, declined, or withdrawn . . . . . (b) \_\_\_\_\_

---

9. Name and address of the Medical Attendant of the Life Proposed . . . . . \_\_\_\_\_

DECLARATION

I.....(the person proposing to effect the assurance) do hereby declare that the life proposed for assurance is in good health and I do hereby declare on behalf of myself and of the life proposed for assurance that all the answers to the foregoing questions, numbered 1 to 9, both inclusive, are in every respect true and correct, and I agree that this Proposal and Declaration shall be the basis of the contract of assurance hereby proposed.

Dated this.....day of.....19....

(Signature).....

<sup>1</sup> In any case where the health is not good, the nature of the defect should be indicated.

For an explanation of most of the points arising in connection with the foregoing proposal form, the reader is referred to "Assurances Subject to Medical Examination," page 416, and to "Life Assurance Without Medical Examination," below. Attention is, however, directed here to two points, the first in connection with the note appearing at the foot of question 2, and the second in connection with the declaration at the foot of the form. Deferred assurances usually include a number of options generally to be exercised by the life assured when he attains age 21. It is essential that the life assured shall have attained his majority at the time when he exercises the option, and moreover any error in the age would entail a number of troublesome alterations, with the result that many offices insist that the age shall be proved at the outset. It is a provision of this class of contract that the policy shall become the property of the life assured at the end of the deferment period, and it will be noted that the declaration is drafted so that the proposer makes the declaration on behalf of the life proposed for assurance as well as on his own behalf. There is some doubt, however, as to the legal correctness of this practice, and the matter must, therefore, for the moment, be considered to be *sub judice*.

As mentioned previously, it is unusual for the child to be medically examined. In exceptional circumstances, however, such, for instance, as a case in which the period of deferment was to be very short, say, two or three years, an examination would probably be required, because the office would be unable to accumulate any appreciable reserve against the liability that it would have to assume when the assurance came into full force.

In some cases provision is made upon payment of appropriately increased premiums during the deferment period for such premiums to cease in the event of the death of the person effecting the assurance. This life is not medically examined, as a rule, but a supplementary proposal form, similar to that used in similar circumstances in connection with pure endowments, would be completed.

We now consider group (e), annuities, which are really the converse of assurances, and in ascertaining the questions that should be asked in the proposal form the main point to be kept in view is that whatever be the type of annuity the early death of the nominee, i.e. the person during whose

life the annuity is payable, cannot involve the office in any loss. In most cases, of course, the earlier the death, the greater is the profit of the office concerned. It follows, therefore, that little information is necessary with regard to the nominee. On page 423 is a typical proposal form for an annuity. Although many offices use a special proposal form for deferred annuities, it is quite possible to deal with all types of annuity upon the basis of a common proposal form upon the lines of that indicated.

The only point with regard to the form to which attention is directed, is the fact that the signatures to it must be witnessed. This proceeding is necessary in order that signatures to receipts may be compared with the original signatures, and any risk of fraud minimized.

Having briefly indicated the main features of the proposal forms used for groups (a), (c), (d), and (e), we return to group (b), policies in connection with which the office must be satisfied that the life proposed for assurance is in good health, but for which an actual examination is not to be insisted upon. It should, perhaps, be mentioned here that the many special kinds of contract issued occasionally by life assurance offices necessitate the use of special proposal forms or of ordinary proposal forms or combinations of them in a special manner, but it is impracticable owing to considerations of space to give details as to the method of dealing with these cases.

**Life Assurance Without Medical Examination.** Although in the very early days of life assurance medical examinations, as we understand the term at the present time, did not take place, and policies were virtually issued without medical examination, it became in course of time a fixed practice to have all persons proposed for assurance examined. Within recent years, however, there has been a distinct and growing inclination on the part of offices to grant life assurance on a non-medical examination basis.

The terms of the various schemes differ, but the majority apply only to persons assuring their own lives. Hence a proposal form designed for use in connection with a scheme of this nature would not include a question on the lines of No. 1 in the specimen proposal form on page 417, and the declaration at the foot of the form would, of course, be suitably modified.

These schemes apply only to persons under a certain age. The limit is usually fixed at

PROPOSAL FORM—GROUP (e)

..... Assurance Company

Head Office :.....

PROPOSAL FOR THE PURCHASE OF AN ANNUITY OF £.....

Description of Annuity.	Whether payable by half-yearly or quarterly instalments? Whether apportionable or non-apportionable? (See note below <sup>1</sup> )	Whether the annuity is to be immediate or deferred? If the latter, please state— (a) The age at which the annuity is to commence (b) Whether premiums are to be paid annually, half-yearly, or by a single payment (c) Whether premiums are or are not to be returned in the event of death during the deferral period
1. (a) Name in full of the person proposing to purchase the annuity . . . . .		(a) .....
(b) Address . . . . .		(b) .....
(c) Profession or occupation . . . . .		(c) .....
2. (a) Name in full of the person to whom the annuity is to be payable (if other than the person named in the reply to question No. 1) . . . . .		(a) .....
(b) Address . . . . .		(b) .....
(c) Profession or occupation . . . . .		(c) .....
3. (a) Name in full of the person during whose life the annuity is to be payable . . . . .		(a) .....
(b) Address . . . . .		(b) .....
(c) Profession or occupation . . . . .		(c) .....
(d) Age last birthday . . . . .		(d) .....
(e) Date and place of birth . . . . .		(e) ..... (date) ..... (place) .....
N.B.—A Certificate of Birth (or Baptism) must be produced. In the case of a married woman or a widow, the maiden surname must also be stated and a certificate of marriage produced.		

Dated this..... day of ..... 19.....

Signature of Witness..... Signature of the person proposing to purchase the annuity .....

Signature of Witness..... Signature of the person to whom the annuity is to be payable (if other than the person proposing to purchase the annuity) .....

Signature of Witness..... Signature of the person during whose life the annuity is to be payable .....

NOTE.—A person proposing to purchase an annuity on his or her own life should sign in the first two places.

<sup>1</sup> An apportionable annuity ceases with a final proportionate payment calculated up to date of death. A non-apportionable annuity ceases with the last full periodical payment prior to the date of death.

50, and any person over that age proposed for assurance would have to be examined in the usual way. Some offices only issue endowment assurances or double endowment assurances under their "non-medical" scheme, while others extend it to whole of life assurances. A glance at the prospectus of any office having a scheme of this nature will indicate a maximum sum assured, in excess of which no policy will be issued without medical examination. One office fixes this limit at £250, some at £1,000, while one is willing to issue policies for very large sums indeed without examination. Whilst a few offices only allow a relatively small proportion of the nominal sum assured in the event of death within, say, the first six months, the proportion increasing thereafter until the full sum assured becomes payable after the assurance has been in force for one year, on the other hand, most offices pay the full sum assured from the outset.

These schemes appeal not only to busy people who find it difficult to spare time for

a medical examination, but more particularly so to the apparently large section of the community which has a rooted objection to interviewing a doctor. Begun in a tentative manner by a few offices, time has proved that the mortality experienced in respect of the lives assured under these policies has not been unduly heavy, with the result that other offices have been induced to adopt the principle. The office saves the cost of a medical examination in many cases, but, of course, recourse must often be had to the private medical attendant for information which in other circumstances would have been obtained by the examining doctor. Very careful scrutiny is necessarily required in the case of lives proposing under these schemes, and the proposal form given on page 417 would have to be amplified to a considerable extent in order to include inquiries that in normal circumstances would be contained in the medical report form. The following specimen form will indicate the questions that it would be desirable to ask—

PROPOSAL FORM—GROUP (b)

..... Assurance Company.

Head Office :.....

PROPOSAL FOR AN ASSURANCE OF £..... UNDER THE SCHEME  
FOR LIFE ASSURANCE WITHOUT MEDICAL EXAMINATION

For description of assurance and questions 1 to 8 inclusive see description of assurance and questions 2 to 9 inclusive of the specimen proposal form on page 417.

<p>9. (a) What is (i) the height of the Life Proposed ? (ii) his weight ? . . . . .</p> <p>(b) Is the weight increasing, decreasing, or stationary ? . . . . .</p>	<p>(a) (i) _____ft. _____in. _____(ii) _____st. _____lb.</p> <p>(b) _____</p>
<p>10. Has the Life Proposed any bodily infirmity ? .</p>	<p>_____</p>
<p>11. (a) Has the Life Proposed been vaccinated ? . .</p> <p>(b) Has he had small pox ? . . . . .</p>	<p>(a) _____</p> <p>(b) _____</p>
<p>12. On how many occasions during the last 5 years has the Life Proposed been absent from his occupation through illness for more than a week ? . . . . .</p>	<p>_____</p>

13. Has the Life Proposed ever suffered from—

- (a) Any affection of
  - (i) Heart ? . . . . .
  - (ii) Lungs ? . . . . .
  - (iii) Liver ? . . . . .
  - (iv) Kidneys ? . . . . .
  - (v) Any other important organ ? . . . . .
- (b) Rupture ? . . . . .
- (c) Faints, fits of any kind or any nervous disorder ? . . . . .
- (d) Spitting of blood or other haemorrhage ? . . . . .
- (e) Ear discharge ? . . . . .
- (f) Tuberculous affection ? . . . . .
- (g) Rheumatism or gout ? . . . . .
- (h) Any other disease, accident, or surgical operation ? . . . . .

(a) \_\_\_\_\_  
 (b) \_\_\_\_\_  
 (c) \_\_\_\_\_  
 (d) \_\_\_\_\_  
 (e) \_\_\_\_\_  
 (f) \_\_\_\_\_  
 (g) \_\_\_\_\_  
 (h) \_\_\_\_\_

If so, state date, nature, and duration of illness and medical attendant (if any).

14. Family History. State the particulars required in the following table with regard to each of the members of the Life Proposed's family.

RELATIVE.	IF ALIVE.		IF DEAD.			
	Age.	State of Health. <sup>1</sup>	Age at Death.	Cause of Death.	Duration of Illness.	Year of Death.
Father . .						
Mother . .						
Brothers .						
Sisters . .						

<sup>1</sup> In any case where the health is not good, the nature of the defect should be stated.

15. Have any near relatives of the Life Proposed died of or been afflicted with insanity or consumption? If so, give particulars . . . . .

\_\_\_\_\_

DECLARATION

I.....(the Life Proposed) being the person in whose name the policy is to stand do hereby declare that all the answers to the foregoing questions, numbered 1 to 15, both inclusive, are in every respect true and correct. And I do hereby agree that this Proposal and Declaration shall be the basis of the contract between me and the..... Assurance Company.

Dated this.....day of.....19.....

Signature.....

N.B.—The Company is under no liability in respect of this Proposal until it has been passed by the Directors at the Head Office, and the Company's printed receipt issued in exchange for the first premium.

As indicated previously, the additional questions contained in a " non-medical examination " proposal form are similar to a number of the questions included in the medical report form used in normal cases, and accordingly any reference to them that

may be desirable will be deferred until the medical report form is discussed at a later stage. These additional questions are required in order to enable the principal medical officer of the company to decide whether he shall advise the directors that

the proposal may be passed at tabular rates or not. If, from the answers to the questions, there appeared to be the slightest doubt as to the eligibility of the life for assurance upon the normal terms, reference would be made to the private medical attendant. Should this fail to clear up the difficulty, the office would insist upon a medical examination in the ordinary way. It will be clear, therefore, that although a person may complete the special "non-medical examination" proposal form, it does not follow that he will be granted an assurance without medical examination. This will only be allowed if the answers to all the questions appear satisfactory to the directors.

**Friend's Report.** Immediately after a proposal has been received at the head office of a company, reference is made to the index of assured lives in order to ascertain whether any proposals have been previously received upon the life or not. Should an earlier proposal have been received, the papers would, of course, be scrutinized before dealing with the new application. The next stage in the proceedings, if evidence as to the state of health of the life proposed were necessary, would be to dispatch to the friends whose names had been given in the proposal forms what are commonly called "Friend's Reports" or "Private Referee's Reports." A specimen form follows—

*Confidential* ..... Assurance Company .....  
 ..... 19.....

Dear Sir,  
 A proposal has been made to this company for an assurance on the life of..... and your name has been given as one of the proposer's referees. The Directors will be much obliged if you will kindly favour them with replies to the following questions.  
 Any communication that you may make will be treated as confidential.  
 Yours faithfully,

To.....  
 .....

1. How long have you known the person whose life is proposed for assurance ? . . . . .	.....
2. Are you in the habit of seeing him frequently ?	.....
3. (a) When did you see him last ? . . . . .	(a) .....
(b) Was he then in good health ? . . . . .	(b) .....
(c) What is the general state of his health ? . . . . .	(c) .....
(d) Do you believe that he is now in good health ?	(d) .....
4. Has he to your knowledge ever suffered from any illness ? If so, please give particulars . . . . .	.....
5. (a) Is he strictly sober and temperate in his habits ? . . . . .	(a) .....
(b) Has he always been sober and temperate ?	(b) .....
6. (a) Has he any prospect or intention of proceeding beyond the limits of Europe ? . . . . .	(a) .....
(b) Are his circumstances such as are likely to lead him to go abroad ? . . . . .	(b) .....
7. Are you acquainted with any reason why an assurance on his life would be more than usually hazardous ? . . . . .	.....
8. Are you related to him, or have you any interest in the proposed assurance ? . . . . .	.....

Dated this.....day of ..... 19...  
 (Signed).....

The questions will indicate the nature of the information that the form is designed to obtain. If it appeared from the answer to question No. 1 that the referee had only known the life proposed for assurance for a short time, the office would, of course, ask for another name. A similar course would be adopted if the life proposed and the referee had not met for a considerable time, or if they were in the habit of seeing each other infrequently.

A suggestion or a hesitating answer in reply to question No. 4 would call for a letter to the private medical attendant.

Occasionally a doubtful answer will be given to question No. 5. The difficulty will generally be settled by a tactful letter sent to the referee. Should the reply be unsatisfactory, other sources of inquiry are, of course, available.

An affirmative answer to question No. 7 will demand correspondence.

Although no objection would usually be raised to a relation, other than a very near relative, a report would not, of course, be accepted from a person interested in the proposed assurance. The answer to the second portion of question No. 8 will, however, be generally negative, since the office usually stipulates that the persons given as referees shall not be interested in the proposed policy.

The replies to the questions in these forms vary considerably, although in most instances the answers are simply "yes" or "no." Some referees appear to think that praise of the life proposed is essential, while others occasionally indulge in hints. Very useful information is, however, sometimes disclosed which may have material bearing on the decision of the directors. No doubt, in a few instances information which should be disclosed is withheld, but it is felt that these forms serve a very useful purpose, not only in giving additional information to the office, but also in enabling it to check many of the statements made by the proposer. A point also of some importance with regard to these forms is that a referee will sometimes be found at a subsequent date in the list of lives assured solely as the result of an introduction to the office obtained in this way.

Although in the majority of cases the proposer will have warned the friend that he may receive an application for information from an assurance company, occasionally this is not done. As a result, the office is frequently met with a blank refusal to

give any information, in which case application is, of course, made for the name of another friend.

Should a medical practitioner be given as a referee, it is advisable to place a note upon the form to the effect that he is referred to as a friend and not in his professional capacity.

It is of importance when considering the information given in these forms to bear in mind the fact that each person judges others by his own standard, and that these standards vary considerably, particularly so with regard to such matters as habits.

**Agent's Confidential Report.** In the case of proposals submitted by an agent, it is customary for the office to request him to complete a form known as the "Agent's Confidential Report." These forms are also used in cases which do not come through the introduction of an agent, when they are filled up by the inspector or other official who has been in touch with the proposer. The forms are similar in character to the Friend's Report Forms, but usually include a few additional questions. The specimen given on the next page will indicate the type of questions asked.

The points requiring comment in connection with most of the questions have been dealt with under the heading of Friend's Reports. Reference may, perhaps, be made, however, to questions 9 and 10, the answers to which may indicate the desirability or otherwise of the proposal.

Although offices use these forms, they do not often produce any very useful information. An agent is not, of course, expected to introduce unsatisfactory proposals, and it is unlikely, therefore, that information prejudicial to the acceptance of the proposal will be disclosed.

**Medical Report.** As soon as the friend's and agent's reports have come to hand they, together with the proposal and any other papers relating to the case, will be scrutinized in order to detect any unusual features that may be present. Any questions that may arise will be settled, and any additional information that may be required will be obtained by correspondence, after which the office will communicate with the medical examiner, unless, of course, the proposal is under a "non-medical" scheme.

Most of the large offices have doctors in attendance at the head office; in some cases the doctor is available during the whole of the business hours, but in most instances examinations are made only at stated times. It is, of course, impracticable for many

.....Assurance Company

AGENT'S CONFIDENTIAL REPORT

1. How long have you known Mr..... whose life is proposed for assurance ? . . . .	
2. Are you in the habit of seeing him frequently ?	
3. When did you see him last ? . . . .	
4. Have you ever known or heard of his being indisposed ? If so, please state the nature of the illness and when it occurred . . . .	
5. Do you think that he possesses a sound and unimpaired constitution ? . . . .	
6. Is it within your knowledge that his habits and manner of living are strictly temperate, and are in no way injurious to health ? . . . .	
7. Has he to your knowledge any prospect or intention of going beyond the limits of Europe ?	
8. Is his occupation more than usually hazardous ?	
9. What is your opinion as to his financial position ?	
10. What is the object of the proposed assurance ?	
11. Can you state from personal knowledge that the referees are respectable, and that their testimonials are entitled to credit ? . . . .	
12. Do you find the answers in the proposal con- sistent with your own knowledge ? . . . .	

Signature of Agent .....

Date.....19..... Address .....

proposers to attend at the head office, and for these persons other arrangements have to be made. A few offices make it a practice to employ the private medical attendants of the proposers to make examinations. This may be satisfactory from the point of view of having a report made by a person well acquainted with the medical history of the examinee. On the other hand, the doctor may consider himself to be in a difficult position professionally, and moreover in some cases a second opinion which would be desirable cannot be obtained. On the whole, the practice adopted by most of the offices of appointing in the principal provincial towns physicians who are instructed with regard to the special matters

in connection with medical examinations to which the office attaches importance is probably more satisfactory.

As indicated at an earlier stage, the medical report form and the proposal form are mutually dependent. Although certain information is essential, opinions differ as to the particular form in which some of the questions should be included. No doubt the principal medical officer would be consulted in connection with the drafting of the medical report form, and his views would carry weight in this connection. The specimen form that follows is designed for use in conjunction with the proposal form already described, and may be regarded as typical of the forms generally in use.

Confidential.

Assurance Company

MEDICAL REPORT

1. Name of person whose life is proposed for assurance . . . . .	
2. What is his age ? . . . . .	
3. (a) Has he been vaccinated ? . . . . .	(a) -----
(b) Has he had small-pox ? . . . . .	(b) -----
4. For what ailments has he consulted his usual medical attendant, especially during the last five years ? . . . . .	
5. Has he consulted any other medical man? If so, on what occasions and for what diseases?	
6. Has he ever suffered from—	
(a) Any affection of (i) heart ?	(a) -----
(ii) lungs ?	
(iii) liver ?	
(iv) kidneys ?	
(v) any other important organ ?	
(b) Rupture ? . . . . .	(b) -----
(c) Faints, fits of any kind, or any nervous disorder ? . . . . .	(c) -----
(d) Spitting of blood or other haemorrhage ?	(d) -----
(e) Ear discharge ? . . . . .	(e) -----
(f) Tuberculous affection ? . . . . .	(f) -----
(g) Rheumatism or gout ? . . . . .	(g) -----
(h) Any other disease, accident, or surgical operation ? . . . . .	(h) -----
If so, state date, nature and duration of illness, and medical attendant (if any).	

7. Family History. State the particulars required in the following table with regard to each of the members of the Life Proposed's family.

RELATIVE.	IF ALIVE.		IF DEAD.			
	Age.	State of Health. <sup>1</sup>	Age at Death.	Cause of Death.	Duration of Illness.	Year of Death.
Father . . . . .						
Mother . . . . .						
Brothers . . . . .						
Sisters . . . . .						

<sup>1</sup> In any case where the health is not good, the nature of the defect should be stated.

8. Have any near relatives of the Life Proposed died of or been afflicted with insanity or consumption? If so, give particulars . . . . .

I hereby declare that the foregoing answers are to the best of my knowledge and belief true and correct.

Signature of person whose life is proposed for assurance .....

Dated this.....day of.....19.....

<p>9. (a) Are you personally acquainted with the life proposed for assurance? If so, how long have you known him? . . . . .</p> <p>(b) Have you ever attended him professionally? If so, on what occasions, and for what complaints? . . . . .</p>	<p>(a) -----</p> <p>(b) -----</p>
<p>10. (a) What is his general appearance? . . . . .</p> <p>(b) What is his apparent age? . . . . .</p> <p>(c) What are his height and weight? (These should be ascertained by actual measurement and it should be stated whether the weight given includes the weight of clothes.) . . . . .</p> <p>(d) Is the weight increasing, decreasing, or stationary? . . . . .</p> <p>(e) What is the circumference of the chest? . . . . .</p> <p>(f) What is the circumference of the abdomen? . . . . .</p>	<p>(a) -----</p> <p>(b) -----</p> <p>(c) Height _____ft. _____in. Weight _____st. _____lb.</p> <p>(d) -----</p> <p>(e) On full inspiration _____in. On full expiration _____in.</p> <p>(f) _____in</p>
<p>11. (a) Is the heart normal to percussion and auscultation? . . . . .</p> <p>(b) What is the character of the pulse and its rate? . . . . .</p> <p>(c) Do the arteries present any signs of degeneration? . . . . . (In cases where the age of the life proposed for assurance is 50 or over and in any case where there are signs of arterial degeneration, the blood pressure estimated by the sphygmomanometer should be stated.)</p>	<p>(a) -----</p> <p>(b) -----</p> <p>(c) -----</p>
<p>12. (a) Is the chest well developed? . . . . .</p> <p>(b) Are all the physical signs in the chest normal? . . . . .</p>	<p>(a) -----</p> <p>(b) -----</p>
<p>13. (a) What is the specific gravity of the urine? . . . . .</p> <p>(b) Is it free from albumen and sugar? . . . . .</p> <p>(c) Is it otherwise normal in all respects? . . . . .</p>	<p>(a) -----</p> <p>(b) -----</p> <p>(c) -----</p>
<p>14. (a) Are the abdominal organs and digestive functions normal? . . . . .</p> <p>(b) What is the condition of the tongue and teeth? . . . . .</p>	<p>(a) -----</p> <p>(b) -----</p>
<p>15. Is there any history or evidence of syphilis, gonorrhoea, or constitutional disease? . . . . .</p>	<p>-----</p>
<p>16. Do you observe anything leading you to suspect intemperance? . . . . .</p>	<p>-----</p>
<p>17. If a female—</p> <p>(a) Is she married? If so, how long has she been married? . . . . .</p> <p>(b) Is there any history of uterine disorder or of severe confinements? . . . . .</p> <p>(c) Has she borne children? If so, how many? . . . . .</p> <p>(d) Is she now pregnant? If so, when is the confinement expected? . . . . .</p>	<p>(a) -----</p> <p>(b) -----</p> <p>(c) -----</p> <p>(d) -----</p>
<p>18. Do you find that the proposal, the replies to the letters of reference, and the agent's report call for any special observation? . . . . .</p>	<p>-----</p>
<p>19. (a) Is the life proposed for assurance in your opinion eligible in every respect for assurance at ordinary rates? . . . . .</p> <p>(b) If not, please state the defect. . . . .</p>	<p>(a) -----</p> <p>(b) -----</p>
<p>20. Are there any special features in the case concerning which information may not be elicited by the foregoing questions? . . . . .</p>	<p>-----</p>

Dated this.....day of.....19.....  
Signature.....

It will be noted that the questions in the medical report form are contained in two sections, the answers to those in the first section being supplied by the examinee, and the answers to those in the second by the doctor. The person examined signs a declaration at the foot of the first section stating that to the best of his knowledge and belief the answers that he has given are true and correct. The signature would be compared with that appearing upon the proposal form, in order to identify the person examined with the person whose life is to be assured. This is some small protection against fraud.

Question No. 2, in addition to supplying a confirmation of the age stated in the proposal, is of use in conjunction with question No. 10 (b), and it would perhaps be well to mention that an office attaches considerable importance to the information disclosed by a comparison of the answers to these two questions. The answers to these questions are also occasionally of value in cases where people are doubtful as to their age.

Question No. 3 would not be included by some offices. Formerly it was the practice if the answers to both sections of this question were in the negative to insert in the policy a clause to the effect that the contract would be void if the life assured died from smallpox or its effects, in which case the premiums paid would be returned without interest. As an alternative, a small extra premium of, say, 5s. per cent per annum would have been charged. At the present time, however, in deference to the views of the large and growing number of persons who object to vaccination upon principle, there is a tendency on the part of offices to omit this question, and to accept the risk without extra premium.

Should reference be made in questions No. 4 to 6 to any serious illness, it is probable that inquiry would be made of the proposer's private medical attendant for further information. Specific diseases are mentioned in question No. 6, as they may serve to recall an illness nearly forgotten.

In question No. 7 the year of death is asked not only to enable the doctor to estimate the effect that the cause of death of the relative may have on the health of the life proposed for assurance, but to enable the office to check the information with regard to family history either by comparison with other details supplied or by reference to a certificate of death, to obtain which the date of death is necessary.

In question No. 8 two diseases, "insanity" and "consumption," are mentioned. Offices vary considerably in the information for which they ask under this heading, the diseases specified depending largely upon the views held by the principal physician of the office. "Cancer" is included by some offices, "gout" by others, and so on.

No comment appears to be necessary with regard to the questions to be answered by the medical examiner.

It is the practice of offices, except in the case of proposals for certain types of contract under which the premiums would be very small, to pay the fees for medical examinations. At the present time the life assurance offices in this country have an arrangement with the British Medical Association regulating the amounts to be payable. For industrial offices the fee is to be 5s. or 10s. 6d. according to the form of report asked for. In the case of the ordinary branches of industrial offices and ordinary offices which issue policies whose average amount is small the fee for policies up to and including £100 is fixed at 10s. 6d., and that for policies for amounts over £100, one guinea. For ordinary offices a flat rate of one guinea is to be paid whatever the amount of the policy. In cases where a report is required but no actual examination, the fee is usually one guinea for ordinary assurances, and 10s. 6d. for children's policies. If exceptional trouble has to be taken or the opinion of a consultant is required, the companies agreed to pay larger fees.

It should be borne in mind that some medical men are not members of the British Medical Association, and therefore it is advisable when writing to a doctor to arrange an examination to mention the amount of the fee.

**Medical Attendant's Report.** As previously mentioned, it may be necessary in some cases to apply to the private medical attendant of the proposer for further information. This is usually done as a matter of routine in large cases, and it may be desirable in others too in which the office is doubtful as to some illness from which the proposer is stated to have suffered. A special form, somewhat similar to the medical report form, but excluding all questions except those relating to personal history and condition of health, is used for this purpose. A specimen is shown on the next page.

It will be noticed that space is left under No. 8 for a special question. Information

Assurance Company

19.....

Dear Sir,

A proposal for assurance has been made to this company on the life of..... in which you are referred to as his medical attendant. We shall be obliged if you will kindly favour us at the earliest opportunity with replies to the questions given overleaf. It will be unnecessary for you to examine the life in question.

Upon receiving your report, which will be treated as strictly confidential, we shall have pleasure in forwarding the usual fee of one guinea.

Yours faithfully,

To.....

MEDICAL ATTENDANT'S REPORT

1. How long have you known Mr..... ?	-----
2. Are you in the habit of seeing him frequently ?	-----
3. Are you his usual medical attendant ? . . .	-----
4. Has he suffered from any affection of the heart, lungs, kidneys, or liver, rupture, fits of any kind, spitting of blood, rheumatism, gout or any other disease, accident, or surgical operation ? . . . . .	-----
5. Have you any reason to suspect that any near relatives have been afflicted with or died of any hereditary or constitutional disease ? . . .	-----
6. For what illnesses have you attended him ? .	-----

Nature of Illness.	Date.	Duration of Illness.

7. (a) Are his habits and manner of living strictly sober and temperate ? . . . . .	(a) -----
(b) Have they always been so ? . . . . .	(b) -----
8. (Special question) . . . . .	-----
9. Are you aware of any special circumstances concerning which information has not been given already, which might be considered material in connection with life assurance ? If so, please give particulars . . . . .	-----
10. (a) Is he in your opinion eligible in every respect for assurance at ordinary rates ? . . . . .	(a) -----
(b) If not, please state the defects . . . . .	(b) -----

Dated this..... day of..... 19.....

Signature.....

will here be asked regarding any particular illness concerning which the office is desirous of obtaining additional details. It should be borne in mind that full details of all illnesses in any doubtful cases must be obtained in order that the company's principal physician may be in a position to advise the directors as to the manner in which they shall deal with the proposal.

#### **Special Matters Requiring Consideration.**

Having dealt with the various forms and reports required in connection with all the ordinary forms of assurance, it will be convenient to deal with the various special matters that require consideration before a proposal, which involves the office in any risk of paying a sum in excess of the premiums paid, can be accepted.

**Questions of Habits.** It is a matter of general observation that people of temperate habits enjoy greater longevity on the average than persons living intemperately, a fact that has also been proved both directly and indirectly by statistics. Life assurance offices recognize this, and pay particular attention to the question of habits, so much so in the case of some offices that they give preferential treatment to total abstainers.

It will have been observed that a question is included in the proposal form for an assurance subject to medical examination, and also in the "non-medical examination" proposal form, asking if the habits of the life proposed are strictly sober and temperate and if they have always been so. In the friend's and agent's report forms similar questions are included, and in the medical report form the doctor is asked if he observes anything leading him to suspect intemperance. These questions indicate the great importance that offices attach to the question of habits. It is seldom that a positive answer is given to the question in the proposal form. Probably, however, the most useful purpose that the friends' reports serve is to give information on this point, but it must not be forgotten that the standards by which people judge matters of this kind vary considerably. Should any hint of past or present intemperance be made, a tactfully worded letter would be sent to the referee. In many cases this will elicit a reply that the answer to the question in the form was not intended to indicate intemperance, but should the referee persist in his statement, judicious inquiries would be made by an official of the company in the neighbourhood where the life proposed resided, and probably reference would also

be made to the usual inquiry agencies. The doctor is, of course, in a good position to judge as to intemperance, but signs of this are not always apparent, even to a medical man.

Sufficient has been said to indicate the precautions that an office takes to detect intemperance in a proposer. It must not be thought, however, that the underwriters of life assurance object to all persons who are not total abstainers, the objection being solely to people who indulge to excess in any habits, which, if persisted in to an abnormal extent, are prejudicial to good health. Should intemperance be proved to exist at the present time, a very serious view would be taken of the case, and the proposal in all probability would be declined. If the life had been intemperate in the past, but the present habits and state of health were good, the whole surroundings of the case would be considered, and the proposal would possibly be accepted at an extra premium.

**Effect of Occupation.** In the specimen proposal forms given previously a question is included asking what is the occupation of the lives concerned. This is required for the description of the person in the policy, but in cases in which the office is bearing a risk the information is also necessary for the purpose of assessing the premium to be charged. The premiums appearing in the prospectus of a life office transacting ordinary assurance business are based upon the rates of mortality of lives engaged in non-hazardous occupations, and accordingly it is essential that extra premiums be charged in the case of persons whose occupations are known to be more than usually hazardous. It will be realized, therefore, that the occupation should be fully described in the proposal, and that in the case of some occupations further information will be required before the premium can be assessed.

There are a large number of occupations for which an extra premium would be charged by an "ordinary" office, such, for instance, as processes necessitating the operative's working in an atmosphere charged with dust, and occupations in which the risk of accident is greater than normal; but almost all the proposals made on lives engaged in these occupations are for small amounts, and are effected with offices transacting industrial assurances. The premiums charged by "industrial" offices are based upon tables representing the

mortality experienced by the general population including, of course, persons engaged in various occupations, both hazardous and otherwise. There is no necessity, therefore, to charge extra premiums provided that the business of the office is not concentrated in areas in which hazardous trades are carried on, and in practice extra premiums are only imposed by the large "industrial" offices in the case of persons engaged in the liquor trade, and for naval, military, and aviation risks.

A list is given below of the commoner occupations that come before the "ordinary" life offices, and for which extra premiums are charged, together with an indication as to the information that it is necessary to obtain in order to assess the amount of such premiums.

(a) *Butchers.* Whether any part is taken in the work of the slaughterhouse. (If no slaughtering is done it is unusual to charge an extra premium.)

(b) *The Liquor Trade.*

(i) *Brewers.* Whether the person is in business for himself, and, if not, the name of the firm by which he is employed. Whether his duties are confined solely to the work of a technical brewer or whether he calls at hotels or public houses in connection with his occupation. Whether there is a public house attached to the brewery, and whether he engages in the sale of liquor. (If his duties were solely those of a technical brewer it is unlikely that any extra premium would be charged.)

(ii) *Grocers in Scotland and Ireland.* Whether a licence is held or not. If licensed, whether any intoxicating liquor is sold on the premises in open vessels. (In England a grocer's licence usually allows for the sale of intoxicating liquor in sealed vessels only, whilst in Scotland and Ireland licences allow for liquor to be drawn from barrels into bottles. In Scotland the liquor must be consumed off the premises, but in Ireland in some cases it may be consumed on the premises. There is little risk in the case of a licensed grocer in England, but in the other two countries the risk is substantial, particularly in Ireland.)

(iii) *Hotel-keepers and Publicans.* Full particulars with regard to the standing of the hotel or public house are required.

(The manager of a large and well-

conducted hotel would, of course, be on quite a different footing from the keeper of a small public house. Whilst only a small or perhaps no extra premium would be charged in respect of the former, offices do not look with favour upon the lives of publicans and keepers of small hotels, and invariably charge substantial extra premiums for such cases, ranging from £1 to £2 per cent per annum.

(c) *The Mercantile Marine.* The rank of the life concerned, the name of the vessel and its owners. The cargo usually carried, and the places between which the vessel trades.

(d) *Mining.* The kind of mine; whether coal, tin, lead, etc. The position of the life proposed, and how often and for how long at a time his duties take him underground.

(e) *Nurses.* The particular kind of work in which the life proposed is engaged. (For ordinary nursing no extra premium would be required, as a rule.)

(f) *The Services--Navy, Army, and Air Force.* The rank, and, if stationed at home, the prospects of going abroad. Whether in the case of the Navy and Army there is any likelihood of the life proposed engaging in any special service, such, for instance, in the case of the Navy, as submarine work or aviation, or, in the case of the Army, as aviation. As regards the Air Force, whether the life engages in flying or whether his duties are solely on the ground. (In the case of Army officers at home who are not under orders to proceed abroad, and in the case of naval officers on a home station, in times of peace, offices usually charge either a small extra premium payable continuously until permanent retirement or provide in the policy for the payment of an extra premium to be fixed by the directors in accordance with the circumstances if the life assured go outside Great Britain on service.)

It is not practicable to indicate the extra premiums for the various risks enumerated, as the offices quote widely different rates for many of them; the only trade upon which there appears to be any approach to unanimity is the liquor trade, the general rate of extra premium for publicans and hotel-keepers, if the circumstances are otherwise favourable, being £1 per cent per annum.

(See OCCUPATION RISKS, EXTRA PREMIUMS FOR.)

**Heredity.** In connection with all proposals for ordinary assurances, a question is asked requesting information in considerable detail in respect of the father, mother, brothers, and sisters. This information includes, in most instances, the age and state of health, if living, and the age at death, the duration of the last illness, and the cause and date of death, if dead. Furthermore, a question is also asked as to whether any near relatives have suffered from certain diseases, tendencies towards which are considered to be hereditary. The diseases specified vary with the different offices, all of which include one or more of the following, consumption, insanity, cancer, and gout, consumption being, however, common to all. Cancer is not now generally regarded as hereditary.

Offices give full consideration to the question of family history in deciding how each proposal shall be dealt with, particular care being given to the information relating to the parents, especially when either is or both are dead. The actual diseases to which special weight will be attached will depend to some extent upon the personal views held by the principal physician of the office, but, whilst there may be some divergence of views with regard to cancer and gout, there is certainly general agreement that a history of consumption in a parent demands an addition to the ordinary premium unless the personal condition and history of the applicant are entirely satisfactory in all respects. Whether a life will be accepted or not, and, if accepted, the amount of the extra premium to be charged, will, of course, depend upon whether one or more near relatives have suffered from the disease, and upon the personal condition and age of the life. Also, if a parent died of the disease shortly after the birth of the life in question a more serious view would be taken than if death occurred some years after. In the case of a young life, if he were healthy and the only unsatisfactory feature were that one parent had died of consumption some years after the birth of the life proposed an extra premium, equivalent to the addition of from 5 to 10 years to the age, might be charged, or a decreasing debt on the sum assured imposed. It is considered that the risk of contracting consumption decreases as the age increases, and consequently a smaller addition to the age would be made if the life proposed were 35 or over, whilst a life aged 50 or over would probably be accepted at tabular rates if only

one parent had died of consumption and all the other circumstances were satisfactory.

As regards cancer and insanity, if only one isolated case of the disease had occurred in the family, it is probable that no extra premium would be charged. Each case, however, would be treated upon its merits.

The majority of offices at the present time do not attach very much importance to a family history of gout, although if several cases had occurred amongst near relations, a small extra premium would probably be imposed on this account.

**Female Lives.** Apart from the risks attendant upon child-birth, female lives present no special features from the point of view of life assurance. In fact, after middle life, as the experience of annuitants tends to show, they have considerably better prospects of longevity than males.

So far as the risks of child-birth are concerned, the offices seem to be divided into two groups, those that charge no extra premium at all unless the life be actually pregnant at the time that the proposal is made and those that charge a single extra premium (usually 1 per cent of the sum assured) in the case of married women who have not borne children, provided that they are under 50, and in the case of single women engaged to be married, no extra premium being charged in other cases.

**Classification of Lives.** Assuming that all the reports in respect of a number of proposals and any other information necessary had been obtained, the whole of the papers would be scrutinized by the officer of the company responsible for the underwriting of the new business, who would take the advice of the principal physician if a case presented any unsatisfactory features. The proposals would then be roughly classified into four main groups—

(a) Unexceptional lives or those in which the unfavourable circumstances are so slight as to form no impediment to assurance at ordinary rates ;

(b) Cases in which the unfavourable features arising from present conditions or from personal or family history are such as to require an extra premium, or the imposition of a fixed or decreasing debt ;

(c) Cases in which there is some temporary disability that may have cleared up in a short period or in which there is some doubtful feature the full import of which can only be assessed satisfactorily by a further examination after a lapse of time

(*d*) Uninsurable lives, viz., lives the objections to which are such as to render it inexpedient to grant an assurance upon any terms whatever.

After classification the papers would go before the directors for their final decision.

**The Decision of the Directors.** In arriving at their decision, the directors have, of course, the assistance of the officer who has previously approved of the classification of the proposals, and also the advice of the principal physician. Cases coming definitely within categories (*a*) and (*d*) will require little consideration, but proposals coming near the border line will be carefully scrutinized in order that they may be dealt with in the most satisfactory manner both for the office and for the proposer.

The period for which the proposal shall be postponed will need to be decided in the case of proposals coming within category (*c*).

With regard to cases grouped in category (*b*) it may be remarked that when an extra premium is required on medical grounds, it is the practice either (i) to fix an arbitrary addition to the ordinary premium, or (ii) to charge an additional premium equivalent to an increase of a number of years in the age, or (iii) to impose a fixed temporary or decreasing debt. In the case of extra premiums charged for occupation and foreign residence, an arbitrary sum is usually added to the ordinary premium.

When it is necessary to impose an extra premium under an endowment assurance it is customary to charge the same amount of extra premium as would have been charged had the proposal been for a whole of life assurance. This practice is due to the fact that the same addition to the age in the case of endowment assurances running for different terms would produce correspondingly different extra premiums.

Many persons strongly object to paying extra premiums, preferring, if a gambling expression may be used, to back themselves to live, and so, if circumstances warrant it, the directors will often offer an alternative. In a case on the border-line between groups (*a*) and (*b*), in which the principal physician is definitely of opinion that the extra risk of death will only be felt in the later years, it is often practicable to offer an endowment assurance at ordinary rates when an extra premium would be required for a whole of life assurance. Even if it were impracticable to grant an endowment assurance at ordinary rates it might be possible to accept a reduced extra premium. It would, of

course, be stipulated that the endowment assurance should mature at an age before the worst of the extra risk would be felt. Double endowment assurances, i.e. endowment assurances under which twice the sum payable at death is payable in the event of survival to the date of maturity, may also be offered either at ordinary premiums or at reduced extra premiums in lieu of ordinary endowment assurances or whole of life assurances, if the additional risk is small and of either a constant or an increasing nature. The reason for this is that a double endowment assurance really consists of two portions, an ordinary endowment assurance and a pure endowment with no return of premiums in the event of death before the date of maturity. The premium for the pure endowment portion, not being required to meet the normal risk, can be set against the extra risk, provided that this is not heavy and is not concentrated in the early years. It must be clearly understood, however, that neither an endowment assurance nor a double endowment assurance can be offered at ordinary rates or at a reduced extra premium if the risk is a serious one or one that is likely to be mainly felt in the early years.

Several offices already provide, and most will offer, if desired, the alternative of a temporary reduction in the sum assured in lieu of an extra premium if the additional risk is slight and of either a constant or decreasing nature. These reductions, known as "contingent debts," may be either of fixed amount during the period or they may decrease year by year, the particular type of debt being chosen by the office in accordance with the incidence of the extra risk. The debt may run for any fixed period, provided that it be coincident with the term for which the extra risk will be run. The usual plan, however, in the case of whole of life assurances is to make the period of the debt equal to the expectation of life, and, in the case of endowment assurances, to the term of the policy, so that the full sum assured is only payable at maturity. These debts, which are the equivalent of the extra premiums that the office forgoes, are useful alternatives to offer to proposers, but they are not really satisfactory to the assured in many cases, since they reduce the assurance cover in the early years, when it is generally most necessary.

Immediately after the directors have come to a decision in the matter, the result of the

proposal is, of course, intimated to the proposer. The main points arising in this connection will be discussed under the next two headings.

**Acceptance and Completion.** All the assurance offices keep standard forms, which are used to intimate to proposers that their proposals have been passed by the directors. Naturally, these forms vary slightly, but they are mainly upon similar lines. After stating that the proposal has been passed, the sum assured, the kind of policy, whether the assurance is to be with or without profits, the amount of the premiums, and the period for which they are to be payable are indicated. A statement that the company will not be at risk until the first premium has been paid will be included, as well as an intimation that should any unfavourable change in the state of health of the life proposed take place before the payment of the premium the circumstances must be communicated to the company in order that the directors may reconsider their decision. A definite period, which varies from 14 days in the case of some offices to 30 days in the case of others, is allowed for the payment of the premium. This will be pointed out to the proposer in the form, and he will be advised that if the proposal be not completed within the time specified the premium will not be accepted without satisfactory evidence of the continued good health of the life proposed.

If the age has not been admitted, a reminder will be given that it will be necessary for evidence to be produced at some time, and suggesting that it should be supplied at the outset.

Should it have been necessary to impose an extra premium or to place some restriction on the policy, full information will be given in the letter. This is essential, as any uncertainty upon the point might cause unpleasantness later.

So far as the completion of the contract is concerned, immediately upon receipt of the premium, if this be paid within the number of days specified, the office will be at risk. If the premium be not tendered within the time fixed it will probably be accepted within the next month or six weeks, if accompanied by a declaration signed by the life proposed (and by the proposer, if he is a different person from the life proposed) stating that since the proposal was made he has not suffered from any illness or consulted a medical practitioner, that he is now in good health, that no alteration has taken place in his family

history, and that his life has not been proposed to any other office. If the life proposed be unable to make an unqualified declaration the case will be reconsidered. Should the payment of the first premium be delayed for several months, a fresh medical examination would probably be required.

The foregoing remarks apply to cases in which the office is to assume liability upon the completion of the contract. In cases which do not involve any actual assurance cover, suitable modifications in the wording of the letter intimating the passing of the proposal and in the general procedure would be made.

After the acceptance of the premium by the office, a receipt is issued, the necessary book entries are made, and the policy is drafted.

**The Rejection of a Proposal.** If the rejection be merely temporary, a letter will be sent to the proposer informing him that the directors regret that they do not see their way to grant an assurance at the present time, and suggesting that if a further application be made after the lapse of a certain period the directors will be happy to give the matter further consideration with a view to ascertaining whether an assurance can then be granted.

If the proposal be definitely rejected, a tactful letter will be sent to the proposer intimating this decision.

After rejection by one office a proposer, if he really required assurance protection, would naturally think of applying to another company, and when making such an application he would, of course, have to disclose the fact of his previous rejection. This would have the effect of making the second office extremely cautious in dealing with the proposal; but although the refusal of the first office would in many cases be followed by similar treatment on the part of others, this action would not necessarily follow for several reasons. The views held by the chief physician of one office may not necessarily be held by those of others. Some offices are of better standing than others, and so are in a position to discriminate more in the selection of the lives that they are willing to assure. One or two offices make a speciality of granting assurances on inferior lives, charging heavy extra premiums to meet the enhanced risk. It should be borne in mind that very few lives are actually uninsurable, although, of course, the appropriate premium might be extremely

heavy. The majority of the offices, if they cannot see their way to grant an assurance at a moderate rate of extra premium will decline to grant a policy at all. Hence, it will be seen that apart from a divergence in the views that may be taken with regard to the medical aspect of the case, it will often be found possible to secure cover in a rejected case by paying substantial extra premiums to an office that specializes in granting assurances upon under-average lives. At least one of these offices makes the amount of the premiums paid the basis upon which it allots bonuses to with-profit policies, and consequently under-average lives who survive a considerable period, if they have effected participating policies, obtain by way of large bonuses some compensation for the extra premiums that they have paid.

#### PROPOSAL FORMS.

(See PROPOSAL FORM; also INDUSTRIAL ASSURANCE ACT, 1923.)

#### PROPOSALS RECEIVED BOOK.

(See NEW BUSINESS DEPARTMENT.)

#### PROPRIETARY COMPANIES.

(See LIFE ASSURANCE COMPANIES' SHARES AS INVESTMENTS; LIFE OFFICE CONSTITUTIONS, TYPES OF.)

#### PROSPECTUS, PREPARATION OF.

The ordinary meaning of the word "prospectus" (Latin "pro" forward, "specere" to look) is "the outline of any plan submitted for public approval," but the prospectus issued by life assurance companies and societies, commonly known as the life prospectus, is more than a mere outline of the company's activities. It is looked upon by the public at large as a book which binds the company to keep its word in connection with any statement contained therein, and it is likely to be an exhibit in any legal action arising on the construction of any policy taken out in good faith on statements contained in such prospectus.

It must be written, therefore, in a concise manner, and should contain all the general information concerning the company which it is well for a prospective insurer to know, in order that he may be in a position to assess the merits of this particular company as compared with others.

Perusal of the prospectuses of a number of offices will show that they closely resemble one another in their general form. This

is only to be expected, since the offices issue contracts similar in general character, and they all have to conform to certain regulations arising under the Assurance Companies Act.

The life prospectus will contain a list of officials and directors, the latter being an indication of the general standing of the office, although in considering this list the public should take care to distinguish the mere "figure-head" from the director of ability. A full list of branches and branch officials is also included, although it does not appear to be of much practical use for this particular purpose. This is all by way of introduction. The prospectus proper generally leads off with a discourse on the constitution of the office. Most of the companies are very old, having been established in the eighteenth or early nineteenth century, and naturally they are very proud of their long and honourable record, which is in itself a decided proof of their safety, and is a point to which intending insurers are well advised to give due regard. The recent failures of insurance companies have been of companies not long established, who have not had time to build up that strong reserve position which is a safeguard when the bad time comes along.

The constitution of the numerous offices varies, but they can be grouped into two broad classes—the proprietary companies and the mutual societies. (See LIFE OFFICE CONSTITUTIONS, TYPES OF.)

**Division of Profits.** The profits ascertained periodically in respect of the policies in a mutual office belong completely to the policy-holders, but when considering a proprietary company it is necessary to ascertain how the profits arising from the life policies are to be divided, and a statement concerning this should appear in the prospectus.

It may be that the shareholders take a certain proportion, say 10 per cent, of the profits from both the with and without profit contracts, leaving the balance of 90 per cent to be divided among the policy-holders. Alternatively, the policy-holders may take all the profits of the "with profit" fund, and the shareholders all the profits of the "non-profit" business. There are other cases with slight variations from the above. As to which is the more advantageous method from the prospective "with profit" policy-holders' point of view, the relative profit-earning capacities of the "with" and "without" profit funds will decide. If there is a large non-profit fund

yielding a surplus, it might be more advantageous to forgo 10 per cent of the with profit surplus, and receive in its place 90 per cent of the non-profit surplus. If it is required to study the results of the two systems more closely when deciding between two companies, it would be necessary to consult the last valuation returns as deposited with the Board of Trade.

It is thus necessary in a prospectus to show what portion of the profits of the life business passes to the shareholders in the case of a proprietary company, and that a *quid pro quo* is given in that the policyholders in such an office have the additional guarantee of the shareholders' capital, both paid up and unpaid, and in certain circumstances portions of the other general funds (if other classes of business are transacted) would be available.

**Valuations.** The next points to be brought out in the prospectus are the date of the next valuation, the duration of the valuation period, and the interest and mortality bases used at the periodical investigation to arrive at the reserves required to meet the liabilities under the policies, and to ascertain the amount of divisible surplus. In conjunction with this there will in most cases be a statement of the rate of interest yielded by the investment of the funds showing the excess over the rate assumed in the valuation, which excess is an indication of the strength of the valuation, and shows the source of much of the future profit.

**Bonuses.** It is usual to follow this up with a statement of the bonuses actually declared in the past, and to give a general indication of the prospects in the future. Offices distribute their profits in many different ways. Bonuses allotted as an addition to the sum assured may be simple or compound reversionary bonuses (see **BONUS**, page 92), and, as a rule, these can be surrendered either for cash payments or for a permanent or temporary reduction in future premiums. Some offices allot bonuses by what are known as "contribution" methods, in which cases the respective amounts may vary both for age and duration of policy. Two further points to be considered in connection with bonuses are, first, the period after entry, during which the bonuses do not vest. In some offices they vest immediately, in others not until the policy has been a year or more in force. This point should be clearly stated in the prospectus. Secondly, there should be a statement concerning interim bonuses, i.e. the amount payable in respect

of premiums paid since the last valuation date, should the policy become a claim either by death or maturity. Some offices issue policies at a rate lower than that charged for the ordinary with profit policy known as discounted bonus policies, or bonus policies at minimum premiums. These, generally, only share in the bonuses in excess of a certain amount, say £1 per cent per annum, this amount having, in fact, been surrendered in advance in order to reduce the premium. Under some such contracts, should the bonus fall below the discounted rate, i.e. £1 per cent in this particular case quoted, either the premium has to be increased or the sum assured diminished. In other offices no such alteration is called for. This is an important difference and, if policies of this nature are issued, it should be clearly stated.

**General Privileges and Conditions.** These are generally shown in an up-to-date prospectus by enclosing a specimen form of policy on which they appear (see **POLICY FORM AND CONDITIONS**), and this specimen is most useful to the intending assured.

In order, however, to emphasize certain features it is well to deal with some of the privileges at greater length in the body of the prospectus, in order to impress prospective assureds, although some features, such as the allowance of one calendar month or thirty days of grace for payment of all renewal premiums, are almost universal. During this period of grace the office is liable to pay the policy moneys (less any outstanding premium) should a claim arise.

**Surrender Values.** The next point to be dealt with under this heading concerns surrender values.

Most prospectuses will contain a clause dealing with these. Some offices will endorse a complete schedule of guaranteed surrender values on the policy. If so, it should be clearly stated in the prospectus. But this practice is not universal, and much can be said both for and against it. It is, however, well established in the United States and Canada. In this country it is usual to quote in the prospectus guaranteed minimum values as a percentage of the premiums paid, together with a statement of the period different classes of policies must be in force before surrender values are allowed. The general rule is that the policy-holder is entitled after two or three years. Closely connected with the subject of surrender values is that of paid-up policies, and rules for granting these should be given in the

prospectus. In this connection there are slight differences in method to which it is worth giving a little attention. For instance, some offices will not allow paid-up policies of small amounts, say less than £50; also in the case of "with profit" policies, some offices allow them to continue to share in the profits after they have been made paid-up—others do not. It should all be made clear.

It is usual in the case of policies under which the premiums are limited, e.g. endowment assurances and limited payment whole life assurances, to grant paid-up policies for such proportion of the original sum assured as the number of premiums actually paid bears to the number originally payable. This method is simple to understand, and is not altogether inequitable—and therefore has much to recommend it. It must be clearly expressed in the prospectus. (See SURRENDER VALUES.)

**Non-forfeiture Regulations.** All offices now have non-forfeiture regulations to prevent policies lapsing when premiums are not paid within the days of grace. One practice is to advance the premium against the cash surrender value, and maintain the full assurance in force from year to year, so long as the surrender value continues to exceed the accumulated amount thus advanced. Other offices will keep the policy in full force for one year only. At the expiration of this period the balance of the surrender value will be converted into a paid-up policy for a reduced amount. A third plan is to convert the policy immediately on the expiration of the days of grace into a paid-up policy for such amount as the net surrender value will secure. As the public attach great importance to surrender values, full details must appear in the prospectus.

Each method has its merits in particular cases. It is necessary, therefore, for intending assureds to consider this point when effecting a policy, and the prospectus statement must be their guide.

**Reinstatement or Revival of Policies.** If a policy lapses by non-payment of a premium due, and the net surrender value is insufficient to pay a further premium, the assured invariably has the option to revive the policy on payment of the arrears with a certain rate of interest to the date of revival. This option, however, only extends, as a rule, for a period of one year from the date of lapse, but whereas some offices require a declaration of continued good health to be completed others revive the policy during that period, whatever state of health the assured may

be in, as long as he is at least alive. There are many important differences in the practice of different offices on this point, and rules concerning it should be stated clearly in the prospectus.

**Policy Loans.** This is a very useful privilege given to the assured, and reference to it should be found in the prospectus of every office. The only main difference in practice is the proportion of the surrender value which the office is willing to advance. Where any particular amount is mentioned, it is generally 90 per cent or 95 per cent of the surrender value with a minimum loan of £10, although £5, or even £3, is sometimes seen. These loans are granted at a reasonable rate of interest, not as a rule quoted in the prospectus—in some cases it varies with the Bank Rate—and repayments may be made at any time without notice. Thus the assured, in a difficulty, has a convenient source for obtaining quick advances of any amount up to the percentage of the surrender value allowed, subject, of course, to proof of title, and the office obtains a "gilt edged" investment for such portion of its funds, a satisfactory state of affairs for both parties.

**Claims.** The practice of most offices is to pay claims immediately on proof of death (or on maturity in the case of endowment assurances) and of title, although a few retain the old-fashioned stipulation that payment will be made within a certain time after these proofs are lodged. Speedy settlement of claims is undoubtedly an extra inducement to a man of wealth to effect a life policy. It will prove to be one of the most speedily realizable assets in his estate, and will provide an immediate supply of money for his representatives, even if other funds should be tied up in investments which can only be made available after more or less delay. This point will be dealt with further when considering Death Duties Assurances. The prospectus should lay great stress on it.

**Proof of Age.** The prospectus should urge that proof of the age of the life assured should be furnished when the policy is effected, either by production of a birth certificate, or, failing that, a baptismal certificate, provided the date of birth is mentioned therein. If neither is available, it should be explained that offices will generally accept a certified extract from a family Bible or other reliable family record, provided the entry appears to have been made at the time of the birth. All this must be made clear in the prospectus, for the intending assured requires to get the

information at once, and thus save his executors trouble at a later date. Should evidence of age not have been submitted before a claim arises, and it is then found that the age has been understated, the policy will not necessarily be void, but the office prospectuses deal with the matter in one of two ways, either by showing that—

1. The arrears of premium with compound interest thereon will be deducted, or

2. The sum assured will be reduced to such an amount as the premium actually paid would have assured at the real age of entry, any bonus attaching being correspondingly reduced.

The first method may be very hard on the policy-holder, and that is one reason why the necessity for admission of age should be impressed on the assured.

It should also be pointed out that if the age has been overstated, the usual practice is to return the balance of premium overpaid.

**World Wide Policies.** Most offices now grant policies free from all restrictions as to occupation, foreign travel and residence, and indisputable on any ground except fraud, subject, of course, to the assured's not having at the time of assuring any prospect or intention of going to an unhealthy climate and to his not being engaged or likely to be engaged in any hazardous occupation. The practice of the offices varies slightly, however, and it is well to have it clearly stated in the prospectus. Some offices, for instance, will only grant such policies if the assured is over 30 years of age; others only when the policies have been five years in force. Even for policies which are not world wide only a small portion of the world is barred unless an extra premium is paid, and the free limits vary slightly in different offices.

**Income Tax: Medical Examination.** Other information which is useful in a prospectus concerns the legal exemption of premiums from income tax and the medical examinations. The first point is dealt with fully under the head of **INCOME TAX**, but as to the second, most offices have their own physicians attending at head office on certain days of the week, and a list of names and days and hours of attendance is often given in the prospectus. Medical examinations are also arranged by local doctors in all parts of the country to suit the convenience of proposers. It is generally specifically mentioned that all charges incidental to the medical examination are borne by the office, except under special circumstances.

**Trust Policies.** It is useful to include the information that policies can be secured for the benefit of a wife and/or children free from the interference of creditors under the provisions of the Married Women's Property Act, 1882, and the Married Women's Policies of Assurance (Scotland) Act, 1880.

This is probably sufficient information as to the subject of privileges and conditions which must be included in a general prospectus. It is usually followed by tables of rates for the various classes of policies which the office is prepared to issue. In studying these it will be noted that rates of premium are generally classified under ages next birthday, and in some cases rates for half ages are quoted. It is important to note this when ascertaining the premium to be charged. Some offices quote true half-yearly or quarterly premiums, others instalment premiums. In the case of the latter, when death occurs any unpaid instalments of the current year's premium will be deducted from the policy moneys. The rate of interest charged for the privilege of paying other than yearly is  $2\frac{1}{2}$  per cent to 3 per cent for half-yearly payments, and 3 per cent to 5 per cent generally for quarterly payments, added to the normal premium and divided by two or four, according as the case is half-yearly or quarterly. The addition is, of course, generally less in the case of instalment premiums than where true premiums are charged.

The prospectus would not be complete without a tear-out proposal form, so that when the intending assured has studied the prospectus carefully there is nothing theoretically to prevent him filling up the proposal form at once, and sending it to the office. In practice he waits for an agent of the company to call upon him.

#### PROSTATE, ENLARGEMENT OF.

Enlargement of the prostate is a common occurrence in elderly men, and is a frequent cause of urinary trouble. A simple enlargement gives rise to symptoms of frequency of micturition and perhaps retention of urine. It is sooner or later followed by cystitis, unless the gland is removed by operation, when the patient may have no further trouble. The cause of the enlargement may be growth, either innocent or malignant. Any patient in whom the prostate is enlarged at the time of the proposal for life assurance must be rejected. In the event of the prostate having been removed, reference must be

made to the surgeon to exclude the possibility of malignant growth, a history of which would render the case uninsurable. In cases where a simple enlargement has been dealt with by removal of the gland, and the patient has made a complete recovery without any signs of cystitis or kidney disease, and twelve months have elapsed since the operation, a policy may be issued without extra premium. Cases where there are any signs of cystitis must be declined or postponed.

#### **PROSTATITIS (Inflammation of Prostate).**

The cause of this may be infection by septic organism, calculus in the prostate, gonorrhoea, or tubercle.

If the prostatitis is present when the proposal is made, it must be declined or postponed. If there is a history of prostatitis, the case must be submitted to careful medical examination, and reference made to the proposer's own doctor. The case must then be dealt with having regard to the cause and the result of the medical examination. An old history of prostatitis with a satisfactory medical report at the time of the proposal may be accepted at ordinary rates. Other cases have to be dealt with on their merits.

#### **PROVIDENT ASSOCIATION OF LONDON, LTD.**

Chief Office: Provident House, Bishops-gate, London, E.C.2.

Founded 1877.

Authorized and empowered by the Provident Association of London Act of 1910.

This Association was the first body to apply the principles and practice of life assurance to the work carried on by building societies.

By virtue of the Provident Association of London Act, 1910, the Association obtained power to transact life assurance business in all its branches—in addition to other classes of insurance—and issues whole life, endowment, and limited payments policies, with or without profits, which carry house purchase privileges. The holder of one of these policies, after it has been five years in force, is entitled to an advance of the full amount of his policy for the purchase of an approved house of equal value, but he can obtain an advance after it has been in force twelve months on providing one-fifth of the purchase money in cash; the proportion of the value of the house purchased to be advanced by the Association

increases year by year thereafter until the policy has been in force five years when, as above stated, an advance of the full amount of the policy will be made for the purchase of a house of equal value.

The Association issues a special form of policy called a "House Property Investment Policy." Premiums paid in respect of these policies vary according to the period for which they are issued—the different periods being 12, 15, 20, 25 or 30 years. These policies are payable by monthly, quarterly, half-yearly, or yearly premiums, at the option of the proposer, and, subject to regular payment of premiums, reversionary bonuses, at the rate of 15 per cent of the premiums payable during the year in respect of monthly policies, and 20 per cent in respect of policies payable by quarterly, half-yearly, or yearly premiums, are guaranteed. At any time after a house property investment policy has been in force three years the holder, subject to medical examination, has the option of converting it into either a whole life policy, with or without profits, or into an endowment payable at a given age or previous death, with or without profits, or into a limited payments policy, with profits, without in any way affecting the house purchase rights.

#### **PROVIDENT MUTUAL LIFE ASSURANCE ASSOCIATION.**

Head Office: 25-31 Moorgate, London, E.C.2.

Founded in 1840.

During the summer of 1840 the London Press gave certain publicity to the needs of "that numerous and respectable body of men, the Clerks of the Metropolis." By the autumn of that year provision for those needs began to take shape, and the Provident Clerks' Mutual Benefit Association and Benevolent Fund was formed, with temporary offices at 12 Wormwood Street. The aim of the Association was "to afford clerks throughout Great Britain the means of making a provision for themselves in old age, for their families at their decease, and an endowment for their children." As the title indicated, there was also "a benevolent fund for granting temporary or permanent relief to their brethren who, from unavoidable circumstances, have been unable to make provision for themselves."

The Association was duly registered under the Friendly Societies Act, and was established at 60 King William Street. Patronage and support were generously accorded by

leading commercial, financial, and banking houses. The trustees of the benefit department included such well-known City men as Thomas Baring, M.P., Jeremiah Harman, William George Prescott, and Lionel N. de Rothschild; and the managers and committee consisted of members of leading firms, described as patrons. Early in 1841 donations and subscriptions to the benevolent fund had amounted to £8,000, and many City clerks had become members. But it was not until the 17th March, 1841, that the first policy was issued by the benefit department. Until 24th June, 1857, every policy-holder was, *ipso facto*, a member of the benevolent fund, and, as such, subscribed 5s. per annum and one-tenth of his quinquennial bonus.

As the primary object of the Association was to encourage thrift, especially amongst young City clerks, the premiums at the younger insuring ages were particularly favourable.

In 1845 the Association moved to 42 Moorgate Street, and in 1849 became known as the Provident Clerks' Mutual Life Assurance Association, a name retained until 1903, when it was decided that in view of the amount of general business transacted the title should be changed to the Provident Clerks' and General Mutual Life Assurance Association. Later, as the classes of business tended still further to widen and develop, the Association, in 1917, assumed its present title. In 1873 the Association absorbed the Citizen Life Assurance Society.

Policies issued under staff assurance schemes call, perhaps, for special note. As the pioneer of this plan the Association built up from 1860 onwards a very extensive connection with the Post Office, the leading railways, banks, and many commercial firms, while at the same time maintaining and developing its direct business with the general public.

#### **PRUDENTIAL ASSURANCE COMPANY, LTD., THE.**

Chief Office: Holborn Bars, London, E.C.1.

Founded in 1848 for industrial and ordinary assurance.

Until the year 1919 its activities were confined solely to life assurance, but in that year power was secured to transact all classes of assurance, and the business of the company is now divided into three branches, ordinary, industrial, and general.

In the ordinary branch 90 per cent of the distributed profit is divisible among the

policy-holders. Profits are declared annually in the form of a reversionary bonus which is added to the sum assured, and the records show a substantial rate of bonus for many years.

All policies in the industrial branch are entitled under the Articles of Association of the company to participate in the company's profit-sharing scheme unless expressly excluded by their conditions. Under the industrial branch bonus system a reversionary bonus is allotted to participating policies issued on and after the 1st January, 1923, in respect of each 31st December on which premiums were being paid. As regards policies issued prior to that date, a bonus payable on a claim arising by death or maturity varying with the duration of the assurance is guaranteed for a definite number of years for all policies entitled to participate. The bonuses are substantial, and industrial contracts with this company compare very favourably with the results secured from policies where premiums are payable annually.

In the ordinary branch all the usual types of life assurance policies are provided. The "Everywoman" policy makes a special appeal to women engaged in business. This policy provides an annuity to commence at the end of a selected period or a cash payment as an alternative, a bonus is payable on marriage, and no medical examination is required. The premiums are payable every two months. A novel convertible term policy is issued. This gives death cover for a period of five years at practically cost price with an option, exercisable within the term, of converting the policy into an endowment assurance without further medical examination and at the tabular rate of premium for the increased age. A special feature of this particular table is that all the premiums paid before the conversion are returned within the period of the endowment.

An important benefit is given to holders of whole life and endowment assurance single life policies assuring in the aggregate £1,000 and upwards. This consists of immediate payment, subject to certain limitations, of such portion of the sum assured as may be required to pay surgeon's fees for, and nursing fees occasioned by, any operation undergone by the life assured during the currency of the policy and after 1st September, 1925.

Reduced rates of premium are quoted for sums assured of £1,000 and upwards, while

if the sum to be assured exceeds £5,000 the yearly premium is further reduced by £1 for each £1,000 sum assured in excess of £5,000.

#### PSORIASIS.

(See DISEASES OF THE SKIN.)

#### PUBLICANS.

(See OCCUPATION RISKS.)

#### PUBLICITY, PRINCIPLE OF.

(See ADVERTISING LIFE ASSURANCE; BOARD OF TRADE, POWERS OF.)

#### PUBLICITY WORK.

(See AGENCY DEPARTMENT.)

#### PUBLIC TRUSTEE.

If the Public Trustee is asked to become trustee of a Trust comprising, *inter alia*, a policy of assurance on the life of some person, he is usually approached with a request for his consent to be appointed the trustee, and a draft of a proposed settlement is submitted to him for his approval. The Public Trustee considers the form of the settlement, and, if satisfactory to him, notifies the applicant that he is willing to act as the trustee.

The settlement is engrossed and signed and sealed by all parties to it, and is deposited with the Public Trustee for safe custody. The trust funds intended to be comprised in the settlement are transferred to the Public Trustee, and the policy of assurance is assigned to him, notice of the assignment being given to the company.

Settlements of policies of assurance usually contain covenants by the settlor to pay the premiums when they fall due, and not to permit the policies to lapse or to become void. The trustee, on the other hand, is usually released from any liability for not enforcing the covenants.

When the settlement is executed and deposited with the Public Trustee, and the policy assigned to him and notice given to the company, nothing further remains to be done by the Public Trustee until he receives notice of the termination of the life assured; when the policy matures he gives notice of claim to the company, complies with their request for evidence of the death, fills in any form of claim to be submitted to the company, and on receiving payment from the company considers the position as to whether there are any duties payable, and how the moneys in his hands ought to be dealt with—whether they ought to be

invested or paid over to some person or persons who have become absolutely entitled to them.

The above refers to a settlement which includes a policy of assurance and other funds. The Public Trustee is not usually willing to accept a settlement of a policy of assurance alone—such a settlement would present him with difficulties as to how to provide for his fees and legal expenses.

The position is different where the Public Trustee is appointed executor by a person whose life is assured. In such a case, of course, no assignment of the policy or notice to the company is necessary, but the Public Trustee on receiving notice of the death of the testator obtains probate of the will, proves the death with the assurance company, and obtains from it payment of the moneys assured. The moneys obtained are dealt with in accordance with the terms of the will. If they are not specifically bequeathed they are treated as part of the residuary estate, and after payment of debts, funeral and testamentary expenses and pecuniary legacies, the surplus is either paid over to residuary legatees or retained in trust and invested in investments authorized by the will, the income accruing from the investments being dealt with in accordance with the terms of the will.

The Public Trustee acts in no way other than a private individual acting in the same capacity would act, and has no greater powers.

#### PULMONARY HAEMORRHAGE

(Haemoptysis).

This is a symptom and not a disease. The importance of it as an indication of some serious disease is shown by the fact that all life proposal forms have the question "Have you ever spat blood?" or words to that effect. It must be recognized, however, that the "coughing up" of blood may not indicate any serious disease, as it may be due to blood trickling from the nose into the throat, and then being coughed up. For the significance of this see EPISTAXIS.

Cases also occur in which a slight haemoptysis, i.e. blood-stained sputum, may occur without any assignable cause, and followed by no further signs of disease. The symptom is, however, commonly due to two conditions, viz., tubercle and aneurism of the aorta, and less commonly may be associated with heart disease or bronchiectasis (cavitation of the lung of a possibly non-tubercular nature). Any of the latter

class of case, i.e. in which tubercle, aneurism, bronchiectasis, or heart disease, give rise to haemoptysis, are uninsurable. Whether or no such disease exists can only be determined by medical examination, and all cases must, therefore, be referred to a medical referee.

The significance of haemoptysis as a sign of high blood pressure is dealt with under the headings of EPISTAXIS and ARTERIO-SCLEROSIS.

### PULMONARY TUBERCULOSIS.

(See TUBERCULOSIS.)

### PURE ENDOWMENT POLICIES.

A pure endowment is one which is payable if the assured survives to a certain age or to the end of a fixed term of years. If death occurs in the meantime the premiums are forfeited to the office under one form of policy, and are returnable under another. As the value of the pure endowment plan consists in a compulsory form of saving and medical examination is not required, the second form is rather to be commended, especially in the case of impaired lives. Also, such a policy may generally be surrendered if necessary for a very large proportion of the premiums paid, or exchanged for a fully paid-up proportionate policy if it should become necessary to discontinue. As regards the saving element, apart from the incentive to meet the premiums regularly, the ultimate return on them at maturity is likely to show a much more favourable interest percentage than would be obtainable if small sums were being invested or deposited periodically in a savings bank, because the policy-holder shares in the advantages which the assurance offices possess as large investors. Pure endowments can also be obtained by single premiums, and in that form represent a sound and safe investment on survivance.

Specimen annual and single premiums to secure £500 at the end of a fixed term of years with return of premiums in the event of previous death are shown in the following table.

Term of Years.	Annual Prem.			Single Prem.		
	£	s.	d.	£	s.	d.
10	41	3	9	354	9	2
15	25	6	3	302	1	8
20	17	8	9	257	8	9
25	12	18	4	222	1	3
30	9	18	9	191	11	3

### PURE ENDOWMENT PROPOSAL FORM.

(See PROPOSAL FORM.)

### PURE ENDOWMENTS, INCOME TAX RELIEF.

(See INCOME TAX.)

### PURE PREMIUM METHOD.

(See VALUATION METHODS.)

### PYAEMIA AND SEPTICAEMIA.

This is popularly called blood poisoning, and is caused by the entry into the blood and multiplication there of septic organisms. Cases in which a history of this disease occurs must be carefully scrutinized, as the disease is one which may affect longevity in many ways.

Particularly should the cause of the condition be ascertained. If this is accidental, i.e. due to infection entering a wound, it need not affect the premium, provided, of course, no complications (see below) have occurred. On the other hand, a septicaemia may be due to some other infection, e.g. from the appendix or from the gonococcus, and so may seriously affect the insurability of the life.

The other aspect of these cases is with regard to their complications. These may be so numerous and so important that a careful medical examination is essential. Should such an examination prove negative, i.e. no complications be discovered, and the cause no longer operates, the life may be insured at ordinary rates.

Cases, however, in which *sequelae* show themselves must be dealt with on their merits.

A few of the possible common *sequelae* of this disease are nephritis, endocarditis, pericarditis, empyema, pulmonary abscess.

### PYELITIS (Inflammation of the Pelvis of the Kidney).

The cause may be infection from the large bowel or secondary to calculus, cystitis, or other infection of the urinary tract.

It is sometimes a complication of pregnancy.

Pyelitis may be followed by general infection of the urinary tract, and a case in which pyelitis is present when the proposal is made must be declined or postponed. A history of pyelitis is not necessarily a bar to assurance, provided the attack dates back a considerable time, and the patient is free from any signs of infection or kidney disease.

In cases of women who are of child-bearing

age and have had a previous pyelitis during pregnancy an extra premium is necessary.

**PYURIA (Pus in the Urine).**

This may be due to many causes. Any infection of the kidney, ureters, bladder,

prostate, or urethra may be present. If pus is present in the urine at the time of the proposal, the case must be postponed or declined, and a full investigation made as to the cause, and the case reviewed in the light of this result.

**QUINQUENNIAL STATEMENT.**

(See BOARD OF TRADE, POWERS OF.)

**QUINSY.**

Inflammation with abscess formation round the tonsil. It is caused by septic organisms and is one of the complications of a "sore throat." A history of quinsy is of little importance in life assurance, except to point the necessity of ascertaining that the throat is fully recovered, and that there is no permanent chronic tonsilitis.

**RATE OF INTEREST.**

(See LIFE OFFICE VALUATIONS.)

**RATES OF COMMISSION.**

(See COMMISSION.)

**RATING-UP.**

(See UNDER-AVERAGE LIVES.)

**RE-ASSURANCE PREMIUMS,  
TREATMENT OF.**

(See ACCOUNTANCY DEPARTMENT.)

**RE-ASSURANCES.**

The principle of re-assurance has been recognized by offices for a long time past, and in accordance therewith it is the practice for a life office to re-assure with other offices portions of any very large assurances effected with it. The amounts retained at their own risk by the different offices vary considerably, but an average figure would probably be not far from £10,000, the actual amount to be held in any particular case being determined to some extent by the class of life involved. Many of the large offices at the present time have entered into an arrangement with regard to the giving and accepting of re-assurances, which has simplified and standardized the procedure. Most re-assurances are offered at the rate of premium of the re-assuring, i.e. principal office, in which case the conditions of that office as regards surrender values, bonuses, etc., will apply. Occasionally, however, a re-assurance will be offered at the rate of the accepting, i.e. guaranteeing, office, in which case the conditions of that office will apply to its guarantee.

In any large case, of which it has been decided to re-assure a portion, copies of all the papers would be sent to the offices to which re-assurances were to be offered, and the necessary cover would be obtained before an acceptance of the original proposal would be issued.

**Re-assurance Routine.** In cases where it is necessary for an office to re-assure some portion of a risk submitted to it, the office or offices to whom it is proposed to make an offer of the re-assurance are communicated with on the following lines—

An offer of a given amount or as much of

it as the company is prepared to accept is made, and a copy of the principal office's papers is sent with the offer. The amount of the risk it is itself retaining, and the amount it already holds, if any, under existing policies must be stated, as also the rate of premium, the rate of commission to be paid and any special terms or conditions to be included in the policy. Thus the office to whom the business is offered has the same knowledge of the risk as the re-assuring company.

As regards the rate of premium payable on the re-assurance of a with-profit policy, the principal office may elect either to pay its own rate of premium to the accepting office, in which case the latter guarantees to allot and pay precisely the same bonuses as the re-assuring office, or the rate of premium of the accepting office, in which case the re-assurance will receive bonuses as declared by the accepting office. The rate of premium governs the rate of bonus, and the same principle applies to surrender and loan values unless otherwise arranged.

As regards non-profit policies, it is open to the principal office to pay its own rate or that of the accepting office.

On the acceptance of a re-assurance it is customary for the accepting office to assume the risk concurrently with the principal office, a cheque for the first premium, less commission, being forwarded as soon thereafter as possible, together with one copy of the original policy and a blank form, the customary receipts being issued. On the copy the accepting company's guarantee is endorsed, the re-assuring office agreeing to follow the usage and practice of the principal office in all matters relating to the guarantee. The Stamp Duty on a re-assurance guarantee is, by arrangement with the Inland Revenue Authorities, 6d.

When the guarantee or re-assurance policy is on the accepting office's books, it is treated precisely as an ordinary policy, except for valuation purposes.

The general practice of life offices with regard to re-assurances may be summarized as follows—

The office placing the re-assurance risk is hereinafter termed the "Principal Office," and the office to which the re-assurance risk is offered, the "Guaranteeing Office."

Unless in any particular case a contrary intention shall appear in the re-assurance contract, the term "Original Assurance" shall be held to include all assurances of similar nature and for the same term, issued concurrently by the principal office on the same risk, and the term "Original Policy" shall be held to include all the policies by which such assurances are evidenced.

1. The principal office offering a re-assurance risk shall state, in writing, what amount of existing assurance, if any, and what amount of the new assurance it will retain at its own risk when the new assurance is completed; also upon what terms it is undertaking the new assurance, and upon what terms the existing assurance, if any, was effected.

2. The principal office at the time of offering the re-assurance, and also in the interval before completion of the same, shall communicate all information in its possession, or coming to its knowledge, bearing upon the eligibility of the risk, and shall furnish copies of the papers containing such information. The principal office shall also at the time of offering the re-assurance state the particulars of any previous proposals it may have received on the same life; and shall, if required, exhibit the papers connected with such previous proposals, and allow copies to be taken. No error or omission in describing the risk or giving information shall invalidate a re-assurance; but, if the guaranteeing office shall consider that it has been misled or damaged by any such error or omission, it may in terms of Rule 20 submit the matter to referees, who shall have power to award relief or compensation.

3. No sub-re-assurance shall be effected by a guaranteeing office without the consent in writing of the principal office.

4. The guaranteeing office shall not be on the risk until it has officially intimated its acceptance thereof, nor until the principal office is on the risk; but, after acceptance by the guaranteeing office, when the principal office is placed on the risk by payment of the first premium, the guaranteeing office shall, *ipso facto*, be concurrently on the risk. Provided that the principal office shall not be at liberty so to complete the risk after the expiry of one month from the date of acceptance by the guaranteeing office without obtaining and communicating to the guaranteeing office satisfactory evidence of the continued eligibility of the risk for assurance on the terms agreed upon.

5. If before the commencement of the risk

the guaranteeing office shall, in consequence of any information coming to its knowledge affecting the eligibility of the risk, desire to withdraw its acceptance, and shall give written intimation of such desire to the principal office indicating generally the grounds thereof, the acceptance of the guaranteeing office shall be void and of no effect after the expiry of one week from the time when such intimation shall have been delivered to the principal office, or immediately upon the principal office withdrawing its own acceptance or obtaining an acceptance of the re-assurance from another office, whichever shall first happen, unless in the meantime the risk of the guaranteeing office shall have commenced by reason of the commencement of the risk of the principal office, in which case the acceptance of the guaranteeing office shall remain in force.

6. Upon becoming aware of the commencement of the risk, the principal office shall forthwith pay the first premium on the re-assurance, or pending the payment of such premium shall issue a notice to the guaranteeing office stating the amount for which the latter is on the risk, and the date of the commencement of such risk.

7. In the event of a claim arising under the original assurance before payment of the re-assurance premiums or issue of the notice last mentioned, the principal office shall bear the loss of the sum, if any, which it had intimated its intention to retain at its own risk in respect of such original assurance; and the balance of the claim shall be met by contributions from the guaranteeing offices of sums bearing in each case the same proportion to that balance as the sum accepted by each guaranteeing office bears to the total amount accepted by all the guaranteeing offices, but in no case shall the amount payable by any one guaranteeing office exceed the amount of its acceptance.

8. A re-assurance contract shall be evidenced by a guarantee endorsed on a copy of the policy or of one of the policies issued by the principal office, or by a policy of the guaranteeing office, endorsed to the effect that it is issued as a re-assurance of a policy or policies (to be specified) at the principal office. Save as hereinafter provided, the re-assurance shall in every case be subject to all the conditions of the original policy, and to any alteration of the same which the principal office may make generally applicable to policies of a similar description, provided such alteration does not affect the ordinary premium payable, nor the term of

the assurance, and does not introduce any risk of a different nature from that covered by the original policy. A claim under the re-assurance will be payable only if a claim under the original assurance becomes payable.

9. The guaranteeing office shall pay the principal office a rateable proportion of the stamp duty on the original policy.

10. In every case in which a guaranteeing office receives, by arrangement, the rate of premium of the principal office, the guaranteeing office shall be held as agreeing to follow the principal office—

(a) In the rate of any extra premium imposed by the principal office for any risk not provided for in the original policy or in any of the published rules of the principal office, and in any licence under which the payment of any such premium may be waived, it being understood that the views of the guaranteeing office or offices shall be ascertained by the principal office before it comes to its own decision in the matter.

(b) In the terms of any commutation or alteration of premium, or in any adjustment of premium or of the amount assured consequent upon error in age, according to the rules or practice for the time being of the principal office; but no alteration extending to the remission or reduction of any extra premium imposed at the time of effecting the assurance, or to the modification of any special terms imposed in lieu of such extra premium, shall be made without the consent of the guaranteeing office.

(c) In the case of a with-profit assurance, in the bonuses declared by the principal office in respect of the original assurance, by guaranteeing proportionately such bonuses and their commuted values according to any option exercised by the assured in terms of the regulations of the principal office for the time being.

(d) In the surrender value or paid-up policy allowed by the principal office, in accordance with its ordinary practice.

11. In every case in which the guaranteeing office receives its own rate of premium from the principal office, the re-assurance shall, as regards bonuses, surrender values, paid-up policies, and alteration or commutation of premiums, be subject to the usual terms and conditions of the guaranteeing office for the time being in force; but as regards extra premiums and licences, the provisions of clause 10 (a) shall apply, and as

regards any adjustment for error of age, the mode adopted by the principal office shall apply.

Provided always that in no case shall the risk of the sum re-assured fall on the principal office without the guaranteeing office being liable, or fall on the guaranteeing office when the principal office is not itself on the risk. When in consequence of a difference in the rates of surrender value allowed by the principal office and by the guaranteeing office respectively, the original assurance would, by the operation of non-forfeiture regulations, remain longer in force than the re-assurance, the guaranteeing office shall, nevertheless, remain on the risk concurrently with the principal office, but the principal office shall pay to the guaranteeing office such premium or portion of premium (according to the rate payable on the re-assurance) as shall correspond to the difference in time. When from a like cause the re-assurance would remain longer in force than the original assurance, the guaranteeing office shall not remain on the risk when the risk of the principal office has ceased, but shall be liable to pay to the principal office the balance of surrender value remaining in its hands. But this rule shall not preclude the principal office from keeping the re-assurance in force by continuing to pay the re-assurance premiums, while the original assurance is being kept in force by the operation of non-forfeiture regulations.

12. Where in any particular case the rates of premium of the principal office and of the guaranteeing office are identical, then, in the absence of special agreement, the re-assurance shall, for the purpose of Rule 10, be held to be arranged at the rate of the principal office.

13. The premiums on the re-assurance shall be payable on the same days as the premiums on the original assurance, and the payment of the renewal premiums to the principal office shall bind the guaranteeing office as if the re-assurance premiums had been simultaneously paid.

14. Notwithstanding that a renewal premium may have been paid by the principal office to the guaranteeing office, if the risk under the original assurance has not been continued, the risk of the guaranteeing office shall be held not to have been renewed, and the premium (less the commission deducted at the time of payment) shall be returnable on demand to the principal office.

15. A principal office may, during the

subsistence of the original assurance, or any part thereof, surrender wholly or partially any re-assurance, and claim the corresponding surrender value or paid-up policy, if any, as if the original policy were being surrendered or exchanged for a paid-up policy.

16. When an original assurance is wholly discontinued, the re-assurances shall likewise be discontinued. When an original assurance is reduced, then if the principal office has retained at its own risk no part of the original assurance, it shall reduce to the same extent some, or all, of the re-assurances, so that it shall never be in a position to receive under the re-assurances a larger sum assured, irrespective of bonus additions, than it is liable to pay under its original assurance.

If the principal office has retained at its own risk a portion of the original assurance and has re-assured the remainder, the principal office shall not reduce its own risk without reducing in like proportion the several amounts of any re-assurances it may continue in force.

17. Notwithstanding anything contained in these rules, if the principal office is itself interested in the original assurance, as security for a loan or as covering any contingency in a reversionary or other transaction, the re-assurances may be continued in force in whole or in part, although the original assurance shall have become void in whole or in part by non-payment of premium; but the guaranteeing offices shall not be ultimately liable under this rule to any greater extent than the sum necessary to save the principal office from actual loss, to which sum, if less than the total amount re-assured, the guaranteeing offices shall contribute rateably, according to the amounts severally guaranteed by them, including bonus additions.

18. The principal office shall furnish to the guaranteeing office copies of the evidence of age and of the certificates produced in proof of a claim; and such evidence and certificates, if accepted by the principal office as sufficient, shall also be accepted by the guaranteeing office. The guaranteeing office shall have the right at any time to inspect the originals of such evidence. The principal office, at the time of collecting the amount due by the guaranteeing office, shall state in writing either that it has paid the claim under the original policy, or that it expects to do so within the next few days, or that it is about to allow interest on the claim; but in the last case the re-assuring office shall have the option of paying its proportion of such

interest instead of paying the claim immediately.

19. Unless otherwise arranged, the commission on the re-assurance of whole-life and endowment assurance risks shall be either at the rate of 10 per cent on the first year's premium and 5 per cent on renewal premiums or at the rate of 1 per cent on the sum assured and 2½ per cent on premiums payable after the first year, as the principal office shall in each case elect; such election to be expressed at the time when the re-assurance is offered.

20. Any difference or dispute arising in relation to a re-assurance effected under these rules shall be decided by reference to three of the principal officers of offices which are parties hereto, and not interested in the matter in dispute, one to be selected by each office interested, and the third to be mutually agreed on by the first two selected referees. The decision of the majority of the three referees shall in all cases be binding on the parties between whom the question has arisen.

#### REBATES OF PREMIUM.

(See GROUP LIFE ASSURANCE.)

#### RECEIPT FORM.

(See BRANCH OFFICE SYSTEMS.)

#### RECORDS.

(See STATISTICS.)

#### RECORDS (AGENTS).

(See AGENCY DEPARTMENT.)

#### RECORDS, BRANCH OFFICE.

(See BRANCH OFFICE SYSTEMS.)

#### REDUCED PREMIUM POLICIES.

This form of whole life policy, which is also sometimes called an ascending premium policy, is somewhat on the lines of the convertible term type of contract (*q.v.*). It is very useful to persons whose means would not, at the outset, otherwise allow them to insure for the maximum they desire. For the first five years, as a rule, the premium is very low, and is afterwards increased to the normal tabular rates for the age attained, without the necessity of further medical examination. The effect is that the policy-holder during the first five years obtains nearly double the assurance he could otherwise afford. With some offices he also has the option of continuing his assurance under any other whole-life or endowment table he cares to select, provided

he does so within the five-year period. While the lower rate of premium obtains the policy does not participate in profits or carry any surrender value.

Specimen annual whole life premiums to assure each £100 at death, with profits after the first five years, without liability of debt or interest. These rates are for policies for a minimum of £500.

Age next birthday.	First five years.	Remainder of life.
	£ s. d.	£ s. d.
30	1 2 -	2 7 3
35	1 5 6	2 15 10
40	1 9 5	3 7 4
45	1 17 1	4 2 3

**REDUCTION OF PREMIUM.**

(See BONUS, page 97; and ALLOTMENT OF BONUS.)

**REDUCTION OF PREMIUM CERTIFICATES.**

(See DISTRIBUTION OF PROFITS.)

**REDUCTION OF PREMIUM POLICIES.**

Under this system of policy the profits are applied to the gradual reduction of the future premiums. The initial premiums are slightly higher than the average, but when the subsequent reductions are taken into account the actual cost is small. Usually no reduction is made until the eighth premium, when, under one well-known scheme, it is reduced by over 60 per cent, with further gradual diminution year by year, so that in from 30 to 35 years the rate of reduction reaches 100 per cent, when the premium is cancelled. Thereafter the excess is accumulated at compound interest and added to the sum assured. The policies are valuable and very useful, as the policyholder's liability for premium payments is a gradually decreasing one. During the first seven years also policies may be effected on the half-credit premium system (*q.v.*).

Specimen annual premiums for the assurance of £100—

Age next birthday.	Payable at		
	Death.	20 years.	15 years.
	£ s. d.	£ s. d.	£ s. d.
30	2 19 3	3 18 10	4 10 2
35	3 7 7	4 6 6	4 18 7
40	3 17 10	4 15 8	5 8 5

**REFUGE ASSURANCE COMPANY, LTD.**

Chief Office: Oxford Street, Manchester. London Office: 133 Strand, London, W.C.2. Founded 1864.

The company issues ordinary assurances (by yearly, half-yearly, or quarterly premiums) and industrial life assurances (by weekly or monthly premiums) by means of a staff of inspectors, superintendents, assistant superintendents, agents, and clerks extending over the British Isles.

The company has developed from small beginnings into one of the largest life offices in the country.

Ninety per cent of the divisible profits of the ordinary branch are apportioned annually to the with-profit policy-holders, in the form of additions to the sums assured by their policies (reversionary bonus). A balance of undivided profits is carried forward annually with the object of guarding against any temporary fluctuations in the yearly profits. Reversionary bonuses may be exchanged for their equivalent in immediate cash, or may be used by the policy-holder to provide a uniform reduction in all the future premiums payable under his policy.

Lives assured are at liberty to travel in any part of the world without the payment of any additional premium, and officers and men of the British Navy or Army are assured at the same rate of premium as civilians, an additional premium being required only in time of actual warfare. During the War the "Refuge" waived charging any additional premium to its assured for war service, in respect of policies in existence at the outbreak of war, and "war claims" ultimately cost the company considerably over £800,000.

**REGULATIONS AFFECTING INSURANCE COMPANIES ABROAD.**

(See under AUSTRIA, BELGIUM, CZECHOSLOVAKIA, DANZIG FREE STATE, DENMARK, ESTHONIA, FINLAND, FRANCE, GERMANY, HOLLAND, ITALY, JUGO-SLAVIA, LATVIA, LITHUANIA, LUXEMBURG, NORWAY, POLAND, PORTUGAL, RUMANIA, SPAIN, SWEDEN, SWITZERLAND, TURKEY.)

**REINSTATEMENT OF LAPSED POLICIES.**

(See POLICY FORM AND CONDITIONS; PROSPECTUS, PREPARATION OF.)

**RE-INSURANCE METHOD.**

(See VALUATION METHODS.)

**REJECTION.**

(See PROPOSAL FORM, page 437.)

**RELIEFS (INCOME TAX) ON PREMIUMS.**

(See INCOME TAX.)

**RENAL CALCULUS (Stone in Kidney).**

The cause of this is unknown, but it is usually associated with the passage of crystals in the urine, which can be detected microscopically. Stones may be formed of various substances, e.g. urates, phosphates, uric acid, oxalates. If a medical examination of a proposer for life assurance reveals these crystals in large numbers, therefore, careful inquiry as to symptoms of stone must be made. Common symptoms are acute pain of a colicky nature in the loin, haematuria, pain on micturition, and frequency of micturition. If any of these symptoms have been present, an X-ray examination may be necessary, and postponement advised until all symptoms have cleared up, and the urine is normal.

If there is a history of the passage of a stone or operation for calculus, careful testing of the urine is essential, associated with a microscopic examination. If crystals in large numbers are found, the case must be postponed, and if either pus or blood is present the proposal must be declined.

If it has been necessary at the time of operation to remove the kidney, the proposal must be declined, although if the remaining kidney is normal a short term endowment assurance may be issued. All cases of operation on the kidneys should be referred to the operating surgeon for his report.

**RENEWABLE TERM POLICIES.**

These policies are really one-year short term contracts (*q.v.*), with the difference that the policy-holder has an annual option to renew, without further medical examination, on paying the higher rate required for increased age each year.

**RENT ACCOUNT.**

(See ACCOUNTANCY DEPARTMENT.)

**RENTS, TREATMENT OF.**

(See ACCOUNTANCY DEPARTMENT.)

**REPORT FORMS.**

(See PROPOSAL FORM; BRANCH OFFICE SYSTEMS.)

**REPORTS, ANNUAL.**

(See ANNUAL REPORTS.)

**RESERVES.**

(See MODEL OFFICES.)

**RESIDENCE, FOREIGN (FREE LIMITS).**

(See FREE LIMITS; LICENCES TO TRAVEL OR RESIDE ABROAD.)

**RESTRICTIONS ON POLICIES.**

(See FREEDOM OF POLICY FROM RESTRICTIONS; LICENCES TO TRAVEL OR RESIDE ABROAD.)

**RETIRAL SELECTION.**

(See SELECTION.)

**RETURN OF HALF-PREMIUM POLICY.**

Under this form of endowment policy, issued by one of the Canadian offices, in the event of death before the maturity of the contract half the total premiums received is returned, in addition to the sum assured and any accrued bonuses. For example, in the event of the death of a man aged 35, who had effected a twenty-year endowment for £1,000, with profits, at an annual premium of £55 16s. 10d., the sum of £27 18s. 5d. would be returned in respect of each full year's premium paid, or the equivalent of over £2 15s. 0d. per cent extra bonus. In the event of maturity by survivorship, however, only the face value of the policy and bonuses is payable.

Specimen annual premiums for a 20-year endowment assurance of £1,000 with profits.

Age nearest birthday.	Annual premium.
30	£ s. d. 53 11 7
35	55 16 10
40	59 13 5
45	66 4 10

**REVENUE ACCOUNT.**

(See BOARD OF TRADE, POWERS OF; also ACCOUNTANCY DEPARTMENT.)

**REVERSED SELECTION.**

(See SELECTION.)

**REVERSIONARY ANNUITIES.**

A reversionary annuity is one which is entered upon only on the death of another life, and which may be paid for by a single premium, or an annual premium payable until the event takes place. Such an annuity entails the medical examination of

the life upon whose death the annuity commences. The formula for the value of an annuity to commence to a person aged  $x$  on the death of a person aged  $y$  is represented by  $a_{y|x}$  and is obviously  $a_x - a_{xy}$ , i.e. the difference between an immediate annuity of 1 per annum to commence now to  $x$  and an immediate annuity to commence now, but running during their joint existence. If  $y$  dies first the annuity on  $x$  is left as is intended, and if  $x$  dies first the contract terminates.

In fact a reversionary annuity of this type is simply an annuity which is deferred during a given lifetime (compare the formula  $a_x - a_{xn}$  for an ordinary annuity to  $x$  deferred  $n$  years).

A reversionary annuity as described is thought by some to be a valuable means of providing for an income to a wife after the death of her husband, but it has certain disadvantages—

(a) If the wife dies first there is a loss of the single premium or all the annual premiums paid for the benefit.

(b) Such a contract does not carry a sur-render value if it has to be given up.

(c) The income tax rebate allowable to ordinary life policies does not apply in this case, as a capital sum is not payable at death, but an annuity.

Seeing that a medical examination is required of the life on whose death the annuity is to commence, it is sometimes better to effect a life policy for such an amount as will provide an income to the beneficiary of the amount required, having regard to her present age. Most life offices issue such policies, which provide a definite sum per annum for 20 years certain, or so long thereafter as the beneficiary may survive the death of her husband.

#### REVERSIONARY BONUS.

(See BONUS; ALLOTMENT OF BONUS; PRINCIPLES OF LIFE ASSURANCE.)

#### REVERSIONARY BONUS CERTIFICATES.

(See DISTRIBUTION OF PROFITS.)

#### REVERSIONARY LIFE INTEREST.

Reference has already been made to a life interest in possession (*q.v.*) as being a form of immediate life annuity, and here is a similar opportunity to refer briefly to a reversionary life interest, which differs from a life interest in possession in that the income therefrom is not enjoyed until after the death

of a certain life. A reversionary life interest in the income from an estate when it falls into possession is, therefore, of the form  $a_x - a_{xy}$ , where  $x$  is the tenant in reversion and  $y$  the tenant for life.

All that the purchaser of such a security must provide himself with, as against the protections required in the case of a life interest in possession, is an annuity sufficient to cover the interest on his investment and the premium on the necessary life policy whilst the income from the reversionary life interest, which he is purchasing, is in abeyance, i.e. during the joint life of  $x$  and  $y$ .

Thus in the illustration given under the heading of a life interest in possession, assuming the tenant in reversion is aged 40 (male), and the tenant in possession is aged 61 (male), instead of the value brought out there, viz., £1121.7, a further deduction must be made of a joint life annuity of £100 per annum during the joint lives of 40 and 61, which joint life annuity will provide the £100 per annum whilst the life interest is in reversion.

A fair value for such a deduction would be £950, reducing the value to £171.7. The joint expectation of the lives is about 12 to 12½ years, during which time the purchaser may possibly be without any interest income on his investment, and will also be out of pocket in respect of the premium on the policy to cover his investment, seeing that the life interest ceases immediately the life aged 40 dies. Thus he must fully protect such interest and premium by a joint life annuity as indicated.

#### REVERSIONS AND LIFE INTERESTS.

Dealings in investments of this nature, whether by way of purchase or loan, are mainly in the hands of a few life assurance offices who specialize in the business, and have particular facilities for obtaining it in bulk sufficient to produce the average experience upon which the calculations are based. Such offices are those with legal connections and others which have absorbed the various reversionary societies. The latter were independent competitors at one time, but practically all are now controlled by life assurance companies.

It follows that investments of the nature under discussion form substantial items in the balance sheets of those companies who deal in them, but they do not constitute a large item in the aggregate figures of all companies.

A prominent firm of auctioneers in London

holds regular sales, and there are now a number of private buyers in the market who are attracted by the possibility of substantial profits from the more speculative types of reversionary interests in real property which are not suitable to life assurance funds. There is also the attraction that the profit to a private buyer escapes income tax.

The precise nature of life and reversionary interests is not generally understood, and it is desirable, therefore, to give both a definition and a simple example of the manner in which such interests arise.

A life interest may be defined as a beneficial interest in real or personal property receivable only during the lifetime of the beneficiary or for some other temporary status. A reversion is the right to property falling into possession on the termination of the life in whom the life interest is vested or on the happening of some other specified event. In order to describe the more simple forms of interest, it must be assumed that a particular person has died, and, by his will, vested his property in trustees with the object of creating a settlement. Those who handle interests of the nature under discussion are often asked to deal with reversions under the wills of living persons, various expedients being suggested to overcome the possibility of revocation. It should be noted, at this point, that such a course is not feasible where English wills are concerned; there is no means of providing against the possibility of revocation, and such expectancies do not constitute a legal security. To pass on to consider the trusts created by the imaginary testator, he may provide for the income from his property to be paid to his wife for the remainder of her lifetime. The wife is then said to enjoy a life interest in the estate. Assume now that the testator leaves surviving him two adult children, a son and an unmarried daughter. To the former he might bequeath one-half of his estate, expectant on the death of the "life tenant," the widow. The son then enjoys a reversion "absolute" if his estate takes, whether he is living at the death of the life tenant or not, but "contingent" if he must survive her in order to benefit. With regard to the daughter, the testator may decide that her interests would be better protected by restricting her to a life interest in the remaining one-half of the estate commencing on the death of the life tenant. An interest of this type is known as a "reversionary" life interest, and is often subject to certain restrictions such as a "restraint

upon anticipation during coverture." This means that the daughter cannot encumber or charge her prospective or immediate income while she is married. The reason for this provision is obvious. The testator will probably wish her to be in a position to grant a limited benefit to any man she may marry, and he therefore gives her power to appoint the reversionary income, commencing on her own death, by deed or will, to any surviving husband. Finally, she will probably be vested with the power of appointing the capital of her share among her children in any proportion she may choose, children who attain full age sharing equally in default of appointment. It should be noted that the failure of issue to the daughter would leave an intestacy in respect of the share on her death or that of a surviving husband. The carefully drawn will, therefore, provides for an ultimate reversion, it may be, to the son, who has received an absolute interest in the first half of the estate.

In addition to trusts created by will, reversionary and life interests arise under settlements created during life, of which the principal types are---

1. Ante-nuptial settlements, made in contemplation of marriage. This is held to constitute a valuable consideration, securing immediate protection against the claims of creditors.

The trusts are of a varied nature, usually providing cross life interests to the respective parties, and powers of appointment to children, exercisable jointly during the lifetime of husband and wife, or solely by the survivor. The protection against anticipation by the wife is common, and there is sometimes a provision in respect of the husband of similar effect, although different in form. This is a "discretionary trust," which divests the husband of the income as soon as he attempts to encumber, but vests it in the trustees with discretion to apply it for maintenance of the family. It will be seen, therefore, that if these protective trusts are absent, various life and reversionary interests may be created with a sale value or capable of forming the security for loans.

2. Voluntary settlements which are usually post-nuptial. The trusts may be similar to those already described, but may be upset by bankruptcy within a specified period. It is generally considered, however, that the interests of a *bona fide* purchaser for value, or encumbrancer, without notice, are protected.

3. Family settlements, usually relating to entailed estates in land. Various limited interests may be created to form the subject of transactions by way of sale or loan. The usual plan is for an heir-apparent to settle his interest on coming of age, acquiring a reversionary life interest expectant on the death of the present life tenant and entailing the estate upon his issue. The present holder of the life interest in such an estate can probably borrow upon his life interest, or sell, in a manner to be described, while the heir can create various interests ranging from the mere reversionary life interest, to which he is entitled under the settlement, to an absolute reversion to the fee simple of the estates for which the consent of the tenant for life is required. Entailed estates are often charged with a jointure to the widow of a deceased life-tenant and portions for younger children, and these interests may be marketable securities.

It should be noted that the estate does not necessarily consist of land and house property. This may have been sold and the proceeds reinvested in convertible securities.

Investments in reversionary securities have several advantages from the point of view of life assurance companies. They bring no immediate income, a feature which possesses no objections for a life office, but considerably restricts the market for such investments in other directions. Similarly, a life interest, although bringing an immediate income, is not a type of security likely to attract an ordinary investor. The result is, of course, substantially to increase the interest yield from both classes above that derived from more popular securities of equal calibre. Another advantage is that insurance policies of various types are often required to perfect the security, with the desirable result that investment can be made to assist life assurance business. Another reason for the adoption of a policy of investment in reversionary and life interests has already been mentioned. It may form part of a necessary service to connections who have a considerable volume of such business to place.

Finally, it should be noted that these investments are similar in form to the liabilities under insurance policies, and against which they constitute part of the reserves. A group of life policies is a liability to pay a fixed sum upon each death occurring among the respective lives assured, while a group of purchased reversions will produce a series of sums falling into the office funds upon the respective death among another

body of lives. Liabilities and assets are, therefore, of the same form. Most life offices also have granted annuities upon lives which are, of course, of similar shape to incomes to be obtained by the purchase of, or loan upon, security of life interests.

Special precautions and safeguards are necessary, however, in dealing with reversionary investments in particular. The cases must be selected by a specially skilled and experienced staff, and subjected to constant supervision while they remain upon the books of the office. Much depends upon the proper construction of documents and investigation of title. The solicitors, too, must be experienced in the business, therefore, and work in close co-operation with the actuarial staff. It must be noted that both the beneficiary himself and his assignee have no direct control of the funds in which they are interested. These are in the hands of trustees, and depend for their safety upon the capability and integrity of the latter. For protection, the assignee relies upon the statutory restrictions upon investments by trustees (which may be modified however by the provisions of the trust) and the imposition of notices restraining transfer of the trust holdings. It is clear, therefore, that, other things being equal, the most favourable cases are those in the hands of the Public Trustee or other corporate bodies.

In dealings with equitable interests of the nature of reversions and life interests, the whole security depends upon priority in time of notice to the trustees, which is, therefore, of prime importance. A prospective assignee depends upon obtaining a list of previous notices from the trustees, and he is in their hands as to the accuracy of the information. For this reason there are objections to a sole trustee, since the notice, or previous notices, may be lost. Neither is it desirable that the borrower or vendor should himself be a trustee.

**Life Interests.** Since these constitute a terminable annuity, it is necessary to provide a life policy payable on the death of the life tenant to replace either the purchase money in the case of a sale or the principal of a loan. The income must be sufficient to pay the premium on this policy and also interest at the required rate on the purchase money or loan. A margin must be left to cover possible increases in income tax, decrease in income where this might occur by reinvestment of the funds, and a further margin for expenditure in proving the existence of the life tenant. There is little

difference in effect between a purchase or loan, but the latter leaves for the life tenant whatever margin of income there may be, and from his point of view is to be preferred. A company dealing in life interests must realize that the life tenant has parted with his income, and they may be faced with difficulty in proving existence in order to claim the income, or death in order to pay the claim under the life policy.

With regard to the rate of interest to be obtained, assuming the income to be derived from first-class convertible securities, the interest yield to a purchaser, after deduction of income tax, will be about one-half per cent per annum above that obtained from the same securities in possession. Life interest securities possess the additional advantage that they require substantial whole life policies, which may be effected with the purchasing or lending office.

**Absolute Reversions.** These are simple to deal with, either by way of purchase or loan. In the latter case the loan must be kept within the market price of the reversion, and not, contrary to general opinion, based upon a figure which will accumulate at compound interest to the amount of the fund at the end of some arbitrary period thought to be equal to the expectation of life of the life tenant. There is a general impression, too, that it is possible to compound indefinitely unpaid interest on a loan on reversion. This is not often the case, since the loan accumulates at a rate more rapid than the increase in the actuarial value of the reversion, and realization of the security by sale or foreclosure is sometimes necessary. The value of reversionary securities does increase with the efflux of time, however, and it is possible, therefore, to lend more fully than upon some classes of security, about 80 per cent of the present value of the reversion being advanced in the best cases.

The first step in valuation is to form an estimate of the probable value of the fund when it falls into possession. The value at the date of purchase is, of course, the most obvious basis for an opinion, a deduction being made for the possibility of adverse fluctuation. The margin against fluctuation will be a minimum in the case of long-dated redeemable securities of the highest class, and increase in parallel with the speculative element in the security. Depreciating securities such as short leaseholds must indeed be treated as valueless in many cases. A further deduction from the fund must be allowed to cover duties payable on the death

of the life tenant. The estimated fund in reversion is then subjected to an actuarial valuation upon an assumed mortality basis and interest yield. The functions employed depend for their significance upon their application to a body of data sufficiently large to reproduce the average experience upon which they are based, and this constitutes an important reason why investment in reversions must be conducted in considerable bulk and not restricted to isolated examples.

With regard to the mortality table to be employed, life tenants are, from the nature of the case, akin to annuitants who exhibit a very light mortality, and this assumption is proved by the results of the experience extracted by Mr. Lever in 1922 from data supplied by the insurance companies and reversionary societies. There are now available more recent tables based respectively on Government annuitants for the period 1900-1920 and the experience of insurance office annuitants for the same period, which allow for the prospective continued decrease in rate of mortality among this class of lives. Any one of these tables would be regarded as suitable to the purpose in view.

The rate of interest used in valuation by life offices is likely to vary with circumstances, but as a very rough guide it may be estimated at about 1 per cent per annum in excess of the rate earned by the fund in possession where the investments are of trustee class or akin thereto.

**Contingent Reversions.** The most common contingency is that of the reversioner predeceasing the life tenant, and special considerations apply to the treatment of such cases. It has been explained already that loans must be kept within the saleable value of a reversion. Where the contingency of survival is involved it is necessary to effect a policy before a marketable security is obtained, payable in the event of the failure of the reversion, for an amount equal to the whole share in reversion. The policy is, therefore, likely to be large in proportion to the loan value, and the premiums will throw a heavy burden on the borrower. The best method of dealing with contingent reversions is by way of purchase, restricted, if possible, to a fixed charge upon the share in reversion. The vendor is thus relieved of liability for both interest and premiums, and the balance of his reversionary share, after satisfaction of the purchased charge, will form an inducement to appear and

prove existence when the reversion falls into possession. Those who purchase contingent reversions outright must allow for the possibility of difficulty and expense in tracing the reversioner.

Other contingencies which commonly occur are those of total defeat by birth of issue to some person or diminution of the reversioner's share by the same event. Contingencies of this nature, if they can be covered at all, can usually be met by a policy the premium on which is generally a single payment sufficiently moderate to permit of a transaction by way of loan, if desired. It may also be necessary to cover the possibility of postponement of division of the fund by appointment of a life interest to a possible husband or wife, additional to those allowed for in the calculations.

**Reversionary Life Interests.** The objections to dealing with these cases by way of loan apply with even greater force. Since a life interest only is in question, a whole life policy is necessary to capitalize the income, and when the period of deferment until death of the life tenant is also taken into account, the cost of the premium in relation to the loan is prohibitive. The method employed is therefore to purchase a fixed portion of the income, all necessary premiums being paid by the purchaser in that event. It is not desirable to purchase an income outright, having regard to the risk of disappearance of the life, and the system of fixed charges has the advantage that the vendor is left with an income sufficient to induce him to put in an appearance when the time comes to commence payment of the life interest. With regard to the rate of interest employed in the calculations of value, the yield, while in reversion, will approximate to that of a well-secured absolute reversion, but a purchaser is usually content with a slightly lower rate when the income falls into possession.

**Colonial and Foreign Trusts.** An office dealing in reversions is frequently asked to entertain transactions with interests in colonial and foreign trusts. It is not generally considered desirable, however, to accept proposals of this nature. The legal questions involved are sufficiently complicated and difficult in this country, and to deal with trusts under other jurisdictions would add to the complication.

#### REVIVAL OF LAPSED POLICIES.

(See PROSPECTUS, PREPARATION OF; POLICY FORM AND CONDITIONS.)

#### RHEUMATIC FEVER.

A non-infectious acute disease, characterized by intense inflammation of the joints.

It commonly occurs in early adolescence, and may leave very serious *sequelae*. It is one of the commonest causes of valvular disease of the heart, and for this reason no life proposal should be accepted with a history of the disease, without a careful medical examination. The date and number of attacks are of great importance. It is possible for valvular disease of the heart following rheumatic fever not to show itself for twelve months after the attack, and cases, therefore, in which the attack has occurred within that time should be postponed, even if the medical examination is favourable.

The occurrence of several attacks, unless several years have elapsed since the last one, usually necessitates an extra premium.

#### RHEUMATISM (MUSCULAR).

Muscular rheumatism is a common condition due to cold or exposure, but it is frequently a misnomer for a true arthritis, or a neuritis (*q.v.*). It may indicate a gouty tendency.

For these reasons, although a simple muscular rheumatism in itself has little, if any, bearing on a life proposal, care must be exercised in dealing with such a case, and full medical evidence must be obtained that there are no more serious abnormalities present. Provided a satisfactory report on this point is obtained, and the proposer is otherwise normal, the proposal may be accepted at ordinary rates. A history of muscular rheumatism in youth must always be treated with suspicion, and the case regarded as possibly being one of rheumatic fever, and dealt with accordingly.

(See also RHEUMATIC FEVER; ARTHRITIS.)

#### RHEUMATOID ARTHRITIS.

(See ARTHRITIS.)

#### RICKETS.

A disease of nutrition, causing softening of the bones and consequent deformity. It is a common cause of deformities of the limbs in children. These are of no importance from the point of view of life assurance. The deformity, however, frequently affects the chest owing to softening of the ribs, resulting in poor chest development. An assurance, therefore, that the skeleton of the chest is not affected is necessary before a policy can be issued. Some children who have suffered from rickets may develop

poorly in their general physique, and the general measurements of such a case, that is, height, chest expansion, and abdominal girth, are therefore of special importance. If these are normal, the rickets may be ignored, provided the proposer is of adult or nearing adult age. If the measurements are not satisfactory, the manner of dealing with the case depends entirely on the degree of deviation from the normal that is shown.

A case of this sort must always be submitted to a skilled medical assessor.

### RIGHTS OF POLICY-HOLDERS.

(See ASSURANCE COMPANIES ACT, 1909.)

### RISK, THEORY OF.

In employing averages derived from past experience as a basis for future operations, it is unlikely that the results expected according to such averages will be realized exactly. At the same time, experience shows that the closer the resemblance between the characteristics of the two sets of observations, the greater the similarity of the conditions to which they are exposed; and the larger the mass of observations in question, then the closer will be the ratio between actual and expected results.

In a business such as life assurance, where provision has to be made for the distant future, clearly it would be advantageous if arrangements could be made to meet any likely adverse deviation from the average results on which calculations have been based.

As a preliminary illustration, consider the case of an undertaking where the probabilities have been determined *a priori*, and where benefit and premium have been ascertained according to mathematical expectation. Suppose an urn filled with black and white balls, where the chance of drawing a white ball is  $p$ , and of a black ball is  $q$ ; then let there be  $s$  persons, who, by paying each  $qA$  will, if successful, receive  $A$ , the uniform contents of the urn being kept in motion, so that every ball has an equal chance of being drawn. Viewed from the commencement of operations, the undertaking may win or lose, the only source of either in this case being the chance deviation of the actual results from those expected theoretically.

Now the solvency of the undertaking is endangered by the risk of loss, since in such an event it would be unable to meet all claims fully. Clearly the undertaking could only be secured absolutely against being

broken in this way by having in hand, at the commencement, the total possible amount of claims  $sA$ . That course is usually impracticable, and experience shows it to be unnecessary. The risk of an extreme deviation from the mean or average is very small indeed; hence it is sufficient to establish a reserve against adverse fluctuations of which it can be said that there is a high degree of probability that it will not become exhausted.

As a measure of this danger may be taken the average risk  $R$ , or the mean risk  $M$ , the values of which are

$$R = A\sqrt{\frac{s \cdot p \cdot q}{2\pi}}$$

$$M = A\sqrt{s \cdot p \cdot q}$$

The meaning of these equations is this: suppose a reserve of  $kR$  or  $kM$  be set aside, where  $k$  is some small multiple, usually 3, then the probability that the loss, if it occurs, will not exceed the reserve, is

$$p = \phi\left(\frac{k}{2\sqrt{\pi}}\right) \text{ or } \phi\left(\frac{k}{\sqrt{2}}\right) \text{ respectively.}$$

In this instance the undertaking may charge an extra premium of  $\delta$  per head, and thus will obtain a reserve fund of  $s\delta$ , which

$$\text{will suffice if } k = \frac{s\delta}{R} \text{ or } \frac{s\delta}{M}$$

Ultimately, if the adverse fluctuations are not so great as allowed for, or if indeed they are favourable instead of unfavourable, the undertaking will show a profit, which in a mutual scheme may be disposed of by division among participants.

The conditions of life assurance, however, are far from being as simple as this. Its calculations, based upon past experience, can scarcely be classed with *a priori* probabilities, except in a rough sense; the present body of lives will never be homogeneous with those of the past; and the conditions to which they will be exposed will be different. Thus attention has to be directed not merely to the accidental deviations of theory, but also to a number of systematic deviations. Then the business requires an extended period of time in order to be worked out, even up to the limit of human existence, and during that period the funds must be invested. Interest must be allowed for in calculating the premiums, and the rate of interest is a variable element of great effect, whose fluctuations have not yet been brought

within the scope of close theoretical analysis. Further difficulties arise with the loading for expenses which has to be added to the premium.

Since, generally, life offices choose mortality table, interest rate, and loading bases, which under each head allow a margin for adverse contingencies, there is in present circumstances but a limited practical scope for the theory of the risk as outlined. Yet there is a sphere of usefulness for analyses of mortality fluctuations—

1. In valuations where the solvency of an office is in question, and it becomes necessary to employ experience rates, dispensing with favourable margins almost entirely.

2. In valuations where, although solvency is not seriously endangered, it has to be considered whether the surplus disclosed can be distributed or allocated with safety.

3. In connection with the internal investigations which are made in offices to determine whether the trend of circumstances is favourable, particularly as regards bonus-earning power, such calculations being usually at experience rates.

4. In preparing tables of premiums at very low rates, such as short term, cost-price, or discounted-bonus policies, consideration should be given to mortality fluctuations.

5. Some useful researches may be made into the minimum number of lives required to form a reasonably stable society, and also into the maximum amount which an office of given size, etc., may retain at its own risk.

6. In particular a more precise study of the theory of re-insurance can best be effected on the lines of these investigations.

Whether the measure of the risk be based upon  $R$  or  $M$  is a matter of indifference, since

$$R = \frac{M}{\sqrt{2\pi}} = .39894M.$$

To give an elementary illustration, take the case of an annuity payable in advance,  $a_x$ . If  $(x)$  die in the  $n$ th year, the probability of which is  ${}_{n-1}q_x$ , he will have drawn  $n$  instalments, the present value of which is  $a_{\overline{n}|} = \frac{1-v^n}{d}$ .

Hence the average risk is  $R(a_x) = \frac{1}{2} \sum_{n=1}^{\omega} {}_{n-1}q_x [a_x - a_{\overline{n}|}]$ .

Passing now to a whole life assurance by single premium: if  $(x)$  die during the  $n$ th year, the probability of which is  ${}_{n-1}q_x$ , the sum assured will be payable at the end of that year, the present value of which is  $v^n$ .

Thus the average risk here is—

$$\begin{aligned} R(A_x) &= \frac{1}{2} \sum_{n=1}^{\omega} {}_{n-1}q_x [A_x - v^n] \\ &= \frac{1}{2} \sum_{n=1}^{\omega} {}_{n-1}q_x [1 - d \cdot a_x - v^n] \\ &= \frac{d}{2} \sum_{n=1}^{\omega} {}_{n-1}q_x \left[ \frac{1-v^n}{d} - a_x \right] \end{aligned}$$

whence  $R(A_x) = dR(a_x)$

showing that the average risk for a whole life assurance by single premium is exactly that percentage of the risk for the annuity which is represented by the rate of discount.

Turning now to an ordinary whole life assurance by annual premiums,  $P_x = \frac{1}{a_x} - d$ , if  $(x)$  die in the  $n$ th year, the probability of which is  ${}_{n-1}q_x$ , the sum assured will be payable at the end of that year, and the present value of this is  $v^n$ , the value of the premiums paid being  $P \cdot a_{\overline{n}|}$ , thus—

$$\begin{aligned} R(P_x) &= \frac{1}{2} \sum_{n=1}^{\omega} {}_{n-1}q_x [P \cdot a_{\overline{n}|} - v^n] = \frac{1}{2} \sum_{n=1}^{\omega} {}_{n-1}q_x \\ &\quad \left[ \frac{a_{\overline{n}|}}{a_x} - d \cdot a_{\overline{n}|} - v^n \right] \\ &= \frac{1}{2} \sum_{n=1}^{\omega} {}_{n-1}q_x \left[ \frac{a_{\overline{n}|}}{a_x} - 1 \right] \\ &= \frac{1}{2a_x} \sum_{n=1}^{\omega} {}_{n-1}q_x [a_x - a_{\overline{n}|}] \\ &= \frac{1}{a_x} R(a_x) = \frac{R(A_x)}{1 - A_x} \end{aligned}$$

Since  $1 - A_x$  is a fraction decreasing with age, then the more advanced the age at entry, the greater is the risk for life assurance by annual premiums in comparison with single premiums.

It thus appears that, having calculated  $R(a_x)$ , both the others can be derived from it. Now, of the differences  $a_x - a_{\overline{n}|}$ , one section is positive, the other negative. The dividing point is that value  $n$  for which  $a_{\overline{n}|} = a_x$ .

At this point the value of the sum assured is equal to the value of the premiums received, and this is termed the critical duration, which is the same for each of the above three classes of assurance. For, as regards annuities, we have

$$\begin{aligned} a_{\overline{n}|} &= a_x, \text{ whence } \frac{1-v^n}{d} = a_x, \text{ and} \\ v^n &= 1 - da_x = A_x. \end{aligned}$$

For whole life assurance by single premiums this becomes  $v^n = A_x$ , the same as for the annuity, and for annual premiums,

$$\begin{aligned} v^n &= P.a\overline{n}| \\ &= \left(\frac{1}{a_x} - d\right) \left(\frac{1-v^n}{d}\right) \\ &= 1 - d.a_x = A_x \text{ as before.} \end{aligned}$$

And, from this,

$$n = \frac{\log A_x}{\log v}$$

Refs. : See I. C. Vienna I, 2, page 756, etc. Czuber, *Wahrscheinlichkeitsrechnung*, II, page 408, etc., Berger, *Die Prinzipien der Lebensversicherungs Technik*, II, page 1, etc.

#### ROYAL COMMISSION ON ASSURANCE.

(See INCOME TAX.)

#### ROYAL EXCHANGE ASSURANCE.

Head Office: Royal Exchange, London, E.C.3.

Founded in 1720 for the assurance of ships, goods, and merchandises at sea. There was a further charter in 1721 empowering the Corporation to transact fire and life business.

At a time when insurance companies can be numbered by the hundred it seems almost fantastic to recall the days when insurance in England was undertaken by offices less in number than the fingers of one hand. This was the case, however, early in the eighteenth century. The Royal Exchange Assurance—one of the few survivors of the South Sea Bubble—carries us back to when George I was King, and stands as evidence of the solid foundation on which is built the world-wide insurance business of to-day.

It was in 1717 that the founder of the Corporation opened a subscription list at the Mercers' Hall, thus inaugurating a friendship with the premier City Livery Company which has already lasted for over 200 years. Unable to obtain a charter, the promoter managed to unearth a foster parent for his protégé in the shape of one in the name of the Mines Royal, Mineral and Battery Works which was an amalgamation of two charters granted by Queen Elizabeth in 1568, and with this as his authority business was commenced.

In June, 1720, a charter was granted incorporating the Royal Exchange Assurance "for the assurance of ships, goods, and merchandises at sea," and this was followed in

April, 1721, by a further charter empowering the Corporation to transact fire and life business in addition to that of marine insurance.

It is worthy of mention that the head office address of the Corporation has been, for the whole of its existence "The Royal Exchange, London," although the building itself seems dogged by a malign fate, which ordained that the first Exchange, named "Royal" by Queen Elizabeth in 1571, should be destroyed in the Great Fire of London, 1666, while its successor, opened in the reign of Charles II, and first home of the Royal Exchange Assurance, was burnt down in January, 1838. The panel in the north-east corner of the present building, depicting this fire, was presented by the Corporation on the occasion of its bicentenary in 1920.

During the past 200 years the scope of the Corporation's business has extended to practically every class of insurance. It was the first amongst the big corporate institutions to undertake the duties of trustee and executor.

With such a length of experience and tradition behind it, the Royal Exchange Assurance, adopting all modern improvements in assurance business of almost every description, continues to progress. As an example of its up-to-date methods, life assurances can, in many cases, be arranged on the ordinary terms without medical examination.

**British Equitable Assurance Company, Ltd.** Head Office: Eastern Entrance, Royal Exchange, London, E.C.3. The company was founded in 1854, and transacts all classes of business.

In 1923 the shares were acquired by the State Assurance Company, Ltd., of Liverpool. In 1924 the shares of the State Assurance Company were acquired by the Royal Exchange Assurance, and the British Equitable now forms one of a group of companies whose total assets exceed 20 millions sterling.

With profit policy-holders are entitled to 90 per cent of the divisible profits of the entire life assurance business of the company, including the non-profit business.

The company issues all classes of life policies. In the non-profit section the most popular policy is the "Equitable" policy, which combines the advantages of the ordinary whole life and the ordinary endowment policy in a manner exceedingly useful to the business man.

The company is ready to quote for any particular policy specially required. It deals with second class lives by quoting terms in each case.

The company lends on security of a mortgage of its policies an amount up to 95 per cent of the surrender value, and paid-up policies may be obtained provided that the amount is not less than £20. The company issues policies without requiring medical examination, full cover being granted from the outset on the same terms as if the life assured were medically examined. The non-medical scheme applies only to lives aged under 50 in non-hazardous occupations and is subject to the satisfactory completion of a special proposal form.

**United British Insurance Company, Ltd.** Early in 1929 the Royal Exchange acquired a substantial interest in the United British Insurance Co., Ltd., and took over the whole of the life business formerly conducted by that office.

#### **ROYAL INSURANCE COMPANY, LTD.**

Head Offices: 1 North John Street, Liverpool, 24-28 Lombard Street, London, E.C.3.

Founded in 1845 for the transaction of insurance business of all kinds.

Meeting with immediate success at home, the Royal quickly established itself abroad, and has since persistently followed a policy of world-wide expansion. The way in which the company faced heavy losses in the great conflagration disasters in America and elsewhere, pre-eminently in that at San Francisco in 1906, served to demonstrate its great strength.

The financial strength of the company and its large life reserves place it amongst the foremost of British life offices. It was able to maintain its bonus at the pre-war rate during the War period. The reserves have been steadily increased in stringency. The calculated reserves, the special reserves, and the amount carried forward in the life department, together with the support of the shareholders' capital, offer a position of great strength.

The company charges especially low rates of premium for non-profit assurances; and for with profit assurances the bonus prospects are excellent. For assurances of £1,000 and over the rates are reduced by 2s. per cent.

A fusion of interests with the Liverpool and London and Globe Insurance Company, Ltd., was arranged in 1919, but the latter is conducted as a separate office.

#### **ROYAL LIVER FRIENDLY SOCIETY.**

Chief Office: Pier Head, Liverpool.

Established 1850 as a local burial society, and registered under the Friendly Societies Act.

The Society has developed into one of the foremost offices of its kind in the Empire. It had an exceptionally small beginning, with head office accommodation of very modest dimensions indeed. The present office, which was opened in 1911, stands on the banks of the Mersey, and is one of the most conspicuous objects to all entering the Port of Liverpool on board ship. Visitors from abroad and elsewhere are taken to the top of one of the double towers, from which the whole of the Port of Liverpool is visible from the outer lightship to the entrance of the Manchester Ship Canal at Eastham. It is in some ways the most beautiful and appropriate building occupied by any of our assurance companies.

The operations of the Royal Liver Friendly Society were originally confined to Liverpool, but with public recognition of the value of assurance as a leading social and economic force, and with organization and enterprise, the Society has made considerable progress.

The Society transacts industrial, whole life, endowment, and ordinary life business.

In 1909 a house purchase scheme was introduced, which immediately found favour and has made many developments. It provides for the lending of money on a basis of four-fifths of the certified value of the property with interest at the low rate of £5 per cent per annum (6 per cent in Irish Free State). It is a condition that the borrower be a holder of a certain type of policy.

The Society publishes a full list of all its investments, and the value at which they are held in the books.

#### **ROYAL LONDON MUTUAL INSURANCE SOCIETY, LTD.**

Head Office: Royal London House, Finsbury Square, London, E.C.2.

Founded in 1861 for mutual life assurance.

The Royal London Mutual Insurance Society is a strictly mutual office. Since there are no shareholders the whole of the divisible profits in the ordinary branch are distributed amongst the holders of with profit policies. No medical examination is required for amounts up to £500, if the age does not exceed 50, or £250 if the age does not exceed 60, provided there is a satisfactory family history and health record.

On whole life assurances without medical examination, a slightly higher premium is charged, but endowment assurances are granted at the ordinary rate. The directors reserve the right to require medical examination in every case.

No extra premium is charged in mercantile marine and seafaring occupations, unless the occupation is followed on the tropical coasts of Africa, and no extra premium is charged to cover flying risk as a passenger. Extra premium is charged on the lives of persons engaged in the liquor trade.

#### RUMANIA.

**Regulations Affecting Insurance Companies.** There are no special insurance laws in Rumania, though foreign companies operating in that country must be authorized according to article 236 of the Rumanian

Commercial Code. One half of the premiums and interest on Rumanian business is to be deposited in Rumanian State bonds, approved by the Ministry of Commerce and Industry, with the Casa de Depunieri si Consemnatiuni. Foreign companies pay the same taxes as home companies. Life insurance is under the control of the State Insurance Council—Directiunea Bancilor si Societatilor de Asegurare, Ministerul di Comert, Bucharest, other branches coming under the Ministry of Labour.

#### RUPTURE.

(See HERNIA.)

#### RYAN'S MODEL OFFICE FOR ANNUITIES.

(See MODEL OFFICES.)

**SALPINGITIS (Inflammation of the Fallopian Tubes).**

It may be caused by septic organisms, by organisms from the bowel, by tubercle, or by gonorrhoea.

Any proposer, therefore, who has a history of this condition must be subjected to a careful medical examination, and, if necessary, a report obtained from the patient's own doctor or surgeon, if an operation has been performed. A history of non-tubercular and non-gonorrhoeal salpingitis, if no symptoms have been present for twelve months, may be accepted at ordinary rates.

**SALVATION ARMY ASSURANCE SOCIETY, LTD.**

Chief Office: Queen Victoria Street, London, E.C.4. Founded 1867.

The Salvation Army Assurance Society was brought into being, like many other branches of the Army's service, through an urgent need.

The founder, General William Booth, was aware that among the people at large there was lack of foresight and effort to make provision for eventualities, and it was to encourage greater prudence and promote habits of thrift that he founded the assurance society which now not only has among its policy-holders the great body of Salvationists, but thousands of people who do not belong to the Salvation Army. While the founder was searching for ways and means to effect his purpose, through the good offices of a friend the charter of the Methodist and General Society came into the Army's hands. On this foundation was built up a great business, the income of which exceeds £1,000,000 per annum. Although the Army assumed the management and control immediately after the acquisition of the charter, it was not until 1904 that the name was changed with the sanction of the Board of Trade from the "Methodist and General" to that of "The Salvation Army Assurance Society, Ltd."

**SARCOMA.**

(See TUMOURS.)

**SCARLATINA.**

(See SCARLET FEVER.)

**SCARLET FEVER.**

An infectious disease, characterized by a diffuse red rash and sore throat. As a disease it appears to be losing some of its virulence, but its complications are still dangerous, and may leave effects which influence adversely the patient's prospects of longevity. Scarlatina is a mild form of the disease. The most serious complications are otitis media, nephritis, and endocarditis.

For the effect of these in life assurance see the separate headings.

If a proposer has only recently (within a few weeks) recovered from an attack of scarlet fever, it is wise to postpone the granting of a policy for two or three months, and for the urine to be examined on at least two occasions.

**SCHEDULE POLICY.**

(See POLICY FORM AND CONDITIONS, page 394.)

**SCHEDULES OF ASSURANCE COMPANIES ACT, 1909.**

(See BOARD OF TRADE, POWERS OF; and ACCOUNTANCY DEPARTMENT.)

**SCHOOL FEE POLICIES.**

School Fee Policies are a recent introduction, and extend the protection of educational costs. They differ from educational endowments (*q.v.*) in that while the former create a fund to provide for future education costs the School Fee Policy assures the continued payment of education fees in cases where such provision has not been made. They make it possible for a child's education to be continued in the event of the death of a parent or guardian, the school fees being assured for an agreed amount, and being payable termly for a previously determined number of terms in the event of the death of the policy-holder while the child is still at school. In addition to the actual fees, additional amounts to cover cost of clothing, rail fares, board, etc., may be included in the termly amounts insured. The total cost of the cover given is payable over one-half the number of school terms selected—i.e. if protection over twelve terms is desired then the necessary premium is payable termly for the first six terms. In

the event of the death of the parent during the first or any subsequent term the agreed termly amount would be paid for the full selected number of terms. It is necessary to fix at the outset the number of terms for which insurance is desired, but if the amount required for school fees, etc., is likely to increase at periodic intervals the contingency can be met in two ways. Either separate consecutive assurances can be arranged for at the beginning of each period for an increasing amount, or a minimum termly allowance could be assured at the outset, for the full period of terms desired, and additional assurance then be effected to cover increasing commitments as they might arise. For instance, £25 termly for the first twelve terms, £50 termly for the next six terms, and £75 termly for a final six terms might be covered consecutively, or a minimum of £25 for twenty-four terms be assured at the outset, and additional assurance be effected as it became necessary. The working of the general scheme is as follows, and is quite simple. Say a parent or guardian wished to insure school fees of £40 for twelve terms, plus an amount of £10 per term to cover clothing, fares, etc.—a total of £50 per term. He would pay the necessary premium termly for the first six terms only, the amount assured being payable for the remainder of the agreed period, free of any further premiums, in the event of his death at any time before the expiration of the twelve terms. In the event of the child's death before the expiration of the selected period, and subsequent to the death of the parent or guardian, a lump sum would be immediately payable in settlement of any undisbursed benefits. Policies are issued generally to all parents and guardians not exceeding 60 years of age, and, except where the intending assured is unable to complete a proposal to the satisfaction of the office, no medical examination is required.

Specimen termly premiums (three terms per year), payable in each instance for one-half the period of insurance, required to

Age next birthday not exceeding	Duration of insurance not exceeding		
	12 terms.	18 terms.	24 terms.
35	£ 10 -	£ 12 -	£ 15 -
40	10 -	14 -	19 -
45	10 -	16 -	1 3 -
50	10 -	19 -	1 10 -

secure each £10 of school fees, etc., per term for the remainder of the selected period in the event of the parent's or guardian's death.

**SCIATICA.**

(See NEURITIS; also NEURALGIA.)

**SCOTTISH AMICABLE LIFE ASSURANCE SOCIETY.**

Head Office: 35 St. Vincent Place, Glasgow. London Office: 17 Tokenhouse Yard, E.C.2.

Founded in 1826. Incorporated by Royal Act of Parliament in 1849, for the purpose of mutual life assurance and annuity business.

The Society is a purely mutual life office. The divisible profits, therefore, belong exclusively to the participating policyholders, who are at the same time by the Society's Acts of Parliament, and by the terms of their policies, expressly freed from personal liability.

With the object of giving the largest possible assurance for the smallest possible premium, the Society introduced its distinctive minimum premium system of assurance in 1855, under which a compound bonus at the rate of £1 10s. per cent per annum was discounted, and applied in reduction of the premiums. The rate of bonus declared has never once fallen below 30s. per cent compound since the Society was founded in 1826, and at several periodic investigations since the adoption of the minimum premium system a higher rate of bonus was declared to ordinary with profit policies, and a bonus at the excess rate was added to the sums assured under policies effected on the minimum premium system.

In 1919 the Society acquired the shares of the Scottish Insurance Corporation, Ltd. —a composite office transacting almost every class of general insurance business, so that members of the Society have an opportunity of effecting their own general insurances with an office in which they are directly interested.

The Society since its formation in 1826 has a record of high bonus rates unbroken by the War.

**SCOTTISH EQUITABLE LIFE ASSURANCE SOCIETY.**

Head Office: 28 St. Andrew Square, Edinburgh.

Founded in 1831 for mutual life assurance.

The eminent actuary and mathematician, Dr. T. B. Sprague, was general manager for

nearly thirty years, and was followed by a man of almost equal eminence, the late Mr. G. M. Low. The tradition of good management, careful selection, low expense ratio, and strong investment policy, has produced excellent results for the assured, and is continued under the management of Mr. Charles Guthrie, who succeeded Mr. Low in 1920.

One of the most attractive types of contract, termed the "Perfect" policy, is obtainable from the Scottish Equitable. It is based on the idea of continuing insurance in an easy and inexpensive way after the policy has matured. It gives (1) immediate insurance maturing at the end of periods of from ten to forty-five years or on previous death; (2) guaranteed addition of from £2 to £6 per cent of the sum assured for each premium paid if death occur during the period; (3) on survivorship to end of period sum assured paid in cash and immediately replaced by a policy of equal amount payable at death, without medical examination, and without any further premiums.

There are also other useful options; for instance, the full sum paid can be devoted to secure either a large Death Duty provision, or a pension starting at sixty-five.

#### **SCOTTISH INSURANCE CORPORATION, LTD.**

Chief Office: 115 George Street, Edinburgh. London Office: 110 Cannon Street, E.C.4.

Founded 1877; life business commenced 1896.

The shares of the Scottish Insurance Corporation were acquired by the Scottish Amicable Society in 1919, and therefore it possesses the advantage of working in unison with an old established life office of the highest importance.

The Corporation was founded mainly for the transaction of accident assurance business, but to-day its operations extend into every branch of insurance, including the production of a substantial new life business. It stands entirely on its own basis, with an independent valuation in the life department.

Life assurance policy-holders, whilst their policies remain in force as separate policies, are entitled to share in the accident and fidelity insurance branches at an immediate reduction of 10 per cent from the ordinary rates of premium in those departments.

The Corporation issues policies for children with provision for cessation of premiums in the event of the death of the parent or guardian. It has a separate set of premium

tables for total abstainers. If the assured should cease to be an abstainer, the full premium for his age at entry will thereafter be required. Such a policy issued at reduced rates takes the same bonus as policies issued under ordinary tables. The published rates are applicable to proposals of not less than £500 for whole of life assurance, and £250 for endowment assurance. The reduction allowed to total abstainers proposing for smaller amounts varies with the sum assured.

#### **SCOTTISH LEGAL LIFE ASSURANCE SOCIETY.**

Head Office: 84 Wilson Street, Glasgow. London Office: Adelphi Terrace House, W.C.2.

Founded in 1852.

Registered under Friendly Societies Act.

The ordinary branch issues life assurance under all the recognized tables.

#### **SCOTTISH LIFE ASSURANCE COMPANY LTD.**

Chief Office: 19 St. Andrew Square, Edinburgh. London Office: 9 and 10 King Street, Cheapside, E.C.2.

Founded in 1881.

This company, on its formation, was able to introduce new methods. It is believed to have been the first British company to introduce the practice of endorsing on its policies figures definitely guaranteeing surrender values, loan values, paid-up policies, and "continued assurance." It was the first company to introduce the addressograph into insurance practice, a device which brought about an immense saving of labour, and is now used all over the world.

#### **SCOTTISH NATIONAL LIFE TABLES.**

(See NATIONAL LIFE TABLES.)

#### **SCOTTISH PROVIDENT INSTITUTION.**

Head Office: 6 St. Andrew Square, Edinburgh. London Office: 3 Lombard Street, E.C.3. Founded 1837.

The founding of the Scottish Provident Institution as a mutual life office was a new departure in life assurance. The offices existing at that time had, for the most part, based their premiums on tables which considerably overstated the mortality to be expected among a body of medically selected lives, with the result that the premiums were much higher than was necessary to cover the risk under the original assurance and expenses. Consequently at each valuation surpluses were disclosed, and disposed of by

way of bonus additions to all the policies, irrespective of their duration. In other words, the premiums charged were admittedly too high, and this was rectified, though not necessarily on a strictly equitable system, by giving back the surplus in bonuses. Accordingly, tables of rates were drawn up in the light of a more recent experience of the mortality of assured lives, and in this way the Institution was able to grant whole life assurances of much larger amount than the same premiums would at that time secure elsewhere—the difference at young and middle ages being as much as 25 per cent.

It was anticipated that even on these low premiums surplus would result, and the principle of division fixed upon was that bonus should be allotted only to those policies under which the premiums paid, if accumulated at 4 per cent compound interest, would have amounted to the sum assured.

The Institution's valuations and investigations into surplus were made every seven years up to 1908, and since then have been quinquennial. Of the surplus available on each occasion, a substantial portion has been reserved for those policies under which the assumed accumulation of premiums would not be completed before the next investigation. The balance, or divisible surplus, has then been allotted by way of reversionary bonus additions (a) to policies which had previously participated, such bonuses vesting at once, and (b) to policies sharing for the first time, i.e. those policies which would complete their accumulation periods before the next investigation—these first additions being contingent on the policy in each case remaining in force until the year (now the 1st of January of the year) in which the accumulation would be completed.

The Institution's distinctive system for whole life assurances, however, was inapplicable to endowment assurances, and it was decided in 1903 to form a separate class for such assurances, with a special fund, the surplus on which should belong exclusively to the policies in the class, and be allotted by way of reversionary bonuses from the outset on the compound system. This class has grown very considerably, and the results under it have been entirely satisfactory.

#### **SCOTTISH TEMPERANCE AND GENERAL ASSURANCE COMPANY, LTD.**

Head Office: 109 St. Vincent Street, Glasgow. London Office: 3 Cheapside, E.C.2.  
Founded in 1883.

A special feature of this company is that in 1924 arrangements were made by which policy-holders would thereafter in effect divide the whole of the profits. The company obtained in that year the control of 99 per cent of the shares, and has now resolved that in future dividends shall be restricted to 5 per cent on the paid-up capital, a sum which just equals the interest earned by the capital as invested. For all practical purposes, therefore, the company is now a mutual society.

As the name implies, the main feature of the company's business is the granting of special terms to total abstainers, in view of the lighter mortality experienced by those who refrain from the use of alcoholic liquors. The company was the first to recognize this feature by granting a reduction in premium to abstainers. The special treatment of abstainers does not prejudice the business received from non-abstainers, as separate accounts are kept for the abstainers' and non-abstainers' sections.

The company advances money on mortgage on house property under its terminable mortgage loan scheme. This scheme includes an endowment assurance policy, which, at maturity or in the event of earlier death, wipes off the amount of the advance. The ordinary expenses of the mortgage are met by the company.

Policies are issued on favourable terms for insurance against sickness and accident, both by annual and permanent contracts.

#### **SCOTTISH UNION AND NATIONAL INSURANCE COMPANY.**

Chief Office: 35 St. Andrew Square, Edinburgh.

Founded in 1824.

The Scottish Union and National Insurance Company is the result of the amalgamation of the Scottish Union and the Scottish National Insurance Companies.

The Scottish Union Insurance Company, which was incorporated by Royal Charter and empowered by Act of Parliament, came into existence in Edinburgh in 1824 for the transaction of fire and life business. It originated in an endeavour "to secure to the shareholders the mercantile benefit arising from their own insurances, as well as from general business." It was stipulated that no person would be admitted a partner who would not, either for himself or others, effect an insurance on property to the amount of at least double the stock subscribed for by him. The first annual report

showed that of the capital of £5,000,000 the sum of £4,154,080 had been subscribed, while £207,704 had been paid up. In 1835 the company acquired the life business of the Hercules Insurance Company.

The Scottish National Insurance Company, or, as it was originally called, the National Fire Insurance Company of Scotland, was established in Edinburgh in 1841 with a nominal capital of £200,000, distributed in 20,000 shares of £10 each, with £20,000 paid up. The company commenced life business in 1843, and changed its name to the National Fire and Life Insurance Company of Scotland. In 1859 it obtained a special Act of Parliament, and became incorporated under the name of the Scottish National Insurance Company. In 1853 the company took over the business of the United Deposit Assurance Company.

The Scottish Union and National Insurance Company was incorporated by special Act of Parliament in 1878. The Scottish Union shares, amounting nominally to £20 each with £1 per share paid up, constituted the "A" shares of the amalgamated company, and the Scottish National shares, amounting nominally to £10 each with £3 15s. 0d. paid up, became the "B" shares, provision being made that "B" shares might be converted, at the option of the holders, into "A" shares at the rate of four of the former to fifteen of the latter. In 1888 a further issue of "A" shares was made, and at the present time the nominal capital of the Scottish Union and National Insurance Company is £6,000,000, with £5,646,400 subscribed and £300,000 paid up.

In 1906 the company acquired the business of the Lancashire and Yorkshire Insurance Company. In 1913 the City of Glasgow Life Assurance Company, which had been established in Glasgow in 1838, and in 1914 the Maritime Insurance Company were purchased.

Business and professional men are attracted by the company's limited payment and endowment assurance policies with guaranteed options. If payment of premiums be discontinued, the fact that the amount of paid up policy, or surrender values and the loan values throughout the duration of the contract are guaranteed, and that the actual figures are stated on the face of the policy, renders it a readily negotiable document.

In the life department the company issues policies under all classes of life and endowment assurances, children's educational annuities, endowment and deferred

assurances, annuities and pensions and capital redemption assurances.

### SCOTTISH WIDOWS' FUND AND LIFE ASSURANCE SOCIETY.

Head Office: 9 St. Andrew Square, Edinburgh. London Offices: 28 Cornhill, E.C.3. West End: 17 Waterloo Place, S.W.1.

Founded in 1815 for the purpose of "supplying life assurance on a purely mutual principle."

The Scottish Widows' Fund is one of the largest British Mutual Life Offices. The actual founder was Mr. David Wardlaw, W.S., who first drew up the prospectus and plan of the regulations in 1811. The early rules, in view of modern developments, are amusing, but represent accurately the thought of those days. For instance, under Rule 2, unmarried men might nominate at their admission "sisters or other females, who shall be considered on the same footing as wives in respect to this establishment." Rule 4 represents a not infrequent fear, which is not often so bluntly expressed, for "no person to be admitted a member who is above 60 years of age, or whose wife is more than twenty years younger than himself." Rule 5 provided that members were to be admitted by the directors voting by ballot, one blackball in three excluding a candidate.

Mr. Patrick Cockburn drew up the tables of rates, and communications were invited, but our canny forefathers expressly warned their correspondents that "letters on this business are expected to be post paid."

The most noble and influential names in Scotland appeared on the prospectus as patrons. Notwithstanding this, it appeared that on the 6th July, 1814, the committee had to report that they had only been able to raise £248 17s. 0d. for preliminary expenses. Nevertheless, the directors present at this meeting agreed to go forward. A formal resolution of the Board in March, 1815, resolved that the official day of commencement should be fixed as from 2nd Jan., 1815. The first policy had been issued on the life of Mr. Wardlaw, one of the directors, for £1,000, as far back as the 10th Oct., 1814. It is worth noting that the terrible struggle which the Scottish Widows', as a mutual assurance society, passed through in those early days was a contributory cause of the founding in 1824 of a number of companies with very heavy capital behind them.

To-day the Society transacts all classes of life assurance business, and the whole of the profits belong to the members. The

conditions of the policies have been amended from time to time until at present they rank amongst the most liberal of those of any office. Every kind of assurance may be issued, but the business is largely confined to whole life and endowment assurances with profits, and to deferred assurances for children, which are issued at favourable rates.

#### SEASONAL RISKS.

(See CLIMATIC RISKS.)

#### SECURITIES, COLLATERAL.

(See COLLATERAL SECURITIES.)

#### SECURITIES RECORD BOOK.

(See INVESTMENT DEPARTMENT.)

#### SEGREGATION OF LIFE ASSURANCE FUNDS.

The separation of life assurance funds from other funds was first made compulsory in the Life Assurance Companies Act, 1870, and arose almost directly from the failure of certain large insurance companies.

The principle of separation was maintained in the Assurance Companies Act, 1909, which repealed the above Act, and the provisions therein are as follows—

“Sect. 3 (1). In the case of an assurance company transacting other business besides that of assurance or transacting more than one class of assurance business, a separate account shall be kept of all receipts in respect of the assurance business or of each class of assurance business, and the receipts in respect of the assurance business, or, in the case of a company carrying on more than one class of assurance business, of each class of business, shall be carried to and form a separate assurance fund with an appropriate name: provided that nothing in this section shall require the investments of any such fund to be kept separate from the investments of any other fund.

“Sect. 3 (2). A fund of any particular class shall be as absolutely the security of the policy-holders of that class as though it belonged to a company carrying on no other business than assurance business of that class, and shall not be liable for any contracts of the company for which it would not have been liable had the business of the company been only that of assurance of that class, and shall not be applied, directly or indirectly, for any purposes other than those of the class of business to which the fund is applicable.”

The whole subject of the segregation of life assurance funds has recently been considered by the Departmental Committee on the Assurance Companies Act, 1909, and the following is, therefore, largely a précis of the evidence given. A summary of the Committee's Report as regards segregation appears at the end of this article.

Until recently the authorities in the assurance profession were unanimously of the opinion that, in view of the above provisions, the life fund would only be liable to a liquidator for such portion of the life surplus (if any) as belonged to the shareholders, the life fund and any remaining surplus being retained for the benefit of the life policy-holders. The circumstances contemplated are those in which the liquidation arises from losses in other departments whilst the life fund remains solvent.

A high legal opinion has, however, recently been given to the effect that in the event of a liquidation the life policy-holders would only be entitled to such a sum as would place the life fund in a sound position on a solvency valuation. In other words, the life fund would only comprise such a sum as would, on the basis of expected mortality, interest and expenses, enable it to meet its contracts, and there would be no hope of future bonuses.

In the light of this decision it becomes necessary to consider—

(a) Whether complete segregation of life funds is desirable and proper.

(b) If so, how it is to be made effectual.

(a) The desirability of segregating the life fund is supported on the following grounds—

1. The word “security” in Sect. 3 (2) above would naturally be read to mean security for the whole of the contractual rights of the policy-holders, which rights are to be administered and not extinguished in liquidation.

2. The policy-holders' contractual rights usually include the right to a share in any surplus ascertained and divisible on the life fund.

3. There is no doubt that at least in the very great majority of cases, the clear intention and understanding of both parties to a contract of life assurance has been that the life fund is for the absolute benefit of the life policy-holders, subject only to a certain proportion of any declared surplus being paid to the shareholders (if any), in return for the additional guarantee of the capital. In many cases direct representation to this effect has been made by the companies.

4. If it becomes known that the whole of the surplus in the life fund will be taken in a liquidation to satisfy non-life contracts, it will be extremely difficult for composite offices to carry on life assurance business with success.

5. Life assurance is a long period contract, and differs from other classes of assurance in that (i) practically every contract ends in a claim, (ii) the company has no right to refuse a renewal, (iii) large reserves are built up out of policy-holders' contributions with a view to future claims and also bonuses, and policy-holders are entitled to some return for their abstinence in not taking bonuses up to the hilt in the past, (iv) in the event of a crash, certain policy-holders may be in bad health and unable to transfer their assurances, a position which does not generally arise with other classes of assurance.

In view of these weighty considerations, professional insurance opinion is practically unanimous in supporting segregation, and the Committee reported in its favour, subject to certain modifications. (See below.)

(b) In order to make segregation effectual, it is suggested that the statute should require a separate life balance sheet, with separate assets, including a separate banking account. It is suggested that to avoid improper transfers of assets a list of securities should accompany every such balance sheet.

Diverse opinions are held as to the degree of inviolability of the life assets, as will be seen from the following views expressed to the Committee—(i) that the auditor should certify that they have not been used for other than life purposes (which, indirectly, he already does); (ii) that the actuary or life manager should give the certificate and be personally responsible; (iii) that the directors should be the responsible parties; (iv) that the life fund should be vested in separate trustees to administer it as if it were a separate company; (v) that there should be a small consultative committee of two or more persons, whose duty it would be to safeguard the interests of the life policy-holders, to attend board meetings when life matters are discussed, to receive notice of proposed dealings with the life fund, to see that life funds are kept separate, and to issue a certificate annually to this effect, with comments on the dealings of the life department: those persons to have power to apply to the Court in a summary way for such relief as may be necessary; (vi) that sums, small in comparison with the total funds, might be loaned temporarily by the life department in order to provide elasticity in domestic affairs, the directors being responsible for the propriety of the transactions; (vii) that the nearer the law approaches to actual prohibition of the

transfer of assets from the life fund to another fund the safer it will be; (viii) that even if small loans be permitted from the life fund, these should not be without security; and the best way to meet the difficulty would be by means of a "blanket" clause, making all the assets of the borrowing department liable for temporary loans.

The trend of opinion is most strongly in favour of a separate balance sheet and separate assets, but the following arguments against that course must be given weight—

(i) General credit is more important than particular assets at a given date.

(ii) Separate life balance sheet hides non-life liabilities.

(iii) Where a proportion of surplus belongs to shareholders, it is neither proper nor expedient to make this inaccessible to the company or the liquidator.

These arguments contemplate temporary difficulties in other departments rather than actual liquidations, and are supplemented by the suggestion that in the event of the non-life losses necessitating a transfer from the profit and loss account, the adverse balance of profit and loss should be carried in the life balance sheet as an asset until such time as it could be written off by the normal transfers of proprietors' profits. It is further pointed out that if, as it appears, such a substitution of real assets for paper assets is legal, the separate balance sheet will have created no obstacle whatever to the use of the life assets to pay non-life claims. It thus follows that to make segregation complete such a transaction as the above must be made illegal, and it is contended that this would be impracticable. Further, if the process is to be permissible, but only within certain statutory limits, then the law will precipitate bankruptcy in cases where the storm might have been weathered, and give sanction to continuance in cases where winding-up is the only satisfactory course.

The prohibition of a transfer from the life department of a reasonable amount in such circumstances would destroy the credit of the company and the value of its organization, thus causing injury both to life and non-life creditors alike.

It will be observed that these arguments are not against separation, but against the segregation of life business into a "water-tight compartment." They suggest that it is justifiable in certain cases to trade on the security of the shareholders' proportion of the life profits rather than on the security

of the capital alone, more particularly as it might well happen that the former was actually of greater value than the capital.

As regards the suggestion that some limit should be placed on the amount of the profits so anticipated, it is contended that it would be quite impossible to frame regulations by Act of Parliament to determine the critical moment when payment of claims should be stopped. It is also pointed out that as the shareholders are entitled to a proportion of any surplus distributed, there would be a strong inducement to weaken the life valuation basis in order to produce a large surplus, and the measure of segregation intended to increase the security of the life policy-holders would provide a strong incentive to decrease it. The supporters of these arguments are of opinion that the proper solution of the difficulty is that the Board of Trade should have power on any *prima facie* case to institute an inquiry and to take such steps as may be necessary.

A feeling has also been expressed that in order to make segregation effective, restrictions should be placed on the life funds being used to obtain control of an office doing other than life business. This is a difficult matter, and can probably only be effected by means of publicity.

Some restriction, also, seems necessary in the matter of allocation of expenses, as otherwise the life fund may be weighted with an undue proportion. Probably managerial responsibility is the only means of dealing with this problem.

In the report of the Committee a modified form of segregation was recommended and the principle of separate assets adopted. (See below.)

It now remains to consider what will be the effect of this more or less absolute segregation of the life department in the event of a liquidation.

The view that whatever are the mutual rights of policy-holders and the company (according to the constitution of the company and the contracts with the life policy-holders) as regards any surplus becoming divisible from time to time while the company is a going concern, the same rights should be given effect to in a liquidation as regards any surplus then ascertained on the life account, appears to be sound, and the great weight of opinion is in favour of it. In practice, however, there are considerable difficulties.

In the first place, it is necessary to settle the meaning of the expression "the life

assurance fund." The suggested definition is "that the amount of the life assurance fund should be the produce of the assets so allocated," and this seems to be adequate since it seems proper that the life fund should be modified by any appreciation of or depreciation in its assets.

The basis on which the valuation of the life fund is to be made is also a difficulty, as the present regulations contained in the sixth schedule of the Assurance Companies Act, 1909, hardly meet the case. It is suggested, therefore, that the best course is to leave this basis of valuation to the discretion of the Court (which would doubtless be guided by the best procurable actuarial advice) with a clause indicating the considerations to which the Court should have regard in coming to its decision. In its report the Committee has largely followed this course. (See below.)

Probably the greatest difficulty of all will be to determine the proportions in which the surplus ascertained in a liquidation should be divisible between the life assurance fund and the proprietors' fund. In the simple case in which the proprietors are entitled to some prescribed proportion (such as one-tenth) of the divisible surplus, it is suggested that the same proportion (one-tenth, for example) of the liquidation surplus should be given to the proprietors, and the balance of the fund held for the benefit of the policy-holders, free from any further or future claim on the part of the proprietors or liquidators. The weight of opinion is in favour of this view, although it is also suggested that in liquidation the company has taken away the consideration for which it was entitled to its proportion, and therefore should not receive it.

Where the proportion of the surplus payable to the proprietors is on a sliding scale, it is suggested that it might be possible to form a rough estimate of the present value of the proprietors' proportion, so as to give effect strictly to the respective rights of policy-holders and proprietors, or that the "prescribed proportions" should be based on a comparison between the actual amount of surplus allocated to policy-holders and proprietors respectively, during a period of, say, 10 years preceding the liquidation.

There is, however, a more difficult case, namely, that in which the proprietors are either entitled to the whole surplus, or to a large fixed proportion thereof, but for commercial or other reasons have for many years only claimed a small proportion.

In this case it is suggested that the liquidator is entitled to the whole surplus of the life department or to such large proportion thereof as is the right of the proprietors. There is no doubt that the liquidator's rights depend absolutely on the nature of the contract between the policy-holders and the company. It may, however, be argued that the policy-holders were entitled to rely, and did in fact rely, on the actual practice of the company, and that it would be just that, in a liquidation, the "prescribed proportions" should be based on the actual practice of the company over a reasonable period, such as 10 years preceding the date of liquidation. Such a plan would be uniform with that suggested for the first two cases above.

The Committee reported in favour of allocating to policy-holders the proportion of surplus which had actually been allocated during the ten years preceding the commencement of the winding-up. (See below.)

The opinion is expressed that whereas the object of segregation is to enable the life fund to be continued after the liquidation of the other departments, yet in no circumstances should administration by the old proprietors be permitted. The course suggested is that the life business should be administered on behalf of the policy-holders themselves, i.e. by directors of their own election. As an alternative it is suggested that the fullest powers should be given to the Court to arrange and sanction a scheme of transfer of the life business as a going concern to another office, reserving the shareholders' rights intact in favour of the transferee office, which would pay to the liquidator a purchase price for the value of the shareholders' rights and of the connection and goodwill.

**Departmental Committee's Report.** This Report was presented to Parliament in March, 1927.

The main part of the report consisted of a draft Bill giving effect to the measures proposed, and repealing the Assurance Companies Act, 1909 (see Appendix). As regards the problems discussed above, the provisions of the Bill were briefly as follows—

1. It should be *permissible* for an insurer to establish and maintain a "Life Statutory Fund," an "Annuity Statutory Fund," a "Disability Statutory Fund," and a "Capital Redemption Statutory Fund."

2. In respect of all or any of the above classes of assurance for which a "Statutory Fund" is not voluntarily kept, it should be

*compulsory* to establish an "Amalgamated Statutory Fund."

3. Separate statutory funds should also be compulsory for employers' liability and industrial assurance business.

4. The assets of every statutory fund should be distinct and separate from any other assets of the insurer. Freedom of investment to be granted subject only to the sanction of the Court for any investment (directly or indirectly) in any share or interest in any insurance business.

5. Every insurer (including every company director) to be liable on the footing of a trustee for the execution of the above provisions.

6. In the event of a winding-up, the assets and liabilities to be ascertained separately for each statutory fund. In the case of the above classes of business (except "employers' liability") the liabilities to be determined upon the basis of such rates of interest, mortality, sickness, and expenses as the liquidator or trustee in bankruptcy may determine, subject to any directions given by the Court.

7. Where a surplus is found on valuation of a statutory fund, then if any proportion of the surplus was given to policy-holders prior to the winding up, the liabilities to be increased by an amount equal to such proportion of surplus as was allocated to policy-holders during the previous ten years, subject to the power of the Court to rule otherwise.

8. The Court to have power to sanction a scheme for continuing one class of business, with or without extended powers, or to agree to its transfer, whilst another class of business is wound up.

9. If on a winding-up the Court is satisfied that a Statutory Fund has been wrongfully diminished, then every person who was a director, manager, or liquidator, or an officer of the company, to be deemed guilty of misfeasance in relation to the company unless he proves that the contravention of the Act occurred without his consent or connivance, and was not facilitated by his neglect.

#### SELECT AND ULTIMATE PLAN.

(See VALUATION METHODS.)

#### SELECT COMMITTEE, 1882.

(See POST OFFICE LIFE ASSURANCE.)

#### SELECT TABLES.

If the various calculations are to be based on select tables, in which both the

age and also the duration of the assurance are variables affecting the rate of mortality instead of an aggregate table, where the age is the only variable, then the notation has to be modified. Thus  $l_{[x]}$  (instead of  $l_x$  in the aggregate table) denotes the number living in the life table, all assumed to have been selected by medical examination at that precise time when they attained the exact age  $x$ ;  $l_{[x]+1}$  denotes the survivors of the  $l_{[x]}$  lives after one year;  $l_{[x]+2}$  the survivors after two years, and so on. As the effects of medical selection are considered to wear off within a limited number of years (usually 5, 7, or 10), the survivors are thereafter grouped together according to the age attained, the duration being ignored. The lives then constitute what is termed an "ultimate" life table, from the functions for which the special suffixes indicating selection are omitted.

To indicate selection, other functions are similarly modified. Thus—

$$A_{[x]} = P_{[x]} \cdot a_{[x]}.$$

$A_{[x]+1}$  = the single premium for a whole life assurance effected one year ago on a life then select and aged  $x$ , and so on.

(See also SELECTION.)

### SELECT TABLES FOR VALUATION.

(See VALUATIONS BY SELECT TABLES OF MORTALITY.)

### SELECTION.

The earliest investigators into human mortality appear to have realized that there were marked differences between the vitality of different classes of persons. As soon as life assurance involved a preliminary examination of the lives proposed, it is clear that the very fact presumed the realization of a favourable effect upon the resultant mortality. The extent and course of the variation naturally could be ascertained only long subsequently.

The first reference to selection in the literature of life assurance appears to be in the *Einleitung zur Berechnung der Leibrenten, etc.* (*Introduction to the Computation of Life Annuities and Reversions*) by Professor Tetens of Kiel, published at Leipzig, 1785. (See also COMMUTATION SYMBOLS.)

In this work Professor Tetens says that if correct statistics are to be obtained, then every group of entrants must be traced by itself; they must not be amalgamated, but be observed separately throughout life. He,

however, was not able to carry out such a scheme owing to the paucity of material at his disposal (Berlin I.C. III, 231—Prof. Goldschmidt). He does not seem to have been heard of in England, however, until Mr. Frederick Hendriks published an article in the J.I.A., i, 1, in 1850, and even in Germany his valuable contributions were insufficiently appreciated, *vide* Professor Goldschmidt's remarks, referred to above.

In J.I.A., lv, 24, Mr. W. Penman suggests as a definition for the term "selection" as currently used by actuaries "any phenomenon which resulted in the rate of mortality being dependent on some factor in addition to the attained age."

In J.I.A., lv, 1, Messrs. Elderton and Oakley subdivided selection into (a) "temporary," and (b) "class," considering that there were two forces operating at the moment of entry or selection, *viz.*—

(a) An initial selection based on the state of health at the time, and

(b) A permanent force operating throughout the whole of the after lifetime, due to the class of lives involved.

The idea of "Reversed Selection" is put forward in J.I.A., lvi, 320 (Nov., 1925), by Mr. C. H. Ashley as representing the effect of counted selection. The case arises particularly in connection with industrial life assurance, where the selection on behalf of the office is necessarily less thorough than in ordinary life assurance, and where more than half of the policies are on the lives of third parties. It is found that the selection by the proposers is more effective than the selection by the office. As a result, the mortality is higher than that of the general population, and lighter under long standing policies than under recent issues.

In the middle of last century, in the very first volume of the Journal of the Institute of Actuaries, Mr. J. A. Higham discussed at length the significance of medical selection of lives for life assurances; he dealt also with the effects of withdrawal selection, holding them to be deteriorating in life offices, but as improving in friendly societies, through the elimination of the unfortunate. His analyses were founded upon the seventeen offices' experience, which, for the first time, afforded a sure basis. His line of research has been followed generally since, and has been developed further.

If Mr. Penman's definition be accepted, various kinds of selection may be recognized, such as (1) medical selection, (2) class, (3) withdrawal.

1. **Medical Selection.** Persons who seek voluntarily to participate in the benefits of life assurance are always subjected to a weeding out process, to ensure that they are of average quality, and not likely to die prematurely. In this country at the present time this means a preliminary examination by a medical man, generally speaking, or something corresponding. The effect of this process is that the mortality of the body of lives accepted is much lower than that of an average group of lives of the same age, for at least some time subsequently. The favourable effect of the selection appears, as a rule, to wear off gradually, the reasons for which still afford ground for discussion. It has to be borne in mind that some life assurance institutions, such as staff funds, have a compulsory membership, where medical selection may or may not play a part, but then there would be—

2. **Class Selection.** This may be defined as any influence, voluntary or accidental, other than age or medical selection, which differentiates a body of lives existing at any one time from an average of all their contemporaries. This would bring in sex, race, climate, occupation and social status, as broadly involuntary, while those tendencies which lead to the preference for one kind of life policy rather than another might be considered as voluntary. Each of these features gives rise to important differences in the resultant rates of mortality.

A detailed study of the effects of sex, race, climate, occupation, and social status on mortality would lead too far, but it is desirable just to refer to a combined social aspect which results in a differentiation between one body of assured lives and another body of assured lives, as well as between them and the general community. To this may be added an economic selection, to mark the fact that only the relatively better-off are in a position to avail themselves of the benefits of life assurance. Thus, even in a given class, those who are healthy, thrifty, and temperate are certainly those best able to afford life assurance, and also will be lives of better quality than their neighbours. The selection that results from the preference of the public for one kind of assurance policy rather than for another appears to be rather involved in that aspect of the case just discussed. It may be summed up briefly by saying that experience has shown that the higher the rate of premium paid, the lower, in general, is the rate of mortality. Of course, in the extreme case, those who

contemplate fraud are likely to favour those classes of policy where the premium is as low as possible, but it is not believed that this is frequent. The more effective cause is considered to be that those who take out assurances to provide against early death will effect if possible those kinds of assurance which happen to call for lower scales of premium, while those whose view is to provide for old age will take out suitable policies, which happen to be more expensive. This is not the whole story, since, for example, there will be the point to be kept in view that the less successful will only be able to afford the cheaper forms of assurance.

Among them there is also a curious section. When proposers for life assurance are suspected of being not perfectly first-class, they are occasionally accepted at normal rates of premium for endowment assurances, instead of for the whole of life. They can scarcely be considered voluntary, and investigations have shown that their mortality is higher than that of the class to which they have been attached, although the presumed defect was expected to operate only beyond the age when the endowment assurance would mature (see *Gotha Experience*, T.F.A., V, 111, etc.).

There is another species of selection, which is connected with the sale of annuities. Here there is no preliminary medical examination, but it is not to be expected that those in ill-health will purchase annuities at ordinary rates, except perforce, say, in terms of wills. Experience here has shown that annuitants are peculiarly capable of selecting themselves, especially at the more advanced ages at which annuities are usually taken out, with a result that they as a class exhibit very low rates of mortality at these ages. Their skill in this direction has been found likewise to be progressive, for each new and later investigation has revealed a further improvement in their vitality. This has been called self-selection.

3. **Withdrawal** (sometimes termed anti-selection). The fact that among a body of assured lives a number will withdraw before the maturity of their policies may be expected to exercise an influence on the mortality of the remainder. Mr. Higham, and, after him, Mr. George King and other writers, made extensive investigations to determine the extent of this effect, but the results are not regarded as altogether conclusive. The theory is that only persons feeling themselves to be in good health would be likely to surrender policies securing

sums payable at death, or, conversely, that those in impaired health would continue their policies at all costs. Yet, although the mortality of assured lives is at first lower than that of the corresponding class of the community, and frequently higher subsequently, still, statistical analyses have not entirely confirmed that the deterioration is due to the withdrawal of better quality lives. It has been impracticable to solve the question directly by calculating the rate of mortality of the withdrawals themselves, since, after surrendering their policies, so many of them are lost sight of. But if withdrawals were of superior vitality to the general stock, then, where withdrawals are more numerous, greater deterioration of the remainder might be expected. This, however, has not been proved, and the results of the investigations of Mr. James Chatham (J.I.A., xxix, 81, etc.) and Mr. Emory McClintock, "The Effects of Selection," have yielded barely negative conclusions. It may be mentioned that the Danish actuary, Mr. Ivor Fredholm, managed to trace the later life history of nearly all of those who surrendered their policies in the Hafnia Company, and found that the rate of mortality among them was actually higher than that of the remaining body of lives assured in the company during the same period.

It would appear, indeed, that there are two main streams of withdrawals, if not three. During the early years of duration, withdrawals are likely to be of good quality, partly because they have been selected comparatively recently, partly because they will include none that have developed evidently fatal defects in health, and will embrace a number who, possibly over-persuaded to assure, have satisfied themselves of being in good health, and have become indifferent to life assurance. The surrenders at later durations frequently fall into another category—the proportion of men who fail to achieve success in life provides a number who suffer from financial pressure. Without relegating them to the class which is likely to die out within a year or so, i.e. obviously and hopelessly impaired, their vitality is definitely inferior, and this cause, i.e. straitened means, often impels them to sacrifice their life assurance policies. At a still later stage, there will be a number of surrenders by those who have survived the period and the purposes for which their policies were required, although they may be good lives still for their age.

In connection with staff funds, withdrawals play a more important part. Apart from those who withdraw to seek other employ or for personal reasons of various kinds, such as marriage where the employees are women, all who become incapacitated will leave the ranks of the workers, since only the reasonably fit can remain on the active list.

Those who provide the premature deaths which ensue upon an illness of some length, i.e. exclusive of those due to accident, mainly, since the working period of life is in question, will, as a rule, die *after* leaving the active ranks, whose mortality will be very low in consequence.

This may be termed *retiral selection*.

#### SELF-SELECTION.

(See SELECTION.)

#### SEPARATION OF FUNDS.

(See ACCOUNTANCY DEPARTMENT; SEGREGATION OF LIFE ASSURANCE FUNDS.)

#### SEPTICAEMIA.

(See PYAEMIA AND SEPTICAEMIA.)

#### SEPTIC THROMBOSIS.

(See OTITIS MEDIA.)

#### SETTLEMENT OF CLAIMS.

(See CLAIMS; PROSPECTUS, PREPARATION OF; also TITLE, INVESTIGATION OF.)

#### SETTLEMENTS, POST-NUPTIAL.

(See POST-NUPTIAL SETTLEMENTS.)

#### SETTLEMENTS, VOLUNTARY.

(See VOLUNTARY SETTLEMENTS.)

#### SEVENTEEN OFFICES TABLES.

(See MORTALITY TABLES FOR ASSURED LIVES.)

#### SHAREHOLDERS' DIVIDEND ACCOUNT.

(See ACCOUNTANCY DEPARTMENT.)

#### SHAREHOLDERS' PARTICIPATION.

(See LIFE ASSURANCE COMPANIES' SHARES AS INVESTMENTS.)

#### SHARES.

(See LIFE ASSURANCE COMPANIES' SHARES AS INVESTMENTS.)

#### SHORT PERIOD POLICY LEAFLETS.

(See CANVASSING LEAFLETS, page 120).

**SHORT TERM ASSURANCES.**

(See CONVERTIBLE TERM POLICIES; DECREASING TERM POLICIES; INCREASING TERM POLICIES; SHORT TERM POLICIES.)

**SHORT TERM CONVERTIBLE PARTNERSHIP POLICY.**

(See PARTNERSHIP POLICIES.)

**SHORT TERM ENDOWMENT POLICIES.**

(See CYSTITIS.)

**SHORT TERM POLICIES.**

Short term policies are policies which are taken out for an agreed short term to cover the risk of death during the term. Generally, they are issued for periods of one, three, five, and seven years only, but policies for longer periods may be effected. They possess no surrender value, and on the expiration of the period selected the policy automatically terminates. In some offices policies will not be issued under this plan for less than £500 or £1,000. Other offices, however, will issue them for £100 and upwards, but generally stipulate that if they are for less than, say, £300, the proposer must pay the medical examination fee. They are useful policies in a number of ways, such as covering a traveller during a special journey, covering the repayment of a loan, or temporary arrangements between partners. They are also useful in cases where, for instance, a married man desires to obtain the greatest possible life cover until he attains a position where he can effect the amount of assurance he requires under an ordinary contract. The very low premiums for the short-term policies make them attractive and valuable from this point of view, and in their convertible form (see CONVERTIBLE TERM POLICIES) they are much more useful still. The following annual rates per £100 are for an assurance of not less than £1,000—

Age next birthday (minimum £1,000)	TERM OF ASSURANCE							
	One year.		Three years.		Five years.		Seven years.	
	£	s. d.	£	s. d.	£	s. d.	£	s. d.
30	16	11	18	7	1	5	1	2
40	1	5	1	2	1	5	1	7
50	1	9	1	13	1	18	2	2
Policies of £100 and upwards								
30	18	4	19	-	1	0	4	1
40	1	1	1	3	1	5	8	1
50	1	10	1	15	1	18	4	2

(See also INCREASING TERM POLICIES and DECREASING TERM POLICIES.)

**SICKNESS, ANNUITIES DEPENDENT ON.**

(See ANNUITIES DEPENDENT ON SICKNESS.)

**SIGNATURES, WITNESSING OF.**

(See PROPOSAL FORM.)

**SIMPLE ARITHMETIC AVERAGE.**

(See AVERAGES.)

**SIMPSON'S MORTALITY TABLE.**

(See MORTALITY TABLES.)

**SINGLE PREMIUM ENDOWMENT ASSURANCE.**

(See ENDOWMENT ASSURANCE (SINGLE PREMIUM).)

**SINGLE PREMIUM POLICIES.**

Policies may be obtained by single premium—that is, by one payment down at the outset—and may be either for whole life or endowment assurances, with or without participation in the profits of the office. It is a very useful method of insuring where the policy-holder can afford the payment of a lump sum down, as there is then no further anxiety to provide premiums, while the full amount assured under the policy is payable in the event of death whenever it may occur, or at maturity, as the case may be. There is also freedom from any possibility of lapsing, and where the policy is, say, on the whole life plan without profits, there is a very substantial gain to the policy-holder's estate from his investment in the event of early death. For instance, a person aged 30 can secure £100 payable at death under a non-profit plan by a single payment down of approximately £33, so that if he were to die immediately after effecting the policy his £33 would be trebled. Similarly, he could obtain an endowment assurance of £100 payable at the end of ten years by a single premium of just over £71, at the end of fifteen years by a single premium of just over £61, and at the end of twenty years by a payment of £53.

A large volume of business has in recent times been effected under single premium policies of large amount—mostly endowment assurances—by persons whose attention has been attracted to them as a means of saving income tax and sur-tax, as well as providing an excellent investment for the assured. By means of the scheme they

obtain a comparatively large initial assurance in return for a small initial payment, and thereafter for a small annual payment for interest—less income tax and sur-tax—they obtain an increasing assurance if their policy is a participating one. The method is to effect a large single premium policy on which the office grants an immediate loan of 90 to 95 per cent of the surrender value, the policy-holder merely paying the difference between the single premium required and the amount of loan granted. He is then held covered by life assurance for the face value of the policy, less the amount of the loan, and thereafter his annual payment is only the interest on the loan, less income tax and sur-tax. As an example, say an individual effected a £10,000 fifteen-year endowment, with profits, at a single premium of £7,500. If the office is willing to make an immediate loan of 95 per cent of this premium—which loan would be £7,125—the initial actual amount to be found by the policy-holder is only £375, subject to income tax rebate. No interest on the loan is payable until the end of the first year, but the policy-holder is held covered for life assurance for a minimum of £2,875 from the outset, this being the amount of his £10,000 policy less the advance of £7,125. If the advance on his policy had been made at 5 per cent his interest payments would be £356 per annum, reduced by income tax allowance and saving in sur-tax.

Taking, as an example, the case of a man aged 35 next birthday effecting a fifteen year endowment assurance for £10,000 with profits, in one well-known office, the figures would work out in detail as follows, assuming the bonuses of the office to be equal to those last declared and, of course, that the existing rates of tax and the law relating to them remain unaltered.

Single Premium required . . . . .	£	7,418
Less Loan of 90% of Single Premium . . . . .		6,676
		<u>£742</u>
Less Income Tax at 2s. in the £ on £700 (subject to the usual limitations) equals a saving of . . . . .		70
Net Initial Cost . . . . .		<u>£672</u>
Annual Interest at 5½% on £6,676 . . . . .		367
Less Income Tax at 4s. in the £ . . . . .		73
		<u>294</u>
Net Annual Interest payable . . . . .		294
Less Super-tax at 1s. 6d. in the £ on £367 . . . . .		28
		<u>£266</u>
Net Annual Cost . . . . .		£266

The net amount receivable under the policy at maturity is £13,650, less loan of £6,676 . . . . .	£	6,974
Total payments—£672 plus 15 annual payments of £266 net . . . . .		4,662
		<u>£2,312</u>
Profit on the investment . . . . .		£2,312

This result is equivalent to a return of £4 12s. per cent net interest, or £5 15s. per cent gross interest (income tax at 4s. in the £) or £6 6s. per cent gross interest (income tax at 4s. in the £ and super-tax at 1s. 6d. in the £), apart altogether from the life assurance cover amounting to £3,324 at the outset, and increasing to £6,974 by the end of the period.

### SINGLE PREMIUM POLICIES AND SUR-TAX.

(See CANVASSING LEAFLETS; INCOME TAX.)

### SINGLE PREMIUM POLICY.

(See CANVASSING LEAFLETS; INCOME TAX.)

### SINGLE PREMIUM POLICY LEAFLETS.

(See CANVASSING LEAFLETS, page 120.)

### SINGLE PREMIUM POLICY-LOAN VALUE.

(See INCOME TAX.)

### SINKING FUND AND CAPITAL REDEMPTION ACCOUNT.

(See ACCOUNTANCY DEPARTMENT.)

### SINKING FUND ASSURANCES.

Sinking fund assurances—otherwise known as leasehold redemption assurances, from one of their important uses, or occasionally as fixed term assurances, from a characteristic—are contracts whereby a fixed sum is secured certainly at the end of a term of years, independently of any life or other contingency, in return for single or periodical premiums. Strictly, therefore, there is nothing in the nature of life assurance about them, and indeed accounts relative to this class of policy have to be kept separately. There is, however, one form wherein the life assurance element enters, namely, where the benefit is an amount payable certainly at the end of a term of years as above, but the annual premiums cease on the prior failure of a life ( $x$ ). These are more particularly known as assurances *à terme fixe*, or fixed term assurances.

With sinking fund policies the insurance company in effect operates like a savings bank dealing with a series of fixed deposits

to secure a larger sum at a given date—the term being usually a long one, so that the interest accumulation exercises a marked influence.

Such policies serve various useful purposes.

1. To secure the return of capital invested in the purchase or improvement of leasehold property.

2. To provide for dilapidations on the expiry of a lease.

3. To establish a sinking fund to replace capital in connection with terminable annuities or other wasting securities; or to write down the investment in securities bought at a premium.

4. To form reserves to replace plant and machinery in factories, etc.

5. A special development involving large amounts is the setting up by a limited company of such a policy to repay holders of terminable debentures.

6. Such policies may be used also in a way more closely associated with insurance to provide endowments for children on attaining a certain age, or at marriage, or for later education, etc. If the father's life is good, the assurances *à terme fixe* are usually preferred for this, as the additional cost is slight.

The separation of funds required indicates that this class of policy is not secured by the general body of life policy-holders. The rates charged by offices appear to be based on 3 per cent interest for the most part, but there are considerable divergencies, especially for very short or very long terms. For very short terms, the commission payable to agents and the expenses, not otherwise serious, exercise more effect, as interest accumulations have less scope, while for long terms there is the difficulty of estimating the rate of interest likely to be obtainable many years hence, the variety of opinions as to this being reflected in the premiums charged.

**Premiums.** The net single premium for a sinking fund assurance payable at the end of  $n$  years is  $v^n$ , and the net annual premium

payable in advance  $\frac{1}{s_n + 1} - 1$

**Surrender Values.** Quite a usual provision is that a surrender value will be granted, equal to all the premiums paid except the first, accumulated at 3 per cent compound interest; if by single premium, then that single premium less one equivalent annual premium, also accumulated at 3 per cent compound interest.

**Loans.** Loans are usually obtainable up to 95 per cent of the surrender value, the cost being merely that of the stamp duty on the mortgage, unless there are legal complications.

**Paid-up Policies** will be issued generally, although not customary with this class of policy, since surrender usually follows a business rearrangement whereby the policy is no longer required.

The amount of paid-up policy is proportionate, i.e. bearing the same ratio to the original sum to be secured as the number of premiums actually paid bears to the number originally stipulated for.

**Days of Grace.** Fifteen or thirty days are allowed as a rule for the payment of renewal premiums.

**Non-forfeiture.** If the premium be not paid within the days of grace, the conditions may be automatic conversion into a paid-up policy, or a reservation of the surrender value, with a proviso that the policy may be reinstated at any time on payment of outstanding premiums with compound interest, possibly at 5 per cent per annum. For further information, especially as to the employment of variable rates of compound interest in calculating premiums, see J. E. Faulks, J.I.A., xxxiv, 562.

**Valuations.** In valuations either the prospective or the retrospective methods may be used, but the latter is often favoured, i.e. the premiums received, less expenses, are accumulated at a rate of interest approximating to that earned.

Specimen proposal and policy forms are shown on the next page. The policy stamp is 6d. if under hand.

## SINUSITIS.

Inflammation of the air sinuses, frontal and maxillary, communicating with the nose.

The cause is usually infection spreading from the nose. It may follow nasal obstruction and rhinitis, or it may in the case of the sinus in the upper jaw (antrum of Highmore) be due to a carious tooth. The symptoms are pain over the sinus affected, e.g. frontal headache in the case of the frontal sinus, and tenderness of the chest and upper jaw in cases involving the maxillary sinus (antrum of Highmore).

Nasal discharge is common. The most dangerous form is that of the frontal sinus, owing to the possibility of spread of inflammation in an upward direction, towards the base of the brain. (Continued on page 480.)

.....COMPANY, LTD.

Head Office.....

LEASEHOLD REDEMPTION OR SINKING FUND POLICY  
PROPOSAL FORM

Full name and address of the person or persons in whose favour the policy is to be effected . . . . .	
Occupation . . . . .	
Sum to be secured . . . . .	£ : :
Term of years for which the policy is to be issued . . . . .	..... years.
Amount of premium . . . . .	£ : :
Payable . . . . . (Yearly, half-yearly, quarterly, or single)	

*It is hereby declared and agreed that this proposal shall be the basis of the contract.*

Dated this ..... day of ..... 19..

Signature .....

FORM OF POLICY

..... INSURANCE COMPANY, LTD.

Head Office.....

Where all Notices of Assignment must be given.

POLICY No. .... SUM ASSURED £.....

THIS POLICY OF ASSURANCE granted by the ..... Insurance Company Limited (hereinafter called "the Company") to the person described in the schedule hereto as the "Assured" WITNESSETH that if the premium mentioned in the schedule hereto shall be paid to the company on the dates therein specified or within fifteen days thereafter the funds and property of the company shall be subject and liable to pay and satisfy the sum assured therein mentioned unto the assured on the day therein mentioned as the date of the maturity or so soon thereafter as the title of the person or persons claiming payment shall have been proved to the satisfaction of the directors of the company.

PROVIDED ALWAYS that it shall be lawful for the assured at any time before the date of maturity to surrender this policy to the company on giving to the company three calendar months' notice in writing of the intention so to do, and in such case the company shall on the day appointed for such surrender pay to the assured as and for the consideration for such surrender all

the premiums received by the company under this policy (less the premiums for the first year or a deduction from the first premium of two pounds per cent on the sum assured) with compound interest on the premiums so repaid at the rate of 3 per cent per annum from the dates of payment thereof respectively calculated by yearly rests. In the case of premiums payable more often than yearly each premium shall for the purpose of this clause be accumulated at interest at the rate of 3 per cent per annum from the due date to the next anniversary of the date of the policy and the amount so accumulated in respect of each policy year shall thereafter be calculated at the rate of 3 per cent per annum by yearly rests.

SCHEDULE

1. Assured .....
2. Sum assured .....
3. Date of maturity .....
4. First premium .....
5. Renewal premium .....
6. Renewal premium payable .....
7. Last premium payable .....

SIGNED for and on behalf of the ..... Insurance Company, Ltd., this ..... day of ..... one thousand nine hundred and .....

Exmd. .... Director.  
Entd. ....

Secretary.

A life assurance proposal from a patient suffering from sinusitis, or who has suffered from this disease is, therefore, to be granted only after a medical examination undertaken to eliminate the possibility of spread of infection taking place, and to ensure that the condition has been efficiently dealt with and is not likely to recur.

Old sinus trouble that has given rise to no symptoms or signs for four or five years need not affect a life proposal, but if there has been any recent trouble, the case must be either postponed or declined, according to the advice of the medical examiner.

### SLEEPING SICKNESS.

(See ENCEPHALITIS LETHARGICA.)

### SMALLPOX.

(See VACCINATION.)

### SOURCES OF PROFIT.

(See LIFE ASSURANCE COMPANIES' SHARES AS INVESTMENTS; also SOURCES OF SURPLUS.)

### SOURCES OF SURPLUS.

The surplus disclosed at the valuation of a life office is the difference between the total value placed upon the assets and the total value assumed for the liabilities. The amount of the surplus will thus be affected by the methods which have been applied in valuing the assets and the liabilities respectively, and these methods in turn will depend upon the objects for which the valuation has been made.

In the case of a prosperous office, that object will be the declaration of a bonus—in normal times comparing favourably with previous bonuses, and likely to be maintained in the future at the same level, at least so far as can be foreseen. In this case usually the assets will be valued on a basis such that every item possesses a current market value at least equal to that assumed. As regards the liabilities, so cautious an estimate will be made that future bonuses may be expected to be maintained, by keeping a calculated margin between what is assumed in the valuation and what is expected to be the future experience as regards (a) the rate of interest, (b) mortality, and (c) premiums and loadings for expenses.

The assumptions upon which the valuation is made are likely to be less cautious if the object is merely to determine the solvency of an office, that is, its probable capacity to pay the face value of its contracts with accrued liabilities in the shape of bonuses

as and when the policies mature; or, again, if the object is to fix a basis upon which the affairs of the office are to be transferred, amalgamated or wound up.

In the first case, such a valuation is probably necessitated by a less fortunate experience than is usual, by which the resources of the office have been impaired. Accordingly, it becomes both desirable and justifiable to estimate the present value of the liabilities of the office on as favourable a basis as possible, that is, to assume that future mortality will be as light as can reasonably be anticipated, that the interest to be earned will be as high, and the ratio of expenses as low, as possible. In the second case, that of transfer or amalgamation, somewhat similar principles may be applied, so that the members of the transferred office may be credited with the full value inherent in their institution.

Thus, in considering the amount of surplus disclosed, the basis of valuation must be taken into account; and not only the basis employed on this occasion, but also that of the previous valuation.

If the basis has been changed, then the present surplus will be affected; a weakening of the basis will swell the surplus to a corresponding extent. When no change has been made, then the surplus will have been derived from the following sources, excluding the amount brought forward from the previous valuation—

1. **Excess Interest.** due to the difference between the actual rate of interest earned, and that assumed in the valuation, less income tax. In this may be included interest on amounts brought forward, and the net result of any revaluation or sales of securities.

2. **Favourable Mortality.** If the policyholders have died on the average at a later age than allowed for in the mortality table employed for the valuation, then the office will have received more premiums than expected, and it will have earned more interest than provided for upon the reserves in hand to meet claims; a profit will have been obtained on account of favourable mortality. It is evident that the age at which the claim arises is more important than the amount; one claim at a young age where but few premiums have been paid is much more serious than many claims at advanced ages under policies of long duration, where the accumulated reserves to meet the claims are large.

3. **Savings from Premium Loadings.** In

the valuation there is, or should be, invariably a margin between the premium actually payable and that for which credit is taken. This margin, termed the valuation loading, provides for the expenses of management, etc. Any balance not so used falls into the surplus.

quinquennial periods. For age at entry 30, 25 years term, interest earned 4 per cent, and valuation by  $O^M$  3 per cent, the mortality experienced being assumed to be 80 per cent of the  $O^{[M]}$  select, expenses  $66\frac{1}{2}$  per cent of first premiums and  $6\frac{1}{2}$  per cent of renewals, the results were—

	QUINQUENNIAL.				
	1st.	2nd.	3rd.	4th.	5th.
Interest . . . . .	17.9	25.6	40.1	52.3	65.7
Mortality . . . . .	45.5	9.2	6.5	4.7	1.2
Loadings . . . . .	3.5	51.8	46.0	38.4	33.4
Surrenders . . . . .	33.1	12.8	10.0	7.4	2.8
Less Interim Bonus . . . . .	100.0	102.4 2.4	102.6 2.6	102.8 2.8	103.1 3.1
	100.0	100.0	100.0	100.0	100.0
Net Profit £ . . . . .	20,596	43,578	46,127	49,744	50,926
Cash Bonus . . . . .	10s. 11d	£1 5 9	£1 10 3	£1 16 5	£2 1 10
Reversionary Bonus . . . . .	18s. 6d.	£1 18 7	£1 19 10	£2 1 11	£2 1 10

**4. Miscellaneous Profits.** Under this head appears a varied number of items differing widely in nature and in significance—profits or losses from non-participating branches of insurance, annuities, surrender values, and alterations in policies; also fines, fees, etc.

In T.F.A. VI, page 129 (1912), analyses for British and American offices are given as under—

	British		American.	
	%	(1) %	(2) %	%
Interest . . . . .	38	44	40.6	
Mortality . . . . .	21	21.1	28.8	
Loadings . . . . .	33	26.6	19.1	
Miscellaneous . . . . .	8	8.3	11.5	

These figures, of course, apply to the total business of the groups of offices in question. They would be much affected according to the varying circumstances of any particular office, its age, scales of premiums, valuation basis, relative proportion of endowment assurances, etc., as well as by its actual experience in interest earning, mortality rates, and expenses incurred.

Mr. James Chatham supplied a thorough analysis of the surplus from endowment assurances alone in T.F.A. III, 1, etc. (1906), showing for selected ages at entry on reasonable assumptions the actual profit and corresponding bonuses earned in successive

SOURCES OF SURPLUS

LEIPZIG LIFE ASSURANCE COMPANY 1891-1900

	Average.	Maximum.	Minimum.
Interest . . . . .	36.0	39.1	33.3
Mortality . . . . .	29.6	38.6	24.8
Loadings . . . . .	31.1	33.7	28.4
Miscellaneous . . . . .	3.3	5.6	0.8

This table, abridged from one given by Radtke in a paper on the Stability of Life Assurance Institutions (*Zeitschrift für die gesamte Versicherungs-Wissenschaft* Vol. III, page 412, etc.), shows the proportion of the total surplus derived from different sources. According to Jörgensen (*Outlines of a Theory of Life Assurance*—Jena, Gustav Fischer, 1913) the annual surplus of the larger German offices was about 42 per cent of the gross premiums.

Following up an observation by Mr. W. Hutton in his inaugural address as President of the Faculty of Actuaries in 1913-14 to the effect that the natural method of meeting depreciation of securities due to a rise in the rate of interest is by an increase in the rate employed for the purpose of valuing liabilities, Messrs. W. A. Robertson and A. G. R. Brown, in T.F.A. VIII, 26 (1916), submitted a number of tables to demonstrate that "if an office genuinely meet depreciation by writing

down its assets, it need not hesitate from the point of view of profit margins to increase the valuation rate of interest to the extent by which the yield upon its assets has been improved."

The tables show the effect on the rate of bonus and upon the various sources of profit of a change in the valuation rate of interest with a corresponding change in the rate of interest realized.

The basis on which the calculations were made was that adopted by Mr. Chatham (referred to above). Whole life and endowment assurances were dealt with separately, and one set of calculations shows the consequences of a valuation rate of interest of  $3\frac{1}{4}$  per cent with 4 per cent earned, while another set shows the effect of  $3\frac{1}{2}$  per cent assumed and  $4\frac{1}{4}$  per cent earned. Other tables exhibit the margin for depreciation available through increasing the valuation rate of interest from 3 to  $3\frac{1}{4}$  per cent. Incidentally, it is shown that the higher the rate of interest, the smaller is the necessary interest margin required to maintain a stated rate of bonus.

(See also ANALYSIS OF SURPLUS.)

#### **SOUTH AFRICA.**

(See CLIMATIC RISKS.)

#### **SOUTH AMERICA.**

(See CLIMATIC RISKS.)

#### **SOUTHERN LIFE ASSOCIATION.**

Head Office: Southern Life Buildings, St. George's Street, Cape Town. London Office: Bush House, Aldwych, W.C.2.

Founded 1891 for mutual life, accident, and sickness insurance

In view of the increase in the Association's business since the termination of the War, it was decided, in 1923, to extend the company's activities in the United Kingdom. An office was accordingly opened in London at Bush House, Aldwych, W.C.2. on 1st July, 1924. The new enterprise has been fully justified.

No doubt this gratifying success has been due to the service which the Association renders to its members. There are no shareholders, and all profits belong to the members themselves. The profits are distributed on the compound bonus plan, and, considering the comparative youth of the office, the bonuses are exceptionally large.

A special feature of this Association is the low rate of premiums payable. This represents a substantial increase in the

amount of initial cover given under the policy at its commencement, and may be justified by the great diminution of rates of mortality generally during the last twenty years.

The Association specializes in a reduced premium policy, under which the reversionary bonus declared may, for the first five years, actually exceed the premium paid at the commencement.

The sickness and accident business is confined to South Africa and Rhodesia.

#### **SPAIN. Regulations Affecting Insurance Companies.**

Foreign insurance companies must make formal application before commencing to transact business in Spain. A deposit of 200,000 pesetas is required for life assurance, the name of the responsible representative in the country, and the chief office, with its address. All documents concerning the company, memorandum, and articles of association, accounts, prospectuses, and policy forms have to be translated into Spanish, while all books must be kept in the same language, and in the form prescribed by law. A full explanation has to be furnished as to the method of calculating reserves, with information as to the tables of mortality, rates of interest, scales of premiums, etc. Fuller details are given in the law of 14th May, 1908, in addition to which there is additional legislation affecting assurance, e.g. an Order of 11th June, 1921, which forbids policies in Spain to be issued in anything but Spanish currency, and another of 27th Sept., 1924, which prohibits assurances on a gold basis. An Order of 14th July, 1921, brings re-insurance offices under the Act of 14th May, 1908, another of 6th April, 1925 prescribes the nature of the securities that have to be deposited, and one of 20th Dec., 1924, applies to certain taxes.

Assurance companies are liable for income tax and stamp duties; net profits are taxed on a scale rising from 6 per cent of the profits up to 14 per cent, with a minimum of 3 per 1,000 of the capital, unless this is not more than 500,000 pesetas. The minimum for life offices is one-half per cent of the premiums. Generally, foreign offices are charged on the ratio of premiums collected in Spain to the total premiums collected by the office, unless some other method is demonstrated to be more accurate. As to stamp taxes, foreign offices pay 2 per thousand on the capital applicable to Spain,

and a like amount on life premiums collected. See *I. I. I. (International Insurance Intelligence)*, published by the *Review*, 20 Bucklersbury, London.

#### **SPECIAL IMMEDIATE ANNUITIES.**

(See IMMEDIATE ANNUITIES.)

#### **SPECIMEN FRIEND'S REPORT FORM.**

(See PROPOSAL FORM, page 426.)

#### **SPECIMEN MEDICAL ATTENDANT'S REPORT FORM.**

(See PROPOSAL FORM, page 432.)

#### **SPECIMEN MEDICAL REPORT FORM.**

(See PROPOSAL FORM, pages 429 and 430.)

#### **SPECIMEN PROPOSAL FORMS.**

(See PROPOSAL FORM.)

#### **SPOTTED FEVER.**

(See CEREBRO-SPINAL FEVER.)

#### **SPURIOUS SELECTION.**

A term defined (Elderton, *J.I.A.* xl, 221) as the selection indicated by a difference in the rate of mortality which has arisen entirely from statistical processes. It was suggested by the "spurious correlation" of statistical work (Pearson, *Proc. Roy. Soc.*, lx, 489-498).

In *J.I.A.* xxxii, 117, Mr. T. B. Macaulay contributed some facts regarding artificially produced "maximum mortality percentages," and in *J.I.A.*, xl, Mr. Elderton methodized the process, and showed that the proportions of "existing" and "withdrawals" in a mortality investigation might also be causes of spurious selection. These ideas he carried further in *J.I.A.*, lv, 1, with particular reference to the British offices' annuitant experience, 1900-1920.

#### **STAFF, BRANCH OFFICE.**

(See BRANCH OFFICE SYSTEMS.)

#### **STAFF FUNDS, WITHDRAWALS FROM.**

(See SELECTION.)

#### **STAFF GUARANTEE FUNDS.**

The amount of default which takes place in any insurance office through embezzlement or theft by any of the staff is so small as to be almost negligible. Nevertheless, as a matter of business precaution, it is usually thought wise to have the staff guaranteed in the usual way, and, as the losses are so small, this is frequently done by the institu-

tion of a staff guarantee fund amongst the members of the staff without having recourse to an outside company to do the business. Rules are drawn up for its management, contributions are fixed, and an additional sum, equal to all the contributions made by the staff, is usually added each year by the Board. Subscriptions are continued until such time as the executive feels that there is enough money in hand to meet any conceivable loss. Since all cash paid in is invariably banked every day, the opportunities for fraud are small, quite apart from the high standard of character of the staffs concerned, and it is found that in a very few years enough money has accrued to justify the suspension of contributions or even to return some of the subscriptions previously paid.

The amount of annual subscriptions is not very large, probably never more than 5s. per cent of the salary. The money accrues quickly in these funds, and when enough is in hand it is politic and wise to suspend subscriptions.

There are many advantages in a self-contained fund of this kind in any business. For instance, the question of prosecution of a man found engaged in fraudulent practices is entirely in the hands of the company itself, and, although the power may be exercised at times, yet if the guarantee fund is internal the matter can be passed over with the dismissal of the individual concerned and repayment from the guarantee fund. Nobody wants the anxiety of a prosecution if it can be avoided, and dismissal is in itself a terrible punishment for most men.

The rules are few and very simple, and cover only the amount of annual subscriptions, the point at which payment of premiums may be suspended, and the method of recouping from the funds any amount wrongly appropriated by any one of the staff concerned.

No office that has started such an internal fund has ever had any cause to regret its action.

#### **STAFF PENSION SCHEMES.**

(See DEFERRED ANNUITIES; PENSION POLICIES; also GROUP LIFE ASSURANCE.)

#### **STAFF SCHEMES.**

(See GROUP LIFE ASSURANCE.)

#### **STAMP ACT, 1891.**

(See STAMP DUTIES AND STAMP ACT.)

**STAMP DUTIES AND STAMP ACT.**

**i. Policy of Life Insurance.** The expression "insurance" includes assurance (Stamp Act, 1891, Sect. 91).

*Ad valorem* duty is payable as follows—

	s. d.
Where the sum insured does not exceed £10 . . . . .	1
Exceeds £10 but does not exceed £25 . . . . .	3
" £25 " " " " £500 : . . . . .	6
For every full sum of £50, and also for any fractional part of £50, of the amount insured . . . . .	6
Exceeds £500 but does not exceed £1,000 : . . . . .	1 -
For every full sum of £100, and also for any fractional part of £100 . . . . .	10 -
Exceeds £1,000 . for every full sum of £1,000, and also for any fractional part of £1,000 . . . . .	10 -

Sect. 98 of the Stamp Act, 1891, enacts : The expression "policy of life insurance" means a policy of insurance upon any life or lives or upon any event or contingency relating to or depending upon any life or lives.

Sect. 100. Every person who (1) receives or takes credit for, any premium or consideration for any life insurance, and does not, within one month after receiving, or taking credit for, the premium or consideration, make out and execute a duly stamped policy of insurance ; or (2) makes, executes, or delivers out, or pays or allows in account, or agrees to pay or allow in account, any money upon or in respect of any life policy which is not duly stamped, shall incur a fine of £20.

**2. Assignment of Policies.** Sect. 118 (1). No assignment of a policy of life insurance shall confer on the assignee therein named, his executors, etc., any right to sue for the moneys assured or secured thereby, or to give a valid discharge for the same, or any part thereof, unless the assignment is duly stamped, and no payment shall be made to any person claiming under any such assignment unless the same is duly stamped.

(2) If any payment is made in contravention of this section, the stamp duty not paid upon the assignment, together with the penalty payable on stamping the same, shall be a debt due to the Crown.

An agreement or memorandum under hand only, relating to the deposit of a policy of life insurance, or creating a charge upon a policy of life insurance, is liable, as an equitable mortgage, to the duty of 1s. for every £100, and any fractional part of £100, of the amount secured.

Assignments of policies of life assurance are liable to duty as follows, viz.—

(1) If by way of security—

	s. d.
For the payment or repayment of money not exceeding £10 . . . . .	3
Exceeding £10 and not exceeding £25 . . . . .	8
" £25 " " " " £50 . . . . .	1 3
" £50 " " " " £100 . . . . .	2 6
" £100 " " " " £150 . . . . .	3 9
" £150 " " " " £200 . . . . .	5 -
" £200 " " " " £250 . . . . .	6 3
" £250 " " " " £300 . . . . .	7 6
" £300 : for every £100, and also for any fractional part of £100, of the amount secured . . . . .	2 6

A collateral, or auxiliary, or additional, or substituted security (other than an equitable mortgage), or by way of further assurance for the above-mentioned purpose, may be stamped, where the principal or primary security is duly stamped, with duty at the rate of 6d. for every £100, and for any fractional part of £100, of the amount secured, with a maximum of 10s.

(2) On sale—

	£	s. d.
Where the amount or value of the consideration for the sale does not exceed £5 . . . . .	1	-
Exceeds £5, and does not exceed £10 . . . . .	2	-
" £10 " " " " £15 . . . . .	3	-
" £15 " " " " £20 . . . . .	4	-
" £20 " " " " £25 . . . . .	5	-
" £25 " " " " £50 . . . . .	10	-
" £50 " " " " £75 . . . . .	15	-
" £75 " " " " £100 . . . . .	1	-
" £100 " " " " £125 . . . . .	1 5	-
" £125 " " " " £150 . . . . .	1 10	-
" £150 " " " " £175 . . . . .	1 15	-
" £175 " " " " £200 . . . . .	2	-
" £200 " " " " £225 . . . . .	2 5	-
" £225 " " " " £250 . . . . .	2 10	-
" £250 " " " " £275 . . . . .	2 15	-
" £275 " " " " £300 . . . . .	3	-
" £300 : for every £50, and also for any fractional part of £50, of such amount or value . . . . .	10	-

N.B. Where the amount or value of the consideration for the sale does not exceed £500, and the assignment contains a statement certifying that the transaction thereby effected does not form part of a larger transaction or of a series of transactions in respect of which the amount or value, or the aggregate amount or value, of the consideration exceeds £500, the duty payable is at one-half the above rate.

(3) By way of gift *inter vivos*—

The like duty as if the assignment were an assignment on sale, with the substitution of the surrender or actuarial value of the policy at the date of assignment (as to which a certificate should be obtained from the assurance company) for the amount or value of the consideration of the sale.

Where such value does not exceed £500,

the assignment may be stamped at the lower rate of duty if for the word "consideration" in the above certificate the words "property conveyed or transferred" be substituted.

(4) On any occasion other than by way of security or on sale or by way of gift *inter vivos*, 10s.

By Sect. 15 (2) of the Stamp Act, 1891, certain instruments (including assignments by way of security or on sale or by way of gift *inter vivos*) chargeable with *ad valorem* duty may be stamped without fine or penalty (a) before the expiration of 30 days after they have been first executed; (b) if first executed at any place out of the United Kingdom before the expiration of 30 days after they have been first received in the United Kingdom; (c) if the opinion of the Commissioners of Inland Revenue has been required with respect thereto, they may be stamped in accordance with the assessment within 14 days after notice of the assessment.

The consequences which follow the failure to stamp documents liable to stamp duty are that, except in criminal proceedings, they may not be given in evidence or be available for any purpose whatever.

Section 14 (4). Documents which by law are required to be stamped, when unstamped or insufficiently stamped, are rejected by the Court when tendered in evidence in legal proceedings. Such documents are invalid, and until properly stamped do not legally bind the parties thereto.

Sect. 15 (3), applicable to policies and assignments thereof, provides that any unstamped or insufficiently stamped document which has been first executed out of the United Kingdom, may be stamped at any time within 30 days after receipt in the United Kingdom on payment of unpaid duty only.

#### STAMP DUTIES ON ANNUITY CONTRACTS.

The following are the stamp duties necessary in the case of various classes of annuity—

*Immediate Annuity* treated as a conveyance of sale, the duty being 20s. per cent, except where the consideration money is £500 or less, and the bond contains a statement that the transaction is not part of a larger transaction or series of transactions under which the consideration exceeds £500, in which case the duty is 10s. per cent.

*Reversionary Annuity* allowable to one life

on the death of another—duty 2s. 6d. in respect of each £5 of such annuity.

*Deferred Annuity.* An ordinary deferred annuity without return should be stamped 6d. for every £5, but there has recently been some little discussion with the Inland Revenue Authorities as to whether if the deferred annuity carries a cash option it shall not be stamped at the life policy rate in respect of such option, viz., 1s. per cent.

*Annuities-certain.* Annuities-certain are stamped *ad valorem*, the conveyance duty being assessed on the amount of the total annuity payments to be made for the term certain, if under 20 years, and if the annuity-certain runs for more than 20 years the assessment is based on 20 years' payments. If under hand, an agreement stamp of 6d. would suffice.

*Perpetuity.* Stamp Duty is based on 20 years' instalments.

A general provision in respect of annuities is that the duty shall not exceed 20s. per cent.

#### STANDARD CLAUSE.

(See LICENCES TO TRAVEL OR RESIDE ABROAD.)

#### STANDARD LIFE ASSURANCE COMPANY.

Head Office: 3 George Street, Edinburgh. London (City) Offices: 46 Queen Victoria Street, E.C.4, and 15A Pall Mall, S.W.1.

Founded 1825.

This company completed its centenary in 1925, for it was on the 23rd March, 1825, that business was begun in Edinburgh, at first under the name of the Life Assurance Company of Scotland. The company was housed at 200 High Street, in the same building as the Insurance Company of Scotland, which transacted fire business only, and it was worked by the same staff. In 1831 the two companies parted, the fire company remained in High Street whilst the life office moved to premises in St. Andrew Street, the name being changed to the Standard Life Assurance Company. In 1839 a move was made to the site at No. 3 George Street, Edinburgh, which is still in the occupation of the company.

There is no doubt that the position which the Standard soon attained was due to the actuarial and organizing ability of Mr. W. T. Thomson, who was manager from 1839 to 1874, and who, incidentally, was the prime mover in founding the Institute of Actuaries in London, and afterwards the

Faculty of Actuaries in Edinburgh. He had both courage and vision. An outstanding example of this is found in his inception, in 1846, of the Colonial Life Assurance Company, which was an offshoot of the Standard, many directors serving on both Boards, while Mr. Thomson was manager of the one and actuary of the other. The Colonial opened up an entirely new field of business, its chief object being to "extend to the Colonies of Great Britain and to India the full benefit of life assurance." In a few years the new business returns of the offspring rivalled those of the parent company, and after twenty years of separate existence the two joined forces in 1866. This gave the Standard a well established Colonial connection, which remains to this day ever increasing and improving.

The Standard has always been a pioneer. It was one of the first proprietary companies to give policy-holders a substantial share in the profits. The extension of business to the Colonies was a bold innovation. It was the first company to remove vexatious restrictions with regard to lapsing, etc., and to grant "free" policies covering whole world residence. At the close of its first century of existence, the Standard took another forward step. By the terms of its 1925 Act of Parliament the shareholders' capital has been converted into £850,000 stock, bearing a fixed yield of 5 per cent. The Standard is, therefore, now a mutual company, giving its policy-holders the security of this £850,000, which has now been increased by a further reserve of £600,000, in addition to the assurance funds.

The Standard's policy conditions include, among other things, guaranteed values and attractive methods of claim settlement. A plan has also been devised whereby premiums can be paid by monthly instalments through a bank. Probably the most striking feature of the Standard, however, is its recently inaugurated minimum premium plan under which life assurance can be obtained at the "lowest possible cost" and at the same time a share is granted in the profits of the company.

#### STATE SUPERVISION.

The extent of the financial interests entrusted to insurance companies, the particularly fiduciary nature of the insurance contract, the economic significance of insurance generally and the intricacy of its technical details, especially as regards life

assurance—all these doubtless have co-operated in attracting the attention of the legislature in most countries, and in calling into existence a branch of jurisprudence specially defining the relations between the State and the insurance offices, and in greater or less measure restricting the circumstances in which the latter may conduct business.

The regulations made by the State, to which effect has to be given by insurance offices, may be subdivided into—

1. Conditions preliminary to the commencement of business, such as—

(a) The deposit of documents giving information of various kinds.

(b) Financial deposits and payments of fees.

(c) Evidence of sufficient reasons for starting, and of favourable prospects.

2. Conditions for being permitted to continue, such as—

(a) Prompt rendering of periodical accounts in due form.

(b) Periodical valuation returns.

(c) Maintenance of at least a minimum standard of reserves for liabilities immediate and future.

(d) Payment of taxes, general or special.

3. Conditions for transfer, amalgamation, liquidation or winding-up.

There are varying degrees of freedom as regards the returns, etc.

1. There may be entire liberty as to the form in which they are presented, or, more usually, the form is prescribed.

2. They may be prepared (a) entirely by the office, without indispensable outside supervision, or (b) an independent audit may be required, or, again, (c) State officials may have the right and duty to go over the books, carry out independent valuations, and make criticisms as to procedure and practice.

Legislation affecting life assurance arises from the following causes—

1. The desire to exercise a control over life assurance institutions in the public interests.

2. The idea of national protection.

This may be subdivided into two : namely, (a) the safeguarding of native policy-holders, and (b) the protection of native companies.

3. Financial requirements which prompt governments to find resources in taxation.

(C. Le Jeune, Legislation from the National and International points of view, London, I.C. 309.)

To deal with the first of these causes, the

scope of the measures taken is as varied almost as the countries themselves, but four main systems have been mapped out—

1. Publicity.
2. Fixed standard.
3. Direct State supervision.
4. Concession.

1. The system of publicity requires the publication of documents and accounts by every insurance office at periodical intervals in prescribed form and duly vouched as accurate.

2. The fixed standard goes a step further, by insisting on business being conducted on certain lines, and, in particular, that the reserves set aside to meet future liabilities must maintain a definite minimum standard (as, for example, life valuations by the O<sup>m</sup>(5) Table at 3½ per cent interest). These conditions being fulfilled, whatever they may be, the office is at liberty to continue operations without interference.

3. The next stage is that of direct State supervision, where a Government Department exists with skilled technical advisers whose duty it is by tests and decisions to hinder the arising of such institutions as appear in advance unworthy of trust; with all existing institutions to keep constant watch on the business that there has been no deviation from the approved plans; that no malpractices have crept into the conduct of the business likely to damage the assured and render injurious to the community an institution intended to be beneficial. (From the Preamble to the German Law.) Thus the legislature has to arrange that the supervision shall be effective, but equally that there shall be no unnecessary hampering of the offices.

4. The concession or preliminary authorization system leads naturally out of the preceding, and may be regarded as preventive rather than repressive. Thus the insurance department in this is expected to examine in advance the methods of working, and to ensure so far as possible that results will be satisfactory, i.e. at later stages it must intervene before a smash has occurred or become inevitable. (See *Versicherungs Lexikon*, 2nd edition, page 211, Berlin. E. S. Mittler u. Sohn, 1924.)

The system of publicity is in its essentials that which prevails in Great Britain. Provided the necessary cash deposit is made, and full returns completed, it is considered that the public, assisted by skilled competitors and the Press, will be able to exercise sufficient judgment to favour sound offices,

while the offices, in their turn, will suffer the least possible interference in the development of their business and their endeavours to adapt themselves most satisfactorily to varying circumstances.

In criticism it has been said that with so complicated a business only an expert could decide, and that the ordinary man requiring life assurance has neither the time nor the capacity; furthermore, that the most complete returns that can reasonably be demanded do not enable even experts in all cases to deal convincingly with the situation; and, finally, supposing that an office has drifted into a weak situation, while public criticism may be efficacious in warning possible new entrants, that will be no comfort for existing policy-holders, who might have been saved by preventive steps. As against this may be noted the views of a continental writer—

“The Dutch people have an inborn hatred against the government of functionaries. It is proud, it is jealous of its freedom; it considers everything that should deprive it of this most holy right as a mortal enemy.

“The endeavour to place that freedom under the control of outsiders must, therefore, necessarily fail. Such a policy is not in accordance with our morals, but directly against them.

“Other continental countries have tried to regulate life assurance in such a paternal way; to prescribe everything, and to give a formula for every action, without remembering two things, namely (1) that the State accepts, in consequence, a responsibility which it ought not to have and cannot entertain; and (2) that it invalidates, by means of such autocratic prescriptions, every real progress, every intense development of the business.” (London I.C. 282. J. F. L. Blankenberg, *Legislation in Holland*.)

Many countries adopted an intermediate course by fixing a standard by which the liabilities of offices should be calculated—a failure to maintain which involved a withdrawal of the permit to do new business, or even, possibly, compulsory winding up. Here also there are difficulties. First, it is not easy to decide on a proper basis for all types of offices. Actuarial knowledge is not final, and the statistical material incomplete. Too strict a basis would press harshly on young and struggling offices, while a lax basis might encourage extravagance. Moreover, as any fixed standard has an implied Government certification of reliability, there would be a weakening of

that struggle for an ideal standard of perfection, induced by open competition. A further difficulty with this rigid system is to decide what to do with an office that, in consequence, it may be, of a temporary set-back in the value of its investments just at the time of the valuation, fails to attain to the arbitrary standard set.

Thus the evolution is naturally in favour of something less mechanical, and this has been generally towards direct supervision. There is a disadvantage connected with these systems, in that the public becomes less and less critical, and more and more dependent upon the work of a Government department. (See Insurance; the Offices, the State, and the Community. G. W. Richmond, C.I.I., xvi, 13.)

That there are many practical benefits, however, is clear, thus—

In a review of its first five years of working the German Insurance Department observed: "Without the system of concessions our insurance market would have been swamped by a flood of new insurance flotations of the most varied types. The undertakings ran into hundreds that were to have been created, and probably for the most part would have been, but for the need of official sanction. For outsiders it is scarcely credible how many people there are, full of the best intentions, but barren of the least technical knowledge or financial weight, who believe they can benefit mankind with new insurance ideas and new formations. Beyond these there are numerous applications for permits by mere business speculators, equally lacking in technical and financial preparation and backing, which could only have led to the most unscrupulous exploitation of the public. In the great majority of cases it was possible to dispose of such amateurish and questionable schemes, without a formal decision during the negotiations with applicants, by referring to technical difficulties, by requiring thorough business-like preparations, and especially by demanding financial guarantees. None of these concerns would have lasted long if allowed free scope, but how quickly they would have destroyed public confidence in German insurance, to the injury of solid, existing institutions." (Quoted by Manes, *Versicherungswesen*, 4th edition, 1924, I, 161, Leipzig, B. G. Teubner.)

(See also BOARD OF TRADE, POWERS OF, IN RELATION TO LIFE ASSURANCE.)

#### STATISTICAL DEPARTMENT.

(See WELFARE SERVICES.)

#### STATISTICS.

The word statistics is derived from *status*, a state, showing that at first it denoted inquiries into the condition of a state. Such inquiries are mentioned in the Bible; they were probably fairly well known among the ancient peoples, especially for the enumeration of fighting men and for the levying of taxes, while the Romans appear to have brought the machinery for carrying out these inquiries to a high stage of efficiency. Perhaps our Domesday Book may be taken as an example—it continued to be used for over 400 years for taxing purposes. These early statistics could have been accessible to but few persons in their entirety, and were duplicated only at very rare intervals. There was consequently no real scope for comparisons or for philosophical reflections. During the sixteenth century, however, some of the material came to be published in Italy and in France; a wider range of attention was attracted, and the advantages perceived of extending the quantitative record of phenomena to other than political organizations. No doubt the Bills of Mortality had a dreadful interest for the community, especially at the time of the Great Plague. Petty and Graunt in this country, Conring and Achenwall elsewhere, all helped to lay the foundations of statistics as now known. About the middle of the eighteenth century the subject assumed a new significance, and entered upon a further development. In 1741 Peter Süssmilch had published his *Göttliche Ordnung*, or Divine Ordinance, as demonstrated in the changes affecting the human race, its births, deaths, and propagation. He asserted that the movement of population is subject to law, and that such phenomena are so regular that their recurrence can be foreseen. He found out many curious facts, such as that there were more old women than old men alive, and that of 100 girls and 100 boys, the girls altogether would live longer than the boys, and drew the correct conclusion as regards annuity values or, rather, as to the purchase of tontines. Statistics ceased now to be regarded as the dead, moveless record of a more or less remote fixed date, but as the living evidence of underlying laws, calling for analysis into resemblances and differences as compared with similar compilations. This might lead easily on to Gompertz and his law of mortality, early last century, for, although beyond the frontiers of statistics, it is in the direct road from Süssmilch. Quetelet pointed out the remarkable

constancy in magnitude characteristic of the figures of moral statistics, especially those relating to crime: he was an exponent of the law of large numbers, which, with his conception of the average man, and his curve of possibilities, were ideas that have been cultivated with great success ever since. The foundation of the Royal Statistical Society was one of the immediate results. Mention of this society recalls that the word statistics itself is quite a newcomer in the language, although statist is older. Apparently adapted into German by Achenwall (1749), and first used in English by Zimmermann, a German, its definite employment by Sir John Sinclair (1790) attracted notice, and his recommendation of its use achieved success. He, however, scarcely meant more than a "species of political inquiry." The founders of the Royal Statistical Society understood the word to mean "the ascertaining and bringing together of those facts which are calculated to illustrate the condition and prospects of society," although a preference for figures was noted. The expression continued: "from the name of a science or art of state description by numerical methods, the word was transferred to those series of figures with which it operated . . . at the present day, the word is held to cover a collection of numerical data, analogous to those which were originally for the study of the state, on almost any subject whatever" (see *Theory of Statistics*, by G. Udny Yule, London, Chas. Griffin & Co., Ltd., 1911). Statistics has been described as the science of the social life of man, and also a method of investigation applicable to all sciences: "the systematic statement and explanation of the actual processes of man's social life and of the laws that may be derived therefrom, on the basis of quantitative aggregates" (Mayr). According to Yule, above quoted—

By statistics we mean quantitative data affected to a marked extent by a multiplicity of causes.

By statistical methods we mean methods specially adapted to the elucidation of quantitative data affected by a multiplicity of causes.

By theory of statistics we mean the exposition of statistical methods.

The insertion in the first definition of some such words as "to a marked extent" is necessary, since the term "statistics" is not usually applied to data, like those of the physicist, which are affected only by a relatively small residuum of disturbing

causes. At the same time, "statistical methods" are applicable to all such causes, whether the influence of many causes be large or not.

The ultimate end of statistical research is to enable comparison to be made between past and present results, with a view to ascertaining the reasons for changes which have taken place, and the effect of such changes on the future (Boddington, *Statistics*, Second Edition, London, H. F. L. (Publishers) Ltd., 1923).

#### STATISTICS (BRANCH OFFICE).

(See BRANCH OFFICE SYSTEMS.)

#### STATISTICS, ETC., OF LIFE ASSURANCE COMPANIES.

Statistics and other particulars relating to life offices are obtainable from a number of handbooks which are published annually. The most important of these are the *Post Magazine Almanack* (Post Magazine and Insurance Monitor, Ltd.); *The Insurance Blue Book and Guide* (Ritchie & Darling); *Bourne's Insurance Directory* (Stone & Cox, Ltd.); *Insurance Tables* (Stone & Cox, Ltd.); *The Life Assurance Agent's Vademecum* (Trustees of the late James Wilkie, Edinburgh); *Bourne's Handy Assurance Manual* (Stone & Cox, Ltd.); *Surplus Funds* (R. Grant & Son, Edinburgh); *Life Policy Conditions* (Stone & Cox, Ltd.); *Insurance Who's Who* (*Insurance News*); *Insurance Shareholder's Guide* (Policy-Holder Journal Co., Ltd.); *Board of Trade Returns* (H.M. Stationery Office). The various items of information, with the sources from which they may be obtained, are set out alphabetically as follows—

**Allied Companies.** *Post Magazine Almanack*, *Bourne's Insurance Directory*.

**Amalgamated Companies.** *Post Magazine Almanack*, *Bourne's Insurance Directory*, *Insurance Shareholder's Guide*.

**Annual Review of Life Assurance.** *Post Magazine Almanack*.

**Auditors.** *Post Magazine Almanack*, *Bourne's Insurance Directory*.

**Balance Sheets.** *Board of Trade Returns*, *Insurance Blue Book*.

**Board Days.** *Post Magazine Almanack*, *Bourne's Insurance Directory*, *Insurance Blue Book*.

**Bonuses.** *Bourne's Insurance Directory*, *Surplus Funds*, *Insurance Tables*, *Handy Assurance Manual*, *Insurance Blue Book*.

**Branch Offices.** *Post Magazine Almanack*,

*Bourne's Insurance Directory, Insurance Blue Book.*

**Capital and Shares.** *Post Magazine Almanack, Bourne's Insurance Directory, Insurance Shareholder's Guide, Insurance Blue Book.*

**Classes of Business Transacted.** *Post Magazine Almanack, Bourne's Insurance Directory, Insurance Shareholder's Guide, Insurance Blue Book.*

**Colonial Companies Accounts.** *Post Magazine Almanack.*

**Companies Wound-up.** *Post Magazine Almanack.*

**Conditions of Policies.** *Life Policy Conditions.*

**Death Duties.** *Post Magazine Almanack, Bourne's Insurance Directory, Insurance Tables, Insurance Blue Book.*

**Directors.** *Post Magazine Almanack, Insurance Shareholder's Guide.*

**Directory of Companies.** *Post Magazine Almanack, Bourne's Insurance Directory, Insurance Blue Book.*

**Dividends.** *Post Magazine Almanack, Bourne's Insurance Directory, Insurance Shareholder's Guide.*

**Expense Ratios.** *Bourne's Insurance Directory, Surplus Funds, Insurance Tables, Handy Assurance Manual.*

**Foreign Companies.** *Post Magazine Almanack, Bourne's Insurance Directory.*

**Income Tax Relief.** *Post Magazine Almanack, Bourne's Insurance Directory, Insurance Blue Book, Insurance Tables.*

**Institutes, Societies, etc.** *Post Magazine Almanack, Bourne's Insurance Directory, Insurance Blue Book.*

**Insurance Brokers.** *Post Magazine Almanack, Bourne's Insurance Directory, Insurance Blue Book.*

**Insurance Peers and M.P.'s.** *Post Magazine Almanack.*

**Medical Officers.** *Post Magazine Almanack, Bourne's Insurance Directory.*

**New Business.** *Post Magazine Almanack, Bourne's Insurance Directory, Insurance Blue Book, Surplus Funds, Insurance Tables, Handy Assurance Manual, Insurance Shareholder's Guide, Board of Trade Returns.*

**New Companies.** *Post Magazine Almanack.*

**Officers.** *Post Magazine Almanack, Bourne's Insurance Directory, Insurance Blue Book, Insurance Shareholder's Guide.*

**Policy Conditions.** *Life Policy Conditions.*

**Premium Rates.** *Post Magazine Almanack, Bourne's Insurance Directory, Insurance*

*Blue Book, Surplus Funds, Insurance Tables, Handy Assurance Manual.*

**Price of Shares.** *Post Magazine Almanack, Bourne's Insurance Directory, Insurance Shareholder's Guide.*

**Revenue Accounts, etc.** *Board of Trade Returns (in full), Post Magazine Almanack, Bourne's Insurance Directory, Insurance Blue Book, Insurance Tables (main items).*

**Solicitors.** *Post Magazine Almanack, Bourne's Insurance Directory.*

**Surrender Values.** *Bourne's Insurance Directory, Insurance Tables, Board of Trade Returns.*

**Valuation Returns.** *Board of Trade Returns, Bourne's Insurance Directory, Insurance Blue Book, Surplus Funds, Insurance Shareholder's Guide, Insurance Tables, Handy Assurance Manual.*

**Who's Who.** *Post Magazine Almanack, Bourne's Insurance Directory, Insurance Blue Book, Insurance Who's Who.*

**Yields on Shares.** *Post Magazine Almanack, Insurance Shareholder's Guide.*

*N.B.—The Insurance Blue Book has an extensive Legal Section, including the principal Acts of Parliament. There is also certain legal information in The Post Magazine Almanack and Bourne's Insurance Directory.*

## STATUTORY DECLARATION.

(See LOST POLICIES.)

## STATUTORY DEPOSIT.

(See ASSURANCE COMPANIES ACT, 1909; BOARD OF TRADE, POWERS OF; INDUSTRIAL ASSURANCE ACT, 1923; also ACCOUNTANCY DEPARTMENT.)

## STATUTORY REQUIREMENTS AS TO VALUATION.

In Great Britain the statutory requirements as to valuations depend on the Life Assurance Companies Act, 1909, and the relative Order of the Board of Trade, dated 6th June, 1910. The Act lays down at what intervals and on what occasions valuations are to be made, in what form they are to be presented, by whom to be signed, and to whom rendered, but there is no prescription as to the rate of mortality or the rate of interest to be assumed—nothing in the nature of a minimum standard of reserves. The bases of valuation and the methods adopted to give effect to them have, however, to be explained in some detail, while the form in which the results have to be presented imposes some restraint on the

methods. The Order makes a number of rules, by virtue of which the valuation is affected by the more precise definition of the qualifications of those who can sign valuation returns as actuary.

In terms of the Act, an investigation must be made into the financial condition of every assurance company once in every five years, or less, including a valuation of its liabilities, by an actuary, as set forth in the Fourth Schedule to the Act. The same process has likewise to be gone through whenever at any other time an investigation is made with a view to the distribution of profits, or the results of which are to be made known publicly. Equally, as at the date to which the accounts of the company are made up for the purposes of such an investigation, a statement of the business must be prepared in the form of the Fifth Schedule, except that if the investigation is made annually, such statement need only be made at least once in every five years.

All the documents must be printed, and four copies deposited at the Board of Trade within six months after the close of the period to which the figures relate. One copy of them must be signed by the chairman and two directors of the company, and by the principal officer of the company, and, if the company has a managing director, by the managing director. With the documents must be deposited any report on the affairs of the company submitted to the shareholders or policy-holders of the company in respect of the financial year to which the accounts, etc., relate. Any shareholder or policy-holder is entitled on demand to a printed copy.

Before any amalgamation or transfer can be sanctioned by the Court, there must be a report by an independent actuary, in addition to the actuarial or other reports on which the agreement is founded, and copies have to be transmitted to each policy-holder of each company, unless the Court otherwise directs, while the agreement or deed under which the amalgamation or transfer is effected must be open for the inspection of the policy-holders and shareholders at the offices of the companies for a period of fifteen days after the publication of the notice in the *Gazette*.

If an office is ordered by the Court to be wound up, which will probably involve the winding up of any subsidiary companies, policy values are to be estimated in accordance with the Sixth Schedule. Instead of winding up, the Court may order the amount

of the contracts of the company to be reduced.

Companies established outside the United Kingdom which carry on assurance business within the United Kingdom, come within the scope of the Act. Any company which fails to comply with the Act is liable to a penalty not exceeding one hundred pounds, or, if continued, to a penalty not exceeding fifty pounds per day. Every director, manager, or secretary, or other officer or agent of the company who is knowingly a party to the default is liable to a like penalty. After three months of default, the Court may, after notice, order the company to be wound up.

If any of these documents is false in any particular to the knowledge of any person who signs it, he is guilty of a misdemeanour, and liable to a fine and/or imprisonment.

As to the schedules attached to the Act of 1909, the first prescribes the form of the revenue account. Separate statements have to be furnished, not only for each of the forms of insurance covered by the Act, but also for marine insurance and sinking fund or capital redemption business. Likewise some of the items have to be distinguished according to whether they are (a) business within the United Kingdom, (b) business outside the United Kingdom. Furthermore, any sum deducted from the expenses of management account, and taken credit for in the balance sheet as an asset, must be shown separately in this revenue account. Then a statement is to be appended to the account, giving particulars of the new life assurance business effected during the year of account.

The second schedule shows how the profit and loss account is to be displayed, and the third deals with the balance sheet. The latter must be rendered for each of the funds for which separate investments are made, and these investments are to be displayed under eighteen specified headings. If a part of the assets has been deposited specifically, under local laws, in places outside the United Kingdom, as security for local policy-holders, each such place and the amount compulsorily lodged must be stated. The balance sheet must narrate how the values of the Stock Exchange securities are arrived at, and a certificate be appended, signed by the same persons as sign the balance sheet, to the effect that in their belief the assets set forth in the balance sheet are in the aggregate fully of the value stated therein, less any investment fund taken into account, while, if there are separate funds,

a similar certificate, signed in addition by the auditor, has to be furnished to the effect that no part of any fund has been applied, directly or indirectly, for any purpose other than the class of business to which it is applicable.

The following is a brief description of the Valuation Schedules (Fourth and Fifth) attached to the Life Assurance Companies Act, 1909—

(4th Schedule.) Description of the prin-

ciples, etc., adopted in the valuation forms of consolidated revenue account for the entire valuation period, and of the summary and valuation of the policies, with a valuation balance sheet.

(5th Schedule.) Details to be furnished of published premiums and business in force at each age and under different classes: the average rate of interest earned on the funds, and the minimum surrender values allowed.

#### FOURTH SCHEDULE

STATEMENT RESPECTING THE VALUATION OF THE LIABILITIES UNDER LIFE POLICIES AND ANNUITIES OF THE \_\_\_\_\_, TO BE MADE AND SIGNED BY THE ACTUARY

(The answers should be numbered to accord with the numbers of the corresponding questions.)

1. The date up to which the valuation is made.
2. The general principles adopted in the valuation, and the method followed in the valuation of particular classes of assurances, including a statement of the method by which the net premiums have been arrived at, and whether these principles were determined by the instrument constituting the company, or by its regulations or by-laws, or how otherwise; together with a statement of the manner in which policies on under-average lives are dealt with.
3. The table or tables of mortality used in the valuation. In cases where the tables employed are not published, specimen policy values are to be given, at the rate of interest employed in the valuation, in respect of whole-life assurance policies effected at the respective ages of 20, 30, 40, and 50, and having been respectively in force for five years, ten years, and upwards at intervals of five years respectively; with similar specimen policy values in respect of endowment assurance policies, according to age at entry, original term of policy, and duration.
4. The rate or rates of interest assumed in the calculations.
5. The actual proportion of the annual premium income, if any, reserved as a provision for future expenses and profits, separately specified in respect of assurances with immediate profits, with deferred profits, and without profits. (If none, state how this provision is made.)
6. The consolidated revenue account since the last valuation, or, in case of a company which has made no valuation, since the commencement of the business. (This return should be made in the form annexed. No return under this heading will be required where a statement under this schedule is deposited annually.)
7. The liabilities of the company under life policies and annuities at the date of the valuation, showing the number of policies, the amount assured, and the amount of premiums payable annually under each class of policies, both with and without participation in profits; and also the net liabilities and assets of the company, with the amount of surplus or deficiency. (These returns to be made in the forms annexed.)
8. The principles upon which the distribution of profits among the shareholders and policy-holders is made, and whether these principles were determined by the instrument constituting the company or by its regulations or by-laws, or how otherwise, and the number of years' premiums to be paid before a bonus (a) is allotted, and (b) vests.
9. The results of the valuation, showing—
  - (1) The total amount of profit made by the company, allocated as follows—
    - (a) Among the policy-holders with immediate participation, and the number and amount of the policies which participated;
    - (b) Among policy-holders with deferred participation, and the number and amount of the policies which participated;
    - (c) Among the shareholders;
    - (d) To reserve funds or other accounts;
    - (e) Carried forward unappropriated.
  - (2) Specimens of bonuses allotted to whole-life assurance policies for £100 effected at the respective ages of 20, 30, 40, and 50, and having been respectively in force for five years, ten years, and upwards at intervals of five years respectively, together with the amounts apportioned under the various modes in which the bonus might be received; with similar specimen bonuses and particulars in respect of endowment assurance policies, according to age at entry, original term of policy, and duration.

[FORM REFERRED TO UNDER HEADING NO. 6 IN THE FOURTH SCHEDULE (A)]

Consolidated Revenue Account of the \_\_\_\_\_ for \_\_\_\_\_ years commencing \_\_\_\_\_ and ending \_\_\_\_\_  
 £ s. d. £ s. d. £ s. d. £ s. d.

Amount of life assurance fund at the beginning of the period	Claims under policies paid and outstanding . . . . .
Premiums . . . . .	By death . . . . .
Consideration for annuities granted . . . . .	By maturity . . . . .
Interest, dividends, and rents . . . . .	Surrenders . . . . .
Less income tax thereon . . . . .	Annuities . . . . .
Other receipts (accounts to be specified) . . . . .	Bonuses in cash . . . . .
	" in reduction of premium . . . . .
	Commission . . . . .
	Expenses of management . . . . .
	Other payments (accounts to be specified) . . . . .
	Amount of life assurance fund at the end of the period, as per Third Schedule . . . . .

[FORM REFERRED TO UNDER HEADING NO. 7 IN THE FOURTH SCHEDULE (A)]

Summary and Valuation of the Policies of the \_\_\_\_\_ as at \_\_\_\_\_ 19\_\_

Description of Transactions.	PARTICULARS OF THE POLICIES FOR VALUATION.				VALUATION.			
	Number of Policies.	Sums Assured and Bonuses.	Office Yearly Premiums	Net Yearly Premiums	Value by the Table.			Interest per cent
					Sums Assured and Bonuses	Office Yearly Premiums	Net Yearly Premiums	Net Liability.
ASSURANCES								
I. <i>With immediate participation in profits.</i>								
For whole term of life . . . . .								
Other classes (to be specified) . . . . .								
Extra premiums payable . . . . .								
II. <i>With deferred participation in profits.</i>								
For whole term of life . . . . .								
Other classes (to be specified) . . . . .								
Extra premiums payable . . . . .								
Total assurances with profits								
III. <i>Without participation in profits.</i>								
For whole term of life . . . . .								
Other classes (to be specified) . . . . .								
Extra premium payable . . . . .								
Total assurances without profits								
TOTAL ASSURANCES								
Deduct re-assurances (to be specified according to class in a separate statement) . . . . .								
Net amount of assurances . . . . .								
Adjustments, if any (to be separately specified) . . . . .								
ANNUITIES ON LIVES								
Immediate . . . . .								
Other classes (to be specified) . . . . .								
Total of the results								

VALUATION BALANCE SHEET OF \_\_\_\_\_ AS AT \_\_\_\_\_ 19\_\_

<i>Dr.</i>	<i>£</i>	<i>s.</i>	<i>d.</i>		<i>Cr.</i>	<i>£</i>	<i>s.</i>	<i>d.</i>
To net liability under life assurance and annuity transactions (as per summary statement above)					By life assurance and annuity funds (as per balance sheet under Schedule 3)			
To surplus, if any					By deficiency, if any			

FIFTH SCHEDULE

(A)—FORM APPLICABLE TO LIFE ASSURANCE BUSINESS

Statement of the Life Assurance and Annuity Business of the \_\_\_\_\_ on the \_\_\_\_\_ 19\_\_, to be signed by the Actuary

(The answers should be numbered to accord with the numbers of the corresponding questions. Statements of re-assurances corresponding to the statements in respect of assurances are to be given throughout.) Separate statements are to be furnished in the replies to all the headings under this schedule for business at other than European rates. Separate statements are to be also furnished throughout in respect of ordinary and industrial business respectively.

1. The published table or tables of premiums for assurances for the whole term of life and for endowment assurances which are in use at the date above mentioned.
2. The total amount assured on lives for the whole term of life which are in existence at the date above mentioned, distinguishing the portions assured with immediate profits, with deferred profits, and without profits, stating separately the total reversionary bonuses and specifying the sums assured for each year of life from the youngest to the oldest ages, the basis of division as to immediate and deferred profits being stated.
3. The amounts of premiums receivable annually for each year of life, after deducting the abatements made by the application of bonuses, in respect of the respective assurances mentioned under Heading No. 2, distinguishing ordinary from extra premiums. A separate statement is to be given of premiums payable for a limited number of years, classified according to the number of years' payments remaining to be made.
4. The total amount assured under endowment assurances, specifying sums assured and office premiums separately in respect of each year in which such assurances will mature for payment. The reversionary bonuses must also be separately specified, and the sums assured with immediate profits, with deferred profits, and without profits, separately returned.
5. The total amount assured under classes of assurance business, other than assurances dealt with under questions 2 and 4, distinguishing the sums assured under each class, and stating separately the amount assured with immediate profits, with deferred profits, and without profits, and the total amount of reversionary bonuses.
6. The amount of premiums receivable annually in respect of each such special class of assurances mentioned under Heading No. 5, distinguishing ordinary from extra premiums.
7. The total amount of premiums which has been received from the commencement upon pure endowment policies which are in force at the date above mentioned.
8. The total amount of immediate annuities on lives, distinguishing the amounts for each year of life, and distinguishing male and female lives.
9. The amount of all annuities on lives other than those specified under Heading No. 8, distinguishing the amount of annuities payable under each class, and the amount of premiums annually receivable.
10. The average rate of interest yielded by the assets, whether invested or uninvested, constituting the life assurance fund of the company, calculated upon the mean fund of each year during the period since the last investigation, without deduction of income tax.  
It must be stated whether or not the mean fund upon which the average rate of interest is calculated includes reversionary investments.
11. A table of minimum values, if any, allowed for the surrender of policies for the whole term of life and for endowments and endowment assurances, or a statement of the method pursued in calculating such surrender values, with instances of the application of such method to policies of different standing and taken out at various interval ages from the youngest to the oldest. In the case of industrial policies, where free or paid-up policies are granted in lieu of surrender values, the conditions under which such policies are granted must be stated, with specimens as prescribed for surrender values.

STATUTORY REVENUE ACCOUNT.

(See ACCOUNTANCY DEPARTMENT.)

STIRLING'S FORMULA

For the numerical evaluation of binomial expansions it is necessary to know the values of the binomial coefficients. For a high power of the exponent, these become very large and difficult to calculate directly.

J. Stirling, however (*Methodus differentialis*,

1730) furnished an approximation, which, in proportion to the full coefficient, is increasingly accurate as the exponent becomes larger. Factorial  $n = 1, 2, 3, 4 \dots n$ ,

$$\text{or } n! = \int_0^\infty x^n \cdot e^{-x} \cdot dx$$

$$= n^n \cdot e^{-n} \cdot \sqrt{2\pi n} \left( 1 + \frac{1}{12n} + \dots \right)$$

approximately.

Some examples follow (from Czuber,

*Wahrscheinlichkeitsrechnung*, third edition, 1914, page 27).

	Correct value.	By formula $n! = n^n \cdot e^{-n} \sqrt{2\pi n}$	Ratio of deficiency $n!$ .
10!	3,628,800	3,598,699	·0083
20!	2,432,902(12)	2,422,786(12)	·0041
30!	265,252,859(24)	264,517,093(24)	·0028

Note.—The figures in brackets indicate how many digits have been omitted.

A six figure table of factorials is given in the *Encyc. Metrop.* vol. II, 1845, in de Morgan's article "Theory of Probabilities," and in *Tabularum ad faciliorem probabilitatis computationem utilem Enneas* (1824) C. F. Degen gives the 12 place logarithms of all factorials from 1 to 1200. The first nine are as under—

1! = 1, 2! = 2, 3! = 6, 4! = 24, 5! = 120, 6! = 720, 7! = 5,040, 8! = 40,320, 9! = 362,880.

**STOCK EXCHANGE SECURITIES.**

The only source of information as to the distribution of the investments of life assurance

companies, available to the general public, is the statutory form of balance sheet. The classification there employed is exceedingly broad, and, while some general tendencies can be observed, the groupings permit of the amalgamation of widely dissimilar types of security.

It does not seem probable that companies will be required to publish a detailed list of Stock Exchange securities, although one or two offices have voluntarily adopted this course. They are, however, investment policy. In spite of the limitations of the statutory form of balance sheet, it is interesting to examine the change in distribution of assets by comparison of representative years in three separate epochs of financial history. The following figures are extracted from a paper entitled, "Wartime Finance," submitted to the Institute of Actuaries by Mr. P. C. Crump, in April, 1928, and relate to the assets of twelve representative life companies for the years 1913, 1921, and 1926.

An interesting feature of the grouping is the change which has taken place in the relative proportions of Stock Exchange

DISTRIBUTION OF ASSETS

Class of asset.	Amounts in sterling.			Percentage of total assets.		
	1913.	1921.	1926.	1913.	1921.	1926.
	£	£	£	%	%	%
Mortgages, including Loans on						
Stocks and Shares . . . . .	33,590,979	30,021,347	38,644,968	13·47	8·18	7·15
Loans on Policies . . . . .	9,447,731	9,731,533	20,565,754	3·79	2·65	3·80
Loans on Rates . . . . .	16,775,957	15,057,965	18,668,917	6·73	4·10	3·45
Loans on Personal Security . . . . .	987,764	399,305	197,994	·40	·11	·04
Loans on Life Interests and Reversions . . . . .	7,397,904	5,059,373	4,166,144	2·96	1·38	·77
British Government Securities	3,476,524	129,150,583	169,125,426	1·40	35·20	31·26
Municipal and County, United Kingdom . . . . .	3,258,121	5,592,727	11,140,952	1·31	1·52	2·06
Indian and Colonial Government	9,220,907	18,915,299	33,776,849	3·70	5·16	6·24
Indian and Colonial Provincial Securities . . . . .	2,465,790	1,708,711	1,783,167	·99	·47	·33
Indian and Colonial Municipal Securities . . . . .	10,010,821	7,373,924	10,158,833	4·01	2·01	1·88
Foreign Governments . . . . .	11,554,145	21,338,810	30,859,592	4·63	5·82	5·70
Foreign Provincial Securities . . . . .	1,730,108	1,070,021	1,739,400	·69	·29	·32
Foreign Municipal Securities . . . . .	8,704,191	6,683,272	6,009,046	3·49	1·82	1·11
Debentures . . . . .	64,276,865	42,041,573	80,593,598	25·77	11·46	14·90
Stocks and Shares . . . . .	24,726,171	23,052,339	53,234,069	9·91	6·28	9·84
Land and House Property—						
Ground Rents . . . . .	22,400,788	23,717,703	26,014,814	8·98	6·47	4·81
Life Interests and Reversions . . . . .	4,151,989	2,067,097	1,838,651	1·66	·56	·34
Miscellaneous . . . . .	15,250,783	23,900,521	32,493,676	6·11	6·52	6·00
Total . . . . .	£249,427,538	£366,882,103	£541,011,850	100·00	100·00	100·00

securities and other investments. The following table combines the respective percentages under these two headings—

	Percentage of total.		
	1913.	1921.	1926.
Stock Exchange Securities . . .	55.90	70.03	73.64
Other Investments . . .	44.10	29.97	26.36

The enormous importance of Stock Exchange securities as life office investments is emphasized when these percentages are considered in conjunction with the large growth of the funds during the period under review. Between 1913 and 1921, a period of eight years, the total assets increased by 117 millions, or 47 per cent, while from 1921 to 1926 (five years) the increase was about 174 millions, or 47½ per cent. The average increase per annum was about 5.9 per cent during the former period and 9.5 per cent in the latter.

The outstanding feature of the grouped investments is, of course, the advance from 1.4 for 1913 to 35.2 per cent for 1921, in British Government securities. By 1926 the amount so invested had further increased, although the percentage of the total assets had fallen. The reason for the increase to the maximum of 1921 is not far to seek, and the subsequent decrease of the percentage figure probably indicates an attempt to counteract the fall in yield resulting from currency appreciation by a widening of the field of investment.

The other groups of Stock Exchange securities which show marked increases are Municipal and County (United Kingdom), Indian and Colonial Government, and Foreign Government securities. The increase in the Indian and Colonial Government securities reflects both special war borrowing and the effect of the continual call for new capital from some of the overseas dominions. The variation in Foreign Government securities is affected by the sales of holdings in neutral countries during the war and the collapse of values in other countries, such as Russia and Germany.

The percentage figures in the debenture group show clearly the effect of sales of American Railway Bonds during the war period, but the subsequent increase cannot

be attributed to repurchases of the same type of security. This item and the subsequent one, Stocks and Shares, show the slight value of the ordinary classification. The latter item groups together Home Rails, Shares in associated insurance undertakings, Shares in reversionary companies, and would include the most speculative holding quoted on the Stock Exchange if such an item were likely to be found on the books of any insurance company.

Insurance companies experienced, during the first fourteen years of this century, a period of depreciating security values, but the rate of alteration was so gradual and steady that, with the aid of new funds available for investment at higher rates, they were able easily to maintain a stable level of results as measured by bonus declarations. The position which arose on the outbreak of war and the subsequent financial history of the companies is common knowledge, but it is difficult to obtain figures which show the true position with regard to depreciation. There are figures available which show the total allocation to depreciation or investment reserve funds extracted from the annual accounts, but these do not, of course, disclose the total sums so applied. The general position disclosed is that £2,600,000 was so applied in 1913, the last year of peace, a substantial readjustment by the writing off of £8,300,000 occurred in 1915, and the average annual figure thereafter was about £4,000,000 until 1920. In that year the final readjustment to post-war conditions was carried out and appropriations of £10,000,000 to reserve and depreciation were made. Since that year the annual average has been about £1,500,000.

In order to make some investigation of the variation in interest yields, Mr. Crump selected one representative security from each of the following twelve groups: British Government, Home Municipal, Colonial Government, Colonial Municipal, Foreign Government, Home Railway Debentures, Colonial Railway Debentures, Foreign Railway Debentures, Gas Company Debentures, Shipping Company Debentures, Telegraph Company Debentures, and Waterworks Company Debentures. He compared the respective gross and net yields at the average prices of 1913, 1918, and 1927, and also at the lowest prices touched during this period which occurred mostly in 1921. In order that yields should not be influenced by ultimate redemption, irredeemable securities were selected. The average yields per cent and

the relative rates of income tax were as follows—

	1913.	1918.	Lowest price (in 1920 or 1921).	1927.
Gross Yield	£3 19 10	£5 2 6	£6 12 9	£4 19 -
Rate of Income Tax	1s. 2d.	5s.	6s.	4s.
Net Yield	£3 15 2	£3 11 9	£4 12 11	£3 19 2

The true position is, however, that interest income does not suffer the full rate of tax whether in the hands of the private investor or the life assurance company. The latter is assessed upon a special basis, the broad principle of which is that commission and expenses of management are allowed as a deduction from taxable income. The average net interest yield on the funds of twelve of the largest companies transacting ordinary life business (as distinct from industrial business) was, therefore, calculated upon the customary formula. The results showed a net yield of £4 1s. 6d. per cent in 1913, £3 17s. 7d. per cent in 1918, and £4 13s. 10d. per cent in 1926. It should be observed that these figures bear no relation to the actual yield on the cost price of the investments constituting the fund, but are based on a comparison of the net interest income of the year, after taking credit for tax rebates, and the actual life assurance funds (or actuarial liability). They are, therefore, influenced by various factors such as amounts written off for depreciation, investment reserve funds (assumed in some cases not to earn income), and so on.

**British Government Securities.** In examining the individual characteristics of the types of Stock Exchange investments to be found among the assets of life assurance companies, British Government securities necessarily receive first consideration. In the period prior to the war there was a general tendency to improve upon the low yields obtainable from Home Government securities (accentuated by the special demand created by the limitation upon trustees' powers of investment), by investment outside this class of security. It was inevitable that the Government demand for all available

capital during the war period and the replacement of American securities by British Government securities should elevate this category of investment to a predominant position. The fall in yield since 1920 has resulted in a fresh movement towards other fields of investment so far as new funds are concerned, but the present yields to the life offices are in general based upon the reduced book values to which securities were written down during the period of depreciation.

Full details of all Government issues are to be found in the Stock Exchange Official Intelligence, while a record of dealings is available in the daily price list. Most of the leading brokers, too, issue useful monthly lists, which show the principal details of each security, highest and lowest prices for the last year or so, the latest current prices and yields.

British Government securities may be broadly divided into three classes, short-dated redeemable, long-dated redeemable, and securities redeemable at the option of the Government.

These short-dated issues, which mostly interest life assurance companies, are Treasury Bonds issued from time to time to replace maturing debt. Their average full period is seven to ten years, and recent issues have naturally reflected, by their falling yield, the improvement in Government credit.

The security representing both the largest nominal amount and the largest annual charge on the national revenue, is the 5 per cent War Loan, which occupies a special position with regard to the question of redemption.

The stock is redeemable at the Government's option at any date up to 1st June, 1947, but the possibility of redemption is seriously affected by the issue of the 5 per cent Conversion Loan. The latter cannot be redeemed until 1st May, 1944, and there is an option to extend the period until 1st May, 1964. Cash subscriptions to the Conversion Loan were required to meet Treasury Bills, Bonds, and other short-term maturities, and investors were given the right to convert into the new stock, holdings of 5 per cent War Loan equal to their cash subscriptions. The Conversion Loan involves the existence of a 5 per cent British Government security until 1944 at least, but it is doubtful whether it can be said to tie down Government credit to this basis in view of the relative amounts of the two issues.

The principal long-dated redeemable securities held by insurance funds are 4 per

cent Funding Loan and the  $4\frac{1}{2}$  per cent Conversion Loan. The former is redeemable at par on 1st May, 1990, or on, or after, 1st May, 1960, at the option of the Government. The half-yearly sum applied to the service of the loan is  $2\frac{1}{4}$  per cent on the original nominal issue, the sinking fund thus created being used for purchase and cancellation while the price is at or under par. If the price is above par, it is to be so applied or otherwise invested. The  $4\frac{1}{2}$  per cent Conversion Loan was issued in June, 1924. It is repayable at par on 1st July, 1944, or at any half-yearly interest date on or after 1st July, 1940.

At the same time as the issue of the Funding Loan, the Government introduced the novel experiment, so far as this country is concerned, of an issue redeemable by drawings at par. This was the issue of 4 per cent Victory Bonds at 85 per cent, the half-yearly sum allotted to service of the loan being  $2\frac{1}{2}$  per cent of the nominal issue. The speculative element of a bonus on redemption is reflected in the market price, but it is probably not sufficiently attractive to insurance companies to justify the loss of yield.

There remain the issues redeemable only at Government option. So long as Government borrowing is at rates higher than the nominal rates payable upon such issues, these may be treated as irredeemable. The old  $2\frac{1}{2}$  per cent Consols and 3 per cent Local Loans are, of course, the original issues of this type, but insurance company holdings of these stocks, already largely reduced by 1914, are dwarfed by the investment of new money in the later issues. The principal security of this class is the  $3\frac{1}{2}$  per cent Conversion Loan, redeemable at Government option on or after 1st April, 1961. There is a powerful sinking fund to lend support to the price in the shape of a sum equal to not less than 1 per cent of the amount of the loan outstanding at the close of any half-year during which the average daily price of the loan, as certified by the Bank of England, has been below 90, to be applied during the succeeding half-year in the purchase of the loan in the market, for cancellation. Another issue is the 4 per cent Consolidated Loan, issued at 85 and redeemable at par on 1st February, 1957, or at any time thereafter. For ten years, from 1st May, 1927, to 30th April, 1937, so long as the price is at or below par, £2,500,000 is to be applied each quarter-year to purchases for cancellation.

A type of issue strangely unpopular with the private investor, but not neglected by

insurance companies, is that guaranteed by the Government under the Trade Facilities Act, 1921. Many of the smaller issues under this Act were privately placed with insurance companies.

**Municipal and County Securities.** These now constitute a large and important group of securities, and are not unknown among the assets of life assurance companies. There is the objection that most come within the Trustee class, and prices, therefore, tend to be raised as the result of special demand. They may be divided, roughly, into two classes: one, a group of issues of long-standing bearing a very low rate of interest, and another, a series of issues made in the early post-war period, largely in connection with housing schemes, at rates of interest varying between 5 and 6 per cent per annum. Substantial investments were made by insurance companies among the latter class, and with the reduction in current interest rates, values are now well above the issue price. All these stocks have, however, fixed redemption dates, of which 1960 is approximately the latest year to be found. Prices are, therefore, bound to recede slowly to the redemption value.

The former group of securities are mostly redeemable in the not very distant future, and the yield appears artificially low since a considerable portion consists of profit on redemption, which is not subject to tax.

County and Corporation stocks are generally charged indifferently on all the revenues of the authority, and the degree of security hardly requires discussion. There are, however, differences in the level of credit arising from a reputation for economical administration, or the reverse, and some account must be taken of the degree of dependence upon specialized local industry.

**Indian and Colonial Government Securities.** These constitute a large and important section of the official list and are freely held by insurance companies. The terms of issue vary widely, and are to be ascertained by reference to the Official Intelligence. The real advantage to an investor of Government debts is the fact that behind them is the whole wealth of all the inhabitants of the country in so far as the latter can be induced to part with that wealth for public purposes. It is natural and inevitable that the feeling of security among lenders should be greatest when their holdings represent the obligations of their own kin or of communities controlled by their own countrymen. A large proportion, too, of the issues coming within this

category have been floated for purposes of real economic development in contrast to purely wasteful borrowing for war purposes. Nevertheless, persistent and unco-ordinated borrowing in certain directions coupled with the absence of proper information and adequate sinking fund arrangements has produced a certain uneasiness and depreciated the demand for the securities in question. While reforms in procedure are likely to meet the latter objections, this does not in itself ensure that borrowing is limited strictly to purposes of development.

There is one class of security which may be included in this section because it carries the guarantee of the Government of India. It deserves special mention because it illustrates how an investment may be unpopular with the private investor and yet be perfectly suitable to the insurance company with its special accounting facilities. The securities in question are the Indian Railway "A" Annuities, which are terminable but have no provision for sinking fund, and are therefore of the nature of a wasting asset. It is a simple matter for the insurance company to make the necessary provision by internal book entries. The lack of a general demand for these securities results in a high yield to a purchaser, having regard to the degree of security.

#### **Indian and Colonial Provincial Securities.**

There are no general characteristics affecting these securities which have not been mentioned in the previous section.

#### **Indian and Colonial Municipal Securities.**

This group has the advantage, from the point of view of yield, that it does not come within the Trustee class. The issues may be grouped into two main classes similar to those observed among Home Municipal securities; one consisting of low interest-bearing securities, mostly approaching maturity, and another with higher interest rates in the neighbourhood of 6 per cent. There is, generally, an early redemption date available in the latter class, at the option of the debtor. A third group of  $4\frac{1}{2}$  per cent stocks has, for the most part, a longer term yet to run. The status of those issues quoted on the London Exchange is, in general, at a high level. The finance of local bodies is on a more compact scale than is the case with central governments, and political instability is sometimes less apparent. Seaports, too, possess special sources of revenue which constitute a valuable security. The obligations of smaller communities in the less developed districts, issued locally, are in a rather differ-

ent category. They depend almost entirely upon local prosperity, and the greater risk to a lender is reflected in the yield.

**Foreign Government Securities.** This classification embraces a wide variety of securities, with characteristics so diverse that it is impossible to generalize upon the question of their suitability to life assurance funds.

Market opinions upon Foreign Government securities depend largely upon impression and instinct, and broad views only can be formed upon such points as—

1. War risks.
2. Amount of external debt and rapidity of growth as compared with—
  - (a) Trade balance, so far as it can be ascertained, and the degree to which prosperity is concentrated or dispersed among various trades.
  - (c) Internal debt.
  - (d) Total expenditure.
3. Proportion of total debt charge to total expenditure.
4. The absence of budgetary deficits or the reverse.
5. Currency stability, since a depreciating currency tends to increase the burden of the service of foreign debt.

This country had for many years large funds available for investment overseas, and it follows that many Foreign Government stocks are to be found among the assets of the insurance companies. One large group of foreign securities consists of loans to young countries, still in course of development and dependent for prosperity upon large natural resources. The various South American State securities are the leading example of this type. They are subject, in varying degree, to the double risk of political instability and financial dependence upon a particular local product. The history of Chili is a case in point. Here, crises in the nitrate industry have had a marked effect on prices notwithstanding a long record of financial and political stability.

The security for a government obligation is of a nebulous character, and, taking British and American Government obligations as examples, specific security tends to be least apparent where the moral hazard to the lender is at a minimum. Specific sources of revenue or local products are, however, sometimes assigned in security, and are likely to be of most value where the government is weakest. Chinese Customs Loans and the Brazilian Coffee Institute Loan are examples of loans with specific security. The

value of the former must be enhanced by the circumstance that it is collected on the coast and handled by the foreign officials of the Customs board.

A considerable number of loans were issued by countries on the Continent of Europe during the period following the close of the war, and it is believed that substantial holdings are in the hands of life assurance companies. The high yields reflect the political and economic uncertainty of the period, but most of these issues have moved slowly to a substantial premium.

**Foreign Provincial Securities.** A limited number of securities within this category are quoted upon the London Stock Exchange, but the group is not of great importance. The outstanding point is that the difficulty of enforcing any remedy in the case of default is probably greater, even, than in the case of State obligations.

**Foreign Municipal Securities.** The observations upon Colonial Municipal securities in conjunction with those upon Foreign Government securities cover most of the points arising in this class.

The remaining groupings in the statutory form of balance sheet are too broad to serve any useful purpose here. It is necessary, therefore, to examine briefly other classes of assets under the commonly recognized headings, based on the nature of the undertaking.

**British Railways.** In view of the substantial proportion which the capital of the British railways bore, at one time, to the total issues quoted on the Stock Exchange, it is probable that considerable holdings are still in the hands of insurance companies. The dependence of prosperity upon the condition of the national heavy industries, and the many other problems involved, require treatment far more detailed and complete than is possible in a short survey of this nature, and authoritative information upon the subject is available in many directions.

**Dominion and Colonial Railways.** These comprise mostly Indian and Canadian railway securities.

**American Railways.** At one time a substantial item in insurance company balance sheets, these disappeared in financing Government wartime credits in America. The price levels and American taxation regulations have probably prevented repurchase to any extent.

**Foreign Railways.** An important section of this group is the Argentine and other South American railways. All grades of

security are to be found, but the best stand high, taking into account the risk of Government discrimination against foreign capital, and the possibility of the imposition of compulsory uneconomic rates.

**Banking Securities.** The predominant feature of banking securities is the enormous volume of business transacted in relation to the capital employed and the substantial liability for uncalled capital usually attached to the shares. The latter adverse feature does not prevent insurance company holdings, but the moral obligation to disclose the total uncalled liability is likely to restrict the total of investments of this class.

**Insurance Company Shares.** The characteristics of insurance shares are similar to those already mentioned in connection with banks. The general practice is to restrict dividends on insurance shares almost to the free interest earnings, throwing trading profits into reserve, year by year. Share prices, therefore, show only a low yield at current dividends, and they vary only to the extent that future dividend increases are anticipated. The balance sheets of insurance companies contain large holdings in the shares of associated undertakings where amalgamation has been carried through in this manner.

**Trust Company Securities.** There is, of course, a clear parallel between trust company funds and the funds of insurance companies themselves. In each case an important object to be obtained is diversification of risk. The usual capitalization of trust companies is in the form of low interest-bearing prior charges to the extent of about two-thirds of the total capitalization, the remainder constituting the equity stock. Both classes are held by insurance companies who have often been initial subscribers in trust company flotations. The prior charges of the well-established reputable companies are obviously of high grade, a characteristic which is reflected in the yield. Upon the equity stocks is thrown the major effect of good and bad fortune, and in the years following the war, when conditions were favourable, prices rose extremely high, and stocks were closely held.

**Public Utility Companies.** In this category may be placed electric, gas, water, and tramway undertakings, and others of a similar nature. Securities of this type are bound to receive consideration from insurance companies having regard to the universal demand for the services rendered to the community by such undertakings and the large capital thus

employed. There exist large British investments in companies operating abroad, and apart from the possibility of a major depression in industry, the special risk attaching is that of political interference and unrest.

**Shipping, Telegraph, and Industrial Securities.** The prior charges of the larger industrial units have a first claim upon the profits and form an attractive group of securities. It follows from their nature, however, that they require a continuous watch upon the industrial barometer if the holder would avoid loss by such experiences as befell the heavy industries of this country during the period following the close of the War. The same risks are present to an even greater extent where the equity shares are concerned. That a policy of investment in ordinary stocks and shares is followed, to some extent, in this country, is shown from the table of percentages already mentioned. It must be remembered, however, that this figure includes holdings in controlled insurance companies. The difficulty is to select companies which are *prima facie* desirable and concerning which adequate information is available. The alternative to selection of individual companies is to invest with a number of the leading companies within a given industry. Such a course, however, particularly needs that close attention to the prospects of general prosperity within each industry which has been mentioned in connection with the prior charges.

#### STOMATITIS (Inflammation of the Mouth).

There are a variety of causes. The commonest, e.g. thrush and aphthous stomatitis, occur usually in children, and after recovery have no bearing on life assurance. Other forms may be due to septic teeth or tonsils. Recurrent attacks, therefore, demand a careful examination of the teeth and throat. Provided these are normal, no increase of premium is necessary. If they are diseased, the proposal should be postponed in bad cases until effective treatment has been obtained. In bad ulcerative cases the question of syphilis must be inquired into. Some cases of stomatitis are due to metallic poisoning, chiefly by mercury, and the proposer's occupation may be of considerable significance.

#### ST. VITUS'S DANCE.

(See CHOREA.)

#### SUBSIDIARY COMPANIES.

(See WINDING-UP.)

#### SUBSTITUTED POLICIES.

(See INDUSTRIAL ASSURANCE ACT, 1923.)

#### SUCCESSION DUTY.

Succession duty is a tax placed on the gratuitous acquisition of property which passes on the death of any person by means of a transfer (disposition or devolution), from one person (called the predecessor, referred to as P) to another person (called the successor).

Section 17 of the Succession Duty Act, 1853, provides that no policy of assurance on the life of any person shall create the relation of predecessor and successor between the assurers and the assured, or between the assurers and any assignee of the assured; and no bond or contract made by any person *bona fide* for valuable consideration in money or money's worth, for the payment of money or money's worth after the death of any other person, shall create the relation of predecessor and successor between the person making such bond or contract and the person to or with whom the same shall be made; but any disposition or devolution of the moneys payable under such policy, bond, or contract, if otherwise such as in itself to create a succession within the provisions of this Act, shall be deemed to confer a succession.

An assignment of a policy of assurance on the assignor's life will create a succession, unless the assignee pays the premiums (*Lord Advocate v. Fleming*, 1897, A.C. 145).

A pecuniary legacy or residue, or share of residue, although not of the amount or value of £20, is chargeable with duty by the Customs and Inland Revenue Act, 1881, Sect. 42, except in the case of estates less than £100. No succession duty is payable where the principal value of all the successions on the same death does not amount to £100 (Act of 1853, Sect. 18).

**Rates of Duty.** Where succession arises through devolution of law, or if under a disposition, the first succession thereunder arises before the date specified.

Where estate duty is not payable, succession duties for the relationships shown in the table on page 502, are at the rates of  $1\frac{1}{2}$ ,  $4\frac{1}{2}$ ,  $6\frac{1}{2}$ ,  $7\frac{1}{2}$ , and  $11\frac{1}{2}$  per cent.

The 1 per cent, *infra*, is not levied—

1. Where the principal value of the property on the death of the deceased does not exceed £15,000, whatever may be the value of the succession.

2. Where the amount of the succession

BEFORE 30TH APRIL, 1909	ON OR AFTER 30TH APRIL, 1909
(a) Lineal issue or lineal ancestor of P. . . . . nil	1 (see exceptions <i>supra</i> ).
(b) Brother or sister or a descendant of brother or sister of P. . . . . 3	5
(c) Brother or sister of the father or mother, or a descendant of a brother or sister of the father or mother of P. . . . . 5	10
(d) Brother or sister of a grandfather or grandmother, or a descendant of the brother or sister of the grandfather or grandmother of P. . . . . 6	10
(e) Any other person . . . . . 10	10

P = predecessor.

does not exceed £1,000, whatever may be the principal value of such property.

3. Where the person taking the succession is the widow, or a child under 21, of the P, and the amount of the succession does not exceed £2,000.

#### SUICIDE.

(See POLICY FORM AND CONDITIONS.)

#### SUN LIFE ASSURANCE COMPANY OF CANADA.

Head Office: Montreal. Administrative Office for Great Britain: 2, 3, and 4 Cockspur Street, S.W.1. Incorporated by special Act of Parliament of Canada in 1865. First policy issued in 1871.

The Sun Life Assurance Company of Canada commenced operations in England in 1893 in a small office in Poultry. Later, the company removed to Queen Victoria Street, and in 1909 it was found necessary to remove to still larger offices in 4-5 Norfolk Street, W.C.2. Practically the whole of this building has been retained for agency offices, but the administrative department was removed in 1923 to the interesting building on the Victoria Embankment, known at that time as Astor House, and since called Sun of Canada House. The late Lord Astor, who built it, aimed at erecting one of the most beautiful estate offices in the world. Even these premises became too small, and the Company erected a magnificent building in Cockspur Street and Pall Mall East, next to the Canadian Government building, which they occupied in 1928. In 1929, this office was vested with general Head Office powers, and all Head Office

functions, with the exception of the actual investing of funds, as far as the United Kingdom and the Irish Free State was concerned, are now undertaken in London.

The Company's policies provide valuable alternative methods of settlement which allow of the policy moneys being adapted to the circumstances existing at the time a claim arises. The convenience and real value of this arrangement are seldom realized by the public until the need of it has been experienced. One of the settlement options provides an exceedingly convenient and satisfactory means of accumulating surplus funds.

The Company was one of the pioneers of the "Total Disability Benefit" feature. For a small extra charge this benefit may be included in a policy, providing that the life to be assured is standard in every way. This feature provides that if the policy is in full force and the assured, before attaining the age of 60, becomes totally and permanently disabled so that he is unable to perform any work for compensation or profit, the Company will, as long as total disability continues, pay all subsequent premiums as they fall due and, in addition, a monthly income of 1 per cent of the sum assured, if necessary for life or until the policy matures, whichever occurs first. The assurance remains in full force, payable as originally stipulated at death or maturity, and dividends are allotted as provided, just as if the premiums were being paid by the policyholder in cash.

#### SUN LIFE ASSURANCE SOCIETY.

Chief Office: 63 Threadneedle Street, London, E.C.2.

Founded 15th June, 1810.

The Society originated in the desire of the Sun Fire Office to take advantage of the many opportunities which offered of transacting life business also. A separate organization for the transaction of life assurance business was, however, found to be necessary. The first actuary was the famous Joshua Milne.

The Society limits its activities to life, annuity, and sinking fund business within Great Britain. A small amount of accident business remains on the books, but is decreasing, as new business has not been accepted for some years. The Society withdrew from Ireland in 1923.

The Society was the pioneer of life assurance without medical examination, to the success of which its remarkable progress is largely due. The scheme was instituted in 1900, but at first its application was limited to small amounts, and full benefits were not granted until the assurance had been in force for two years. As a result of favourable mortality experience, the restrictions were gradually removed, the period of partial benefit being reduced to six months (1912), and finally abolished in 1921, immediate full assurance being given for any amount up to £15,000.

In the course of its career the Sun Life Assurance Society has absorbed the Sovereign in 1890, the Briton Medical and General in 1892, the Sun Life of India in 1897, and the Patriotic (Life and Accident Business) in 1905.

Apart from the ordinary whole of life and endowment assurances with and without profits, the Sun Life Office specializes in the "Perfect Protection" policies, which carry with them disability benefits in the event of illness, either by accident or bodily, or mental disorder, lasting for not less than two calendar months, provided that such incapacity shall have commenced prior to the life assured attaining the age of 65 years, and shall have been notified within ten weeks from the commencement. In the event of the loss of sight, or of both hands, or both feet, prior to the age of 65, the Society will pay the sum assured with any bonus that may be due.

#### **SUPERANNUATION SCHEMES.**

(See DEFERRED ANNUITIES.)

#### **SUPERVISION OF LIFE OFFICES.**

(See STATE SUPERVISION; BOARD OF TRADE, POWERS OF.)

#### **SURGICAL AND NURSING FEE BENEFIT POLICIES.**

One of the foremost life offices extends a unique benefit to all endowment assurance policy-holders—old and new—of policies for £1,000 and upward. They are paid in cash at once any portion of the sum assured which may be required to cover surgeon's fees and nursing fees, for which they may become liable through having to undergo any operation or operations. The surgeon's fees for any one operation are limited to sixty guineas, and the cost of nursing fees to one month's accommodation at a total of thirty guineas for each £1,000 assured. Payment is not restricted to any class of operation, nor to one operation, the only proviso being that the amount paid shall not exceed the amount which has been received in premiums, less any loan on the policy. The amount paid to the policy-holder for fees is not contingent on the surrender value of the policy at all, nor is the payment in the nature of an actual loan on the policy. There is, therefore, no liability on the policy-holder for the payment of interest even.

For instance, if it became necessary for an individual aged 30 who had effected a 20-year endowment for £1,000 at the office's normal premium of £52 12s. 6d to undergo a surgical operation shortly afterwards, he could obtain payment from the company up to the amount of his premium. If after his third premium payment it became essential to undergo a second operation the company will again meet the bill up to a combined total of ninety guineas. The gross total paid in premiums by the assured would then have amounted to £157 17s. 6d., against which the company may have paid out £130. For this amount the policy-holder has no liability beyond the fact that at maturity the £130 will be deducted from the amount due under his policy.

Where an individual happened to hold two or more policies maturing at different dates, the deduction would be made from that which first matured, the others remaining in force for their full value. If he desired to discontinue and take either a proportionate fully paid policy or the cash surrender value, the amount would be suitably adjusted. Female policy-holders are equally eligible for these benefits.

#### **SURGICAL TUBERCULOSIS.**

(See TUBERCULOSIS.)

**SURPLUS.**

(See ANALYSIS OF SURPLUS; SOURCES OF SURPLUS.)

**SURPLUS, ANALYSIS OF.**

(See ANALYSIS OF SURPLUS.)

**SURPLUS, LIQUIDATION.**

(See SEGREGATION OF LIFE ASSURANCE FUNDS.)

**SURRENDER.**

(See ENDORSEMENTS ON POLICIES.)

**SURRENDER OF BONUS.**

(See BONUS.)

**SURRENDER VALUES.**

Reference to the article on policy values shows that, as a consequence of the increase in the rate of mortality throughout life, it is necessary for a life assurance office to accumulate reserves out of past premiums in order to meet future claims. The development of life assurance in this country has been accompanied by a growing tendency towards liberality in granting a return out of this reserve to those policy-holders who may be unable or unwilling to continue payment of premiums until maturity of their contract. This payment, when made in cash, is called a surrender value. The superior limit of such an allowance is the amount reserved by the office against the particular policy, but certain deductions must be made to maintain equity as regards the continuing policy-holders. In the first place, the initial expenses connected with the placing of the policy on the books are much greater than the ordinary annual cost of administration thereafter—roughly ten times as much, on account of the larger commission paid the first year, the cost of the medical examination, and the fact that so much outlay is directly due to the securing of new business, such as advertising.

In the second place, the policy-holder can exercise a strong selection against the office. Among the lives assured at any one time, many will be in perfect health, but others will be actually near to death. Now it is evidently unlikely that many policies on lives in the latter group will be surrendered, since the surrender value is usually so very much smaller than the sum assured. If in a precarious state of health, they will be able to find a purchaser willing to pay a larger sum than the office could afford to offer. If, then, it is assumed that only

healthy lives withdraw, and all the inferior lives remain, the average quality of the existing stock will be impaired by the surrenders, and a reduction on this account is necessary.

It may be as well to dispose once for all of the contention that used to be raised more frequently than it is now, namely, that as no claim had arisen, the full premiums paid should be returnable as a surrender value. It is easy to see that office expenses have to be met, and that, although the particular policy-holder has survived, yet claims have had to be paid on account of many premature deaths, and a share of the amount has had to be provided out of the premiums under the policy being surrendered. It is true that the office earns interest on the reserves in hand, and in good offices it is no unusual thing for the surrender value to exceed the total premiums paid, but that is generally only after the policy has been a considerable number of years in force.

In their valuation returns to the State, the life assurance offices have to furnish a table of the minimum surrender values they will allow, and a customary statement is that at least one-third or one-fourth of the actual premiums paid will be returned, provided the policy has been at least three full years in force. The surrender allowances granted in fact are, however, generally much more liberal, and commence sometimes immediately the policy has been issued. Frequently, the scale allowed is a high percentage of the reserve value, or that reserve valued at a higher rate of interest than that assumed in the valuation. Sometimes the first premium is deducted to meet the initial expenses, and there are many modifications and adjustments practised in this country.

If there is any reversionary bonus attaching to the policy, the cash value of that will be added to the surrender allowance. A favoured basis of calculation is the O<sup>m</sup> Table of mortality, with 4 or 4½ per cent interest, though in some countries there is a compulsory scale, fixed by law, which is usually unduly large, especially for policies of short duration.

As above stated, there are in force, in effect, two scales of surrender values; one a guaranteed minimum, and the other a higher scale allowed in practice. There is a reason for this. Fortunately, there are but few life offices in Great Britain whose financial position is other than satisfactory, and, equally fortunately, great economic crises occur but seldom. In the case of

either, or both, of these events, the office or offices might be compelled, in self-protection, to fall back upon the minimum guaranteed scale. Of course, such a scale is a definite liability attaching to all policies, the increment beyond this being contingent upon continued prosperity. Before the War, some offices were conceding guaranteed surrender values on the higher scale, not, however, extending to bonuses yet to be declared in the future. The value of the future bonuses is a very important item however in the more successful offices.

In discussing surrender values, it should be understood clearly that such allowances only extend to what are termed full premium policies—nothing being returned usually in the case of short term temporary insurances and other classes of assurance at cheap rates. A full discussion of the question of surrender values is contained in a paper by Mr. G. S. Crisford, in J.I.A., xxi, page 301, brought up to date by Mr. F. W. Fulford (J.I.A., xxxv, page 199).

Such are the broad general principles, but in reducing them to practice difficulties are encountered—

1. Allowance must be made for the days of grace, usually one month, for payment of premiums, and, still more, for

2. The period, usually one year, during which the policy may be revived by the payment of an outstanding premium.

3. The entire system of surrender values must harmonize for different classes of assurance, for different terms, and subject to differing conditions. It is no unusual occurrence for a policy-holder to change the nature of his policy several times, and it is clearly desirable to avoid obvious discrepancies.

4. A peculiarity, inherent in the nature of policy values, is that while in general they decrease during the policy year until another premium has been paid, yet at some of the longer durations, especially of endowment assurances, the value actually increases during the year, without the payment of a further premium. However correct theoretically, it would look awkward, supposing a man to hold two policies, one with rising values, and the other with falling values, to make two sets of quotations during the same policy year exhibiting this feature.

5. In spite of all these points for attention, it is indispensable to have a method of calculation that is simple in application.

The policies of popular offices are held largely by banks and other financial institutions, who apply regularly each half year

for surrender value quotations for all the policies deposited with them, frequently numbering hundreds at a time.

A general method of procedure has been proposed by Dr. A. E. Sprague (T.F.A., iii, page 201), the central idea being to base the surrender values on the amount of the paid-up policy by a uniform type of formula.

(See also PAID-UP POLICIES; PROSPECTUS, PREPARATION OF; POLICY FORM AND CONDITIONS: INDUSTRIAL ASSURANCE ACT, 1923.)

### SURRENDER VALUES AND LAPSED POLICIES.

One of the features of life assurance which often puzzles the layman's mind is why, if he has paid premiums for a number of years and then discontinues, he cannot have his money back. He fails to see two things. First, the company has made itself liable for the full amount of the policy if he had died at any time after paying the first premium. Secondly, he has broken his part of the bargain by failing to continue payment. For whatever period he has paid, however, he has had life assurance protection in return, and this costs money. If he himself has been fortunate enough to survive, others during the same period have not been so fortunate, and their claims have had to be met. Or, if they have not died, their maturing endowment assurances have had to be honoured. For life assurance is essentially co-operative, and it is only by a large number contributing in proportion to a common fund for investment that its great benefits become possible. Every premium which is charged is based, roughly speaking, on the average mortality to be expected among the members and the assumed rate of interest which the office can earn on the invested premiums, which are held as a trust fund to meet the claims of members as they fall due. To the amount which has been thus arrived at as the individual contribution required the office adds a margin to cover working expenses, and any fluctuations in income and outgo which may occur. After the office has met its annual expenses out of the premiums there are two further calls to be met: (1) the office must pay all claims by death or maturity which occur each year, and (2) it must set aside and invest a sufficient proportion of the premiums to meet the claim of every policy-holder when it is likely to occur. Any surplus which is realized after this has been properly done goes to create profit for future bonus distribution.

Actually, every policy-holder who fails to pay his premiums within the days of grace when they fall due renders his policy liable to lapse or forfeiture, because he has had assurance cover during the period for which he has paid, and has then broken his contract. In practice, however, the life office allows him a cash surrender value if he discontinues. This cash value is based on the reserve held against his policy to meet his claim at maturity, and it determines the amount the office can safely return to him, bearing in mind the interests of the other policy-holders who are continuing their contracts. Generally speaking, the minimum cash surrender allowed is one-third of the total payments the policy-holder has made, plus the cash value of any bonuses which have been allotted to the policy. But as the duration of the policy increases so does the percentage of surrender value.

The cash value of bonuses is another point, by the way, which often exercises the mind of the layman. Having been allotted a reversionary bonus at the rate of, say, £2 per cent on his policy at a quinquennial distribution, he fails to see why he should not have the full amount in cash. The reason is, of course, that the cash value of the bonus represents the single premium reserve which would be payable at the date of surrender to purchase an additional amount of assurance equivalent to the reversionary value of the bonus surrendered. Put more briefly, it is the present value of the amount of bonus payable at the time when the policy-holder dies or when his policy is due to mature.

Now, the fact that a policy possesses a cash surrender value is a most valuable feature of the contract, because 90 to 95 per cent of this value may be obtained as an immediate loan on the policy itself from the life office without the necessity to surrender. Where a loan is thus obtained it may be utilized, if desired, to pay premiums due, or in any other way, and so long as the policy-holder continues to pay the interest he is under no obligation to repay the loan, the office merely deducting the amount advanced from the amount due at death or maturity. But he may also utilize the surrender value which the policy carries to lodge it as collateral security with, for instance, his banker to cover an overdraft. Again, in very many cases the life office itself will utilize the surrender value to keep a policy on foot where the policy-

holder has omitted to pay his premiums when due. The practice among the offices with regard to surrender values varies a good deal. In some a policy does not acquire a surrender value until three annual premiums have been paid. In others only two annual premiums are necessary, and in some special cases a surrender value is allowed after the first premium. Special forms of policy issued at low initial rates, such as term assurances, etc., have no surrender value. The amount allowed by way of surrender value varies with the offices; with some offices it is necessary to make application in order to ascertain how much the policy is worth in cash, while others include a schedule in the policy which shows its exact cash value for every year of its duration.

In the Canadian Insurance Act of 1917 special attention is given to surrender values, and the Canadian offices are compelled to show in a schedule for at least twenty years of the policy's duration its exact cash value if surrendered. They are also compelled to apply the surrender value to keeping the policy in force for an extended term of years—whether requested to do so by the policy-holder or not. In fact, the surrender value is applied as a premium to purchase a term assurance for the full face value of the policy, and what term this extends to must be embodied in the policy itself.

Under Sect. 91 of this Act the policy must show "the options as to surrender values, or paid-up insurance or extended insurance, to which the policy-holder is entitled in the event of default in a premium payment after three full annual payments have been paid." The policy must also contain a table showing "the surrender and loan values, and the options available under the policy each year upon default in premium payments, until the end of the twentieth year at least of the policy, beginning with the year in which such values and options first become available."

Also, Sect. 180 of the Act lays down, *inter alia*, that "whenever any holder of a policy, other than a term or natural premium policy, has paid three or more annual premiums thereon, or their equivalent half-yearly or quarterly premiums, and fails to pay any further premium or desires to surrender the policy, the premiums paid shall not be forfeited, but he shall be entitled to receive a paid-up and commuted policy for such sum as the directors ascertain and

determine, or to be paid in cash such sum as the directors fix as the surrender value of the policy, or extended insurance under the policy for a period proportionate to such cash surrender value.

"The sums so ascertained and the duration for which insurance may be extended, based upon the assumption that the policy is not subject to any lien by way of loan or otherwise, shall be inserted in the policy and form a part of the contract between the company and the insured.

"In the event of the policy being subject to any such lien when default is made in payment of a premium as aforesaid, such lien shall be taken into account in fixing the cash surrender value and the paid-up and commuted policy herein referred to.

"Until the policy-holder elects to accept such cash surrender value or such paid-up and commuted policy, such cash surrender value shall be applied by the company to maintain the policy in force at its full face value until the whole of the surrender value under the policy is exhausted."

The following examples show how one well-known Canadian office applies the benefits of extended term assurance to its policy-holders, after three full years' premiums have been paid, or at any time on the written request of the policy-holder while the policy is in force. Extended term insurance is granted in the case of non-payment of any premium when due for the full face value of the policy for the period shown in the non-forfeiture table which is printed in the policy. If the policy should become a claim within three years from the due date of the first premium unpaid, the unpaid premiums with interest will be deducted from the amount of claim, but if the policy does not become a claim until after three years from the date of the first unpaid premium no deduction is made. In the case of an endowment, if the value is more than sufficient to carry the policy to the end of the endowment period, the remainder is used to purchase a pure endowment payable to the assured at the date the policy would have matured had all premiums been paid. Detailed examples of extension periods are as shown in the table on page 508.

#### SUR-TAX AND SINGLE PREMIUM POLICIES.

(See INCOME TAX; SINGLE PREMIUM POLICIES.)

#### SURVIVORSHIP POLICIES.

(See CONTINGENT SURVIVORSHIP POLICIES.)

#### SUSPENDED MORTALITY.

The term "suspended mortality" has been used to represent the idea that if at any age the rate of mortality is sub-normal, then the rate of mortality at a later age will be super-normal; as also that if the total mortality of a group of lives is lower than the average at any time or for any period, a higher mortality is to be expected subsequently, apart from that due to a possible higher average age. In support of this, the "swing of the pendulum" in so many natural phenomena has been adduced. There are, however, several features that have to be considered—

1. It is quite certain that there may be found two groups of lives, one of which, *throughout life*, will exhibit a lower rate of mortality than the other. A mortality table constructed from its data would have the limiting age set further back.

2. The medical selection exercised on recently assured lives results in a sub-normal rate of mortality for some years, owing to the exclusion of defective lives. Even though the mortality of such assured lives should become super-normal later, this would not be an example of suspended mortality necessarily—other causes, such as withdrawals of lives still select, might operate to reduce the average quality of the remaining stock.

3. The difficulty of fixing upon a standard of comparison is ever present; the "average" for a group composed mainly of clergymen will be markedly different from that of a body of metal workers.

All the same, observation shows that a period of favourable mortality is frequently followed by one that is unfavourable, in relation to an average derived from the experience of that body of lives; it is as though a number of impaired lives just manage to survive a favourable period (the favouring qualities are various and may be left undiscussed), only to fail generally on a return of adverse conditions.

Thus it would appear that there is such a feature as suspended mortality, but that its extent, or even its existence in a given case, calls for careful analysis and investigation. [See a reference in J.I.A., xxxvii, 185 (G. F. Hardy).]

#### SWEDEN.

Regulations Affecting Insurance Companies. Foreign insurance companies in

## WHOLE LIFE FOR £1,000, WITH PROFITS

Age nearest birthday, 30.

Annual premium, £24 5s. 0d.

Years' premiums paid.	Extended insurance for the full face value of policy.	Paid-up policy.	Cash surrender or loan value.
3	2 years 9 months.	£78	£21
4	4 " 4 "	107	35
5	5 " 10 "	137	49
6	7 " 3 "	171	63
7	8 " 7 "	198	78
8	9 " 10 "	225	93
9	10 " 11 "	251	108
10	11 " 11 "	277	123
11	12 " 9 "	303	139
12	13 " 6 "	327	155
13	14 " 2 "	352	171
14	14 " 9 "	376	188
15	15 " 2 "	399	205
16	15 " 6 "	422	221
17	15 " 10 "	444	237
18	16 " 1 "	466	253
19	16 " 3 "	487	269
20	16 " 5 "	508	286

## TWENTY-YEAR ENDOWMENT FOR £1,000, WITH PROFITS

Age nearest birthday, 30.

Annual premium £49 8s. 0d.

Years' premiums paid.	Extended insurance for the full face value of policy.	And there will be paid in cash.	Paid-up policy.	Cash surrender or loan value.
3	12 years 9 months.	—	£150	£74
4	16 " 0 "	£20	200	113
5	15 " 0 "	100	250	156
6	14 " 0 "	176	300	200
7	13 " 0 "	250	350	246
8	12 " 0 "	321	400	293
9	11 " 0 "	389	450	342
10	10 " 0 "	454	500	392
11	9 " 0 "	518	550	444
12	8 " 0 "	579	600	498
13	7 " 0 "	637	650	554
14	6 " 0 "	693	700	612
15	5 " 0 "	747	750	677
16	4 " 0 "	798	800	736
17	3 " 0 "	848	850	798
18	2 " 0 "	896	900	863
19	1 " 0 "	941	950	930
20	Policy matures.			

Sweden must be authorized by Försäkringsinspektionen, Stockholm. Proof of the establishment of the company, together with two copies of its statutes, must be furnished, also detailed information on the technical basis of its business. The representative must reside in Sweden, though he need not necessarily be a native. Cash, or other approved securities, must be deposited at the Riksbank to the amount of Kr. 100,000 for life insurance ; the same amount

for fire and for marine insurance ; and Kr. 50,000 for other classes. With the exception of re-insurance companies, which are exempt, foreign companies are supervised by Försäkringsinspektionen, and contribute one-fifth of 1 per cent of the gross premium income to the upkeep of this institution. Yearly returns and balance sheets must be submitted to the institution, and published in the official journal. A statement of the business of the company must be furnished

within three months of the general meeting. Foreign companies are also taxed on 16 per cent of the net premium income, less re-insurance premiums.

#### SWITZERLAND.

**Regulations Affecting Insurance Companies.** Foreign insurance companies transacting business in Switzerland are authorized by the Bundesrat. Applications must be accompanied by documents showing the statutes, tariffs, balance sheets, number and nominal amount of individual shares, amount paid up and guarantee conditions. Mutual companies must state under what conditions the foundation fund is constituted. Full information must also be given concerning mortality tables and rate of interest, as well as the basis on which the company conducts its business generally. There is a government tax as well as local taxes in the Cantons in which the company may have established branch offices. Municipalities claim a contribution from fire insurance companies towards the cost of upkeep of

the fire brigade. Stamp duties on receipts for premiums may be debited to policyholders. Since 1920 there has been a war tax. Insurance business is under State supervision.

#### SYNOVITIS (Inflammation of the Lining of a Joint).

This is such a common and harmless condition (e.g. water on the knee) that in most cases no notice need be taken of it.

It must, however, be mentioned that, if persistent and affecting several joints, it may be due to chronic rheumatism, syphilis, or tubercle.

Full medical details as to the ascribed cause must be obtained, and, if either of these three causes be alleged, the case must be dealt with accordingly.

#### SYPHILIS.

(See VENEREAL DISEASE.)

#### SYSTEMS, OFFICE.

(See LIFE OFFICE ORGANIZATION.)

**TABES DORSALIS.**

(See LOCOMOTOR ATAXY.)

**TACHYCARDIA (Rapid Heart Beat).**

This is not a disease, but a symptom. As, however, it may be the only symptom, the term tachycardia is frequently loosely used as a diagnosis in itself. It is frequently associated with neurasthenia, or weakness of the heart muscle (e.g. due to alcohol), and is a typical symptom of exophthalmic goitre (Graves' disease). The normal pulse rate in an average man is 72, but may vary normally from 60 to 80 per minute. In women the pulse rate is usually a little more rapid.

Too much stress need not be laid on a slight increase in rate, e.g. up to 90 or a little over, as the patient, when examined, is often nervous, thus accounting for the increase. If, however, any other doubtful factors occur in the medical history, e.g. any suggestion of alcoholism or excessive weight or irregularity of the pulse, the case should be referred to a medical referee.

**TAXATION OF ASSURANCE COMPANIES.**

By Sect. 33 (1) of the Income Tax Act, 1918, where a life assurance company proves that, for any year of assessment, it has been charged to tax by deduction or otherwise, and not in respect of its profits in accordance with the rules applicable to Case I of Schedule D, the company shall be entitled to repayment of so much of the tax paid by it as is equal to the amount of the tax on any sums disbursed as expenses of management, including commissions, for that year. Provided that (a) relief shall not be given so as to make the tax paid less than would have been paid if the profits had been charged in accordance with those rules; (b) the amount of any fines, fees, or profits arising from reversions shall be deducted from the amount treated as expenses of management for the year; and (c) in calculating profits arising from reversions, the company may set off against those profits any loss arising from reversions for any previous year during which this relief was in operation.

(2) Notice of any claim, with particulars thereof, is to be given in writing to the

surveyor within 12 months after the year of assessment, and where the claim is objected to the special commissioners are to hear and determine the same.

(3) A company is not entitled to relief in respect of expenses as to which relief may be claimed under Rules 7 and 8 of No. V of Schedule A.

Sect. 16 (1) of the Finance Act, 1923, provides that where the profits of a life assurance company are computed in accordance with the rules applicable to Case I of Schedule D, such part of those profits as belongs, is allocated to, reserved for, or expended on behalf of, policy-holders or annuitants shall be excluded in making the computation, but if any profits excluded as being reserved cease to be so reserved, and are not so allocated to or expended, those profits shall be treated as profits for the year in which they ceased to be so reserved.

(2) In addition to the amount directed by Sect. 33 (1) of the Act of 1918, proviso (b) to be deducted from the amount disbursed as expenses of management, there shall be deducted the amount of any profits arising from the granting of annuities on human life. Profits arising from the granting of such annuities shall be computed in accordance with the rules applicable to Case I of Schedule D. Provided that in making the computation (a) the provisions of Sub-sect. 1 of this section shall apply with the necessary modifications and the omission of the reference to policy-holders; (b) no deduction shall be allowed for expenses of management in respect of which repayment may be claimed under the said Sect. 33; (c) there may be set off against the profits any loss, to be computed on the same basis as the profits, which has arisen in connection with the granting of such annuities in any previous year during which this section was in operation.

(3) Where a company carries on ordinary life assurance business and industrial life assurance business, the business of each class shall be treated as though it were a separate business, and Sect. 33 of the Act of 1918 shall apply separately to each such class of business.

(4) A mutual assurance company carrying on life assurance business is entitled to relief under Sect. 33 of the Act of 1918 in the

same manner as if such business were the business of a proprietary assurance company.

In *Gresham Life Society v. Styles* (1892, A.C. 309), the Society in making up the balance sheet for the purposes of Schedule D, deducted from its gross income the sum paid in discharge of its annuity contracts. It was held that the Society was not liable to be assessed in respect of the amount paid by it for annuities.

The Crown may charge dividends received as such or may charge them as part of the profits of the company. In *Clerical, etc., Life Society v. Carler* (1889, 22 Q.B.D. 444), the interest arising from investments, income tax on which had been deducted at its source, exceeded the amount of the profits of the Society for the year of assessment. The Society had also during the year received interest on investments from which there had been no deduction for income tax. It was held that the Society was liable to assessment to income tax in respect of such last mentioned interest.

An assurance company, which had its head office in England, carried on business in the United States, etc., and had investments in those countries. The dividends on these investments were not remitted to England, but were used in the countries where they accrued to meet policy claims. It was held that the company was properly charged with income tax on such dividends as being part of the profits of their business under Case I in Schedule D (*Liverpool, etc., Insurance Co. v. Bennett*, 1913, A.C. 610).

A British company issued bonds payable either in London in sterling, or at certain places abroad in foreign currency at agreed rates of exchange. Owing to exchange fluctuations, the company suffered a loss. It was held that this loss on exchange was not a sum "disbursed as expenses of management" within Sect. 33 (*supra*) so as to entitle the company to repayment of so much of the income tax paid by it by deduction as was equal to the amount of the tax on such sum (*Bennet v. Underground Railways*, 1923, 2 K.B. 535).

If the company derives profit by realizing investments at a larger price than was paid for them, the profits are chargeable. The profits or gains can only be ascertained by actuarial calculation, and the premiums do not represent the annual profits and gains (*Scottish Union Insurance Co. v. Inland Revenue*, 1889, 16 R. 461).

A company issued participating policies on the mutual plan. The earnings and receipts

over and above the dividends, losses, and expenses were accumulated from year to year, and every five years a balance was struck and the net surplus in the hands of the company, after certain deductions, was divided among the holders of the participating policies, each policy-holder being credited with an equitable share of such surplus. It was held that the surplus returned or credited to the policy-holders was "annual profits or gains," and was assessable to income tax (*Equitable Life, etc., Society v. Bishop*, 1900, 1 Q.B. 177).

A company carried on the business of a mutual life assurance company. There were no shares or shareholders, and the members of the company were the policy-holders. The premiums paid by them were calculated at a rate which left a surplus after providing for the yearly expenditure, and this surplus was either returned to the assured as bonuses in addition to the sums insured, or was applied in reduction of premiums, or was carried over to the credit of the members. It was held that this surplus did not constitute profits or gains liable to be assessed to income tax (*New York Life Co. v. Styles*, 1889, 14 App. Cas. 381). But in *Inland Revenue v. Cornish Mutual Assurance Co.* (1924, 41 T.L.R. 70) it was held that such a company was carrying on a trade or business, and was entitled to relief under the Income Tax Act, 1918, Sect. 33 (*supra*), as if it were a proprietary insurance company.

Neither the surveyor of taxes nor his principals have any power or right in any one year to make any contract with the subject so as to bind the Crown as to the assessment to income tax which should be made upon him, or as to the basis on which such assessment should be made for any subsequent year or years. The income tax is a yearly tax, and the duty of the taxing authorities as each year comes round is to ascertain the rate of the tax, the circumstances existing, and then to tax the subject in the way most favourable to the Crown. (*Gresham Life Society v. Attorney-General*, 1916, 1 Ch. 228).

#### TEMPORARY LIFE ANNUITIES.

A temporary life annuity is an annuity on a life restricted in its duration to a term of years, as, for example, £1 a year payable annually to a life aged 90, ceasing at death, or at the end of, say, four years. This value can be found from the table in the article LIFE ANNUITIES by summarizing the first four values in the last column,

which gives 3235.5, and dividing this by 1,568, the result is 2.063.

The symbol for this annuity is  $a_{90:\overline{4}|}$  or  $|4a_{90}$ .

A deferred life annuity is one which is not entered upon until a given time has elapsed and then continues throughout life; for example, an annuity to a life aged 90, not to be entered upon until four years have expired, and then to continue for the remainder of life. This value can be found from the table mentioned above by summarizing the last column, excluding the first four values, which gives 592.0, and, dividing this by 1,568, the result is .378.

Such an annuity is symbolized  $|_4a_{90}$ .

One also comes across a deferred temporary annuity, which is called an *intercepted annuity*. This is simply a deferred temporary annuity, and one which is not entered upon until a given period has expired, say  $m$  years, and then continues as a temporary annuity for  $n$  years on the life of the annuitant, but not beyond the stated period, and is symbolized by  ${}_m|_n a_x$ .

It will be obvious that a temporary life annuity for a certain number of years, coupled with a life annuity deferred for the same period, must equal an ordinary life annuity. Thus in the last two examples— $|_n a_x + {}_m|_n a_x = a_x$  or, in the last illustration,  $2.063 + .378 = 2.441$ .

It is in exceedingly rare circumstances that a temporary life annuity or intercepted life annuity is asked for by the public, and therefore it is not quoted in the ordinary way by life offices.

The particular use of the former type of annuity is to effect a calculation of other benefits which involve an annual payment of a life annuity for a certain number of years. Take, for example, a limited payment premium for a life policy; if it is required to find the number of premiums which a life should pay, limited to  $n$  premiums in all, the single premium is divided by the temporary life annuity-due for  $n$  years.

With regard to deferred life annuities, these are of considerable practical use, and freely quoted for by life offices, and are dealt with fully under that heading.

### TERM ASSURANCES.

(See SHORT TERM POLICIES; CONVERTIBLE TERM POLICIES; GROUP LIFE ASSURANCE.)

### TERMINABLE ANNUITIES.

(See ANNUITIES.)

### THEORY OF ANNUITIES.

The elements of an annuity are—interest in the case of an annuity-certain, and interest and mortality in the case of a life annuity; and sometimes the terms upon which the annuity is granted involve other conditions, such as marriage or other contingency.

The simplest form of annuity results from the investment of a sum of 1, which, if invested at  $i$  per annum, produces an annuity of  $i$  per annum, so long as it remains invested. Thus 1 is the present value of a perpetuity of  $i$  per annum, and by proportion  $\frac{1}{i}$  is the present value of a perpetuity of 1 per annum at interest rate  $i$  per unit or 100  $i$  per cent.

Any other form of annuity is necessarily of shorter duration, and to find its present value one simply has to make a deduction of the discounted value of the perpetuity at the moment the annuity, the value of which is required, ceases, allowing for all the factors representing the conditions upon which it ceases. Thus to find the present value of an annuity of 1 per annum for  $n$  years, from the first principles, i.e. apart from algebraical summation, one can reason as follows—

A sum of 1 invested at  $i$  per unit per annum will produce an annuity of  $i$  per annum so long as invested. At the end of  $n$  years, the sum of 1 still remains, and the present value thereof due at the end of  $n$  years is now  $\frac{1}{(1+i)^n}$  or  $v^n$ ;  $v$  is a symbol denoting value. Therefore the value of an annuity of  $i$  per annum for  $n$  years is the difference between an annuity of  $i$  per annum for ever and the value at the end of  $n$  years of the unit producing  $i$  per annum, or  $1 - v^n$ . By proportion the value of an annuity of 1 per annum for  $n$  years, instead of  $i$  per annum, is  $\frac{1 - v^n}{i}$ , i.e. the

difference between the value of an immediate perpetuity and a perpetuity deferred  $n$  years.

The same argument applies to the accumulation of an annuity-certain.

The amount of 1 invested at  $i$  per unit at the end of  $n$  years is obviously  $(1+i)^n$ , and if one considers that this amount is simply the original capital of 1 and an annuity of  $i$  per annum allowed to accumulate, the relation follows that: The amount of an annuity of  $i$  per annum for  $n$  years, together with the original sum of 1, is

$(1 + i)^n$ ; when, deducting the capital of 1, there remains  $(1 + i)^n - 1$  as the amount of an annuity of  $i$  per annum for  $n$  years, and by proportion the amount of an annuity of  $i$  per annum for  $n$  years is  $\frac{(1 + i)^n - 1}{i}$ .

These verbal explanations are more convincing than the more usual methods of summing a geometrical series consisting of the values or amounts of each individual annuity payment, but students requiring an exhaustive treatise on the subject are referred to the *Institute of Actuaries' Text Book, Part I*.

A similar argument applies to life annuities. A unit paid down will produce  $i$  at the end of each year which a life aged  $x$  survives, together with a sum of  $1 + i$  at the end of the year of his death; therefore the value of a life annuity of  $i$  per annum on a life aged  $x = 1 - (1 + i) A_x$  where  $A_x$  represents the present value of 1 due at the end of the year in which  $x$  dies; and by proportion the value of a life annuity of 1 per annum on a life aged  $x$  symbolized  $a_x = \frac{1 - (1 + i) A_x}{i}$ .

This relation assumes an annuity by annual instalments, but in practice adjustments are necessary to provide for apportionable annuities (continuing to the day of death), and also if the annuity is payable more frequently than once per annum.

The relation between an annuity and a simple investment having been established, a brief note is given showing how the factor of survival, upon which the receipt of a life annuity depends, is obtained.

The instrument adopted is a mortality table, constructed from statistics of life and death obtained over a prolonged period and sufficiently comprehensive to be taken as a guide to future experience. Provided care is taken to select the same type of lives as represents the body of lives to which the table is to be applied, remarkably close estimates can be made of the probability of survival.

The mortality table shows the relative number of persons who survive or who have died at the end of each year of life out of a given number born, and is constructed from a comparison of the deaths to population or number living. It is then a matter of simple arithmetic to calculate the value of a sum of 1 at any given rate of interest payable to the survivors at each age from their present age ( $x$ ) to the end of the table

(the limit of life), and, taking the total divided by the number of persons of age  $x$ , the value of an annuity of 1 per annum for the life of a person aged ( $x$ ) is obtained.

On page 341 a separate paragraph is devoted to the proverbial vitality of annuitants as a class.

(See also ANNUITIES DEPENDENT ON MARRIAGE; ANNUITIES DEPENDENT ON SICKNESS; ANNUITIES GRANTED BY LIFE ASSURANCE COMPANIES; ANNUITY-CERTAIN; ANNUITY PROPOSAL AND POLICY FORMS; COMPOUND SURVIVORSHIP ANNUITIES; DEFERRED ANNUITIES; GOVERNMENT LIFE ANNUITIES; IMMEDIATE ANNUITIES; JOINT LIFE ANNUITIES; LIFE ANNUITIES AND ASSURANCES; LIFE INTEREST IN POSSESSION; MORTALITY OF ANNUITANTS; PERPETUITY OR PERPETUAL ANNUITY; REVERSIONARY ANNUITIES; REVERSIONARY LIFE INTEREST; TEMPORARY LIFE ANNUITIES: VITALITY, RECENT IMPROVEMENTS IN.)

## THEORY OF STATISTICS.

(See STATISTICS.)

## THROMBOSIS.

(See EMBOLISM.)

## THYROID GLAND, ENLARGEMENT OF.

(See GOITRE.)

## TIC (Habit Spasm).

Spasmodic and involuntary movements of the muscles, chiefly of the neck and face.

It is not uncommon in children. It may last throughout life. It is sometimes due to some irritation, e.g. from septic teeth, adenoids, etc. A past history of this condition is of no importance in a life proposal, but if the proposer is suffering from it at the time the proposal is made, a medical examination is necessary to determine whether any causal defect is present which may affect the general health. In the absence of such defect, a policy may be granted at ordinary rates.

## TITLE, INVESTIGATION OF.

Before making any payment on a life policy—whether in respect of a claim, maturity, surrender, or loan—it is necessary to investigate the title of the claimant. In other words, it must be ascertained whether the claimant has the right to give a valid discharge for the payment, or, in the case of a loan, whether he is the absolute owner of the policy. The general procedure is as follows—

1. Ascertain whether, and, if so, what,

notices have been received affecting the title to the policy.

2. List all the notices received, showing the names of the parties, dates of assignment, and dates of receipt of each notice.

3. Obtain all deeds of which notice has been received and arrange them in order, having due regard to the fact that the date of receipt of notice generally governs priority of title.

4. Assuming that all the required deeds have been produced, peruse them carefully, seeing that each of them is in order in the following respects—

(i) Each deed must accord with its appropriate notice.

(ii) The policy must be properly identified and effectually conveyed by the assignor to the assignee.

(iii) The consideration for the assignment should be stated, as without this the stamp duty cannot be verified.

(iv) The assignor must be legally entitled to the policy before he can legally assign it. If the absolute ownership is not stated in the deed it will be implied by the use of the words "as beneficial owner," which includes (a) right to convey, (b) quiet enjoyment, (c) freedom from encumbrances, and (d) further assurance.

(v) The Habendum Clause (TO HOLD the same unto, etc.), and its terms, must be particularly noted.

(vi) In the case of a surrender, Power of Sale must be expressly stated, unless it is statutorily implied by the Conveyancing Act, 1881, or the Law of Property Act, 1925, as in the case of legal mortgages; and by the Policies of Assurance Act, 1867, as in the case of absolute assignments, provided notice has been served on the life office.

(vii) The deed must be properly dated, executed (i.e. signed, sealed, and delivered in the presence of a witness), and sufficiently stamped in accordance with the consideration stated.

If every link in the chain of title is complete and the various deeds are in order, payment can safely be made on production of the policy and the duly completed discharge, in the case of a claim or surrender; and in the case of a loan, a properly executed mortgage deed. It is very important, however, before parting with the cheque, to see that the policy has no assignments endorsed upon it of which no notice has been received. The company cannot in such circumstances ignore the assignment merely because formal

notice has not been served. It should also be noted that in the case of a claim, payment in lawful money of the realm may be demanded. A cheque may be refused.

**Production of Documents.** Questions sometimes arise as to whether a company can legally demand the delivery of the policy and form of discharge before paying the claim, where a claimant refuses to attend at Head Office for settlement.

In 1915 a policy-holder issued a writ under Order 14 of the Rules of Court claiming settlement, having refused the prior delivery of his policy and the completed discharge. The matter was argued by counsel before the Master on a Summons for Judgment, and an Order for Judgment against the company was made. The reason for his decision was that, in the absence of any provision in the policy to the effect that claims shall be payable at head office only, the ordinary rule that the debtor is required to seek out the creditor would apply. In the particular circumstances the company decided not to appeal against the Master's decision. The question of the actual rights of parties is, therefore, by no means definitely or finally settled, especially in view of a contrary opinion held by two of the Scottish Law Lords in a case before the Court of Session. They expressed the view that on the maturity of the policy it is payable at the head office of the company.

Somewhat similar considerations apply in regard to the production of deeds in evidence of title. It is recognized that a purchaser is required to attend on the vendor to inspect the deeds, as these are the property of the vendor until the purchase is completed. It is conceivable, therefore, that an assurance company might be compelled to investigate the claimant's evidence of title at the residence of the latter, unless the policy provides otherwise. And, moreover, not only has the company no right subsequently to retain the documents in the case of a claim, but no right exists to demand from the claimant a formal undertaking for their production or safe custody.

#### MISSING DOCUMENTS

**Policy.** If this cannot be produced, and there is no reason to suppose that it has been dealt with in any way, payment can be made on completion of an indemnity, reciting the circumstances and agreeing to indemnify the office against all possible claims, etc. It should be noted that non-production of the policy is not in itself sufficient ground for refusing payment.

**Deeds.** In the case of a missing release, or mortgage and release, it is generally sufficient to obtain a letter from the mortgagee acknowledging repayment of the debt and stating that he has no further claim on the policy. In the case of a missing assignment, however, it is necessary to verify that no trust was involved. When it is possible to obtain a draft copy from the solicitor who prepared the original, the copy can be attached to a statutory declaration to the effect that it is a true copy, and that the original was duly executed and properly stamped. In some cases, however, an indemnity should be furnished. Where it is stated that the assignment was never carried through, payment can generally be made on production of (a) a statutory declaration setting forth the facts, (b) an indemnity, and (c) the policy. But if a notice is withdrawn or cancelled on account of the deed not having been stamped within the time allowed, the Inland Revenue Authorities should be requested to agree formally not to raise any claim for duty or penalty in respect of the cancelled deed.

(*Stamp Duty*: Statutory declaration 2s. 6d.; indemnity 6d.; statutory acknowledgment 6d. In the two latter cases a 6d. adhesive stamp can be used, if cancelled at the time.)

#### NOTICE

The following points should be kept in mind with regard to notices of assignment—

1. The object of serving notice on the office is to perfect the assignee's title. If no notice has been received, payment can safely be made to the assured or his legal personal representatives. Notice therefore prevents payment to anyone but the assignee, the assurance company becoming quasi-trustees.

2. The date on which the office receives notice regulates the priority of title of claimants except in the following cases—

(i) A second mortgagee, who has knowledge of the first mortgage but serves notice first.

(ii) A volunteer, who serves notice before a previous assignee for value holding an earlier deed, and

(iii) The official receiver, or a trustee in bankruptcy, who is only a statutory assignee, and the bankrupt's property therefore vests in him subject to all equities.

3. A notice is effective whether written or oral, actual or constructive, but formal proof of oral notice would have to be forthcoming.

4. Notice in the usual legal form is not preferred over a prior informal notice.

5. Acknowledgment of receipt of notice is conclusive legal proof that the notice has been received by the office. The latter is entitled to charge a statutory fee of 5s. for acknowledging notice if requested in writing to do so.

6. It is probable that only one statutory acknowledgment fee of 5s. can be charged for a single notice, although it refers to several policies and notifies more than one transaction.

#### MORTGAGES

**Payment of Claim.** Before payment of the policy moneys can be made to a mortgagee, it is necessary to see that he has power to give a valid discharge. In the case of *legal mortgages* (i.e. under seal), this power is given by the Conveyancing and Law of Property Act, 1881, and the Law of Property Act, 1925, and it need not therefore be expressly contained in the deed. It should be noted, however, that although it is safe to accept the discharge of a mortgagee for the full amount of the policy moneys, it is not obligatory to pay more than the actual amount of his claim. But if the office does not pay the amount in full, it becomes a trustee for the mortgagor or his legal personal representatives in respect of the balance. In the case of surrender, doubt has been expressed as to whether the power of sale, which is statutorily implied in legal mortgages, includes the power to surrender. It is usual, therefore, for such deeds to state expressly that power of sale shall include power of surrender. In *equitable mortgages* (i.e. under hand only), in the absence of express powers, it is doubtful whether the mortgagee can give a valid discharge for the policy moneys without the consent of the mortgagor or his legal personal representatives. In the event of surrender the mortgagor should certainly join in the discharge.

An equitable mortgage arises—

1. When the title is only an equitable one, e.g. that of a cestui que trust.

2. In the case of a second mortgage, the first being a legal mortgage.

3. In the case of a memorandum of deposit, or a simple deposit.

4. Where the form of charge is under hand only and stamped as such (1s. per cent).

**Payment of Surrender Value.** A Power of Sale is implied by the Conveyancing Act, 1881, and the Law of Property Act, 1925, in

all legal mortgages, and may be exercised in the following conditions, namely—

(a) If the mortgage debt is called in and is not paid within three months, or

(b) If interest is two months in arrear, or

(c) If any breach of covenant, whether expressed or implied, has occurred.

As there is some doubt as to whether a power of sale includes power to surrender, the latter is often expressly inserted. It is, however, unnecessary for the office to inquire whether the right to exercise the power of sale or surrender has arisen. In equitable mortgages the power of sale must be expressly stated if the mortgagee wishes to surrender.

(*Stamp Duty* : Legal mortgages 2s. 6d. per cent; equitable mortgages (under seal) 2s. 6d. per cent; equitable mortgages (under hand) 1s. per cent.)

**Foreclosure** occurs when a mortgagee applies to the Court to fix a time limit for repayment of the debt. On the termination of the time limit the mortgagor's right to redeem will be foreclosed and the mortgagee's title to the property will become absolute. In such cases the mortgagee's title consists of the Order of Foreclosure. It is not safe, however, to pay in the case of an Order of Foreclosure *nisi*, as in these circumstances there is a possibility of an extension of time being given by the Court for payment of the debt.

**Second Mortgages** arise when a mortgagor, after giving a first mortgage (legal or equitable), borrows a further sum on the same security from a third party, who thus becomes a second mortgagee. It is not, therefore, safe to accept the discharge of the latter.

(*Stamp Duty* : usually 1s. per cent.)

**Sub-mortgages** arise when a legal mortgagee wishes to borrow on his security and executes a sub-mortgage for the purpose. He thus passes on the legal estate, retaining an equitable interest only, or he may retain the legal estate and pass on an equitable interest only.

(*Stamp Duty* : 2s. 6d. per cent or 1s. per cent, as the case may be.)

**Transfers of Mortgage** arise when the mortgagee conveys the legal estate in the property and assigns the mortgage debt to the transferee. If the original mortgagor is not a party to the deed he must be notified of the transfer. Notice should also be served on the office. A transferee of a legal mortgage can give a good discharge if all the rights of the original mortgagee have been transferred to him.

(*Stamp Duty* : 6d. per cent on the amount transferred.)

**Collateral Mortgages** arise where further security is required in connection with an advance made under an existing instrument. A policy is often the subject of a collateral mortgage, more particularly to secure repayment of the debt under the principal mortgage in the event of the mortgagee's death. Subject to the usual powers of discharge and sale being definitely expressed or incorporated by reference to the principal deed, the mortgagee can give a good discharge.

(See COLLATERAL SECURITIES.)

(*Stamp Duty* : 6d. per cent based on the consideration of the principal mortgage—maximum duty 10s.)

(See also LEGAL CONVEYANCES.)

#### SETTLEMENTS

**Marriage Settlements.** The general terms of an ante-nuptial settlement, after reciting the three parties, namely, the settlor, intended wife, and trustees, usually provide that the policy shall be conveyed to, and held in trust by, the trustees for the benefit of the settlor until his marriage, after which it shall be held by the trustees for the benefit of the widow and, generally, any children of the marriage. Provisions are also made in the event of the wife predeceasing the settlor, and the respective shares of the children are defined. A covenant to pay premiums is also usually included and the powers of appointment of new trustees are often defined, and, further, their powers of investment are generally set out.

The special points to be noted are that the trustees must act *strictly* in accordance with the terms of the settlement. Any appointment of new trustees is governed by the deed, but, if not provided for, the conditions of the Trustee Acts must be complied with. Trustees are joint tenants, and therefore all of them must join in the discharge. If any of them are dead, the survivors or survivor or the executor of the last survivor can give a good discharge.

(See also POST-NUPtIAL SETTLEMENTS; VOLUNTARY SETTLEMENTS; TRUST POLICIES.)

**Voluntary Assignments.** An assignment where the consideration is for "natural love and affection" is a voluntary assignment, but it is void—

1. In the event of the bankruptcy of the assignor within two years, or

2. During a further period of eight years, unless it can be proved that the assignor was

solvent at the date of the assignment without the settled property.

But it was decided in 1913 that "void" means "voidable," so that a volunteer can give a good discharge for any payment made *bona fide* by a third party, provided no receiving order has been made against the assignor, and the third party has had no notice of any bankruptcy petition. The office is therefore safe in paying a claim or surrender value to a volunteer provided it has no notice of bankruptcy.

(See also BANKRUPTCY.)

(*Stamp Duty*: 5s. per cent based on surrender value; but if there is a covenant to pay premiums, 5s. per cent on sum assured and bonuses; furniture—fixed duty, 10s. Appointment of new trustees, 10s.)

(See also VOLUNTARY SETTLEMENTS.)

#### M.W.P.A. POLICIES

Policies effected under the Married Women's Property Acts, 1870 and 1882, and the Married Women's Policies of Assurance (Scotland) Act, 1880, have been the subject of considerable litigation in the past, especially those effected under the 1870 Act. This, however, has been generally due to loose wording of the policy. Fortunately, so far as life offices are concerned, the course to be adopted as regards payment is generally clear, though questions of distribution which do not concern the office may subsequently arise. The principal points to be borne in mind are as follows—

1. The payment clause in the policy and its precise terms must be strictly interpreted and construed.

2. In the case of policies under the 1870 Act, only a trustee can give a valid discharge. If no trustee has been appointed, either when the policy was effected or by a subsequent deed, it is necessary to call upon the claimant to apply to the Court to appoint a trustee. But where the amount involved is small, payment may sometimes be made on the joint discharge of all the beneficiaries, provided they can be ascertained and are of full age, and if it is certain that there cannot be any others.

3. In the case of policies under the 1882 Act and the Scottish Act of 1880, if no trustee has been appointed, the legal personal representatives of the deceased can give a good discharge, or, in the case of an endowment assurance maturing, the assured (as trustee on behalf of the beneficiaries).

4. As policies under these Acts form the

subject of a trust, they are not subject to the claims of creditors in the event of the bankruptcy of the assured, except as regards premiums paid with intent to defraud creditors.

5. After payment of the policy moneys or surrender value to the person entitled to give a valid discharge, the office is not concerned with the proper application or distribution of the money.

*N.B.* Estate duty is probably not payable in those cases where the policy moneys are expressed to be for the benefit of the beneficiaries absolutely, i.e. whether they survive the assured or not.

(*Stamp Duty*: Appointment of trustee 10s.; if appointment made when policy effected, no stamp duty.)

(See also TRUST POLICIES.)

#### BANKRUPTCY

Except in simple and straightforward cases, titles involving bankruptcies should generally be referred to the company's solicitors. The following points, however, may be noted.

When an act of bankruptcy is committed a Receiving Order may be made on a petition by one or more creditors. If, after an investigation into the debtor's affairs, he is found to be insolvent, he will be adjudged bankrupt under an Order of Adjudication. All his property will then become vested in the Official Receiver until such time as a trustee in bankruptcy may be appointed. In the meantime the Official Receiver can give a good discharge on production of office copy (bearing the seal of the Court) of the Order of Adjudication; and a letter stating that no trustee has been appointed is sometimes required. When a trustee in bankruptcy is appointed, the property passes automatically from the Official Receiver to him. His title will consist of the office copy of the Order of Adjudication, together with his Certificate of Appointment. The Official Receiver, or trustee, is regarded as a statutory assignee, and is not, therefore, an encumbrancer for value. The debtor's property consequently vests in him *subject to all equities*, which would include equitable mortgages, and even a mere deposit of a policy for value. It follows, therefore, that if an Official Receiver or trustee gives notice of the bankruptcy before an assignee gives notice of a charge prior to the bankruptcy, the priority of the assignee's charge will hold good in spite of the Policies of Assurance Act, 1867. In small insolvencies (under £300) an Order of Summary

Administration may be made, when the Official Receiver acts as trustee and winds up the estate. His title consists of office copies of the Order of Adjudication and Order of Summary Administration, and a letter stating that no trustee has been appointed.

In the case of a person dying insolvent, a petition for administration in bankruptcy may be made by a creditor. The title of the trustee will be—

1. Order of Administration.
2. Board of Trade Certificate of Appointment of Trustee.

This procedure overrides any probate or letters of administration previously granted.

The production of office copy of the Order of Discharge is conclusive evidence of bankruptcy and discharge.

*An assignment for the benefit of creditors* is an act of bankruptcy, but unless a majority (in value) of the creditors concur, any non-concurring creditor can, within three months, get the debtor adjudged bankrupt.

(*Stamp Duty* : Deed stamp 10s.; registration stamp 2s. 6d. ; and *ad valorem* duty 1s. per cent. Assignments to the official receiver or a trustee in bankruptcy do not require stamping, but any assignments made by him have to be stamped in accordance with the appropriate duty.)

In the case of a mortgagor becoming bankrupt, the mortgagee has four courses open to him—

1. He can rely on his security and take no other action.
2. He can realize his security and prove for any balance.
3. He can give up his security to the trustee and prove for his whole debt.
4. He can value his security and prove for any balance. But in this case the trustee has the right to redeem at the assessed value. This right, however, lapses six months after the mortgagee has challenged the trustee to elect whether he will exercise his right or not. If, however, the trustee formally disclaims, the mortgagee's title will be—

(i) The mortgage deed.

(ii) Office copies of the Order of Adjudication and Appointment of Trustee.

(iii) Formal disclaimer by the trustee.

But if the trustee abandons his rights by default, that is, takes no action for six months, the mortgagee's title will be (i) and (ii) as above, and a Statutory Declaration to the effect that the requirements of the Bankruptcy Act have been complied with. The effect in both cases is to convert the mortgage,

whether legal or equitable, into an absolute assignment in favour of the mortgagee.

(See also BANKRUPTCY.)

#### POWER OF ATTORNEY

It is generally desirable to refer Powers of Attorney to the solicitors owing to the number of technical points arising in connection with them. But a Power can be safely acted on provided—

1. It has been executed within twelve months—the usual period of irrevocability.

2. The power to give a discharge is specifically stated.

3. It is properly executed and stamped.

After the expiration of twelve months it is necessary to obtain a statutory declaration that the power has not been either actually revoked by the grantor himself, or constructively by his death, lunacy, or bankruptcy. The attorney may sign the grantor's name, adding "by his attorney, . . . . .," or he can sign his own name "as attorney for . . . . ."

(*Stamp Duty* : 10s.)

Where solicitors or bankers claim to have been deputed to collect the policy moneys, payment may be made to them under the Trustee Act, 1893, on production of the policy duly receipted. But it is generally held that a Letter of Authority from the actual claimant is desirable, and probably necessary. (See *Edmiston v. Scottish Temperance*, 1929.)

#### MINORS, LUNATICS, CONVICTS, ILLEGITIMATES

**Minors** cannot give a valid discharge for policy moneys in England, nor can they, strictly speaking, deal with their policies, enter into a contract, or make a valid will.

**Lunatics** cannot legally act in any way. A Committee must be appointed by the Court, and unless the Order of the Court specifically empowers the Committee to give a discharge, it cannot do so without the consent of the Master in Lunacy. Any money paid over to it must be invested under the direction of the latter.

(See also LUNATICS.)

**Convicts** cannot alienate or charge their property or enter into any contract. But the Home Secretary may appoint an administrator to act; or an interim curator with limited powers may be appointed by a J.P., though he cannot deal with realty, and can only deal with personalty or choses in action with the authority of the Court.

**Illegitimates** have no next of kin apart from wife or children. Therefore, in the

event of their death, unmarried and intestate, their property passes to the Crown. But on application to the solicitor for the Treasury an Order may sometimes be made for payment to the mother of the deceased.

#### DOUBTFUL TITLES

Where, in the opinion of the Board, a claimant under a policy cannot show a good title, or where there are conflicting claims for the policy moneys, leave may be obtained to pay the money into Court. The Rules of Court, however, are such that this course is generally undesirable except in extreme cases. (*Life Assurance Companies (Payment into Court) Act, 1896.*)

#### COSTS

The costs of investigation of title must be borne by the office in the case of claims, because in the event of payment being refused on grounds of title the claimant might take the matter into Court. If the claimant's title were then declared to be good, the costs of the action would have to be borne by the office. And, moreover, where specific surrender values are guaranteed, e.g. by endorsement on policies, the same rule apparently applies. But this is not so in the case of policy loans, as the office is not bound to grant loans unless "the title is clear."

#### STAMP DUTIES

The general question of stamping has been fully dealt with under a separate heading. It is merely necessary, therefore, to emphasize here that the office is liable to pay not only the stamp duty but a heavy penalty if it acts on an unstamped, or insufficiently stamped, deed.

It should also be noted that absolute assignments made since 29th April, 1910, are liable to conveyance duty at 20s. per cent where the consideration money exceeds £500. The duty, however, is only 10s. per cent if the consideration does not exceed £500, and the deed contains the following clause—

"And it is hereby certified that the transaction hereby effected does not form part of a larger transaction or a series of transactions in respect of which the amount or value or the aggregate amount or value of the consideration exceeds £500."

(See *STAMP DUTIES AND STAMP ACT.*)

#### TITLE, PROOF OF.

One of the conditions of the policy is that the claimant shall prove his title to receive payment; he must prove that he is the person

legally entitled to receive the policy moneys. Where a contract involves a payment to be made at some indefinitely distant date it is not possible to say in advance with whom the settlement will eventually be made, for the person to whom payment was originally contemplated may be dead, or the destination of the policy moneys may have been entirely changed by some legal transaction, such as the sale or mortgage of the policy before the time the payment comes to be made. Consequently, the clause in the policy specifying the payee is drawn to cover all possible eventualities, and will state that payment will be made to either (1) the assured, (2) the executors or administrators of the assured, or (3) the assigns of the assured.

The Policy of Assurance Act, 1867, provides that written notice of the date and purport of every assignment of a life policy must be given to the company, and it is one of the duties of an office to receive and record such notices. When a notice has been lodged of some transaction affecting the destination of the policy moneys, the office is held liable to see that the interests of the party deriving title through the deed or other transaction mentioned in the notice are not overlooked when a settlement is made under the policy. Conversely, where the office has not received notice of any dealings with the policy it is safe to make settlement with the payee, or his legal personal representatives, if he be dead.

It will be convenient to consider first the question of proof of title on the assumption that the office has not received any notices of dealings with the policy. In such a case payment would fall to be made (*a*) to the assured, if he be alive, or (*b*) to the executors or administrators of the assured, if he be dead. Case (*a*) presents no difficulty. It is only necessary that the office should be satisfied of the existence and identity of the assured, and payment can be made on his granting a formal discharge of the policy. Where the assured and the life assured are identical, evidence of existence and identity are submitted in support of the claim. When, however, the assured is some person other than the life assured, the office will generally have been in sufficiently close touch with him for a number of years to be able to dispense with evidence of existence and identity, but if this is not the case, it could call for the same proofs as it requires for the life assured in cases of maturing endowment assurances. Case (*b*),

However, is rather more complicated, and the documents to be produced in proof of title will depend, first, on the country in which the death of the assured has taken place, for the laws of England and Scotland are by no means the same in this connection, and, second, as will presently be seen, on the circumstances of each case.

In England, if the assured left a will nominating executors, and the executors so named or some of them prove the will, the evidence that is required to prove the title is a grant made by the Court, and is known as "Probate." Probate would be produced to the office, recorded in the books, marked as having been exhibited and returned. The office would then be in a position to make settlement with the executor or executors named in the probate. Where there is more than one executor, on the death of any of them the executorship devolves on the survivor or survivors, and if the last surviving executor dies after the assured and before the company comes to make settlement, the office of executor would devolve on the executor of the last surviving executor under the original will. But the last surviving executor under the will of the assured might not leave a will or might not nominate any executors. In such case a fresh grant would be required from the Court in respect of the assured's estate, and such a grant would be known as *Administration de bonis non administratis*, i.e. the Court would appoint an administrator (as to which see LETTERS OF ADMINISTRATION) to deal with any part of the estate of the assured that had not been dealt with by the original executors.

**Proof of Title where Notices have been Received.** When an office has received notice of dealings with a policy, the way is opened up to all sorts of complications in proving the title. To handle these cases successfully a considerable knowledge of law is required, and there will be found at the head offices of most companies an official who specializes in this class of work. Even so there will be many cases where the advice of the company's solicitors will be sought, and the expense thus involved is usually met by the company, though any exceptional expenses, such as in cases where deeds are missing, could be charged against the claimant.

So long as there remain people who prefer to act as their own lawyers rather than incur the expense of solicitors' fees, there will always be cases where the title on examina-

tion is found to be out of order. Whilst companies are anxious to make settlement as easy as possible for their clients, it must be recognized that they cannot make payment until the title is in order, and the cost of rectifying irregularities will often far exceed the fees that a solicitor would have charged to carry the transaction through properly in the first instance. For this reason policy-holders should always be advised to seek competent legal advice whenever they contemplate dealing with their policies, and it will be found that where companies, for the convenience of their policy-holders, supply forms of mortgage and assignment they will usually warn the policy-holder that they cannot accept responsibility for the forms being suitable for all cases, and recommend that legal advice should be taken in cases of doubt or difficulty.

To deal with all the various points of law that may be encountered in titles to life policies would require a large volume in itself, and cannot, therefore, be attempted here. There are, however, points with which every person engaged in the business of life assurance should be familiar, for a word of advice from them will often be invaluable to the people with whom they come into contact in pursuing their vocation.

#### TONGUE, ULCERATION OF.

(See GLOSSITIS.)

#### TONSILITIS (Inflammation of the Tonsils).

One or two attacks in childhood need not affect a life assurance of an adult. If attacks have been very frequent or there have been recurrent attacks of "sore throat," the possibility of the condition being rheumatic must be remembered, and a medical report obtained as to the condition of the heart. This is desirable whether the tonsils have been removed or not. If the attacks have continued until a recent date, and the tonsils have not been removed, a medical examination is necessary, and it may be advisable to postpone the proposal until the tonsils have been removed, or to put an addition on the premium. Inquiries should always be made in these cases as to whether there is any enlargement of the glands in the neck. If so, the proposal must be postponed until the glands have completely subsided and the patient has been examined to exclude the possibility of tubercle.

(See also ADENITIS.)

**TONTINE BONUS.**

(See BONUS; also ALLOTMENT OF BONUS.)

**TONTINES.**

Tontines are so-called after their inventor, Tonti, an Italian (1630-1695). The essential feature is a speculation upon human life, perhaps best described in terms of the first French State Tontine of 1689. By this, in return for a loan of 25 million livres, the State paid yearly a million and a quarter livres in interest, the contributors being divided into ten groups, each group receiving 125,000 livres yearly. As this annual payment was shared by the survivors, the last surviving contributor would receive the whole each year until death.

There were other tontines in France, and also in other countries, some by the State and some due to private enterprise, but on the whole public opinion has been adverse to schemes of the kind, resulting in restrictive legislation.

As regards life assurance, a particular application of the idea has been to bonuses, favoured especially by some of the American offices until it was prohibited about the end of 1906. In this variation, actual participation in bonuses earned was deferred for a specified number of years, on the expiry of which period the amount accumulated was divided among policies still in force.

**TOTAL DISABILITY BENEFIT.**

(See GROUP LIFE ASSURANCE.)

**TRADE RISKS, MISCELLANEOUS.**

(See OCCUPATION RISKS.)

**TRANSFER AGREEMENT.**

(See CLOSED FUNDS.)

**TRANSFERS AND AMALGAMATIONS.**

(See CLOSED FUNDS.)

**TRANSFERS, INDIVIDUAL.**

(See INDUSTRIAL ASSURANCE ACT, 1923.)

**TRAVELLER'S COVER.**

(See SHORT TERM POLICIES.)

**TRUSTEE ACT, 1925.**

(See TRUST POLICIES.)

**TRUSTEE, DUTIES OF.**

(See TRUST POLICIES.)

**TRUSTEES, POWERS OF.**

(See TRUST POLICIES; VOLUNTARY SETTLEMENTS.)

**TRUSTEES SAVINGS BANKS AND FRIENDLY SOCIETIES.**

Life annuities have been granted in the past by Trustees Savings Banks, and in some form or other invariably appear as a benefit offered by friendly societies. In the latter case there is a limitation of the amount of annuity, which under the Friendly Societies Act must not exceed £100 per annum, and the society granting annuities shall not be entitled to registry unless the tables relating to such annuities have been certified by an actuary approved by the Treasury.

**TRUST POLICIES.**

The Married Women's Property Act, 1882, Sect. 11, provides that a policy of assurance effected by any man on his own life for the benefit of his wife or children creates a trust in favour of the objects named therein, and shall not, so long as the objects of the trust remain unperformed, form part of the estate of the assured. The assured may appoint a trustee of the policy moneys, and in default of any such appointment the policy, immediately on being effected, is to vest in the assured and in his or her legal personal representatives in trust. If at the time of the death of the assured or at any time afterwards there is no trustee, a new trustee may be appointed by the Court. The Act does not prevent a husband surrendering the policy, and thus putting an end to the trust. In *Schumann v. Scottish Widows' Society* (1886, 13 C.S.C. 78), the Court seemed to think that he might do so even without the consent of his wife, but had no doubt that he could do so with her concurrence.

When the trust is satisfied, the interest in the policy is subject to the control of the husband or his creditors, and forms part of his estate; i.e. so much is abstracted from his estate for such time as is necessary for the satisfaction of the trusts, and when the object of the trust disappears, the interest in the policy remains personal estate of the husband freed and discharged from the trust; also where the object of the trust fails the interest in the policy forms part of the estate of the assured.

The executors of a person who has effected an assurance on his life for the benefit of his wife can maintain an action on the policy, notwithstanding the fact that the death of the assured was caused by the felonious act of the wife. The trust created by the policy in favour of the wife under the

Married Women's Property Act, 1882, Sect. 11, having become incapable of being performed by reason of her crime, the assurance money forms part of the estate of the assured (*Cleaver v. Mutual Reserve Association*, 1892, 1 Q.B. 147).

In *Prescott v. Prescott* (1906, 1 I.R. 155), a policy was effected by a wife for the benefit of her husband, payable to him or his executors on her death. The husband paid the premiums and died before her. It was held that the trust in his favour was not dependent on his surviving, and that his representatives were entitled to the policy as against the widow.

While the trust continues the husband cannot surrender the policy, but he can deal with his interest in it, subject to the trust. An assignment of all a man's property, "whether in possession, reversion, remainder, or expectancy," to trustees for the benefit of his creditors, has been held to include his interest in such a policy (*Robb v. Watson*, 1910, 1 I.R. 243).

Where a policy has been settled and the settlor is unable to perform his covenant to keep up the premiums, the Court will authorize the trustees to sell or surrender the policy (*Hill v. Trenevy*, 1856, 23 Beav. 16). If a life policy is in the settlement, it is the implied duty of the trustee to keep it up. It is otherwise, however, if he does not insure, but simply pays the premiums as an agent. If a trustee who insures does not keep up the policy, he is liable to the beneficiaries of the trust if he has funds in hand to pay the premiums, but it is otherwise if he has not funds, and cannot get any. Apparently the trustee can borrow money upon the security of the policy for the purpose of paying the premiums. If the trustee advances funds he has a lien on the policy for the amount of his advances when the policy money forms part of the trust funds. A trustee who has paid premiums out of his own money is only to be recouped out of the trust funds, and he cannot be recouped out of the policy money where it does not form part of such funds (*re Winchelsea's Policy*, 1888, 39 Ch.D. 168).

In *Kingdon v. Castleman* (1877, 46 L.J.Ch. 448), a husband by his marriage settlement assigned a policy of assurance on his life, covenanting to pay the premiums. One trustee, without giving notice of the settlement to the assurance office, and, in contemplation of a breach of trust, retired, enabling the remaining trustee, with the husband, to mortgage the policy. The

mortgagee surrendered it, and the retiring trustee was held liable for the amount received on the surrender, as he had committed a breach of trust in failing to give notice to the office.

An endowment policy was effected by a father as assured for the benefit of his daughter. The policy money was payable to her if she should survive a fixed date after attaining 21; if she should not survive that date all premiums were to be repaid to the father. The daughter was not a party to the contract. The premiums were paid by the father, who died before the policy money became payable. The daughter satisfied the age condition in the policy. It was held there was no contract which the daughter could have enforced in her own name against the society; that her father had not constituted himself a trustee for her of the policy or of the money payable thereunder; and that, therefore, the money formed part of his estate, and was payable to his trustees (*re Engelbach*, 1924, 2 Ch. 348).

Whether a policy effected for the benefit of the wife and children is for the benefit of an after taken wife, or children of a subsequent marriage, depends upon the terms of the policy. In *re Griffiths* (1903, 1 Ch. 739), a policy for the benefit of wife, and on her death then for the children equally, it was held not to include an after taken wife, but to extend to all children, whether born before or after the issue of the policy, including those of the subsequent marriage.

In *re Jones's Settlement* (1915, 1 Ch. 373), without any request by the husband or trustees of the settlement, a wife paid the premiums in respect of life policies settled in trust for her for life, on the ground that her husband had not sufficient means of his own. It was held that the payments were voluntary, and that the wife was not entitled to be recouped out of the policy moneys.

The receipt in writing of any trustee for any money payable, transferable, or deliverable to him under any trust or power is sufficient discharge, and effectually exonerates the person paying, transferring, or delivering the same from seeing to the application or being answerable for any loss or misapplication thereof. All trustees who have not effectually retired or disclaimed ought to join in the receipt (*Crewe v. Dicken*, 1798, 4 Ves. 97). The assurers, of course, should satisfy themselves that the money is payable to the trustees. Apparently, however, the

assurers can safely pay a trustee, even if under the trust he has no express power to give receipts. (*Fernie v. Maguire*, 1844, 6 Ir. Eq. R. 137).

The failure or want of an insurable interest does not entitle the party who might receive the policy money to retain it for his own use, i.e. rights arising upon trusts are not affected by the invalidity of the policy. Policies effected by trustees are subject to the trusts of the property out of which the insurable interest arises.

A trust policy in the names of the trustees diminishes the risk of forfeiture, and avoids the necessity of an assignment and of giving notice to the company.

Trusts of a policy effected in the names of the trustees or assigned to them, will, in general, comprise bonuses as well as the sum assured.

**Duty of Trustees.** In general the duty of a trustee is to make himself properly acquainted with the trust and its affairs, in particular to ascertain the contents and purport of all deeds, policies of assurance, and other documents which come into his possession or control as trustee. He must take all reasonable care to obtain possession of all trust property, and to preserve it, e.g. by paying premiums on a life assurance policy. In case of need, he may take legal proceedings to protect the trust property. He must be faithful to his trust, and must refrain from doing any act which directly or indirectly would involve a breach of trust or bring about a loss or risk to the trust.

A trustee must administer the trust in strict accordance with the terms of the trust, and carry out any powers attached to the trust. A trustee may not deviate from the strict performance of the terms of his trust unless—

1. The Court is satisfied that the deviation was necessary or beneficial.
2. The trust contains directions that are illegal or impossible.
3. The consent of all the beneficiaries who are all of full age is obtained.

A trustee is bound to use reasonable diligence and ordinary prudence in carrying out his trust as he would in his own affairs; he may take legal advice in case of doubt, but should obtain the direction of the Court upon any matter which is not clear, though an omission to do so is not necessarily culpable. Where a trustee commits a breach of trust through ignorance of a fact which he could not reasonably be expected to ascertain, or has acted honestly and reason-

ably, and ought fairly to be excused for the breach, he may be relieved wholly or partly from any personal liability arising thereunder. (Trustee Act, 1925, Sect. 61.)

A trustee is not an insurer of trust property. He may not use his position as trustee for his personal advantage or profit; he must not enter into any contract or arrangement which conflicts with that of the interests of his trust. He cannot escape from the responsibility of his trust by delegating his duties to his co-trustees or other persons.

Where there is more than one trustee, one of them cannot safely leave the trust property in the possession of the other or others, except when it is necessary or proper, e.g. where one is acting as agent for dealing with the property of the trust, or where, for convenience, the documents are kept by one trustee.

The concurrence of all trustees is necessary, e.g. a receipt for money will not discharge a debt unless signed by all (*Lee v. Sankey*, 1872, L.R. 15 Eq. 204); and an acknowledgment of one of two trustees will not prevent the statute of limitations running (*Richardson v. Younge*, 1871, L.R. 6 Ch. 478).

A trustee must keep, and be willing to render on request of the beneficiary of the trust, full and accurate accounts. His duty as to investments of trust funds is usually regulated by the terms of the trust, but he must exercise such powers *bona fide* and reasonably.

By the Trustee Act, 1925, Sect. 23 (3) (c), a trustee may appoint a banker or solicitor to be his agent to receive and give a discharge for any money payable to the trustee under or by virtue of a policy of assurance, by permitting the banker or solicitor to have the custody of, and to produce, the policy of assurance with a receipt signed by the trustee, and a trustee shall not be chargeable with a breach of trust by reason only of his having made or concurred in making any such appointment.

## TRUSTS.

(See TRUST POLICIES; VOLUNTARY SETTLEMENTS.)

## TUBERCULOSIS.

Infection by the *tubercle bacillus* is so widespread and may be fraught with such serious consequences, that it is rightly regarded as one of the greatest scourges of the present day. Fortunately, modern methods of treatment of all forms of the

disease are so much in advance of those of the last generation, that some of the most crippling results of the disease are frequently now averted. The disease still ranks, however, as one of the most fatal of all diseases, and, from the point of view of life assurance, any history or predisposition to the disease must be most carefully considered, and judged before a case is accepted.

The disease occurs in two main forms, viz.—

1. That affecting the lungs—pulmonary tuberculosis or phthisis.

2. That affecting the joints, glands, or skin—the so-called surgical tuberculosis.

**1. Pulmonary Tuberculosis.** From the life assurance point of view, this disease must be considered from several angles. Firstly, with reference to the proposer himself. If there are any signs of active disease in him, rejection is the only possible course. If there is a history of the disease and the medical examination reveals any signs of the disease, although possibly healed, the case must be rejected or postponed.

There remains, however, a large number of cases in which an ordinary careful medical examination may fail to detect any signs of abnormality in the lungs, and yet some years previously the proposer may have had the disease and spent several months in a sanatorium. These cases have to be judged on their merits. They need not necessarily be rejected. This course, however, should be pursued if there is a strong adverse family history, or if the proposer's general physique, and especially his chest expansion, is bad. Where, however, the family history is negative, and the date of the attack goes back some years, and the proposer is otherwise perfectly sound, the case may be accepted with an extra premium or decreasing debt.

**Family History.** Attention should be drawn to the danger of tubercle being glossed over in the family history. The death of one of the parents from bronchitis or pneumonia at a relatively early age (below 60) should be regarded with suspicion, and medical reference should be obtained, particularly if there are any other suspicious details, e.g. death of a relative from peritonitis (which may be tuberculous), in the history.

**2. Surgical Tuberculosis.** The importance of this form of tubercle is often difficult to assess in cases of life proposals for the followin greason, viz. fatal cases of surgical tuberculosis are in general rare, com-

pared with those of pulmonary tuberculosis. Meningitis and peritonitis are the only forms in which a fatal result occurs with any frequency nowadays. In years gone by cases of so-called lardaceous disease, caused by profuse and persistent discharge of pus from tubercular bones, glands, and joints, were not uncommon, and were frequently fatal. Lardaceous disease is now a rarity, and most cases of tubercle in bones and joints are treated early and cured. This does not mean that no importance need be attached to such conditions, for the occurrence of tubercle anywhere in the body indicates that the patient has inherited or acquired a low resistance to the disease. Such cases, therefore, demand an increased premium, but need not necessarily be rejected. On the other hand, tuberculous disease of the spine, even if healed, may have left a deformity of the chest, which will predispose to chronic bronchitis and other lung complaints. Each case, therefore, in this group must be dealt with entirely on its merits, after a careful consideration of the weight to be attached to the family history, personal history, and present condition of the proposer.

The matter may be summed up briefly, therefore, by saying that, generally speaking, signs of surgical tuberculosis are not of such importance as those of the pulmonary form, but in some cases, e.g. with a history of tubercular meningitis or peritonitis, the proposal must be rejected at once, while in others the proposal must be rejected if there is any adverse family history. If there is no tubercular family history, and the disease is apparently cured in the patient, the case may be accepted with an increased premium or decreasing debt.

In all cases a medical examination is essential, and the history must be most carefully investigated.

## TUMOURS.

These are divided into two main groups, innocent and malignant. The essential difference between these is that an innocent tumour has only local effects, whereas malignant growths (cancer) affect the general condition and cause secondary growths to develop in all parts of the body, so causing death.

The following is a list of the ordinary tumours—

- |              |                      |                       |
|--------------|----------------------|-----------------------|
| 1. Adenoma   | Tumour consisting of | gland tissue.         |
| 2. Chondroma | “ “                  | cartilaginous tissue. |

3. Fibroma	Tumour consisting of	fibrous tissue.
4. Haematoma	" "	blood.
5. Lipoma	" "	fatty tissue.
6. Myoma	" "	muscular tissue
7. Neuroma	" "	nerve tissue.
8. Osteoma	" "	bony tissue.
9. Papilloma	" "	epithelial tissue.
10. Carcinoma	" "	cancer cells from glands.
11. Epithelioma	" "	cancerous epithelial tissue.
12. Sarcoma	" "	cancer cells from connective tissue.
13. Glioma	" "	connective tissue of the brain or spinal cord.
14. Polypus	A term applied to any tumour attached by a stalk to the tissue from which it arises.	

Of the above, Nos. 1 to 9 are always innocent, whereas Nos. 10 to 12 are always malignant. Nos. 13 and 14 may be either innocent or malignant.

Any history of a malignant or doubtfully malignant growth at once negatives any form of life assurance. Innocent growths may call for declension, because mistakes in diagnosis are not uncommon. If the growth is still present, a medical examination is necessary, as the growth may be in such a position as to be dangerous to life, e.g. growths of the thyroid or abdominal viscera, or may be of such a nature as to make it possible that it may develop cancerous characters, e.g. papilloma of the tongue.

It is advisable in most cases of innocent growths to postpone the policy until they have been removed, as removal may become desirable at any time, and the risk of administration of an anaesthetic must be considered. It is impossible within limited space to deal with all the possibilities in connection with growths, but as a general guide it may be said that—

1. Any history of malignant or doubtfully malignant growths is a bar to life assurance, even though the growth has been removed several years previously and no recurrence has appeared.

2. In the case of innocent growths, medical examination is essential if the growth is present at the time of the proposal. If the growth has been removed, a full medical report dealing with the nature of the tumour must be obtained and submitted to the medical officer advising the company.

## TURKEY.

**Regulations Affecting Assurance Companies.** In terms of the provisional law

regarding foreign companies (including insurance offices), foreign insurance companies must apply to the Board of Trade for sanction to work in Turkey, giving particulars as to the establishment of the company, together with a copy of the statutes. The representative, having power of attorney, must prove that he has not been a bankrupt or found guilty of a criminal act. A deposit of from L.T. 15,000 to L.T. 45,000 for each class of insurance is necessary, to be made in cash or State bonds, lodged with the Board of Trade. Ten per cent above the day's rate of exchange is demanded on foreign currency. The Direction des Assurances, a department under the Board of Trade, controls insurance companies. It demands an annual levy of L.T. 150 towards cost of maintenance. A yearly copy of the report and balance sheet must be submitted to the Board of Trade for criticism. Tontine offices are not permitted to transact insurance business in Turkey.

## TWENTY-PAYMENT LIFE POLICIES.

These policies, which are, of course, limited payment life policies (*q.v.*), are rather extensively issued by Colonial and American offices. By giving a guaranteed annual bonus and also scheduling the cash, paid-up policy, and extended insurance values in the policy, they are made an attractive contract, with the appearance of being a form of guaranteed option policy (*q.v.*). The insured, who feels he can get a fixed amount of cash or extended insurance if he should cease his payments before the end of the term, is inclined to think he has an especial bargain, but, of course, he is only getting what he is entitled to.

The following extract from the schedule given in one such contract will make this clear. It is a twenty-payment life policy with a guaranteed annual addition of £2 per cent per annum for £1,000 at age 35, the annual premium being £35 14s. 6d.

Year.	Payable at death.	Cash or loan	Paid-up policy.	Extended Insc.	
				Years.	Months.
5	£ 1,080	£ 90	£ 292	9	8
10	1,180	239	676	19	3
15	1,280	421	1,034	24	11
20	1,380	643	1,400	Paid	up

After twenty years, payments of premium cease, the policy being fully paid up for £1,400.

**TWENTY-YEAR CONVERTIBLE TERM POLICY.**

(See PARTNERSHIP POLICIES.)

**TWENTY-YEAR ENDOWMENT POLICY.**

(See PARTNERSHIP POLICIES.)

**TWENTY-YEAR LIMITED PAYMENT POLICY.**

(See PARTNERSHIP POLICIES.)

**TWENTY-YEAR OPTION POLICIES.**

(See GUARANTEED OPTION POLICIES.)

**TYPHOID.**

A general infection caused by the *bacillus typhosus*. Its main symptoms are abdominal, and may prove fatal. Ulceration of the bowel occurs, and this may lead to perforation, and general peritonitis. When the acute attack is over, no permanent ill-effects remain in an uncomplicated case. Nephritis is one of the complications, and may persist so as to affect the patient's general health and expectation of life. This form of nephritis does not differ from that due to other causes.

(See ALBUMINURIA ; BRIGHT'S DISEASE.)

**UBERRIMAE FIDEI.**

(See PROPOSAL FORM; CONTRACT, PARTIES TO.)

**ULCERS.**

An ulcer is an open, septic, or granulating wound of the skin, or mucous membrane. There are innumerable causes of ulcers, some of which may be local and some general. General conditions predisposing to ulceration are syphilis, arterio-sclerosis, diabetes, and tubercle.

Local conditions are such as varicose veins or other causes of locally defective circulation, e.g. scarring, paralysis of a limb, etc.

Many ulcers are malignant (cancerous). The significance, therefore, of chronic or recurring ulceration in a proposer for life assurance may be very great. Especially must care be exercised if there is a history of ulceration in or near the mouth or on the face, as these parts are common sites for tuberculous and malignant ulceration.

The commonest form of ulceration elsewhere in the body is probably the ulcer of the leg caused by varicose veins (*q.v.*). As thrombosis of the veins is commonly associated with this form of ulceration, special care is necessary to obtain a full medical report. A proposer is hardly likely to apply for a policy while he is still suffering from ulceration in any form, but if he does the proposal must be postponed until the ulcer is healed. Complete medical reports are always necessary in these cases. If there is a history of tuberculous ulceration, the proposal should be declined unless the condition has been completely healed for many years, and there is no family history of tubercle, and the proposer shows no sign of tubercle elsewhere. Such a case usually calls for an increased premium.

In the case of ulceration due to syphilis, arterio-sclerosis, or diabetes, the case must be dealt with as indicated under those headings.

A history of malignant ulceration is, of course, a definite bar to insurance.

Two other special forms of ulceration might be mentioned, viz.—

1. Perforating ulcer. 2. Rodent ulcer.

1. An ulcer is termed perforating if it

penetrates deeply compared with its superficial size. Such ulcers are almost invariably due to syphilis, diabetes, arterio-sclerosis, or nervous disease, and such cases must, except under the rarest circumstances, be declined.

2. A rodent ulcer is a semi-malignant type of ulcer, which occurs usually on the face. X-ray or radium treatment may cure it, but the only safe course is to decline any proposal in which this disease figures.

(See also GASTRIC ULCER; DUODENAL ULCER.)

**UNDER-AVERAGE LIVES.**

Ordinary rates of premium for life assurance are based on a mortality table, and in most cases this has been constructed from the experience of assured lives, all of whom have been accepted for life assurance at ordinary rates. When, therefore, a life is proposed for assurance which proves to be below the normal standard on physical grounds, it cannot be accepted at ordinary rates; otherwise the mortality of the group would be affected and the premiums, as a whole, would be insufficient.

When, however, as in the case of industrial assurance, the premiums are based on a mortality table which exhibits the experience of the whole population, it may well be thought that all lives might be accepted at ordinary rates, since the table includes the mortality experience of the sick and dying. This would, indeed, be the case if it were possible to secure a proper proportion of each class of lives included in the population, but in practice this can hardly be achieved. If dying lives were accepted at ordinary rates, there can be little doubt that a much larger proportion of assurances would be secured on these lives than on those which were healthy, and the rate of mortality of the group assured would undoubtedly suffer.

The expression "normal standard" is clearly a wide one, and open to very different interpretations. In the interests of the assuring public generally, the lower the standard required for ordinary rates the better. It must be remembered, however, that the lower the standard, the higher will be the mortality, and consequently the

higher must be the premium charged. A low standard, therefore, favours what may be termed the "second-class" life, at the cost of the "first-class" life.

As a general rule, British life offices take the view that a high standard is essential in the best interests of the main body of lives assured, and the success of life assurance in this country must be largely attributed to this fact. It is true that some offices set a higher standard than others, and that certain defects which are penalized in one office are ignored in another; yet, on the whole, the general standard is distinctly high, and it must be appreciated that this is in the interests of the main body of lives assured, even if it presses hardly on a small proportion of the population.

At one time it was the general practice to decline all lives which did not come up to the standard adopted by the office as "first-class," but for a long time past offices have been willing to quote an extra premium in such cases, provided they felt themselves able to assess the amount within reasonable limits. When, however, a life shows a defect the effect of which the office finds it difficult to assess, it is usual to take the safe course of declining or postponing the risk.

In this connection it seems desirable to correct a popular misconception. When a life is declined, it is usually taken as a sign that something very serious is the matter, and that the prospects of longevity are very poor. This is far from being the case, as life offices frequently decline lives which actually have little or nothing the matter with them, merely because the symptoms exhibited are of such a nature that they cannot be definitely interpreted. Lives exhibiting albuminuria and glycosuria undoubtedly often come under this heading. Until quite recent times the majority of offices declined such cases without further consideration, on the grounds that they showed signs of what might well be a fatal disease. In course of time, however, it became evident that a number of these lives had nothing whatever the matter with them, but there still remained the difficulty of determining which lives it was safe to accept, and which it was not. This difficulty could, of course, be overcome by classifying the lives in groups, and charging a special rate for each group, thus causing the healthy lives to be charged an extra premium for the benefit of the lives which ultimately prove to have been unhealthy. Unfortunately, as these lives were but rarely

accepted for assurance in the past, there are little or no data available from which to determine the necessary extra premium. In the case of albuminuria, a small volume of data has been secured from other sources, and a considerable amount of business is now accepted, either at ordinary rates, or with an extra premium, according to the circumstances. In the case of glycosuria, less progress has been made, although it is evident that in some of the cases proposed there is little or nothing the matter with the proposer, and it is still extremely difficult to find an office which is willing to undertake such a risk, even at a considerable extra premium.

Extra risks usually arise from one of the following causes: (1) Bad or defective family history. (2) Medical reasons, such as personal history or defect on examination. (3) Statistical reasons. Heading (1) to some extent is, of course, involved under heading (3). The nature of the extra risk may be further subdivided, according as to whether it is (a) increasing, (b) constant, (c) decreasing, or (d) dependent upon a given event.

A few examples of different types of extra risk and methods of dealing with them in practice will serve to illustrate this classification.

**Family History of Consumption.** Type (1) (c). An extra premium will usually be required, except in the case of an elderly life.

**Family History of Cancer.** Type (1) (a). When the history is very pronounced, an extra premium will be required, but this is unnecessary in the case of an endowment assurance maturing at an early age (say age 50).

**Personal History of Operation for Duodenal Ulcer.** Type (2) (c). An extra premium will be required for some years after the operation, but if, say, seven years have elapsed without further trouble, the life might possibly be accepted at ordinary rates.

**Enlarged Heart on Examination.** Type (2) (a). If, in the opinion of the medical officer, acceptable with an extra premium, it should be restricted to an endowment assurance maturing not later than age 50 or 55.

**Overweight, but Otherwise First-class.** Type (3) (a). Acceptable with an extra premium, according to circumstances, but best limited to an endowment assurance.

**Female Life, Pregnant or Recently Married, or about to be Married.** Type (2) (d). May be accepted with a single extra premium.

**Elderly Life with Emphysema and History of Bronchitis.** Type (2) (a). If acceptable at all, an extra premium is required, and class of policy should be limited to an endowment assurance, if practicable.

**A Blind Person, Otherwise Fit.** Type (2) (b). Probably a small extra premium would be required.

No attempt has been made to render these examples exhaustive, the object being merely to illustrate the nature of the problems which the medical officer and the actuary have to face, and thus to account for their decisions.

It sometimes happens that a proposer reveals, on examination, some feature which is probably of no consequence, but, on the other hand, might conceivably be very serious. For example, it may be found that a proposer has lost over a stone in weight during the previous twelve months, which may be due to additional exercise, change of diet or occupation, and a number of other unimportant causes. On the other hand, it may be due to incipient phthisis, or diabetes. In these circumstances, the office will often prefer to postpone consideration of the proposal for a period (say, three, six, or twelve months) rather than to charge an extra premium which would be unfair to the proposer. At the end of the period of postponement the case can be reconsidered, and in the light of events may very well be accepted at ordinary rates, or, if the circumstances justify it, either rated-up or declined. In some cases it is advisable for the proposer to place himself in the hands of his medical attendant during this period, so that the results of continuous observation, and possibly of treatment, may be before the office when the matter is re-opened. Another reason for postponing a decision would be that the proposer was suffering from some temporary trouble, which rendered him uninsurable at the time, but which might clear up and make acceptance possible. An example of this would be a personal history of malaria, with intermittent symptoms still persisting.

It is now possible to consider in detail the methods adopted in practice in dealing with under-average lives. The most usual method is that known as "rating-up," that is to say, the addition of a certain number of years to the age in calculating the premium. It will be observed that this method presupposes that a group of lives similar to that proposed will experience, on the average, the same rates of mortality as a

group of lives so many years older than their true age. It is doubtful whether any class of defect actually produces mortality similar in incidence to that shown in the mortality table for an older age, but it is possible that this might be the case with a body of lives all suffering from (say) arteriosclerosis. In any case, it is quite certain that a group of lives rated-up for a family history of consumption would not in any way conform to such a distribution of mortality. In spite of these considerations, it is a common practice to adopt the method for practically all classes of extra mortality. The reason for this is that, in practice, the effect of the method is merely to charge an extra premium, and provided that extra premium is sufficient for the case, the method of calculation is of no consequence. After all, it does not matter whether the extra premium is called (say) plus 10s. per cent or plus 5 years, so long as the result is the same.

In the case of whole life assurances, the method under consideration is simple of application, it being merely necessary to obtain the rate from the prospectus at the increased age. With endowment assurances, however, the position is different. Reference to any prospectus will show that in most cases the addition of a few years to the age will only result in an addition of a few pence to the premium. This would clearly be insufficient, and it is therefore a very general rule in such cases to charge the same extra premium as would have been charged had the assurance been for the whole of life. It will be perceived, therefore, that although the method is popularly described as "rating-up," it is really only a method of determining the amount of cash extra premium which it is necessary to charge. When the doctor and the actuary assess the "rating-up," they take into consideration the class of policy and the type of extra risk. As will be seen from the illustrations given above, little or no extra premium may be required in some cases for an endowment assurance, when a substantial extra premium would be required for a whole life assurance.

Proposers have a very natural objection to being charged an extra premium, and much ingenuity has been exercised to avoid this in difficult cases. For instance, a double endowment assurance (i.e. a stated sum payable on death within the term, but twice that sum payable on survival) has a peculiar property. Reference to a

prospectus will show that within certain limits the same rates of premium are charged at all ages, the premiums being entirely dependent upon the term. This means that the addition of a certain number of years to the age will not increase the premium, and suggests that this class of policy is suitable for assuring under-average lives at ordinary rates. The reason for this property of double endowment assurances is that the loss from extra mortality during the term of the assurance is almost exactly counteracted by the gain from the smaller number who survive to receive the double benefit. This, however, depends upon the incidence of the mortality, and double endowment assurances can only be accepted at ordinary rates when the extra premium is of a constant or increasing nature.

In the case of ordinary endowment assurances, when an extra premium is required, it is sometimes possible to attract a proposer by limiting the number of premiums payable. For instance, it is very common for a proposer to compare the total amount of premiums payable with the sum assured (and estimated bonuses, if any). When an extra premium is required, this comparison usually looks much less favourable, but if the number of premiums is reduced (the sum assured continuing to be payable at the end of the original period or at previous death), it is usually possible to arrange that the total premiums payable actually amount to less than would have been the case if ordinary rates had been charged. This is attractive to a proposer, although he still actually pays a special premium, and arises from the fact that in paying the premiums over a shorter period he is releasing the office from the extra and ordinary risk of not receiving some of the later premiums owing to early death.

A further method of meeting a proposer who will not pay an extra premium is to offer what is called a "Fixed" or "Decreasing" debt. Under this plan the assured pays the normal premium, but does not necessarily receive the full sum assured. For instance, under the "fixed debt" plan, a fixed amount is deducted from the sum assured should death occur within a stated period, but under the "decreasing debt" plan the amount of the deduction is higher at first, and annually decreases until it vanishes. A common practice is to make these debts run for the expectation of life, but this is by no means universal, and the period of the debt is sometimes fixed accord-

ing to the circumstances of the case. When an endowment assurance is effected, the debt usually runs for the period of the endowment, the full sum assured being payable at maturity.

The debt plan cannot be adopted in the case of every rated-up life, its application being limited to extra risks of a decreasing or constant nature. In practice, the idea is to arrange for the maximum deduction from the sum assured at the time of the maximum extra risk. For instance, the method would be very suitable in the case of a life with a family history of consumption, but would be unsuitable for an over-weight life; especially in the case of a whole life assurance.

When the debt plan is adopted, it is usual to provide for the payment of the full sum assured in the event of death by accident.

Although the debt plan meets the case of the "rated-up" proposer who is prepared to run part of his own risk, yet it must not be overlooked that it does not provide that which is almost an essential of life assurance, namely, full cover in the early years of assurance. It should, therefore, be recommended with caution, and its terms carefully explained to the proposer.

In the case of those few offices which still declare their bonuses in the form of a cash percentage of the premiums paid, another plan is available, which is attractive to some proposers. The proposer effects a "with profit" assurance, at the full rated-up premium, thus securing a larger cash bonus than would be given if the assurance had been effected at ordinary rates. This cash bonus is applied to reduce all future premiums on the policy, and, as the life is reckoned to be older than it actually is, the office is able to give a larger reduction of premium than would be possible at the younger age. The assured thus secures a double advantage from the rating-up, which considerably modifies the position in his favour. After some four or five quinquennia it often happens that all premiums have been cancelled and, if the assurance is for the whole of life, the assured continues to benefit by the periodical allotment of further cash bonuses during the remainder of his lifetime. Under this arrangement the assured pays a high premium during the early years, but, should he prove long-lived, he may actually be in as good a position as if he had been charged ordinary rates.

One office, which makes a speciality of this scheme, is willing to consider lives

which are not easily assurable elsewhere. In such cases, the extra premiums charged are often substantial, and the operation of the scheme is exceptionally successful.

For certain classes of extra risk a single extra premium is sufficient. For instance, in the case of a female life, recently married or about to be married, or pregnant, a single extra premium is usually charged. It is not usual for an extra premium to be charged for the risk of a second pregnancy, unless the life assured is already pregnant when completing the assurance. An extra £1 per cent is often charged for a first pregnancy, and 10s. per cent in the case of a subsequent pregnancy at the time the proposal is made.

If a life is about to undergo a minor operation, such as the straightening of a nasal septum, the case might be deferred, but some offices will accept such cases on payment of a single extra premium to cover the risk.

It frequently happens in practice that after the passage of a few years the life assured has completely recovered from the disability for which he was originally charged an extra premium, and makes an application for the removal of the charge. This is not practicable, since the office has no power to increase the extra premium should the disability have become more serious. Extra premiums, being based on the estimated future mortality of a given group, must be payable throughout the duration of the assurance, whatever happens to individual members of the group. If this were not so, the extra premiums charged would have to be considerably increased.

**UNDER-INSURANCE.**

(See ADVERTISING LIFE ASSURANCE.)

**UNEMPLOYMENT INSURANCE SCHEME.**

(See GUILD OF INSURANCE OFFICIALS.)

**UNIFORM COMPOUND REVERSIONARY BONUS.**

(See BONUS; ALLOTMENT OF BONUS.)

**UNIFORM REVERSIONARY BONUS.**

(See BONUS; ALLOTMENT OF BONUS.)

**UNIFORM SENIORITY.**

Uniform seniority facilitates the calculation of premiums, annuities, and assurances on joint lives. It is a peculiar property of mortality tables where the laws of Gompertz and Makeham apply. There are in effect two

forms, namely: (1) Where the mortality table has been graduated by the law of Gompertz, a single life may be substituted for two or more joint lives, and the seniority of the substituted life,  $w$ , say, remains the same for all ages of the original lives,  $x$  and  $y$ , say, where  $x - y$  is constant. (2) If the mortality table follows Makeham's law, then two lives of equal age,  $w$  and  $w$ , can be substituted for two lives of unequal age,  $x$  and  $y$ . Where  $y$  is greater than  $x$ , the seniority of the substituted age  $w$  over the younger of the original age  $x$  will be the same when the difference between the original ages  $y - x$  remains constant, whatever those original ages may be. Thus, for example, with a Makeham table, two lives aged 20 and 30 respectively, may be replaced by two lives both aged 26 approximately, and the addition of about six years to the younger age is constant so long as the difference between the original ages is 10 years. Hence also, two lives of 40 and 50 respectively correspond to two lives both aged 46. This method may be extended to any number of lives. For proofs, reference may be made to the *Textbook of the Institute of Actuaries*, Part II, page 206 (George King), and to *Life Contingencies* (E. F. Spurgeon), page 258.

The mode of application is to add the force of mortality for each of the joint lives, divide the sum of these by the number of lives, and find by interpolation the age to which the quotient corresponds. Taking the instance above referred to, namely, lives of 40 and 50, then by the  $O^{[M]}$  Select Table—see British Offices Select Tables, 1893 (Blue Volume)—

$$\begin{aligned} \mu_{[40]} &= \cdot 00231 \\ \mu_{[50]} &= \cdot 00503 \\ \hline \text{Divide by } 2) & \cdot 00734 \\ & \underline{\cdot 00367} \end{aligned}$$

As  $\mu_{[46]} = \cdot 00364$  and  $\mu_{[47]} = \cdot 00395$ , the equivalent ages clearly are very nearly 46 and 46. Similarly, by the ultimate Table  $O^{[10]}$ , we have—

$$\begin{aligned} \mu_{40} &= \cdot 00974 \\ \mu_{50} &= \cdot 01516 \\ \hline 2) & \cdot 02490 \\ & \underline{\cdot 01245} \end{aligned}$$

while  $\mu_{46} = \cdot 01240$  and  $\mu_{47} = \cdot 01300$ .

It is clear that a preparatory table can be prepared once for all. This will render

easy the calculation of equivalent ages for the table to which it applies. The error, however, will not be serious for other mortality tables graduated by Makeham's formula. Beyond that, again, the method may be used for tables for which the Makeham formula is not strictly applicable, and will give, as a rule, a reasonable approximation. Such preparatory tables will be found in various of the Institute and Faculty volumes of mortality experiences. An extended set, for 2, 3, or 4 joint lives ( $O^m$  basis) is given in the British Offices Life Tables, 1893—Aggregate Tables (Brown Volume).

The utility of the principle of uniform seniority is very marked in connection with all calculations involving joint lives. The bulk of functions necessary to be tabulated is greatly reduced, and the task of evaluating those not tabulated is simplified. Instead, for instance, of printing tables of annuities for every combination of ages, such as was done for the Carlisle (in Jones on Annuities) and for  $H^m$  (Institute of Actuaries' Life Tables, 1863), all such tabulation may be limited to that of functions involving a single life for a mortality table graduated by the formula of Gompertz, and to that of functions for joint lives of equal age where the law of Makeham holds.

Some of the insurance companies avail themselves of this property of the law of uniform seniority by applying it to the calculation of premiums for joint life assurances. A table of premiums for joint life assurances on lives of equal ages is given in the prospectus, along with an abbreviated preparatory table as above described, and a rule for its employment, which may be somewhat as follows: "To ascertain the annual premium for a whole life assurance on two joint lives,  $x$  and  $y$ , find the difference,  $x - y = h$ . From the following table, find the value  $t$ , corresponding to  $h$ . Then the annual premium required will be that applicable to two joint lives each aged  $y + t$ ." The table would be probably, more or less—

$h$	$t$	$h$	$t$
1	$\frac{1}{2}$	7	4
2	1	10	6
3	$1\frac{1}{2}$	14	9
4	2	20	14
5	3	30	23
6	$3\frac{1}{2}$	40	$32\frac{1}{2}$

### UNIFORM SIMPLE REVERSIONARY BONUS.

(See BONUS; ALLOTMENT OF BONUS.)

### UNITED BRITISH INSURANCE COMPANY, LTD.

This office ceased to transact life assurance in 1929, when its Life Department was transferred to the ROYAL EXCHANGE Assurance, *q.v.*

### UNITED KINGDOM TEMPERANCE AND GENERAL PROVIDENT INSTITUTION.

Head Office: 196 Strand, London, W.C.2.  
Founded in 1840.

The original purpose of the Institution was to assure the lives of persons who abstained from the use of alcoholic beverages. In 1847 it was, however, decided to open the doors to non-abstainers also, and in 1849 the title of the Institution assumed its present form.

Non-abstainers became members in large numbers, and the membership nowadays consists of abstainers and non-abstainers. The total sums assured are, roughly, the same in both classes.

The percentage of actual to expected claims over the whole period 1866-1923, was 68.9 in the temperance, and 89.3 in the general section.

Profits are distributed every three years. The leading feature of the office is the fact that it is the pioneer office in the matter of distinguishing between abstainers and non-abstainers. Lives under 50 are accepted for amounts up to £2,000 without medical examination, and monthly payment facilities are also available.

The following tables, under which it is generally recognized that the Institution offers attractive terms, may be mentioned: (1) Children's deferred assurances, which may be dated back to the day of birth; (2) whole life without profit assurances, for £500 and upwards, tables being published in both the temperance and general sections; (3) house purchase scheme, under which an advance not exceeding two-thirds of the value of a house may be made, and the loan repaid by means of an endowment assurance.

### UNITED STATES.

(See CLIMATIC RISKS.)

### UNITED STATES LIFE TABLES.

(See NATIONAL DEATH RATES.)

**UNIVERSITY LIFE ASSURANCE SOCIETY.**

Head Office : 25 Pall Mall, London, S.W.1.  
Founded in 1825.

The University Life Assurance Society is one of the few remaining "class" offices. It was founded in 1825, by the then Speaker of the House of Commons, Charles Manners Sutton (afterwards Viscount Canterbury) and other University men, for the assurance of members of the Universities of Oxford and Cambridge, in the belief that "the average death rate would be diminished by the selection of the policy-holders from a class consisting mainly of the clergy and other professional men, and that the benefits to the assured would be correspondingly increased." The area of selection was subsequently extended to other educational institutions, but the membership is still confined practically to the professions—especially the teaching and medical professions—and to University and Public School men engaged in business; consequently the Society's operations are limited in amount. The belief that the members would show a lighter mortality than that of assured lives generally has been justified on the whole by the event. During the period covered by the British offices' experience the average duration of life of the Society's policy-holders is stated to have been from two to three years greater than that shown by the O table.

The enormous growth of public school and university education, and the general improvement of the standard of education, render the "class" for whom the University Life Assurance Society was originally devised so wide as to include tens of thousands of men, actively engaged in business, who have passed through the public schools and the universities.

A distinctive feature of the Society's present "with profit" policies—both whole life and endowment—is that they carry a minimum bonus guarantee. They participate in profits in the usual way, but it is guaranteed that if the total bonuses up to the date of death or maturity do not amount to a specified minimum (30s. per cent per annum for the first ten years, and 35s. per cent per annum thereafter on the full bonus scale) they will be made up to that amount. Since 1919 the Society has been associated with the Old Equitable, and has discontinued the payment of commission for the introduction of new business.

The Society publishes rates for whole life

and endowment assurances without profits, which will bear comparison with those of any other leading office.

**UNPAID POLICY LOAN INTEREST JOURNAL.**

(See BRANCH OFFICE SYSTEMS.)

**UNPAID PREMIUMS JOURNAL.**

(See BRANCH OFFICE SYSTEMS.)

**URAEMIA.**

A condition in which the kidneys are not excreting the requisite amount of urea, and in consequence this and other poisonous products of metabolism accumulate in the blood. It is invariably associated with kidney disease, and a case in which such disease has been sufficiently marked to cause uraemia in the past must be declined.

**URETERIC CALCULUS.**

A stone may pass from the kidney and become lodged in the ureter in its passage to the bladder. The symptoms are similar to those of renal calculus, but the pain may be situated lower down. *Sequelae* are pyonephrosis (pus in the kidney) or hydro-nephrosis (a dilatation of the parts above the stone, due to urine collecting which is unable to pass the obstruction). A patient with a ureteric calculus cannot be considered for life assurance until the stone has been passed or removed, and the condition of the kidneys investigated as carefully as in a case of renal calculus.

**URETHRA, STRICTURE OF.**

This may be due to injury, but is commonly the result of gonorrhoea (*q.v.*).

The effect of a stricture is to prevent the free outflow of urine, and frequently the bladder is not completely emptied. This leads to stagnation of the urine and its decomposition with resulting cystitis. Cases of stricture, therefore, have to be carefully investigated by a medical examiner. It is possible in cases with a history of stricture many years ago, but in which there has been no subsequent trouble, and the flow of urine is free at the time of the proposal, to issue a policy without extra premium. This is assuming that the rest of the genito-urinary tract is normal. Other cases have to be dealt with on their merits. If there is any sign of stricture at the time of examination, a short term endowment assurance with an increased premium is all that can be safely offered.

Other cases, especially those with abnormal urinary constituents, must be declined altogether.

**URETHRITIS (Inflammation of the Urethra).**

The commonest cause is gonorrhoea (see **VENEREAL DISEASE**). A septic infection may, however, give rise to a urethritis.

In the rare septic cases, provided that the attack has been completely cured and no urinary abnormalities are present, no extra premium is required.

**UTERUS, MALPOSITIONS OF.**

Misplacements or abnormal positions of the

uterus (i.e. slight bending or twisting from the normal "lie") are not uncommon in women, and, although they may give rise to some discomfort, may have no effect on the general health, and may, therefore, be ignored for life assurance purposes.

It does happen, however, that these malpositions, particularly prolapse, are associated with a generally debilitated condition, or may be associated with some growth of the womb unknown to the patient. Reference should, therefore, be made in cases of prolapse to the patient's doctor, and if this is not satisfactory a medical examination should be insisted on.

(See also **METRITIS**.)

**VACCINATION.**

There is perhaps more violent discussion on this subject than any other in medical science, and it is not proposed here to enter into an analysis of the arguments for and against this small operation. Those interested may obtain volumes written round the subject.

Here all that will be stated is that it is generally accepted by the great majority of the medical profession that vaccination is of the very greatest value in—

1. Preventing smallpox.
2. Minimizing its severity.

Considering the dangerous nature of the disease, it is sometimes the practice for insurance companies to issue policies to unvaccinated proposers who have not had smallpox, excluding death from smallpox from its benefits. On the other hand, many companies accept non-vaccinated proposers at ordinary rates. That they do so is due to the very much diminished frequency and severity of smallpox nowadays compared with 50 or 60 years ago. Such a diminution, however, is not likely to be maintained if the proportion of unvaccinated persons increases to any great extent. In cases where the proposer has had an attack of smallpox, the question of vaccination would not arise, as one attack of the disease immunizes the individual against others.

**VALUATION.**

(See INDUSTRIAL ASSURANCE ACT, 1923; LIFE OFFICE VALUATIONS; POLICY VALUES; STATUTORY REQUIREMENTS AS TO VALUATION; VALUATION BY GROUPS; VALUATIONS—CHANGES IN RATES OF MORTALITY AND INTEREST; VALUATION METHODS; VALUATIONS BY SELECT TABLES OF MORTALITY.)

**VALUATION AGES.**

(See LIFE OFFICE VALUATIONS.)

**VALUATION, BASIS OF.**

(See LIFE OFFICE VALUATIONS; CLOSED FUNDS.)

**VALUATION BY GROUPS.**

The valuation of life assurance policies without some form of grouping is scarcely

to be thought of, applied either to the policies or to the functions by which they are to be valued. For as to the sum assured it would be needless waste of time not to combine policies exactly alike, while assurances are effected at every fraction of each age, so that some grouping as regards age is likewise very desirable. In practice, the smallest interval of age usually taken is one year, and, in this country, all sums applicable to that year of age are taken together. In speaking of valuation by groups, something more far-reaching is generally intended—a wider range of ages.

There are two forms of methods in use for valuing assurances in groups. In the one form the group to be valued is arranged about a central age, while in the other the group is arranged about a convenient round number representing the value of the valuation factor by which the group is to be multiplied. Thus, in their simplest form, there would be combined, for example, all sums assured on lives aged between 35 and 45, which would be valued as at the central age, while in the second form a round value of the reversion  $A_x$ , let us assume, would be taken, .5 for example, and all sums assured between 38 and 48 multiplied by it (method of W. S. B. Woolhouse, J.I.A. xxvii 433). These simpler forms are employed as rough checks on valuations carried out more fully, since in themselves they contain a limited element of error. In J.I.A. xlviii A. E. King demonstrated an improvement in group valuation methods by a system of weights, which yields very accurate results. A central age method, the first step is to calculate  $\omega$  where

$$\omega = \frac{\sum_x S_x}{\Sigma S_x} S_x \text{ being the sum assured at age } x,$$

and then evaluate  $\Sigma S_x \left( A\omega + \frac{t^2 - 1}{24} \delta^2 A\omega \right)$

where  $t$  is the number of consecutive ages included (10 being recommended) and  $\delta^2$  the second central difference. By means of prepared tables attached to the paper, the actual work of valuation is reduced to a minimum. Modifications have been proposed by H. L. Trachtenberg, J.I.A. lii page 38 and J.I.A. liii 61, while further developments in the direction of substituting

summations for multiplications are due to A. Henry, J.I.A. li, page 118, and LII 48.

It is, however, in connection with endowment assurances that the advantage of grouping ages has been most conspicuous. The combination of every age at entry with every age at maturity would result in an unwieldy number of groups, were each age to be valued separately. In J.I.A. xxxiv, 61, Mr. G. J. Lidstone showed that all endowment assurances having the same unexpired term could be valued in one group, whatever the age, provided that the average age of the group was calculated in a way that allowed for the accelerated increase of mortality with the age. To do this, he recommended the use of the function  $c^x$  for valuations by the H<sup>m</sup> Table (where a table of mortality has been graduated by Makeham's formula,  $\mu_x = A + B.c^x$ )

Subsequently, the reliability of the method was demonstrated when other tables of mortality were employed (J.I.A. xxxiv, 510 and xxxviii, 1, 47). For a given unexpired term, the sums assured were to be multiplied at each age by the appropriate power of  $c$ , and from the average value of  $c^x$  based on that group, the corresponding value of  $x$  could be found by inspection of a table of  $c^x$ , and  $x$  would be the average age of the group. An improvement in practical application was arrived at as follows—

Instead of the quantity  $S_x c^{x^n}$ ,  $S_x c^{x^n + n}$  can be used, provided  $n$  is independent of  $x$ . Let  $n$  equal the integral number of years in the unexpired term, that is = [year of maturity] - [year of valuation + 1].

Then  $x + n =$  [year of maturity] - [year of valuation -  $x$ ] - 1  
 $=$  [year of maturity] - [office year of birth] - 1  
 $= M - 1$ , say, where  $M$  denotes

the difference between the year of maturity and the office year of birth. By this there is obtained  $S_M c^{M-1}$ , or multiplying by a constant, say,  $c^{-54}$ , to reduce the dimensions of the figures,

$S_M c^{M-55} = Z_M$ , say,  $M$  replacing  $x$  because  $M$  depends only on the maturity age. Then  $Z_M$ , which answers all the purposes of  $S_x c^{x^n}$ , is independent of the year of valuation, and may be calculated once for all at the outset of the policy, and tabulated in the same way as the net premium for example. At the valuation, these  $Z$ 's are summed, the average  $\frac{\Sigma Z}{\Sigma S}$  calculated, and the mean maturity

age ascertained, and hence the mean valuation

age, which is equal to  $M -$  [integral unexpired term + 1]. Tables of  $Z$  are given in the J.I.A. above mentioned, which facilitate the work. If a table of mortality is to be used for which  $Z$ 's have not been calculated, then the force of mortality for the table in question can be utilized equally well. A table of  $Z$  for one table may, however, be used for any other likely table without any material loss of accuracy.

## VALUATION METHODS.

**Net Premium Method.** In the formula

$$V = A - P(1 + a)$$

where  $V =$  the policy value

$A =$  the present value of the sum assured (and existing bonuses)

$P =$  the premium

$1 + a =$  the annuity due,

$A$ ,  $P$ , and  $a$  are all net functions based upon the table of mortality, and at the rate of interest used in the valuation. See J.I.A., xiv, 249 (H. W. Manly), J.I.A., xxi, 115 (A. H. Bailey), including the discussion following, J.I.A., xv (T. B. Sprague), also Brussels, I.C. I, 184, and in particular J.I.A., xxxvii (S. G. Warner).

**Pure Premium Method.** Practically an alternative nomenclature for the net premium method, proposed by Mr. A. H. Bailey, J.I.A., xxi, referred to above.

**Re-insurance Method.** By this method, much in favour before 1870, it was considered essential that each policy should be valued separately according to the table of mortality and rate of interest which would produce the premium actually charged. To achieve this, an inverse process was followed; first, the annual premiums were fixed; from these, values of annuities and reversions were derived, and finally a hypothetical table of mortality constructed. For a description and defence of it, see R. Tucker, J.I.A., x, 312. In J.I.A., xi, 90, Dr. T. B. Sprague showed that the policy values by this method, as compared with the net premium policy values, depended upon how the office premium was loaded at the different ages.

He showed that

$${}_n V'_x > < n V_x \text{ according as}$$

$$\frac{\psi_x + n}{P_x + n + d} > < \frac{\psi_x}{P_x + d}$$

where  $V'$  is the hypothetical or re-insurance policy value, and  $V$  the net premium

value, and  $\psi_x$  and  $\psi_{x+n}$  are the loadings at ages  $x$  and  $x+n$  respectively.

Thus if  $\psi_x = h(P_x + d)$  for all values of  $x$ , i.e. if the loading is a constant percentage of  $(P_x + d)$ , the policy values will be equal. If the loading is an absolute constant, or decreases with the age, or does not increase in the ratio above indicated, the hypothetical policy values will be smaller, while if the loading, for example, is a constant percentage of  $P_x$  (not  $P_x + d$ ) the hypothetical values will be larger.

Although the criticisms of Dr. T. B. Sprague and others led to the supersession of this method, it yet had the advantage of producing policy values nearer to the truth than those (not unknown) where the gross premium payable was valued by a "true" annuity, i.e. the value of all future loadings was brought in as an asset, for by the re-insurance or hypothetical method, while the premium valued was large, it was valued by an artificially small annuity, and set against an artificially increased reversion.

**Gross Premium Method.** When a valuation is made by a mortality table based upon actual experience, i.e. not "hypothetical" in the sense of the re-insurance method, and the premium valued is not the net premium corresponding to that table of mortality, then, in the wider meaning of the term, it is said to be a gross premium valuation. It does not mean that credit is taken in the valuation for the full office premium payable—the mistake mentioned in the preceding paragraph—but that the premium valued is—

1. The office premium payable, less a percentage deduction to provide for future expenses (and perhaps bonuses).

2. The premium valued may be the net premium corresponding to another mortality table, or to the same table at a higher rate of interest, or a combination.

The premium so valued may be larger or smaller than the net premium on the valuation basis, depending on the object in view, either—

1. To increase the margin of loading, reduced possibly through a reduction in the valuation rate of interest—particularly in non-profit classes.

2. To approximate to the results that would be shown if the valuation were made by select mortality tables.

3. To provide for the proportionately heavy expenses of new business.

As regards (1), it is not uncommon to adopt a percentage deduction varying

according to the class of insurance, especially whether non-profit or with profit.

As to (2), some explanation is desirable. The investigations of Dr. T. B. Sprague and Mr. George King into the significance of selection, and particularly their demonstrations of the increased policy values required, led to a search for methods whereby the results desired might be arrived at without the extreme labour of using full select tables. It was found that a satisfactory approximation was obtained to a  $H^M$  select valuation when the  $H^M$  net premium was used, the  $H^{M(5)}$  reversions and annuities being employed for business over five years in force.

Various modifications of this idea have been tried, but the relationship of the results shown to those which would be obtained by the net premium method either with aggregate or with select mortality tables has to be ascertained in the particular cases. The coincidence that obtains for the  $H^M$  experience is not necessarily valid generally.

Passing to (3), it may be mentioned that the old system of remunerating agents for the introduction of new business was to pay them 10 per cent of the first premium and 5 per cent of subsequent premiums. When, however, the custom arose of paying what was termed a commuted initial commission of  $\frac{1}{2}$  per cent on the sum assured and only  $2\frac{1}{2}$  per cent on renewals (and it has not stopped there), the heavy proportionate cost of new business became more noticeable. Various analyses have shown that the first year expenses of the business are about ten times as heavy as those for renewals, and this evidently is a serious matter both for young offices and for those transacting a new business large in proportion to the amount already in force. Moreover, scientific accounting in any event calls for some recognition of such facts. Dr. Zillmer in Germany, and Dr. Sprague in this country, proposed to methodize the new position. Dr. Sprague, suggested valuing a net premium corresponding to an age one year older, provided a reserve were made for the first year of assurance equal to the risk premium for that year, while Dr. Zillmer's method was to apply 1 per cent or some other fixed percentage of the sum assured to meet initial expenditure, this being distributed over the whole subsequent term of the policy as an addition to the net premium.

In the United States, where the concentration of the expenditure on the early

years of duration tends to be proportionately even more marked, the insurance laws (which prescribe regulations for such points) recognize that a young office could not set aside full net premium reserves at once, and allow modifications of various kinds, a brief mention of which may be useful—

1. **Full Preliminary Term Plan.** The first premium, less the net premium for a one year term insurance, may be used for expenses, and at the end of the first year the policy is regarded as having been effected one year later, i.e. in effect Dr. Sprague's method.

While this method is not unreasonable for whole life assurances, it is clearly inequitable when applied to various classes of assurance, and most of the States prohibit its unrestricted use, while some allow it where the premium rate is not higher than that for a 20 year limited payment policy.

2. **Modified Preliminary Term Plan.** *Ohio Standard.* In this, the maximum deduction from the first year net premium reserve for any class of policy is based on the amount available by the full preliminary term plan in the case of an ordinary whole life policy.

*Illinois Standard.* The Ohio standard is regarded as rather severe on younger companies, and the Illinois standard, which is more in use, extends the limit of the first year's expenditure to that allowed on the basis of a whole life 20 limited payment policy.

**Other Modifications.** By the above standards, the net premium reserve is never reached unless and until all premiums have been paid up. New Jersey prescribes that the net premium reserve must be reached by equal annual amounts in seven years, and Canada allows only five years.

**Select and Ultimate Plan.** For nearly 20 years New York State has had a special system of its own, devised by Mr. M. M. Dawson. In this it is assumed that the premium payable is based upon an ultimate mortality table, the rate of mortality experienced being assumed to be that of a select table. This permits a certain reduction in reserves. The general formula is

$${}_nV'_{[x]} = A_{[x]} + n - P_{\bar{a}} \cdot a_{[x]} + n$$

See J.I.A., xlii, 433 (Dawson), as also the following discussion for criticisms. It appears that "no other State has, so far, adopted it" (*Life Insurance*, by Joseph B. Maclean, London, McGraw-Hill Publishing

Co., Ltd., 1924), and since it requires a reserve even in the first year, the same authority considers that "it is not sufficiently liberal, in view of practical conditions, to permit of the successful operation of new companies, a fact which is demonstrated by the failure of the New York Insurance Law of 1906 to accomplish its avowed purpose of encouraging the formation of companies, and by the recent amendment in the law" (i.e. April, 1923, permitting the Illinois standard, under retention, however, of the former limitation of expenses). Mr. Maclean is assistant actuary of the Mutual Life of New York.

#### VALUATION, NOTICE OF.

(See WINDING-UP.)

#### VALUATION OF POLICIES.

(See WINDING-UP.)

#### VALUATION PROCEDURE.

(See LIFE OFFICE VALUATIONS.)

#### VALUATION STATEMENT.

(See BOARD OF TRADE, POWERS OF.)

#### VALUATION, STATUTORY REQUIREMENTS.

(See STATUTORY REQUIREMENTS AS TO VALUATION.)

#### VALUATION SURPLUS.

(See BONUS.)

#### VALUATIONS.

(See full list of articles under the heading of VALUATION.)

#### VALUATIONS BY SELECT TABLES OF MORTALITY.

The responsibility for ensuring that the reserves of life assurance offices will always be adequate to meet all claims in full has quickened the search for reliable valuation bases. The undeniable effect of selection on the mortality of assured lives, and on the corresponding policy reserves, might have led to the gradual adoption of select tables in valuations had it not been found that the use in the formula

$$V = A - P(1 + a)$$

of the  $H^M$  table for  $P$  in all cases, and of the  $H^{M(5)}$  table for  $A$  and  $a$  for business over five years in force, the  $H^M$  table being employed for lesser durations, gave an approximation to the results of a valuation

by the  $H^M$  select table. It appears indeed that the select reserves at 3 per cent are the greater for the Model Office up to nearly 30 years, and thereafter less (New York I.C., I, 205), but that when the analogous comparison is made for the British offices' experience, i.e. the combined tables  $O^M$  and  $O^{M(5)}$  versus  $O^M$  select, the reserves by the latter table are larger all through.

The value of this device of using the combined  $H^M$  and  $H^{M(5)}$  tables, with the resulting economy in time and labour, and possibly the desire to await the results of the next mortality investigation, and see whether Dr. Sprague's wonderful construction of the  $H^M$  select table would be corroborated, caused hesitancy during the later eighties of the last century, and subsequently to the introduction of select tables for valuation purposes, although tests and comparisons were frequent.

Moreover, the rapid development of endowment assurance business was a deterrent—operating in several ways—

1. The labour of applying select tables, not inconsiderable for whole life business, would be far greater for endowment assurances.

2. The necessity for such tables is so much less with a class of policy where the purely investment element tends to swamp the influence of mortality.

3. There are evident disadvantages in valuing one group of policies, say, whole life, etc., by select tables, and using aggregate tables for endowment assurances.

All the same, organizing difficulties would have been no permanent hindrance. Although it had been shown that selection persisted for many years, as exhibited in mortality experiences covering many years, its practical effects evidently were confined to the early years of duration. The preparation of "ultimate" tables representing the experience after five or ten years' duration, made the employment of select tables easier. There were, and are, certain advantages, especially for really large offices, in valuing each (calendar) year's new business separately (affording checks by comparison). For small offices, however, with proportionately large new business and heavy initial expenditure, the employment of a valuation standard calling for larger reserves, more expensive to apply, and making no allowance for new business incidence, would be too severe. The Berlin I.C., vol. iii, in the discussions on industrial insurance, brought forth many arguments in favour of smaller

offices from German speakers, apparently with fears of a compulsory valuation standard on a select mortality basis. One defence against select tables that has gained ground was a direct counter attack, illustrating that in select tables in their present form there was incorporated the result of a gradual improvement in mortality generally. Some support is lent to this by the investigations of Messrs. Elderton and Oakley into Annuity Mortality, 1900–1920 (London, C. & E. Layton), in which they are led to restrict the period of selection to one year.

More light will be shed on this by the corresponding investigation regarding assured lives. It is quite likely that when results of the mortality of assured lives in successive calendar years can be made known, three years may be found to be a sufficient period during which to trace selection.

Any note on this subject would be incomplete, apart from earlier researches, without recording the work of Messrs. George King, O. F. Diver, and T. G. Ackland, who in three papers in J.I.A., xl, showed how select tables could be applied in the valuation of whole life policies, while in J.I.A., xliii, 185, Mr. E. H. Brown carried these further, and in J.I.A., xl, 250, he suggested processes suitable for endowment assurances.

#### VALUATIONS—CHANGES IN RATES OF MORTALITY AND INTEREST.

The article on MODEL OFFICES provides illustrations of the financial effects of an alteration in the table of mortality and/or the rate of interest employed in a valuation. For a single policy, the value  $V'$  on one basis will be greater than, equal to, or less than the value  $V$  on another basis, according as

$$\frac{1 + a'_x}{1 + a_x} > = < \frac{1 + a'_{x+n}}{1 + a_{x+n}}$$

To determine how the policy values by two mortality tables will compare, it is only necessary to construct the ratio  $\frac{1 + a'_x}{1 + a_x}$  for all values of  $x$ . So long as the ratio diminishes as the age increases, then  $V'$  is greater in value than  $V$ , and vice versa. Usually there will be series of ages where one table gives larger values, and other series where they are less. An alternative procedure is to calculate the ratio  $\frac{1 + a_x}{1 + a_{x+1}}$  for each of the two tables, when a comparison will show through which sections the one

table gives greater or less policy values than the other. (See *Textbook of the Institute of Actuaries*, Part II, page 332.)

The condition of equal policy values is that

$$p'_x = p_x \left( 1 - \frac{k}{a_x} \right)$$

where  $1 + a_x = (1 + k) \times (1 + a'_x)$ .

Examine the equation

$$(V + P)(1 + i) = V_1 + q(S - V_1)$$

which states that the policy value at the beginning of the year, plus the annual premium then paid, both increased by a year's interest, will provide the policy value at the end of the year, plus provision for the claims that have arisen during the year. Let accented symbols denote a different basis of valuation, then for equal policy values by the two bases we have

$$(V + P')(1 + i') = V_1 + q'(S - V_1)$$

whence

$$(V + P)(i' - i) + (P' - P)(1 + i') = (q' - q)(S - V_1)$$

which is termed the "Equation of Equilibrium." This is explained as follows—

If two sets of policies, securing identical benefits and giving equal policy values, be supposed to be worked out side by side on different bases (say "normal" and "special" respectively), then the special policies will receive the excess premium increased by a year's interest at the special rate, and also earn excess interest on the normal initial reserve.

The additional receipts must be exactly sufficient to provide at the end of the year the excess claims and the excess reserves, the total of which may be termed the excess strain (excess being understood to be either positive or negative). For a continuation of the reasoning where equality does not prevail, reference should be made to *Life Contingencies*, by E. F. Spurgeon, or to the original paper by Mr. Lidstone, J.I.A. xxxix.

### VALVULAR DISEASE OF THE HEART.

(See ENDOCARDITIS.)

### VARIATIONS IN POLICY VALUES.

(See POLICY VALUES; also VALUATIONS—CHANGES IN RATES OF MORTALITY AND INTEREST.)

### VARICELLA.

(See CHICKEN POX.)

### VARICOCELE.

A condition of enlargement and engorgement of the veins of the spermatic cord.

It is only rarely that this has any significance in life assurance. It does very rarely happen that a varicocele is caused by an abdominal tumour, causing pressure on the veins within the abdomen. If this happens, the case must therefore be excluded. Otherwise a varicocele can have no effect on the proposer's longevity.

### VARICOSE VEINS.

A distended and tortuous condition of the veins which causes defective circulation in the parts affected. The only common situations for these are in the legs or in the scrotum (see VARICOCELE). Varicose veins, if uncomplicated, do not endanger life, but complications are numerous, and may have considerable effect on a life proposal.

Such complications are thrombosis, ulceration, eczema, marked oedema of the leg or legs. If any of these complications is present, declension may be necessary, but a decision can only be arrived at after a complete medical examination. This should be insisted on whether these complications exist or not, as it may be possible by such an examination to determine the likelihood of their development.

In the event of such examination showing that the veins are only slight, and that there are no signs of complications, or likelihood of these, the proposal may be accepted without increased premium. This also applies to cases in which the veins have been removed, and no recurrence is shown after the lapse of two years.

In other cases the company has to be guided entirely by the report of their chief medical officer.

### VARYING ANNUITY.

(See ANNUITY-CERTAIN.)

### VENEREAL DISEASE.

There are two varieties of venereal disease, viz., gonorrhoea and syphilis.

**Gonorrhoea.** This is an infection of the genital passage in both male and female. It is characterized by a discharge of thick pus in the acute stage, and later on by a thin watery pus (gleet). This is due to an inflammation of the mucous membrane of the urethra (in the male), and in cases treated early and vigorously the whole attack may rapidly subside and leave no after-effects.

In many cases, however, complications and *sequelae* follow, especially if not vigorously treated in the early stages. The infection may spread to the bladder, giving rise to cystitis; to the testicles, causing orchitis; to the prostate, causing prostatitis or prostatic abscess; or, when the inflamed mucous membrane heals, the scarring may contract and give rise to a stricture of the urethra. In cases of stricture serious *sequelae* may arise, namely, cystitis and inflammation spreading up to the kidneys. Acute inflammation of the joints (*Arthritis, q.v.*) and of the eye (*Iritis, q.v.*) may follow a simple attack of gonorrhoea; also *Endocarditis (q.v.)*.

The importance of gonorrhoea, therefore, lies not so much in the acute attack as in the *sequelae* to which it may give rise, and some of these are a definite bar to life assurance. It therefore follows that cases in which gonorrhoea is active must be refused, and cases in which there is a history of this disease must be treated with great care. In any event they must be referred to head office. In cases where there is a history of stricture, whether a preceding attack of gonorrhoea is admitted or not, the important points to be considered are the length of time that has elapsed since symptoms of difficulty in passing water were present, or the passage of instruments for dilatation was necessary, and whether there are at the time of the proposal any symptoms of cystitis or urethritis (chronic gleet). A man who develops a stricture after 40 years of age should not be granted a life policy, although an endowment assurance may be issued with an increased premium, provided there have been no symptoms of urinary obstruction for twelve months, and there are no signs of cystitis.

**Syphilis.** This is a disease caused by a germ called the *spirochaeta pallida*, and may be either congenital or acquired. If the latter, it is almost invariably caused by sexual intercourse.

The acquired type is divided into four stages.

The first, or primary, stage is that of the first infection, usually occurring as a sore on the genital organs. (This sore is called a chancre.) The sore heals within a week or two, and there is then a period when no symptoms are shown, lasting for two or three weeks. The secondary stage then manifests itself by symptoms of a varying character, most commonly by sore throat, rashes on the skin, and falling out of the

hair. Small shallow ulcers may also develop in the mouth. These symptoms are transient, lasting for a few weeks, and the patient may show no more symptoms for some weeks, or three or four months, when the tertiary stage develops.

This stage is characterized by the appearance in different parts of the body of masses of chronic inflammatory material. Each mass, which may vary in size from the size of a pea to that of a golf ball, is called a gumma. These may affect any part of the body and the symptoms to which they give rise may, therefore, be extremely varied. There may be nervous symptoms if the brain is affected, gastric symptoms if the alimentary canal is affected, or pain and swelling of the bones may occur. If these gummata lie near the surface of the body, they break down and form deep ulcers, which result, when healed, in extensive scarring and resulting deformity. In some parts of the body such scarring gives rise to serious symptoms, e.g. in the intestinal tract it may give rise to stricture of the rectum or the oesophagus, and so cause the death of a patient.

In any event this stage is of considerable danger to the life of a patient, as any of the vital organs may be affected, and, apart from any such immediate cause of death, the general vitality and powers of resistance of the sufferer are very much diminished.

The fourth stage is that of the so-called para-syphilitic diseases.

Of these the commonest ones are varying forms of paralysis due to degeneration of the brain and nerves. Locomotor ataxy, general paralysis of the insane, or paralytic dementia, are common forms of this. Often late manifestations of syphilis affect the circulatory system, and arterio-sclerosis (*q.v.*), atheroma, and aneurism (*q.v.*) are commonly due to syphilis.

The importance of these affections from the point of view of life assurance is not only with regard to the personal history of the proposer, as they only occur late in life, and are not likely to manifest themselves at the time a proposal is made. But their greatest importance may be in the family history of the proposer, i.e. a proposer may have parents who have died of apoplexy due to atheroma or arterio-sclerosis of venereal origin, and the proposer may be suffering from a congenital form of the disease.

Cases, therefore, in which death of a parent from any nervous trouble (the exact nature of which is unknown or is called, vaguely,

paralysis) or a stroke (which may be due to a syphilitic vascular degeneration, or from aneurism) appears in the family history, must be viewed with suspicion, and the possibility that the proposer suffers from congenital syphilis must be borne in mind.

**Congenital Syphilis.** By congenital syphilis is meant the inherited form of the disease. As a rule, if a child inherits syphilis, it does not reach maturity. If it does, it usually shows signs of the disease. These manifestations are easily recognizable on medical examination, and affect chiefly the skeleton, deformity and thickening of the bones being common, and scarring round the mouth is frequently present. The importance of congenital syphilis lies in the possibility of it giving rise later in life to cardio-vascular degeneration, and so cerebral degeneration, arterio-sclerosis, and added risks of premature death.

Cases of congenital syphilis, if showing only very slight signs, and if their general cardio-vascular and nervous condition is good, may be accepted with a small additional premium.

In cases of acquired syphilis the insurability depends on the length of time that has elapsed since any symptoms manifested themselves. If there are any active signs present on examination, the case is to be rejected. If there have been no signs for ten or twelve years and the patient is otherwise healthy with a good family history, the proposal may be accepted, though preferably for an endowment assurance.

All cases of venereal disease should, however, be invariably referred to a medical referee at the head office.

#### **VESICAL CALCULUS (Stone in the Bladder).**

A stone may pass from the kidney to the bladder and be retained there, or it may be formed in the bladder.

Common symptoms are frequency of micturition, pain on micturition, and the passage of blood or pus. Cystitis is almost invariably present. A stone in the bladder may be secondary to some other condition, as it may arise in any bladder in which cystitis is present (see **CYSTITIS**). A patient with a history of vesical calculus must be subjected to a strict medical examination, and reference made to the surgeon who removed it.

These cases usually demand an increased premium. In any event, a policy cannot be granted until the stone is removed, and all

traces of cystitis have disappeared for at least twelve months. The same strict medical examination is necessary in all cases, as in cases of renal calculus.

Cases in men over 50 years of age are in any circumstances usually uninsurable, although a short term endowment assurance may be issued.

#### **VESTED BONUS.**

(See **BONUS**; **ALLOTMENT OF BONUS**.)

#### **VESTING OF BONUS.**

(See **BONUS**; **ALLOTMENT OF BONUS**.)

#### **VICTORY BOND POLICIES.**

The issue of these policies in connection with the 4 per cent Victory Bonds was a sequel to the issue of War Loan Policies (*q.v.*). The 4 per cent Victory Bonds were issued at £85 for each £100 nominal amount of Bond, and were redeemable by annual drawings of a proportion of the Bonds, which were redeemed by payment of their full nominal amount. On this account the policies differ somewhat from the War Loan variety. Each policy is allotted a Bond number, and in the event of any such numbered Bond being redeemed as the result of any drawing during the currency of the policy, the office undertakes to pay on the date of redemption the full nominal amount of the Bond in cash, all premiums ceasing. In addition, the policy secures to the policy-holder at death or survivance of the selected term the transfer of Victory Bonds to the amount of his contract or, alternatively, the market value of the Bonds should cash be preferred. In order that the office might retain full control over the investment, however, it was stipulated that any amount in Bonds becoming transferable under policies would be transferred from the office's holding, and that, therefore, although of identical value, they might not necessarily bear the same numbers as those originally allotted to the policy. The amount assured under a policy could consist of one or more Bonds, and where the latter was the case, and one of several Bonds happened to be drawn, the amount of the drawn Bond only was payable, the benefits and subsequent premiums under the policy being proportionately reduced. As the benefits under the policy became immediately operative on acceptance and payment of the first premium, it will be seen that in the event of early drawing the policy-holder stood to make a large profit

on his investment, quite apart from its assurance protection aspect. Income tax rebate was recoverable on all premiums paid, and in the event of discontinuance after three years' premiums had been paid the policy acquired a guaranteed minimum surrender value of 40 per cent of all premiums paid in respect of Bonds undrawn at the date of surrender. Under one scheme, in the event of death by accident, double the amount of Bonds assured was transferred to the policy-holder's representatives. Medical examination was necessary, except in the case of approved proposals for policies for a ten-year period.

The following are specimen annual premiums required for the purchase of each £1,000 of Victory Bonds, all policies being, of course, without participation in profits—

Age next birthday.	10 year period.		15 year period.		20 year period.		25 year period.	
	£	s. d.	£	s. d.	£	s. d.	£	s. d.
30	95	10 10	64	8 4	49	9 2	40	18 4
35	95	18 4	64	19 2	50	3 4	41	18 4
40	96	10 10	65	15 10	51	6 8	43	7 6
45	97	10 -	67	2 6	53	3 4	45	13 4

### VISCEROPTOSIS.

(See ENTEROPTOSIS.)

### VITALITY, RECENT IMPROVEMENTS IN.

For a great number of years the vitality of the community has been improving, on the whole; that is to say, the death rate has become lower, and the average number of years of life enjoyed by each person has increased. Concise evidence as to this is afforded by the following summary (see *The Life Assurance Text Book*, page 68) as regards England and Wales—

A similar improvement appears to be taking place in most civilized communities (see *New York I.C.*, 1903, vol. I, page 1, etc. Fuller information on the subject will be found in *Newsholme's Vital Statistics*, New Edition, George Allen and Unwin, Ltd., London, 1923, and, for a rather earlier period, *England's Recent Progress*, by Thomas A. Welton, Chapman and Hall, Ltd., London, 1911.)

Such a summary as the above only shows that, on the whole, so far, of course, as the statistics can be relied upon, there has been a continuous increase in the expectation of life at birth, and that females have benefited to a greater extent than males. It does not give any information as to the ages at which the improvement has been taking place, which is so important from a life assurance point of view. As the general trend has continued on into the present century, it will be sufficient for present purposes to deal more closely with recent tables, connecting them up with the above, to some degree, by including the last of the series again, but tabulating, instead of the expectation of life, the rate of mortality at each fifth year of age. Some rates, it will be observed, refer to the general population, some to annuitants, and others to special classes of the community. In each case the mortality of the sexes is kept separate. Since for the principal tables the latest investigation preceded it and also that which immediately preceded it are given, it is clear that many interesting comparisons are possible.

As regards the English National Life Tables, it will be seen that, during a period of ten years only, the mortality of males decreased by 3 per cent at the younger ages, by as much as 20 per cent at the middle ages, and by 2 per cent at advanced ages. For females the improvement was similar, though rather less striking. Comparing,

SUMMARY OF ENGLISH LIFE TABLES

Table No.	Based on deaths during the years	Expectation of life at birth.		Age at which the number living is reduced to one-half the number of births.	
		Males.	Females.	Males.	Females.
3	1838-54	39-91	41-85	44-45	46-47
4	1874-80	41-35	44-62	47-48	52-53
5	1881-90	43-66	47-18	51-52	56-57
6	1891-1900	44-13	47-77	52-53	57-58
7	1901-1910	48-53	52-38	58-59	62-63
8	1910-1912	51-50	55-35	61-62	65-66
9	1920-1921	55-62	59-58	65-66	69-70

RATES OF MORTALITY PER 1,000

	English No. 8 (1910-12).		New English (1920-21).		Government Annuities (1900-1920).		British Offices Annuityants (1900-1920).		Scottish Life Tables 1921 (1920-1922).	
	Males. (1)	Females. (2)	Males. (3)	Females. (4)	Males. (5)	Females. (6)	Males. (7)	Females. (8)	Males. (9)	Females. (10)
16	2.59	2.57	2.51	2.56	2.81	2.10			2.88	2.81
20	3.48	2.95	3.34	3.01	3.36	2.55			3.61	3.59
25	4.00	3.40	3.95	3.54	4.00	3.30			4.28	4.27
30	4.78	4.11	4.57	3.95	4.69	4.20			4.95	5.14
35	6.24	5.23	5.55	4.51	5.52	5.22			6.00	6.09
40	8.11	6.60	6.84	5.32	6.58	6.29	8.03	7.16	7.17	6.66
45	10.89	8.54	8.73	6.72	7.98	7.36	8.49	7.62	9.37	7.94
50	14.82	11.40	11.92	8.97	10.10	8.52	9.70	8.46	12.74	10.49
55	21.11	16.15	17.24	12.72	13.97	10.47	14.15	10.03	18.70	15.40
60	30.42	23.10	25.53	18.67	20.90	13.77	20.78	12.88	28.94	22.33
65	43.75	33.42	38.32	28.38	33.15	19.46	30.47	18.14	42.16	32.78
70	64.70	52.59	59.42	45.84	52.39	32.51	44.61	27.70	64.67	49.56
75	97.51	80.79	92.49	73.00	81.73	55.45	68.61	45.07	100.69	79.25
80	142.99	124.19	138.70	116.70	126.38	92.32	109.02	76.24	145.79	125.81
85	199.11	175.37	195.70	170.70	192.77	151.66	158.91	131.50	205.96	179.86
90	273.95	238.26	269.00	233.00	269.86	231.12	228.42	204.61	284.98	250.75

	Scottish Life Tables (1911).		Scottish Bankers (1903-1923).		Scottish Bankers (1903-1923.) (Before 1893.)			Life Tenants (1905-1919).	
	Males. (11)	Females. (12)	Males. (13)	Wives. (14)	Married Men. (15)	Married Men (16)	Wives. (17)	Males. (18)	Females. (19)
16			2.5						
20	4.16	3.95	2.6	2.7	2.5	6.1	13.0		
25	4.46	4.56	3.3	3.4	2.5	6.5	10.7		
30	5.59	5.63	4.0	3.5	2.5	7.2	9.0		
35	6.70	6.94	3.7	2.8	2.8	7.3	8.1		
40	8.67	8.07	4.9	2.4	4.2	10.6	7.8		6.15
45	11.53	9.40	7.8	4.4	7.0	13.0	7.8		7.15
50	15.98	12.73	11.3	7.3	10.4	14.3	8.8	21.89	8.80
55	22.05	18.14	17.2	9.4	16.1	17.5	12.1	25.53	11.58
60	32.92	26.39	24.1	13.2	22.5	27.1	18.0	31.62	16.23
65	43.98	33.62	38.8	22.5	36.0	46.7	27.2	41.75	23.99
70	68.67	54.25	62.3	43.0	57.0	63.6	45.2	58.52	36.87
75	99.56	85.89	90.8	68.0	85.0	77.8	77.5	86.01	58.13
80	138.18	120.22	135.6	88.0	130.0	114.1	128.3	130.37	92.75
85	199.28	174.82	240.0	110.0	235.0	233.2	199.9	200.06	148.05
90	279.08	249.83	463.1	180.0	460.0	518.5		304.72	233.40

however, the mortality of males with that of females, the superior vitality of the latter is manifest. The Scottish National Tables display similar tendencies.

The improvement in the vitality of the general population is to be ascribed not only to improved sanitation, to growing knowledge and understanding of methods of health conservation, but also, probably, to a large extent, to the general rise in the standard of living among the working classes, to the greater purchasing power of the wages they are now able to earn, and perhaps also to beneficial consequences of the various new schemes of social insurance (National

Health, etc.). In any event, in spite of unemployment, a large proportion now have greater opportunities of securing good food, warm clothes, and, on the whole, better housing accommodation. In this connection, it is just possible that the higher rates of mortality at present prevailing in Scotland, relative to England, although they have shown improvement, are because the higher scales of pay have not penetrated there to the same extent as in England, and because of the extreme overcrowding in Glasgow, which contains fully one-fourth of the entire population of Scotland. In a general way, the vitality of the people of Scotland has

always been considered as at least equal to that of England.

The effect of better social conditions may be estimated roughly by considering the mortality of the Government annuitants as against that of the National Tables. The annuitants, of course, are mostly self selected, and evidently the purchasers of annuities are on the average in a more comfortable financial position than the bulk of their neighbours. Little weight, however, is to be ascribed to the Annuitants Tables below age 50. The facts at those ages were very few, and the tables had to be completed by reference to other experiences.

The following is a list of the mortality tables of which the rates are given in the summary. For a description of the annuity experiences, see MORTALITY OF ANNUITANTS.

purchase in 1905 or of subsequent entry to their purchase anniversary in 1919 or previous exit. (See *Fortbildungs-Vorträge*, II, page 155, etc., Berlin, E. S. Mittler & Sohn, 1926.)

The comparison that would have been particularly interesting in this connection, namely, as to the degree of improvement among lives assured, is not yet possible, although a new investigation is being carried through by the Institute and Faculty of Actuaries. The improvement is expected to be of moment, especially at the younger ages. Whether it will come up to that of the existing life tables, the  $O^M$ , over their forerunners, the  $H^M$ , remains to be seen. How much that was, can be gathered from the following, to which, as a matter of interest, is added a similar comparison between

Table.	Date.	Reference.
1. English No. 8	1910-1912	} <i>Widows', Orphans', etc., Bill, Report by the Government Actuary, Cmd. 2406, 1925.</i> H.M. Stationery Office.
2. New English	1920-1921	
3. Government Annuitants.	1900-1920	
4. British Offices Annuitants <i>a(m)</i> and <i>a(f)</i> .	1900-1920	} <i>Mortality Experience of Government Life Annuitants, 1900-1920, Report by the Actuaries, 1924</i> H.M. Stationery Office.
5. Scottish Life Tables.	1921	
6. Scottish Bankers	1903-1923	} <i>The Mortality of Annuitants, 1900-1920, by Elderton &amp; Oakley, London, C. &amp; E. Layton.</i>
7. Life Tenants	1903-1919	
		Dr. J. C. Dunlop, <i>Transactions of the Faculty of Actuaries</i> vol. x, page 1, etc (1924). London, C. & E. Layton.
		A. Fraser, <i>T.F.A.</i> , x, 213, etc. (1925).
		E. H. Lever, <i>J.I.A.</i> , liii, page 1, etc. (March, 1922), and <i>J.I.A.</i> , page 285 (Nov., 1923).

*Scottish Bankers.* This experience was compiled by Mr. Alexander Fraser, and submitted to the Faculty of Actuaries in Scotland on the 26th January, 1925. It gives, *inter alia*, the mortality rates applicable to the Widows' Funds of the Scottish Banks during the period 1903-1923, and as it follows a similar investigation made by the late Mr. Archibald Hewat, published in 1894, comparisons are possible.

As regards the married men, the great improvement in the vitality of the younger ages will be noted, combined with an actual tendency towards deterioration at the older ages. As to wives, the improvement is striking at the extremes of life, more particularly at the younger ages.

*Life Tenants under Reversions.* This investigation was based upon the mortality experience of seventeen life assurance companies and four reversionary companies as regards life tenants in respect of absolute and contingent reversions definitely purchased by the offices concerned. The period of observation was from the anniversary of

the current German Life Tables, M & W 1, of the twenty-three German offices, published 1883, and the latest, V 76/06, published 1926, covering the 30 years of observation between 1876 and 1906—

Age.	British.		German.	
	$H^M$ Table.	$O^M$ Table.	M. & W. 1	V76/06
20	6.3	4.0	9.2	3.3
40	10.3	9.1	11.8	7.6
60	29.7	28.9	35.3	33.6
80	144.7	138.4	155.2	152.5

In conclusion, while it appears not unlikely that out of a larger number of persons of superior average health a few more may survive beyond the ages hitherto reached—may establish new records, so to say—there is but little evidence to sustain any hope that a larger proportion of mankind can expect to surpass the allotted span.

The very marked range of variation shown in the rates of mortality, even in the few cases above, all applicable to people of the same race, illustrates sufficiently that there is still much scope for further efforts towards improvement. Such discrepancies are too large to be considered as accidental, and it is reasonable to suppose that more can be achieved. In any event, what has been attained in the way of lessening mortality during the limited periods covered by the above summaries, especially during the valuable working years of life, is of good augury for the future.

### VITAL STATISTICS.

(See NATIONAL LIFE TABLES; also NATIONAL DEATH RATES.)

### VOIDABLE CONTRACTS.

(See CONTRACT, PARTIES TO.)

### VOLUNTARY SETTLEMENTS.

A policy of assurance may be the subject of a gift, i.e. it may form the subject of a voluntary settlement; once properly made, such a gift is irrevocable. To constitute such a gift the policy may be simply delivered over with words of present gift or be assigned in writing or declared to be held by the donor in trust for the donee. A gift of a policy is not valid against creditors if the settlor was at the time insolvent by the Act of 13 Eliz. c. 5, which means that the settlor was at such time in such circumstances that inability to pay his debts was actually existent or reasonably to be apprehended; if so, it may be reasonably presumed that the settlement was made to delay, hinder, or defraud creditors.

To constitute a valid voluntary settlement the settlor—

1. Must deal with the property so as to deprive himself of beneficial ownership;

2. Where his interest is equitable, he may direct the trustee to stand possessed of it in trust for the donee.

A declaration of trust, which need not generally be by deed, is equivalent in equity to a transfer of the legal interest, and a direction to a trustee assented to and acted upon by him will be effectual.

Policies of assurance are commonly, but not necessarily, settled in connection with other property in marriage settlements. These settlements may vary very much in their terms, and a very simple one (which is summarized hereunder) is provided in

*Encyclopaedia of Forms and Precedents*, (q.v. as to other Forms) as follows—

### Marriage Settlement of Husband's Life Policy

THIS INDENTURE made the day of 19 Between A. (intended husband) of the one part B. (intended wife) of the second part and C. (intended trustees) of the third part. WITNESSETH that pursuant to an agreement made in contemplation and consideration of a marriage (hereinafter referred to as the marriage) intended to be solemnized between the husband and the wife (hereinafter collectively called the spouses) the husband as settlor hereby assigns to the Trustees ALL that policy of assurance on his life specified in the First Part of the Schedule hereto and all moneys including bonuses to become payable in respect thereof TO HOLD the said policy moneys and premises UPON THE TRUSTS specified in the Second Part of the said Schedule. And the husband covenants with the Trustees in manner set forth in the Third Part of the said Schedule AND IT IS DECLARED that the Trustees shall have the powers set forth in the Fourth Part of the said Schedule and that these presents are subject to the provisos and stipulations contained in the Fifth Part of the said Schedule AND LASTLY it is declared that all powers exercisable by and all covenants made with the Trustees shall be exercisable and enforceable by the trustees or trustee for the time being of these presents whether original or substituted and by the personal representatives of a last surviving or remaining trustee.

The Schedule above referred to.

#### PART I. THE PROPERTY SETTLED

A policy of assurance on the life of the husband effected with the Assurance Society for the sum of £ payable at death [or on the attainment of the age of ] dated the day of No. and subject to the payment of the annual premium of £ on the day of in each year [until the day of ].

#### PART II. THE TRUSTS

1. Upon trust to demand and enforce payment of all moneys including bonuses payable under the said policy as and when the same shall fall due and to invest the same.

2. If the said policy shall in due course or by reason of the liquidation of the assurers

become payable during the life of the husband then upon trust to pay the income from such investments to him during his life (only applicable to an endowment policy).

3. After the death of the husband upon trust to pay the income from such investments to the wife (if she shall survive him) during her life [*or* widowhood].

4. After the death of the survivor of the spouses the said policy moneys and investments shall be held in trust for such of the issue of the marriage as the spouses or the survivor of them may by deed or will appoint.

5. So far as such power of appointment may not be effectually exercised the said policy moneys and investments shall be held in trust for such of the children or the child if only one of the marriage as being male shall attain the age of 21 years or being female shall attain that age or previously marry and if more than one equally but no child shall share any unappointed part of the said moneys and investments without bringing into hotchpot any part appointed to him or her or his or her issue.

6. In default of issue of the marriage living to attain a vested interest under the foregoing trusts the said moneys and investments shall be held in trust for the husband absolutely.

#### PART III. COVENANTS BY THE HUSBAND

1. Not to do or suffer anything whereby the said policy or any policy which may be substituted for it may become void or voidable.

2. To pay punctually the annual premiums and other moneys (if any) necessary for keeping the said policy or any such substituted policy on foot or for restoring the same if voidable.

3. In case the said or any such substituted policy shall become void forthwith to effect a new policy with some assurance society to be approved by the Trustees in their names for such amount as would have become payable (including bonuses) on the void policy if the husband had died immediately before it became void. And every such substituted policy and all moneys (including bonuses) payable thereunder shall be held upon the same trusts and with and subject to the same powers as are herein contained with regard to the policy for which it shall be substituted.

4. Not to do or suffer anything whereby the Trustees may be prevented from recovering or receiving any moneys payable under the said or any substituted policy.

#### PART IV. POWERS OF THE TRUSTEES

Provision should be made under this Part for Trustees to invest; to make advancements; to sell or surrender the policy; and to employ agents.

#### PART V. PROVISOS

Provision should be made that the Trustees are not to be bound to enforce covenants unless required in writing to do so, and also as to indemnifying Trustees; proceeds of sale of policy to be accumulated; power to appoint new trustees; and that the settlement to be conditional on marriage within six months.

IN WITNESS, etc.

**WAR, THE, AND INSURANCE COMPANIES' INVESTMENTS.**

(See INVESTMENTS OF LIFE OFFICES.)

**WAR, THE, AND LIFE ASSURANCE.**

(See HISTORY OF LIFE ASSURANCE.)

**WAR LOAN POLICIES.**

These policies were first introduced by the Eagle and British Dominions in connection with the 5 per cent Victory War Loan of 1917. Their object was to enable those who desired to participate in this patriotic flotation, but who had not the available capital, to secure a holding by instalments through the instrumentality of short-term endowments on which the claims, at death or maturity, were met in War Loan stock. The stock was purchased by the assurance office and held against the policy. Thus large subscriptions for the loan were received from the companies, and numerous persons were enabled to satisfy their desire to secure a holding, while at the same time they made provision for themselves and their dependants. The policies were, as a rule, issued for five, ten, and fifteen year terms. For example, a person aged 40 next birthday was enabled to purchase each £100 of War Loan by fifteen annual payments of £5 11s. 4d. In the event of death the whole of the stock became forthwith the property of his legal representatives; while if he survived, his total payments would amount to £83 10s. for each £100 of stock. The policies contained a proviso that in the event of the 1917 War Loan being converted to any new stock, such new stock should be substituted for it. The offices also reserved the right to exercise any option of conversion or redemption that might be given in respect of the War Loan, or any substituted stock, and in the event of redemption a sum equivalent to the sum received on such redemption was assured by the policy in substitution for the redeemed stock. Apart from the patriotic motive which induced the effecting of these War Loan policies, they had two special advantages. In the first place, they caused large numbers of persons who might not otherwise have done so to make provision by assurance. Secondly, they ensured that in the

event of the policy-holder's death the benefits under the policy were already soundly invested for his heirs. Children were accepted under the scheme from age 10 upwards, and children under 10 could be proposed for at the same rate, with the proviso that the death benefit did not commence until age 10 was attained, all payments made being returned in the event of death before that age. In the event of premiums being discontinued at any time, proportionate paid-up policies were granted.

The following are specimen annual premiums charged to purchase each £100 of 5 per cent War Loan for various ages and periods, subject to medical examination, but half-yearly and quarterly payments were also accepted.

Age next birthday	15 year term.	10 year term.	5 year term.
	£ s. d.	£ s. d.	£ s. d.
10 to 20	5 6 9	8 12 4	18 12 9
30	5 8 2	8 13 2	18 13 4
40	5 11 4	8 15 6	18 14 9
50	5 19 4	9 1 1	18 18 1

To enable those unable or unwilling to pass a medical examination, and also soldiers and sailors at home and abroad, and those in hazardous occupations, to participate in the War Loan, there was a further scheme without medical examination. Under this scheme, in the event of death before the selected term being completed, all payments made were refunded, or the policy-holder's representatives had the option to continue payment until maturity. In the event of the discontinuance of payments, a paid-up policy for a proportionate amount of stock was granted, payable at maturity. The following were the annual payments at all ages up to 55, for each £100 of War Loan—

	£	s.	d.
15 year term	.	.	5 - 9
10 " "	.	.	8 7 5
5 " "	.	.	18 9 5

**WARRANT, BOARD OF TRADE'S.**

(See BOARD OF TRADE, POWERS OF.)

**WARRANTIES.**

Life assurance is a contract requiring the highest good faith; therefore, any concealment or misrepresentation of a material fact, whether or not it is relevant to the risk involved, or whether made fraudulently or not, avoids the contract. The statement, called "the proposal," made by the assured as to his health is generally either expressly or by reference embodied in the policy. The correctness of any terms in the proposal, when unconditionally stated as facts, makes those terms warranties, and they must be strictly and literally true, as their correctness is a condition precedent to the responsibility of the company. In *Thomson v. Weems* (1884, 9 App. Cas. 671), A. answered questions as follows--"(a) Are you temperate in your habits? Temperate; (b) And have you always been strictly so? Yes." A. signed a declaration attached to the questions that the statements were true, and that he agreed that the declaration should be the basis of the contract, and that if any untrue statement was made the policy was to be void and the premiums forfeited. The policy recited the declaration as the basis of the contract. It was held that the declaration, taken in connection with the policy, constituted an express warranty that the answers were true in fact; and as the answers were untrue, the policy was absolutely void. In *Anderson v. Fitzgerald* (1853), F. falsely answered the following questions in the negative: "Did any of the party's near relations die of consumption or any other pulmonary complaint?" and "Has the party's life been accepted or refused at any office?" F. signed the proposal and a declaration, by which he agreed "that the particulars mentioned in the proposal should form the basis of the contract." The policy contained a proviso that "if anything so warranted shall not be true, or if any circumstance material to this insurance shall not have been truly stated, or shall have been misrepresented or concealed, or any false statements made," the policy should be void and the premiums paid be forfeited. It was held that the representation being part of the contract, its truth, and not its materiality, was the only question involved. In *Macdonald v. Law Union Life* (1874, L.R. 9 Q.B. 328), a policy of assurance granted on the life of T. contained a proviso that "if the declaration under the hand of the plaintiff delivered at the company's office as the basis of the insurance is not in every respect true, and

if there has been any misrepresentation, then the insurance shall be void." It was held that an inaccurate statement of a material fact contained in the declaration avoided the policy, though the statement was made *bona fide*, and was not untrue to the knowledge of the plaintiff.

A mis-statement in a warranty, even though made innocently, or through inadvertence, invalidates a policy. In cases where the assured has no definite knowledge he should preface his statement by using qualifying words, e.g. "to the best of my knowledge and belief," in which case the warranty is of the belief and not of the fact, and it is sufficient that he believes it to be true.

**WEEKLY PREMIUMS.**

(See INDUSTRIAL ASSURANCE : TYPES OF POLICY ISSUED.)

**WEIGHTED ARITHMETIC AVERAGE.**

(See AVERAGES.)

**WELFARE SERVICES.**

Origin. The Metropolitan Life Insurance Company of New York, the largest insurance company in the world, is a mutual organization. Possibly that is why even before 1909 this company had commenced to turn its attention to the possibility of performing welfare work continuously among its many millions of policy-holders. Until that date, however, the work had been practically confined to the distribution of the company's health magazine, and occasional health pamphlets. In the autumn of 1909 the company determined to launch a health campaign among its policy-holders upon very definite and extensive lines. The work has continued in ever increasing importance until the present time, and the campaign now follows five main lines—

1. The education of policy-holders in hygiene and good health methods by distribution of specially prepared booklets and leaflets, simply written, with the intention of teaching the fundamentals of health and the prevention of disease. Some of the subjects upon which pamphlets have been issued are milk, children, consumption, teeth, cookery, eye-sight, diphtheria, rats, infantile paralysis, cancer, malaria, measles, pneumonia, motor accidents, scarlet fever, tonsils and adenoids, typhoid fever, whooping cough, and influenza. In addition, many pieces of literature have been issued of special interest to children, such as *The*

*Child's Health Alphabet Book, The Metropolitan Mother Goose Book, and a set of health nursery rhyme cards.*

2. Co-operation with health officials in the various states and cities throughout the United States of America, with the object of securing adequate legislation and proper appropriations of available public funds for the conduct of constructive and progressive health work.

3. The development of an industrial service bureau to co-operate with employers of labour in securing better working and living conditions for the work people.

4. The establishment of a permanent statistical department to study mortality and morbidity statistics, both to assist in building up the health and welfare work, and to measure the results achieved. As a result a great deal of highly technical literature has been produced, not intended for general circulation, but as a guide for those experts who are engaged in conducting the health work.

5. The organization of a visiting nurse service to care for policy-holders when they are ill, and, incidentally, to teach them sanitation and hygiene.

In addition to its regular daily work, carried on throughout the year, the health and welfare department of this company prepares exhibits from time to time, makes sickness and sanitary reviews, inaugurates baby welfare campaigns, and co-operates in any locality where a special week is being devoted to any purpose in accord with the general aims of the department.

**Saving in Mortality.** It is generally understood that the health and welfare work of this company was commenced purely with a disinterested and altruistic desire to render real community service. There was at that time no real proof that the work would produce any measurable results in improving the mortality of the policy-holders of the company; and, indeed, for many years the position was that even if an improvement had taken place it would have been naturally difficult to trace it and demonstrate it statistically. Such work as this requires a good many years of development before its result can be seen. Throughout a series of years the company continued its work steadfastly, devoting an ever increasing sum of money thereto from year to year.

Throughout this period, of course, the death rate of the policy-holders of the company had been steadily decreasing; but

the death rate of the general population had also decreased over the same period. Now that a sufficient number of years have elapsed to enable a fair comparison to be made, the Metropolitan produces statistics every year to show that the death rate among its own policy-holders has decreased to a greater extent than has the death rate among the general population, so that the difference between these two decreases must represent an improvement in vitality amongst the company's policy-holders which has not been shared by the general population. Translating these figures into the number of deaths saved, the company claims to prove that, as a result of its campaign, no less than twenty-five thousand lives of its policy-holders are saved in each year.

**Other Companies.** Although no other company in America has followed the Metropolitan scheme to anything like the extent that it has been developed by the originator, there are now very few industrial-ordinary life offices in America who do not attempt some form of health and welfare work among their policy-holders. The London Life Insurance Company of Canada distributes a monthly magazine to every one of its policy-holders, and a large part of this magazine is taken up by the inculcation of sound hygienic ideas, and by suggestions for the prevention of illness. Moreover, amongst the purely ordinary offices, those who are transacting group insurance have, for the most part, turned their attention to the preservation of life and the prevention of accidents and disease; and since, in the case of group life insurance, there is always a large number of employees who can be dealt with at one centre, these companies are doing very excellent work by the preparation of striking announcements to be posted on the works' notice boards.

**Australia.** Soon after the termination of the War the Australasian Temperance and General Mutual Life Assurance Society instituted a nursing service similar to that of the Metropolitan Life. At the beginning this service was only carried out in Melbourne and Sydney, but it has now been extended to all the large cities of Australia. This company also during recent years has printed large numbers of pamphlets for distribution to its policy-holders.

**Great Britain.** It was not until the 1st of September, 1923, that the first step was taken in this country towards welfare work among policy-holders. On that date the Wesleyan and General Assurance Society

of Birmingham issued a public announcement which included the following explanation—

“The work which the Society has now inaugurated is that of a Health Service Bureau to carry out a definite and extensive programme of general welfare work. It is, of course, intended to supplement, and not to replace, the existing agencies operating for the same purpose. The work of the bureau will include the preparation and distribution of literature bearing upon personal and civic hygiene, the rudiments of health, and the prevention of disease. Machinery will be set up for the study of mortality and morbidity statistics, and periodical health surveys will be made. Whatever will promote better health and longer life will be within the range of the service.”

It is public knowledge that the Metropolitan Life of New York co-operated with the Wesleyan and General Assurance Society in assisting the latter to inaugurate its own scheme, by placing at its disposal the results of its own experience during the previous fifteen years.

Among the booklets and leaflets which the Society has issued are publications dealing with such subjects as first-aid, measles, the danger of flies, infantile diarrhoea, tonsillitis, diphtheria, and scarlet fever. Already some millions of these leaflets and booklets have been distributed.

In connection with the British Empire Exhibition at Wembley in 1924 the Prudential Assurance Company prepared six booklets dealing with some of the most common causes of mortality, for general distribution.

There can be little doubt that health and welfare work, mainly directed to questions of hygiene and the prevention of the spreading of infectious diseases, carried out by the life assurance companies, both of this country and throughout the world, will continue to grow.

(See also PERIODICAL MEDICAL EXAMINATIONS).

### **WESLEYAN AND GENERAL ASSURANCE SOCIETY.**

Chief Office: Assurance Buildings, Steelhouse Lane, Birmingham.

Founded 1841.

Established in Birmingham. The Society's name at the outset was the Wesleyan Provident Assurance Society, but as early as 1843 the restriction of membership to members of the Wesleyan Church was

withdrawn. In 1866 a special Act of Parliament was obtained which relieved the Society from the operations of the Friendly Societies Act, empowering it to grant assurances for unlimited amounts, and changing its name to the present title, Wesleyan and General Assurance Society. This title was further confirmed under a special Act of Parliament, which received the Royal Assent in August, 1914, whereby the Society was formally incorporated, and given largely extended powers.

The Society has throughout its history been mutual in its constitution. In the earlier decades it transacted, in addition to ordinary life assurance, sickness assurance business of considerable magnitude, but new business of this description was discontinued in 1901.

It commenced industrial assurance business in 1878, and has built up a large connection, with representatives throughout Great Britain. In the main the industrial assurance business is effected in consideration of the payment of small weekly premiums, but there are some policies at monthly premiums.

The Society has also successfully organized an ordinary life department. Business is transacted in both with and without profits plans, and the with profit policyholders secure the full advantage of the mutual constitution of the Society, for the whole of the divisible profits are shared among them.

In order to assist in meeting the public demand for houses, the Society has in operation a popular house purchase scheme.

The Society is the pioneer in Great Britain of the welfare system, so largely adopted by American assurance offices. Its health bureau renders medical service to policyholders by testing their physical condition at given intervals.

After a period of over eighty years' existence as a purely life office, the Society started, in 1925, to transact fire, accident, employers' liability, and other forms of general insurance business, with the definite exception of marine insurance.

(See also WELFARE SERVICES; PERIODICAL MEDICAL EXAMINATIONS.)

### **WEST INDIES.**

(See CLIMATIC RISKS.)

### **WHITLEY COUNCIL FOR INSURANCE STAFFS.**

(See GUILD OF INSURANCE OFFICIALS.)

**WHOLE LIFE ASSURANCE.**

(See INDUSTRIAL ASSURANCE: TYPES OF POLICY ISSUED.)

**WHOLE LIFE ASSURANCE LEAFLETS.**

(See CANVASSING LEAFLETS, page 119.)

**WHOLE LIFE PARTNERSHIP POLICY.**

(See PARTNERSHIP POLICIES.)

**WHOLE LIFE POLICIES WITHOUT PROFITS.**

The whole life policy without profits may very well be called the basic form of life assurance. Its object is to secure a sum payable at death only. From this point of view it is the cheapest normal form of life cover, and also the most unselfish. By means of it the married man can make the largest possible satisfactory provision which his means allow, in the event of his premature death, for those whom he may have left behind. With his first premium he creates an immediate capital sum for their protection much larger than he could obtain in any other way. He also creates a security of increasing value on which he may raise a loan later on with ease should such a course become necessary, or one which he can lodge as collateral security for an overdraft at his bank. The principle of the whole life policy without profits is that, on the basis of probable mortality and an assumed rate of interest, the office charges the lowest premium compatible, in its opinion, with the offer of the largest possible assured sum payable at death only. The assured, therefore, knows exactly for what sum he is covered once his policy is issued, and, unless he is exceedingly long-lived, his bargain is a good one in all respects. But if he should die soon after the issue of the policy then his heirs stand to be substantial gainers through his foresight. This form of policy is also the best and cheapest under which to provide for death duties, and the only objection which may be urged against it is that the policy-holder may possibly pay more in premiums ultimately than the face value of the policy. This contingency, however, is rather remote, especially if the policy has been well selected, and does not outweigh by any means its value and usefulness. In any event the policy-holder can avoid it by taking a policy payable by a fixed and limited number of annual premiums, say thirty, after which the policy becomes fully paid.

Specimen low annual premiums per £100 assured payable at death only—

Age next birthday.	Premium throughout life.
30	£ s. d. 1 16 4
40	2 10 8
50	3 14 8

**WHOLE LIFE POLICIES WITH PROFITS.**

The whole life policy with participation in the divisible profits of an office is an increasingly popular form of assurance protection. Provided that the office selected is well and soundly managed, such a form of policy overcomes the objection of the policy-holder that he may ultimately, owing to his longevity, pay more in premiums than the face value of the policy assures to him. He is required to pay a slightly higher premium to secure participation than is the case with a non-profit policy, but the extra is well worth it in the end if, as has been said, his office has been well selected. In such an event, the longer he lives the more valuable his contract becomes, and, in fact, it is quite possible that at death it may even be worth several times its original face value. But it is seldom, even under the non-profit rate of premium, that a policy-holder surviving only the average expectation of life would pay in premiums the face value of his policy, except perhaps at advanced ages at entry. This factor, in conjunction with the added profits, makes his contract a most valuable one and yields a good ultimate profit to his estate. For instance, to take round figures which are closely approximate as an example, a man aged 30 at entry would pay an annual average premium of £25 per £1,000 for a with-profit whole life policy. His expectation of life would be between 34 and 35 years. Assuming that he had lived out his expectation and paid thirty-five annual premiums in all, his total payments would amount to £875, or £125 less than the face value of his policy. Now, if his policy had had allotted to it in bonuses an average of £1 10s. per cent per annum compound every five years for thirty-five years, its total value would be £1,658, an actual balance over gross premiums of £783 in favour of the assured's estate. Another point to note in favour of the with-profit form of contract is that the added bonuses steadily increase both its cash

surrender and loan values, and, in fact, the policy-holder can surrender either part or the whole of the accumulated profits for cash if he so desires without decreasing the original amount of protection yielded by the policy itself. For instance, if the policy-holder in the example we have taken wished on attaining 65, say, to surrender his bonuses, the cash value of each £100 of reversionary bonus would be between £60 and £70, according to the practice of the office concerned. If we assume it to be £65 per each £100 of bonus, he could surrender £500 of profits for £325 cash, and still be covered for £1,158.

In the example a compound bonus of £1 10s. per cent has been assumed, but, of course, while some offices declare a smaller rate than this, others have steadily declared a much higher one, either simple or compound. The point is that, except in such cases where the policy-holder may require the cheapest form of cover, the with-profit contract is the best ultimate bargain.

Specimen annual premiums for each £100 of whole life assurance with profits—

Age next birthday.	Annual premium.
30	£ 2 9 6
35	2 16 8
40	3 5 11
45	3 16 6

**WHOLE LIFE (LIMITED PAYMENTS), WITHOUT PROFITS.**

The whole life non-profit policy may be obtained in a form under which premiums cease either on reaching a certain age or after an agreed number of premiums have been paid. Such policies are useful to advance to prospective assurers who wish to feel certain either that their premiums will not reach or exceed the sum assured, or who wish to confine their liability for payment to a fixed period.

Specimen rates per £100 assured.

Age next birthday.	Premium ceasing at 70.
30	£ 1 17 8
40	2 14 4
50	4 6 -

Age next birthday.	Payments not to exceed		
	15.	20.	25.
30	£ 3 7 -	£ 2 15 10	£ 2 9 7
40	4 2 6	3 9 6	3 2 5
50	5 6 2	4 11 6	4 4 5

**WHOLE LIFE (LIMITED PAYMENTS), WITH PROFITS.**

The whole life with profit policy by limited payment possesses the advantage that the policy-holder can limit his liability for premiums to a certain number of years or an agreed number of premiums. Thereafter, his liability for payment ceases, although his contract remains in force as a gradually increasing asset until death. This form of policy is very useful for the individual who may desire a large protection for his wife and other dependants, but who wishes to be freed of calls on his income at an age when he may be retiring on a pension, or taking things more easily in the evening of his days. The policy is a good investment, because his total payments, apart from added bonuses, are not likely to come to the amount of the original sum assured in any case, and he can generally, should he cease his payments at any time, obtain a proportionate fully-paid up policy for the premiums which he has paid. Thus if he effected a 20-payment policy for £1,000 and discontinued after ten payments he could obtain a policy for £500 which would continue to participate in profits. He can also, of course, at any time surrender his bonuses for cash, as in the case of the ordinary whole life with profit policy (see p. 552), or he can, in some cases, apply them to reduce the premiums still unpaid, either temporarily or permanently. A man aged 30 next birthday effecting a 20-payment life policy for £1,000 with profits would pay in premiums altogether, on an approximate average, about £750, and be free from any further anxiety at 50, while his policy after 35 years—which is his expectation of life—if steadily increased by a compound bonus of £1 15s. per cent during the same period would amount to £1,797,—that is, it would amount by then to over £1,000 more than his total payments.

Specimen annual premiums to secure £100 with profits at death are shown in the table at the top of page 554.

Age next birthday.	Payments limited to					
	15.		20.		25.	
	£	s. d.	£	s. d.	£	s. d.
30	4	- 3	3	7 -	2	19 6
35	4	7 6	3	13 4	3	5 6
40	4	15 10	4	- 10	3	12 9
45	5	6 4	4	10 7	4	2 5

Specimen annual premiums to secure £100 at death with a guaranteed simple reversionary bonus of £1 10s. per cent per annum—

Age next birthday	Payments limited to					
	15.		20.		25.	
	£	s. d.	£	s. d.	£	s. d.
30	4	5 4	3	11 -	3	3 -
35	4	13 8	3	17 8	3	9 8
40	5	3 -	4	6 4	3	17 8
45	5	13 4	4	16 4	4	7 4

#### WHOLE WORLD AND OCCUPATION FREE.

(See LICENCES TO TRAVEL OR RESIDE ABROAD; also PROSPECTUS, PREPARATION OF.)

#### WINDING-UP.

An assurance company may be dissolved, *inter alia*, through the operation of the winding-up clauses in the Companies Act, 1929, either compulsorily (i.e. by the Court), under the supervision of the Court, or voluntarily. An unregistered company can only be wound up compulsorily.

A registered company may be wound up by the Court (a) if it has by special resolution resolved that it be so wound up; (b) if default is made in filing the statutory report or in holding the statutory meeting; (c) if it does not commence business within a year of incorporation, or suspends business for a year; (d) if it is unable to pay its debts; (e) if the Court is of opinion that it is just and equitable that it should be wound up.

Section 338 of the Act of 1929 provides that an unregistered company may be wound up under the Act, and the Act shall apply, except that the company shall, for the purpose of determining the Court having jurisdiction in the matter, be deemed to be registered in that part of England or Scotland, according as its principal place of business is situate in England or Scotland, which shall be deemed to be the registered

office of the company. If it has a principal place of business in Northern Ireland, it may not be wound up under the Act unless it also has a principal place of business in England or Scotland. Such a company may be wound up (a) if it is dissolved, or has ceased to carry on business or is carrying on business only for the purpose of winding-up its affairs; (b) if it is unable to pay its debts; (c) if the Court is of opinion that it is just and equitable that it be wound up.

No unregistered company shall be wound up under this Act voluntarily or subject to supervision.

A compulsory winding-up dates from the presentation of the petition on which the order is made, and a voluntary winding-up, whether afterwards continued under the supervision of the Court or not, from the date of the resolution of winding-up. The Court may order the winding-up of a company on the petition of (a) the company; (b) a present or contingent creditor; (c) a contributory; (d) ten or more policy-holders owning policies of an aggregate value of not less than £10,000.

A provision similar to (d) *supra* was made by the Life Assurance Companies Act, 1870, Sect. 21, but this applied only to insolvent companies.

The petitioner must give security for costs and establish a *prima facie* case before the petition can be heard.

The holder of a bond issued by a limited company, whereby they undertook in consideration of certain monthly payments of the bond-holder to pay him a certain sum of money on a certain day, is entitled to present a petition for the winding-up of the company as being a contingent or prospective creditor of the company (*re British Equitable Corporation*, 1910, 1 Ch. 574).

*In re British Alliance Corporation* (1878 9 Ch.D. 635), a petition, containing charges of false representations and insolvency, was presented by two policy-holders to wind up compulsorily a company which was being wound up voluntarily. It was held that where a company was being wound up voluntarily it was unnecessary to consider whether a *prima facie* case was established, or to order security for costs.

In a compulsory winding-up the liquidator is appointed by the Court; in a voluntary winding-up, by the company in general meeting, or by the creditors. A committee of inspection, consisting of creditors and contributors, may be appointed, whose function it is to supervise the liquidator;

certain powers of the liquidator can only be exercised with their sanction or that of the Court.

The assets and liabilities are ascertained, the former being used to liquidate the latter, and if there is any surplus it is divided amongst the shareholders, but if there is any deficiency a call is made upon the contributors. The liabilities of an assurance company include obligations to be performed at some unascertained future dates, the accurate valuation of which is practically impossible, and the problem is usually solved by the company amalgamating with or transferring itself to another company. This may be facilitated by the operation of Sect. 234 of the Act of 1929, by which a transfer or sale of the business of an assurance company may be effected by a voluntary winding-up. By this section an agreement for the sale of the business may be carried out by special resolution at the same time as a resolution for winding-up, which is binding upon all members who do not express their dissent in writing within seven days from the date of passing of the special resolution. The dissentients may express their dissent in writing addressed to the liquidator, to be left at the registered office of the company within seven days after the passing of the resolution, requiring him either to abstain from carrying the resolution into effect, or offering to purchase his interest at a price to be determined by agreement or by arbitration. Where, however, a company is wound up, the valuation of a policy is estimated by the Sixth Schedule to the Act of 1909 (*infra*).

The question as to whether a member of a company may be called upon to contribute to the assets, generally depends on the constitution of the particular company. In the case of the winding-up of the Albion Fire and Life Office, it was held that an assurance member, having assigned his policy, thereby ceased to be a member, although the assignee had not been registered in his place (*Brown's case*, 1881, 18 Ch.D. 639). And in the winding-up of the same company, the mortgagees of a policy who had purchased the equity of redemption, but had omitted to give notice of the sale, were held not to be contributors, as they had not been registered as assurance members (*Sanders' case*, 1877, 20 Ch.D. 403).

When the affairs of the company have been completely wound up, the Court makes an order that it be dissolved from the date of the order.

Apparently the holders of policies in an unregistered mutual life assurance company

are not liable to contribute to the payment of any debts, and after payment of costs the funds of the company should be distributed among the policy-holders in proportion to the amounts of their respective claims (*re Great Britain Mutual, etc., Society*, 1881, 16 Ch.D. 246).

*In re National Standard Life Co., etc.*, (1917, 1 Ch.D. 193), securities representing the statutory deposit were held to be available for the general costs of winding-up, so far as they related to the life assurance business of the company.

**Valuation of Policies.** The Assurance Companies Act, 1909, Sect. 17 (1), provides that where an assurance company is being wound up by the Court, or subject to the supervision of the Court, or voluntarily, the value of a policy of any class or of a liability under such a policy requiring to be valued in such winding up shall be estimated in manner applicable to policies and liabilities of that class provided by the Sixth Schedule to this Act.

(2) The rules in the Sixth and Seventh Schedules to this Act shall be of the same force, and may be repealed, altered, or amended, as if they were rules made in pursuance of Sect. 305 of the Companies Act, 1929, and rules may be made under that section for the purpose of carrying into effect the provisions of this Act with respect to the winding-up of assurance companies.

## SIXTH SCHEDULE

### VALUING POLICIES AND LIABILITIES

**Rule for Valuing an Annuity.** An annuity shall be valued according to the tables used by the company which granted such annuity at the time of granting the same, and, where such tables cannot be ascertained or adopted to the satisfaction of the Court, then according to such rate of interest and table of mortality as the Court may direct.

**Rule for Valuing a Policy.** The value of the policy is to be the difference between the present value of the reversion in the sum assured according to the contingency upon which it is payable, including any bonus or addition thereto made before the commencement of the winding-up, and the present value of the future annual premiums. In calculating such present values, interest is to be assumed at such rate, and the rate of mortality according to such tables, as the Court may direct. The premium to be calculated is to be such premium as, according to the said rate of interest and rate of mortality, is sufficient to provide for the

risk incurred by the office in issuing the policy, exclusive of any addition thereto for office expenses and other charges.

#### VALUING BONDS OR CERTIFICATES

##### Rule for Valuing a Policy or Certificate.

The value of a policy or certificate is to be the difference between the present value of the sum assured according to the date at which it is payable, including any bonus or addition thereto made before the commencement of the winding-up, and the present value of the future annual premiums. In calculating such present values, interest is to be assumed at such rate as the Court may direct. The premium to be calculated is to be such premium as, according to the said rate of interest, is sufficient to provide for the sum assured by the policy or certificate, exclusive of any addition thereto for office expenses and other charges.

**Proofs on Policies.** *In re Cook's Policy* (1870, L.R. 9 Eq. 703), a claim under a winding-up in respect of a policy was held not to be affected by non-payment of the premium, the days of grace for payment of which expired after the commencement of the winding-up, by presentation of the petition.

By policies of assurance it was provided that the assured having paid the stipulated premiums, the funds of the company should be liable to the executors, etc., for the sums assured, and the subscribed capital of the company should in priority to all other claims be liable in respect of such policies. The company being wound up, it was held—

(1) That a policy-holder was entitled to prove for the sum which would be payable by a solvent assurance company in the same circumstances, and that the time for ascertaining the age of the assured was the expiration of the period covered by the payment of the last premium before the winding-up.

(2) No difference was to be made in the case of participating policies, the chance of making profit having been speculated for and lost; except that where bonuses had been declared and not paid, the amount of such bonuses was to be added to the sum originally assured, and the total taken as the sum assured for the purpose of the estimate.

(3) No shareholder was to be liable to any one claiming by virtue of the policy beyond the amount of his unpaid capital; but all expenses not included within the contract were to be borne by the shareholders.

(4) After the date of the winding-up order, the value of each claim was to be struck at

the time of first taking in such claim; the subsequent death of the assured before proof not to entitle the policy-holder to full payment, but to be admissible as evidence of the value of the life (*re Albert Life Assurance Co.*, 1870, L.R. 9 Eq. 706).

**Contributories.** Shareholders may be liable as contributories before policy-holders who are also members, though the latter are also under some liability as contributories. *In re Albion Life, etc., Society* (1880, 16 Ch.D. 83), it was held that although the participating policy-holders were members and contributories under the special terms of the articles, they could not be called upon to contribute until the shareholders had been exhausted.

In the case of mutual assurance societies, the members are usually, under their constitution, exempt from liability in respect of the policies issued.

#### SEVENTH SCHEDULE

##### Notice of Valuation to Policy-holder, and Funds out of which they are Payable.

Where an assurance company is being wound up by the Court, or subject to the supervision of the Court, the liquidator, in the case of all persons appearing by the books of the company to be entitled to or interested in policies granted by such company, is to ascertain the value of the liability of the company to each such person, and give notice of such value to such persons in such manner as the Court may direct, and any person to whom notice is so given shall be bound by the value so ascertained, unless he gives notice of his intention to dispute such value in manner and within a time to be prescribed by a rule or order of the Court.

The policies of an assurance company provided that the funds and property of the company, "after satisfying all assurances granted by the society previously payable, and all other prior charges on such funds and property," should alone be liable for payment of the sum assured, and that no member of the company should be liable for it beyond the amount unpaid on his shares. It was held that a sum which had become payable on a policy before the commencement of the winding-up, but had not been paid, had no priority over the claims of policy-holders, the moneys assured by whose policies had not become payable (*re McIver's Claim*, 1870, L.R. 5 Ch. 424).

##### Winding-Up of Subsidiary Companies.

Sect. 16 of the Act of 1909 provides that in the winding-up of assurance companies that

have been amalgamated or absorbed, in adjusting the rights and liabilities of the members of the several companies between themselves, the Court shall have regard to the constitution of the companies, and to the arrangements entered into between the companies, in the same manner as the Court has regard to the rights and liabilities of different classes of contributories in the case of the winding-up of a single company, or as near thereto as circumstances admit.

### WINDING-UP OF LIFE ASSURANCE COMPANIES.

(See BOARD OF TRADE, POWERS OF.)

### WITHDRAWAL SELECTION.

(See SELECTION.)

### WOMEN WORKERS' POLICIES.

When one reflects on the large number of women who now earn their own living, and the percentage who must of necessity remain spinsters, it is surprising that so few make provision for the future by means of assurance. Many have responsibilities both for their own future and for dependants, which are quite equal to a man's, and in the event of their remaining single some form of provision for the time when they can work no more becomes an urgent necessity. The deferred annuity is not sufficiently elastic to meet all requirements, and several offices issue policies specially for women. One such—which entails medical examination and under which the premiums are payable annually, half-yearly, or quarterly—is an endowment assurance with options. An example will best illustrate its working. Say a woman in business or a profession aged 30 next birthday wishes to make some provision for retirement at 55. She can obtain a with-profit endowment assurance, with options, for £1,000 at an annual premium of £40 11s. 8d. The policy, if profits are maintained, would amount to £1,475 at maturity. Should she die before maturity, the policy-moneys plus profits would, of course, be payable to her heirs or dependants. If, however, she survives to 55 she would have the option of taking the policy moneys in cash, or an annuity at the rate of £6 11s. 8d. for each £100 assured and bonuses. On this basis £1,475 would provide £97 2s. a year for life. Should she have married and have a child or children to educate, she could take the policy moneys in instalments spread over a term of years,

and £1,475 would provide five annual payments of £310 each, or £1,550 in all. If, say at age 40, she wished to discontinue further payments, she could take a fully paid policy for £400 which should amount to £700 at maturity, and provide an annuity of £46 if desired. At any time after three years' premiums have been paid, provision will be made for the temporary suspension of a premium during unemployment.

Specimen annual premiums to secure each £100 with profits at death or on attaining the under-mentioned ages—

Age next birthday.	Payable at 50.	Payable at 55.
	£ s. d.	£ s. d.
20	3 3 7	2 15 8
30	4 19 6	4 1 2
35	6 15 -	5 3 2
40	- -	6 19 1

Another scheme, which involves no medical examination, and is especially applicable to women workers earning small salaries, is one which provides the option of either an annuity, which is payable quarterly, or a cash payment on maturity, and also a cash payment by way of dowry on marriage. In the event of death before maturity an agreed sum, or else all premiums paid—which ever is the greater—becomes payable to the policy-holder's representatives. The premiums are payable every second calendar month, and may be as small as 10s. or any multiple thereof. Policies can be effected for terms of fifteen, twenty, twenty-five, or thirty years. Taking the case of a young woman aged 20 setting aside £2 every second calendar month for fifteen years, if she were to die before maturity the office would pay either £50 or return all premiums paid. Whenever she might marry after the policy had been three years in force she would receive a cash bonus as a dowry of £6 for each full year's premium paid. If, therefore, she married after paying seven years' premiums she would receive £42. At the maturity of her policy she has the option of taking an annuity, payable quarterly, of £11 14s. per annum for the remainder of her life, or a cash sum of £208, against total payments of £180.

By taking out two policies in successive months the advantage of monthly payments is achieved. For a premium of £2 per month in the case given above the annuity payments and cash options for varying terms would be as follows—

Years.	Annuity.	Cash.
	£ s. d.	£
20	34 10 8	604
25	48 18 8	834
30	71 12 8	1114

In the case of a bonus having been paid at marriage, the amount of it is deducted from the cash option at maturity, or the annuity is slightly reduced proportionately.

The following are examples for varying terms and ages of the return on a premium of £2 every second calendar month—

Age next birthday.	Term of years.	Annuity (payable quarterly).	Cash option.
		£ s. d.	£
20	Fifteen	11 14 -	208
25	"	12 7 4	209
30	"	13 5 8	211
35	"	14 9 8	213
20	Twenty	17 5 4	302
25	"	18 13 8	306
30	"	20 9 8	310
35	"	22 17 4	314
20	Twenty-five	24 14 4	417
25	"	27 4 -	423
30	"	30 12 8	431
35	"	35 4 8	439

### WORLD WIDE POLICIES.

(See PROSPECTUS, PREPARATION OF ; also LICENCES TO TRAVEL OR RESIDE ABROAD.)

### WOUNDS.

It is only in special cases that wounds

have any effect on a life proposal, after the immediate effects have passed off.

In some cases, however, serious after-effects may follow, either owing to the vital organs, e.g. lungs, kidneys, etc., having been functionally impaired or owing to the position and nature of the scarring, e.g. in abdominal wounds.

In all proposals, therefore, in which any accident involving wounding has occurred, the position and nature of the scar must be ascertained; and also if the wound affects the thorax or abdomen, and is sufficiently serious possibly to have caused injury to vital organs, a detailed medical report from the doctor or surgeon who was in attendance at the time must be obtained.

No proposal can be accepted in the case of wounds of the thorax without a satisfactory medical examination to determine that the lungs are not affected. Similarly in the case of abdominal wounds (including those caused by an operation).

A medical report excluding the likelihood of rupture through the scar must be obtained. If such a rupture is present, the proposal must be dealt with along the lines indicated under the heading HERNIA. It sometimes happens that as a result of a severe abdominal injury, the viscera have been damaged. Full medical details of such must be supplied to the chief medical adviser.

Removal of a kidney is sometimes necessary owing to injury.

The issue of an ordinary life policy in these cases is hazardous, though, subject to a satisfactory medical examination, a short term endowment assurance may be issued.

**YORKSHIRE INSURANCE COMPANY, LTD.**

Chief Offices: St. Helen's Square, York, and Bank Buildings, Princes Street, London, E.C.2. Founded 1824.

The earliest record of this company is a notice in the *Yorkshire Herald* of 5th June, 1824, of a meeting which was held at the "York Tavern" in St. Helen's Square, later known as Harker's Hotel. On 26th July, 1824, the first general meeting was held, and the capital was fixed at not less than £500,000 in £50 shares. A "deposit" of 5 per cent was to be made for each share on application and a further 5s. "to cover the charges of establishing the company and of the first year's expenses." Most of the first directors were well-known local men, and it is interesting to note that ever since the formation of the company until the present year a member of the family of Gray, of Gray's Court, has served upon the board of directors. And it was particularly fitting that Mr. Edwin Gray, the great grandson of William Gray, of the firm of Thorpe & Gray, the solicitors who drafted the deed of settlement in 1824, should hold the position of chairman in the company's centenary year. At first the board met every Saturday at noon, and for nearly a century it was the custom for a director to forfeit his fee if he arrived after the conclusion of the reading of the minutes,

which was begun on the first stroke of twelve by "Big Peter." And as to the staff, the minute book contained a resolution, dated 28th October, 1825: "That the actuary and clerks be expected to give attendance nine hours each day, viz., from 9 in the morning till 8 at night, allowing two hours for refreshment, and that during the six hours of public business, viz., from 10 to 4, the actuary or senior clerk be always present." Fortunately, the staff hours have since been somewhat reduced. Another interesting minute, dated 12th March, 1825, reads: "That the life confined in the Fleet Prison be taken without any additional charge for premium thereon."

An office in Coney Street was found in August, 1824, the rent for which was £30 per annum. In 1825 other premises were sought, and a building existing on part of the present site was purchased for £1,250. This was altered and adjacent sites were bought in the years that followed, the building being completed in 1847. And as befitting a company built on such sound foundations, part of the Roman wall of York was discovered beneath the present building. The company's business has always been soundly conducted, and it stands in the front rank of British life offices. The first with-profit policy was issued in 1858, and the bonus has never been reduced.



# APPENDIX

## DRAFT INSURANCE UNDERTAKINGS BILL.

### ARRANGEMENT OF CLAUSES

#### PART I.

#### PROVISIONS OF GENERAL APPLICATION.

##### *Deposits.*

##### CLAUSE.

1. Deposits to be made.
2. Provisions as to sums deposited.

##### *Statutory Funds.*

3. Establishment and maintenance of statutory funds.
4. Formation, application and investment of statutory funds.
5. Transitory provisions with respect to statutory funds.
6. Provisions as to deposits when statutory funds required to be kept.

##### *Accounts and Periodical Returns.*

7. Audit of accounts.
8. Balance sheets, accounts, abstracts, and statements required to be prepared.
9. Deposit of returns with Board.

##### *Miscellaneous Provisions as to Insurance Companies, etc.*

10. Extension of 8 Edw. 7. c. 69. s. 274.
11. Provisions as to companies not registered under the Companies Acts, 1908 to 1917
12. Publication of subscribed and paid-up capital.

##### *Transfer and Amalgamation of Insurance Undertakings.*

13. Transfer or amalgamation where statutory funds involved.
14. Returns to be made in case of transfer or amalgamation.

##### *Winding up of Insurance Companies, Insolvency of Insurers, etc.*

15. Power of Court to reduce insurance contracts.
16. Valuation of liabilities of insurers in liquidation or bankruptcy.
17. Application of surplus assets of statutory funds in liquidation or bankruptcy.
18. Schemes for partial winding up of insurance companies.
19. Additional circumstances in which insurance companies may be wound up by Court.
20. Liability of directors, etc., in respect of mistake in relation to statutory funds.

##### *Inspection.*

21. Power of Court to order inspection.

#### PART II.

#### PROVISIONS APPLICABLE TO UNDERWRITERS BEING MEMBERS OF THE SOCIETY OF LLOYD'S OR OF ANY OTHER ASSOCIATION OF UNDERWRITERS APPROVED BY THE BOARD.

22. Applicability of Act to Lloyd's underwriters, etc.
23. Deposits and returns by underwriters.
24. Alternative provisions as to underwriters with respect to certain classes of business carried on by them.

#### PART III.

#### SUPPLEMENTAL PROVISIONS.

##### *Miscellaneous.*

25. Submission, confirmation, and effect of schemes.
26. Miscellaneous provisions as to documents deposited with the Board.
27. Service of notices.
28. Power to make rules.
29. Provisions as to Orders in Council and rules.
30. Miscellaneous provisions as to powers of Board.

# DICTIONARY OF LIFE ASSURANCE

## *Offences and Penalties.*

### CLAUSE.

- 31. Offences.
- 32. Penalties.

## *Interpretation, etc.*

- 33. Definition of insurance business and of classes of insurance business.
- 34. General interpretation.
- 35. Application of Act to industrial assurance business and consequential amendments of 13 and 14 Geo. v, c. 8.
- 36. Application of Act to re-insurance business.

## *Savings and Exemptions.*

- 37. Savings.
- 38. Power to grant exemptions.

## *General.*

- 39. Application to Scotland.
- 40. Short title, extent, commencement and repeal.

SCHEDULE I.—Deposits required to be made.

SCHEDULE II.—Regulations and Form for the Preparation of Balance Sheets:

PART I.—Regulations.

PART II.—Form.

SCHEDULE III.—Regulations and Forms for the Preparation of Profit and Loss Accounts:

PART I.—Regulations.

PART II.—Forms.

SCHEDULE IV.—Regulations and Forms for the Preparation of Revenue Accounts:

PART I.—Regulations.

PART II.—Forms.

SCHEDULE V.—Regulations for the Preparation of Abstracts of Actuaries' Reports, etc., and Requirements applicable to such Abstracts, etc.

PART I.—Regulations.

PART IIA.—Requirements applicable to an Abstract in respect of Life, Annuity and Industrial Assurance Business.

PART IIB.—Requirements applicable to an Abstract in respect of Capital Redemption Business.

PART IIC.—Requirements applicable to an Abstract in respect of Continuous Disability Business.

PART III.—Requirements applicable to an Abbreviated Abstract.

PART IV.—Requirements applicable to Statements of Employers' Liability Business.

SCHEDULE VI.—Regulations for preparing Statements of Business in Force and Requirements applicable to such Statements:

PART I.—Regulations.

PART II.—Requirements for Statements applicable to Life, Annuity and Industrial Assurance Business.

PART III.—Requirements for Statements applicable to Capital Redemption Business.

PART IV.—Requirements for Statements applicable to Continuous Disability Business.

SCHEDULE VII.—Rules as to the Valuation of the Liabilities of an Insurer in Bankruptcy or Liquidation.

SCHEDULE VIII.—Consequential Amendments to Industrial Assurance Act, 1923.

SCHEDULE IX.—Enactments repealed.

## DRAFT OF A BILL

TO

Amend the law relating to the carrying on of insurance undertakings.

A.D. 1927. BE it enacted by the King's most Excellent Majesty, by and with the advice and consent of the Lords, Spiritual and Temporal, and Commons, in this present Parliament assembled, and by the authority of the same, as follows—

### PART I.

#### PROVISIONS OF GENERAL APPLICATION.

##### *Deposits.*

Deposits to be made.

1.—(1) Subject to the provisions of this Act, every insurer shall in respect of the insurance business carried on by him deposit and keep deposited with the Accountant-General for and on behalf of the Supreme Court the sums required by the provisions of the First Schedule to this Act to be deposited by him.

(2) No person shall begin to carry on any class of insurance business until the deposit required by this Act to be made in respect thereof has been made.

(3) Subject as hereinafter provided, every insurer who at the date of the commencement of this Act is carrying on any class of business in respect of which a deposit is required by this Act to be made, shall make the deposit within twelve months after that date:

Provided that—

(a) subject to the provisions of any rules made under this Act, the Accountant-General shall retain any sums deposited by an insurer in accordance with the requirements of the Act of 1909 and the Act of 1923

## APPENDIX

in respect of the classes of insurance business carried on by him before the commencement of this Act, and those sums shall be kept deposited in or towards satisfaction of the foregoing requirements of this Act, so, however, that, for the purposes of those requirements, the investments representing such sums as aforesaid at the date of the commencement of this Act shall be treated as if their value were equal to the sums thereby represented, except where at the said date the market value of the said investments exceeds in the aggregate the amount of the sums which the insurer is required by this Act to keep deposited in respect of the classes of business carried on by him, and in that case the amount of the excess shall, upon application therefor being made in the prescribed manner and within the prescribed time, be returned by the Accountant-General to the insurer; and

(b) upon application being made to the Board in the prescribed manner by any insurer carrying on a class of business in respect of which a deposit is required by this Act to be made, who was carrying on that class of business within Great Britain on the thirty-first day of December, nineteen hundred and twenty-six, the Board shall, if satisfied as to the financial position of the insurer at the said date, postpone the time for making any deposit in excess of the sums retained by the Accountant-General under the foregoing provisions of this section to some time within five years after the commencement of this Act, and shall on the like application being made from time to time further postpone the time for making the deposit if they are still satisfied as to the financial position of the insurer, but not for more than five years at any one time; and where any such application is refused by the Board the insurer may appeal to the Court, and the decision of the High Court shall be final and conclusive.

(4) The Accountant-General shall not accept a deposit or any sum on account of a deposit except on a warrant of the Board, but the Board shall not refuse any application for such a warrant unless they are of opinion that it is inexpedient that the person by whom or on whose behalf the application is made should be authorized to carry on insurance business of the class or classes in respect of which the application is made; and in the case of any such refusal the applicant may appeal to the Court and the decision of the High Court shall be final and conclusive.

(5) The Registrar of Companies shall not issue a certificate of the incorporation of any company among the objects of which is the carrying on of any class of business in respect of which a deposit is required by this Act to be made until the deposit has been made, but the deposit may be made by the subscribers of the memorandum of association of the company or any of them in the name of the proposed company, and upon the incorporation of the company shall be deemed to have been made by the company.

(6) No order of the Court confirming the alteration of the memorandum of association of any company whereby the company is enabled to carry on any class of business in respect of which a deposit is required by this Act to be made shall take effect or be registered by the Registrar of Companies until the deposit has been made.

2.—(1) Every sum deposited by an insurer in accordance with the requirements of this Act shall be invested by the Accountant-General in such of the securities usually accepted by the Court for the investment of funds placed under its administration as the insurer may select.

Provisions  
as to sums  
deposited.

(2) Every sum kept deposited by an insurer in accordance with the requirements of this Act shall be deemed to form part of his assets, and all interest accruing due on the deposit or the securities in which it is for the time being invested shall be paid to the insurer.

(3) In the event of the winding up of any company, society or association incorporated or constituted outside Great Britain which has made any deposit under this Act, the Court may, notwithstanding anything in this Act, order the sum kept deposited or any part thereof to be transferred by the Accountant-General to any liquidator outside Great Britain on such terms and conditions, if any, as the Court may direct; and application for an order under this subsection may be made to the Court by or on behalf of the liquidator or by or on behalf of any person who satisfies the Court that he represents a majority of the policy owners resident within Great Britain, or of any class of such policy owners.

In this subsection the expression "winding up" includes any method of dissolution or proceedings analogous to the winding up of a company under the Companies Acts, 1908 to 1917, and the expression "liquidator" includes any person occupying the position of a liquidator.

### *Statutory Funds.*

3.—(1) Every insurer who at the date of the commencement of this Act is carrying on life business, annuity business, continuous disability business, or, subject as hereinafter provided, capital redemption business may establish and maintain a statutory fund under the name of the "Life Statutory Fund," the "Annuity Statutory Fund," the "Disability Statutory Fund," or the "Capital Redemption Statutory Fund," as the case may be, in respect of any such class of business:

Establishment  
and maintenance  
of statutory  
funds.

Provided that where the Board are satisfied that the establishment and maintenance of a capital redemption statutory fund is reasonably necessary in the interests of policy owners of any class, the Board may by order direct an insurer carrying on capital redemption business at the commencement of this Act to establish and maintain a capital redemption statutory fund, and in that case it shall be obligatory on him to do so.

(2) Every insurer shall establish and maintain in respect of all life business, annuity business, continuous disability business and capital redemption business carried on by him in respect of which no statutory fund is established under the foregoing provisions of this section, a statutory fund under the name of the "Amalgamated Statutory Fund."

(3) Every insurer shall establish and maintain in respect of all employers' liability business carried on by him a statutory fund under the name of the "Employers' Liability Statutory Fund."

(4) Every insurer shall establish and maintain in respect of all industrial assurance business carried on by him a statutory fund under the name of the "Industrial Assurance Statutory Fund."

(5) The Board may on the application of an insurer permit the substitution of any name approved by the Board for the name required by this section to be given to any statutory fund established or maintained by him, and where in accordance with such permission a name is so substituted references in this Act to any such fund by the name required by this section to be given thereto shall be construed to include references to the fund by the name substituted.

## DICTIONARY OF LIFE ASSURANCE

Formation, application and investment of statutory funds.

4.—(1) All receipts in respect of any class of insurance business in respect of which a statutory fund is required by this Act to be established and maintained by an insurer shall be carried to that fund, and (subject to the payment and application of such sums as, having regard to the contracts entered into by the insurer, to the rights of policy owners, and, in the case of an insurance company, to the instruments governing the constitution of the company, are properly payable or applicable as dividends, bonus, or otherwise as profits), the assets of the fund shall not, so long as the insurer continues to carry on business of that class, be available to meet any liabilities of the insurer other than those referable to the class of business in respect of which the fund was established, and shall not be directly or indirectly applied or charged for any purposes other than those of that class of business. Any charge in contravention of the provisions of this subsection shall be void.

(2) Subject as hereinafter in this subsection provided and to the provisions of this Act relating to the investment of deposits, the assets of every statutory fund maintained by an insurer may be invested (subject to the provisions of any memorandum or articles of association, deed of settlement or other instrument imposing restrictions upon the manner in which the assets of the insurer may be invested), in such investments as the insurer thinks fit, so, however, that the assets of every statutory fund shall be distinct and separate from any other assets of the insurer:

Provided that, save as in this Act otherwise expressly provided, the assets of any statutory fund shall not, without the sanction of the Court, be invested directly or indirectly in any share or interest in any insurance business whether carried on within Great Britain or elsewhere or by an insurer as defined by this Act or otherwise.

(3) The income arising from the investments representing the assets of any statutory fund shall be carried to that fund:

Provided that this subsection shall not apply to an employers' liability statutory fund.

(4) Every insurer, and, in the case of an insurance company, every director of the company, shall be under the same liability in the event of a contravention of the provisions of this section as respects any statutory fund as if he had been a trustee for the execution of the provisions of this section as respects that fund, and as if the policy owners of the class in question had been beneficiaries of such a trust.

Transitory provisions with respect to statutory funds.

5.—(1) Every insurer who at the date of the commencement of this Act is carrying on any class of business in respect of which a statutory fund is required by this Act to be established and maintained shall as at that date allocate to every statutory fund established by him assets at least equivalent to the aggregate amount of the sums which immediately before that date were standing to the credit of any corresponding separate assurance fund formed in accordance with the requirements of the Act of 1909 or the Act of 1923, together with such further assets as may be necessary to provide for any liabilities referable to the class of business in respect of which the fund was maintained which were then outstanding but not paid; and every such insurer shall, within nine months after the commencement of this Act, deposit with the Board a statement, prepared and certified in the prescribed manner, with respect to every statutory fund established by him showing that the provisions of this subsection have been complied with and specifying the assets allocated to the statutory fund, and shall, if directed by the Board to do so, supply the Board with such information as may be required by them for the purpose of carrying out their duties under this section.

(2) The restrictions imposed by this Act upon the investment of the assets of any statutory fund in any share or interest in any insurance business shall not affect the allocation under this section to a statutory fund of any assets which are so invested at the commencement of this Act or require the re-investment of any assets so allocated.

(3) If it appears to the Board that any statement submitted to them by an insurer in accordance with the requirements of this section is in any particular incomplete, inaccurate, or misleading, or that insufficient assets are thereby shown as being allocated to any statutory fund, the Board may, after considering such explanations as may be made by or on behalf of the insurer, give such directions as they think necessary for the variation of the statement and for the allocation to the statutory fund of further assets, and, subject as hereinafter provided the insurer shall comply with any directions so given:

Provided that an insurer aggrieved by any directions given by the Board under this subsection may appeal to the Court, and the decision of the High Court shall be final and conclusive.

(4) The assets shown by any statement deposited with the Board under this section, or, where directions are given by the Board or on appeal by the Court for the variation thereof, by any such statement as so varied, as being allocated to any statutory fund, shall form part of the assets of the statutory fund, and shall be deemed to have formed part thereof as from the commencement of this Act.

(5) For the purposes of this section separate assurance funds formed in accordance with the requirements of the Act of 1909 or the Act of 1923 shall be deemed respectively to correspond with the statutory funds established and maintained in accordance with the requirements of this Act in manner following, that is to say—

(a) a separate fund formed in respect of life assurance business shall be deemed to correspond with the Amalgamated Statutory Fund, or, where a Life Statutory Fund, Annuity Statutory Fund, or either of them, is maintained, shall be deemed to correspond with such one, or proportionately with such two or more, of the said statutory funds as the Board may, on the application of the insurer, direct; and

(b) a separate fund formed in respect of bond investment business shall be deemed to correspond with the Capital Redemption Statutory Fund, or, where no such statutory fund is maintained, with the Amalgamated Statutory Fund; and

(c) a separate fund formed in respect of employers' liability insurance business shall be deemed to correspond with the Employers' Liability Statutory Fund; and

(d) a separate fund formed in respect of industrial assurance business shall be deemed to correspond with the Industrial Assurance Statutory Fund.

Provisions as to deposits where statutory funds required to be kept.

6. No part of any sum kept deposited by an insurer in accordance with the requirements of this Act in respect of any class of business in respect of which a statutory fund is required by this Act to be established and maintained shall, while any liabilities incurred by the insurer in respect of that class of business remain unsatisfied or not otherwise provided for, be available to meet any other liabilities incurred by him, and an insurer may, if he thinks fit, treat any such sum as being part of the assets of the statutory fund.

## APPENDIX

### *Accounts and Periodical Returns.*

7. The accounts of every insurance undertaking shall, unless they are subject to audit in accordance with the provisions of the Companies Acts, 1908 to 1917, or the Companies Clauses Acts, 1845 to 1889, relating to audit, be audited annually in such manner as may be prescribed.

Audit of accounts.

8.—(1) Every insurer shall as at the thirty-first day of December in every year prepare—

(a) in accordance with the regulations contained in Part I. of the Second Schedule to this Act, a balance sheet in the form set forth in Part II. of that Schedule; and

(b) in accordance with the regulations contained in Part I. of the Third Schedule to this Act, profit and loss accounts in the forms set forth in Part II. of that Schedule, except that it shall not be necessary to prepare such profit and loss accounts where the insurer carries on insurance business of one class only or maintains an Amalgamated Statutory Fund in respect of all the insurance business carried on by him, if he carries on no other business; and

Balance sheets, accounts, abstracts, and statements required to be prepared.

(c) in accordance with the regulations contained in Part I of the Fourth Schedule to this Act, a revenue account in the form or forms set forth in Part II of that Schedule applicable to any class of insurance business carried on by him :

Provided that any insurer carrying on insurance business at the commencement of this Act who prepared the balance sheet and accounts required by the Act of 1909 or the Act of 1923 as at a date other than the thirty-first day of December, may be permitted by the Board to continue to prepare the balance sheet and accounts required by this section as at such other date as aforesaid, during such period, not exceeding five years from the commencement of this Act, as the Board may allow.

(2) Every insurer carrying on life business, annuity business, continuous disability business, capital redemption business, or industrial assurance business, shall once in every five years cause an investigation to be made by an actuary into the financial condition of the insurance undertaking carried on by him in respect of every such class of business, including a valuation of his liabilities in respect thereof; and shall cause to be prepared, in accordance with the regulations contained in Part I of the Fifth Schedule to this Act, abstracts of the report of the actuary in conformity with the requirements of Parts II A, II B, and II C of that Schedule respectively applicable to any such class of business carried on by the insurer.

In the case of an insurer carrying on, at the commencement of this Act, business of a class in respect of which an actuarial report and abstract was required by the Act of 1909 or the Act of 1923 to be made and prepared, the first investigation and abstract required by this subsection shall be made and prepared in respect of all classes of business carried on by an insurer to which this subsection applies, not more than five years after date as at which the last actuarial report and abstract was made and prepared in accordance with the provisions of the Act of 1909 or the Act of 1923 in respect of any class of business carried on by him, or, if, by reason of his not having begun to carry on any such class of business until a date less than five years before the commencement of this Act, the insurer has made no such actuarial report and abstract as aforesaid, then, not more than five years after he began to carry on such a class of business.

(3) Subject as hereinafter provided the like abstracts as are required by the last foregoing subsection to be prepared once in every five years shall be prepared at any other time when there is made into the financial condition of such an undertaking as aforesaid an investigation with a view to the distribution of profits, or an investigation of which the results are made public :

Provided that where an insurer satisfies the Board that an investigation of which the results are made public is made annually into the financial condition of the insurance undertaking carried on by him in respect of any such class of business as aforesaid, then, so long as in making the annual investigation there has been no substantial change in the basis of valuation since the last abstract was prepared in accordance with the foregoing requirements of this section, he may, unless the Board otherwise direct, in lieu of complying with the full requirements of this subsection in respect of that class of business, cause to be prepared in respect thereof an abbreviated abstract in conformity with the requirements of Part III of the said Fifth Schedule, subject, however, to the preparation of a full abstract once in every five years in accordance with the requirements of the last preceding subsection.

(4) Subject as hereinafter provided, every insurer shall prepare, in accordance with the regulations contained in Part I of the Sixth Schedule to this Act, statements as to the insurance undertaking carried on by him at the date to which his accounts are made up for the purposes of any abstract required by either of the last two preceding subsections, in conformity with the requirements of Parts II, III, and IV of that Schedule respectively applicable to any class of insurance business carried on by him :

Provided that if in any case such an investigation as aforesaid is made annually, the insurer shall not be required to prepare such a statement at the date to which his accounts are made up for the purposes of any abstract or abbreviated abstract required by the last preceding subsection.

(5) Every insurer carrying on employers' liability business shall annually prepare in accordance with the regulations contained in Part I of the said Fifth Schedule statements of the employers' liability business carried on by him, in conformity with the requirements of Part IV of that Schedule, and shall cause an investigation of his estimated liabilities in respect of that class of business to be made by an actuary, so far as may be necessary to enable those requirements to be complied with.

(6) Every balance sheet, account, abstract and statement required by this section to be prepared shall comply with the notes appended to any relevant form set forth in the said Second, Third, Fourth or Fifth Schedule, shall be printed, and shall be signed by the insurer, or in the case of an insurance company by the person for the time being presiding over the board of directors or other governing body of the company, by two directors of the company, of whom the managing director, if any, shall be one, and by the principal officer of the company.

(7) With the consent of any insurer, the Board may as respects the insurance undertaking carried on by him, modify any of the regulations, requirements, or forms contained in the said Second, Third, Fourth, Fifth or Sixth Schedule so, however, that the Board shall not make any such modification unless they are satisfied that, in the circumstances, it will not materially diminish the value of the return.

(8) If at any time the Board are satisfied, after consultation with any associations appearing to them to be representative of the insurers concerned, that any modifications of general application ought to be made in the regulations, requirements, or forms contained in the said Second, Third, Fourth, Fifth or Sixth Schedule

## DICTIONARY OF LIFE ASSURANCE

and that such modifications are generally considered desirable by such insurers, the Board may make a representation to His Majesty in Council in that behalf, and His Majesty may by Order in Council make the modifications, and upon the coming into operation of any such Order the said Schedules shall have effect as modified by the Order.

Deposit of returns with Board.

9.—(1) Four copies of every balance sheet, account, abstract and statement required by the provisions of the last foregoing section to be prepared shall be deposited with the Board by the insurer by whom it was prepared within six months after the close of the period to which it relates, or within such further period not exceeding three months as the Board may in any case for special reasons allow.

(2) At least one copy of every return deposited with the Board in accordance with the requirements of this section shall contain the signature in manuscript of every person who is required by this Act to sign the return or any certificate thereon.

(3) If it appears to the Board that any return submitted to them by an insurer in accordance with the provisions of this section is in any particular incomplete, incorrect, or misleading, or does not comply with the requirements of this Act, the Board may require such explanations as they may consider necessary to be made by or on behalf of the insurer, and may, after considering any such explanations, decline to accept the return and may give such directions as they think necessary for the variation thereof and of any other return affected thereby, and subject as hereinafter provided, the insurer shall comply with any directions so given:

Provided that any insurer aggrieved by the rejection of a return or by any directions given by the Board under this subsection may appeal to the Court, and the decision of the High Court shall be final and conclusive.

(4) Every balance sheet and revenue account deposited with the Board in accordance with the requirements of this section by an insurance company shall be accompanied by a copy of any report on the affairs of the company submitted to the shareholders or policy owners of the company in respect of the financial year to which the balance sheet or account relates.

8 Edw. 7.  
c. 69.

(5) Copies of the returns deposited with the Board under this section by an insurance company registered under the Companies Acts, 1908 to 1917, may be sent to the Registrar of Companies in lieu of the statement in the form of a balance sheet required by subsection (3) of section twenty-six of the Companies (Consolidation) Act, 1908, and where such copies are so sent they shall be treated in like manner in all respects as if they were a statement sent in accordance with that subsection.

(6) Every insurer shall supply free of charge printed copies of all the latest returns deposited by him with the Board to any policy owner, and, in the case of an insurance company to any shareholder, making application therefor, and shall also supply the like copies to any other person making application therefor on payment of a fee not exceeding one shilling for each set of returns.

### *Miscellaneous Provisions as to Insurance Companies, &c.*

Extension of 8 Edw. 7.  
c. 69, s. 274.

10. Section two hundred and seventy-four of the Companies (Consolidation) Act, 1908 (which contains provisions as to companies incorporated outside Great Britain), shall, as amended by any subsequent enactment, apply with the necessary modifications to every society or association constituted outside Great Britain, whether incorporated or not, which carries on within Great Britain insurance business or the business of re-insuring contracts of insurance effected by other persons.

Provisions as to companies not registered under the Companies Acts, 1908 to 1917.  
8 & 9 Vict.  
c. 16.

11. Every insurance company which is not registered under the Companies Acts, 1908 to 1917, shall—

(a) keep a "shareholders' address book" in accordance with the provisions of section ten of the Companies Clauses Consolidation Act, 1845, whether or not the company has incorporated that section in its deed of settlement, and any such company shall on the application of any shareholder or policy owner of the company furnish to him a copy of its shareholders' address book on payment of a sum not exceeding sixpence for every hundred words required to be copied; and

(b) cause a sufficient number of copies of its deed of settlement or other instrument constituting the company to be printed, and shall on the application of any shareholder or policy owner of the company furnish to him a copy of the deed of settlement or other instrument on payment of a sum not exceeding one shilling.

Publication of subscribed and paid up capital.

12. Any notice, advertisement, or other publication of an insurance company which contains a statement of the amount of the authorized capital of the company shall also contain a statement of the amount of the capital which has been subscribed and of the amount paid up.

### *Transfer and Amalgamation of Insurance Undertakings.*

Transfer or amalgamation where statutory funds involved.

13.—(1) No class of insurance business comprised in the insurance undertaking of an insurer, being a class of business in respect of which a statutory fund is required by this Act to be established and maintained, shall be transferred to, or amalgamated with the insurance undertaking of, another insurer except in accordance with a scheme prepared under this section and submitted to and confirmed by the Court in accordance with the provisions of this Act.

(2) Any scheme prepared under this section shall set out the agreement or deed under which the transfer or amalgamation is proposed to be effected, and shall contain such further provisions as may be necessary for giving effect to the scheme.

Returns to be made in case of transfer or amalgamation.

14. Where the insurance undertaking carried on by an insurer, or any class of business comprised therein, is transferred to or amalgamated with the insurance undertaking of another insurer, whether in accordance with a scheme confirmed by the Court or otherwise, the insurer to whom the undertaking or class of business is transferred, or the insurer carrying on the amalgamated insurance undertaking, as the case may be, shall, within ten days after the date of the completion of the transfer or amalgamation, deposit with the Board—

(a) certified copies of statements of the assets and liabilities of every insurer concerned in the transfer or amalgamation, together with a statement of the nature and terms of the transfer or amalgamation; and

(b) a certified copy of the scheme, agreement or deed under which the transfer or amalgamation was effected and, in the case of a scheme confirmed by the Court, a copy of the order confirming the scheme; and

(c) certified copies of the actuarial or other reports upon which the said scheme, agreement or deed was founded; and

(d) a declaration, signed by every insurer concerned in the transfer or amalgamation, or in the case of a company by the person for the time being presiding over the board of directors or other governing body

## APPENDIX

of the company and by the principal officer of the company, that to the best of their belief every payment made or to be made to any person whatsoever on account of the transfer or amalgamation is therein fully set forth, and no other payment beyond those set forth has been or is to be made in money, policies, bonds, valuable securities, or property of any description, by or with the knowledge of any parties to the transfer or amalgamation.

### *Winding up of Insurance Companies, Insolvency of Insurers, &c.*

15.—(1) Where an insurance company is in liquidation, the Court may make an order reducing the amount of the insurance contracts of the company upon such terms and subject to such conditions as the Court thinks just.

**Power of Court to reduce insurance contracts.**

(2) Application may be made to the Court for an order under this section by or on behalf of a company or by the Board, and any person whom the Court thinks likely to be affected shall be entitled to be heard on any such application.

16.—(1) In the winding up of an insurance company or in the bankruptcy of any other insurer, the value of the assets and the liabilities of the insurer shall be ascertained in such manner and upon such basis as the liquidator or trustee in bankruptcy thinks fit, subject, so far as applicable, to the rules contained in Part I of the Seventh Schedule to this Act and to any directions which may be given by the Court.

**Valuation of liabilities of insurers in liquidation or bankruptcy.**

(2) The rule contained in Part II of the Seventh Schedule to this Act shall have effect with respect to the valuation of claims in respect of policies, in the winding up of an insurance company or the bankruptcy of any other insurer.

(3) For the purposes of any reduction by the Court of the amount of the contracts of any insurance company, the value of the assets and the liabilities of the company, and of claims in respect of policies issued by it, shall be ascertained in such manner and upon such basis as the Court thinks proper, having regard to the rules aforesaid.

(4) The rules contained in the Seventh Schedule to this Act shall be of the same force and may be repealed, altered or amended as if they were made, in so far as they relate to the winding up of insurance companies, in pursuance of section two hundred and thirty-seven of the Companies (Consolidation) Act, 1908, and, in so far as they relate to the bankruptcy of any insurer not being a company, in pursuance of section one hundred and thirty-two of the Bankruptcy Act, 1914.

**4 & 5 Geo. 5. c. 59.**

17.—(1) In the winding up of an insurance company and in the bankruptcy of any other insurer the value of the assets and the liabilities of the insurer in respect of every class of business in respect of which a statutory fund is maintained in accordance with the requirements of this Act shall be ascertained separately from the value of any other assets or any other liabilities of the insurer, and no such assets shall be applied to the discharge of any liabilities other than those in respect of the class of business in respect of which the fund is maintained except in so far as those assets exceed the liabilities in respect of that class of business.

**Application of surplus assets of statutory funds in liquidation or bankruptcy.**

(2) In the winding up of an insurance company or the bankruptcy of any other insurer in a case where any proportion of the profits of any life business, annuity business, continuous disability business, or capital redemption business was before the commencement of the winding up or bankruptcy allocated to policy owners, if when the assets and liabilities of the insurer in respect of any such class of business, have been ascertained there is found to be a surplus of assets over liabilities (hereinafter referred to as a "prima facie surplus") there shall be added to the liabilities of the insurer in respect of that class of business an amount equal to such proportion of the prima facie surplus as is equivalent to the proportion of profits in that class of business allocated to shareholders and policy owners which was allocated to policy owners during the ten years immediately preceding the commencement of the winding up, and the assets of the insurer in respect of that class of business shall be deemed to exceed his liabilities in respect thereof only in so far as those assets exceed those liabilities after such addition as aforesaid:

Provided that—

(a) if in any case there has been no such allocation, or if it appears to the Court that by reason of special circumstances it would be inequitable that the amount to be added to the liabilities of the insurer in respect of the class of business in question should be an amount equal to such proportion as aforesaid, the amount to be so added shall be such amount as the Court may direct; and

(b) for the purpose of the application of this subsection to any case where before the commencement of the winding up or bankruptcy a proportion of such profits as aforesaid of a branch only of the class of business in question has been allocated to policy owners, the value of the assets and the liabilities of the insurer in respect of that branch shall be separately ascertained in like manner as the value of his assets and liabilities in respect of the class of business were ascertained, and the surplus so found, if any, of assets over liabilities shall, for the purpose of determining the amount to be added to the liabilities of the insurer in respect of the class of business, be deemed to be the prima facie surplus.

18.—(1) If at any time it appears expedient that the affairs of an insurance company in respect of any class of business comprised in the undertaking of the company should be wound up, but that any other class of business comprised in the undertaking should continue to be carried on by the company or be transferred to another insurer, a scheme for such purposes may be prepared and submitted for the confirmation of the Court in accordance with the provisions of this Act.

**Schemes for partial winding up of insurance companies.**

(2) Any scheme prepared under this section shall provide for the allocation and distribution of the assets and liabilities of the company between any classes of business affected (including the allocation of any surplus assets which may arise on the proposed winding up), for any future rights of every class of policy owners in respect of their policies, and for the manner of winding up any of the affairs of the company which are proposed to be wound up, and may contain provisions for altering the memorandum of the company with respect to its objects and such further provisions as may be expedient for giving effect to the scheme.

(3) The provisions of this Act relating to the valuation of liabilities of insurers in liquidation and bankruptcy, and to the application of surplus assets of statutory funds in liquidation or bankruptcy, shall apply in the winding up of any part of the affairs of a company in accordance with a scheme under this section in like manner as they apply in the winding up of an insurance company; and any scheme under this section may apply, with the necessary modifications, any of the provisions of the Companies Acts, 1908 to 1917, relating to the winding up of companies.

## DICTIONARY OF LIFE ASSURANCE

(4) An order of the Court confirming a scheme under this section whereby the memorandum of a company is altered with respect to its objects shall, as respects the alteration, have effect as if it were an order confirmed under section nine of the Companies (Consolidation) Act, 1908, and subsections (6) and (7) of that section shall apply accordingly.

Additional circumstances in which insurance companies may be wound up by Court.

19. In addition to the circumstances in which an insurance company may be wound up by the Court in accordance with the provisions of the Companies Acts, 1908 to 1917, an insurance company may on the application of the Attorney-General be so wound up—

(a) if default is made in depositing, or keeping deposited, any sum in accordance with the requirements of this Act;

(b) if default in complying with any other requirement of this Act is continued for a period of three months after notice of the default has been given to the company by the Board;

(c) if the Court is of opinion that if the affairs of the company were to be wound up the assets of the company would be insufficient to meet its liabilities (including contingent and prospective liabilities), the liabilities being valued in accordance with the provisions of this Act relating to the valuation of the liabilities of insurers in liquidation or bankruptcy.

Liability of directors, &c., in respect of misfeasance in relation to statutory funds.

20. If in the course of the winding up of an insurance company the Court is satisfied that by reason of any contravention of the provisions of this Act the amount of any statutory fund has been diminished, every person who at the time of the contravention was a director, manager, or liquidator, or an officer of the company shall be deemed in respect of the contravention to have been guilty of misfeasance in relation to the company unless he proves that the contravention occurred without his consent or connivance and was not facilitated by any neglect on his part; and the powers of the Court under section two hundred and fifteen of the Companies (Consolidation) Act, 1908, shall include power to assess the sum by which the amount of the statutory fund has been diminished by reason of the misfeasance, and to order any person guilty thereof to contribute to the statutory fund the whole or any part of that sum by way of compensation.

### Inspection.

Power of Court to order inspection.

21.—(1) If, upon an application of the Board, the Court is satisfied that there is reasonable cause to believe—

(a) that an offence against this Act has been or is likely to be committed by an insurer; or

(b) that, in the case of an insurance company, circumstances exist in which the company may be wound up by the Court, or, in the case of an insurer not being a company, he has committed an act of bankruptcy; the Court may make an order empowering the Board to appoint one or more inspectors to investigate the affairs of the insurer and to report thereon in such manner as the Board direct, and the provisions of subsections (3), (4), and (5) of section one hundred and nine of the Companies (Consolidation) Act, 1908, shall apply with respect to any inspector appointed in pursuance of an order made under this section in like manner as they apply to inspectors appointed under that section.

(2) All expenses of and incidental to an investigation made in pursuance of an order made under this section shall be defrayed by the insurer, and any sum due in respect of such expenses may be recovered by the Board summarily as a civil debt.

## PART II.

### PROVISIONS APPLICABLE TO UNDERWRITERS BEING MEMBERS OF THE SOCIETY OF LLOYD'S OR OF ANY OTHER ASSOCIATION OF UNDERWRITERS APPROVED BY THE BOARD.

Applicability of Act to Lloyd's underwriters, &c. Deposits and returns by underwriters.

22. This Part of this Act shall apply in lieu of the foregoing provisions of this Act to any underwriter being a member of the Society of Lloyd's or of any other association of underwriters approved by the Board, in respect of any class of insurance business carried on by him, so long as he complies with the requirements of this Part of this Act in respect of business of that class.

23.—(1) Subject to the provisions of this Part of this Act every underwriter carrying on any class of insurance business shall, in accordance with rules made under this Act, deposit and keep deposited in such manner as the Board may direct in respect of each such class of business, a sum of two thousand pounds.

(2) Every sum deposited in accordance with the requirements of this section in respect of any class of business shall, so long as any liability under any policy issued by the underwriter in the course of that class of business remains unsatisfied, be available solely to meet claims under policies so issued.

(3) Subject to the provisions of this Part of this Act, the accounts of every underwriter relating to every class of insurance business carried on by him shall, unless they are subject to audit in accordance with the provisions of the Companies Acts, 1908 to 1917, or the Companies Clauses Acts, 1845 to 1889, relating to audit, be audited annually in such manner as may be prescribed.

(4) Subject to the provisions of this Part of this Act, every underwriter shall furnish every year to the Board statements in the prescribed form, prepared in accordance with the prescribed regulations, showing the extent and character of every class of insurance business carried on by him.

Alternative provisions as to underwriters with respect to certain classes of business carried on by them.

24.—(1) Subject as hereinafter provided an underwriter may, in respect of any class of business other than life business, annuity business, continuous disability business, capital redemption business or employers' liability business, in lieu of complying with the requirements of the last foregoing section, comply with the requirements of the following provisions (in this Act referred to as "the alternative provisions of Part II of this Act") that is to say—

(a) he may in accordance with the provisions of a trust deed in a form approved by the Board carry to a trust fund all premiums received by him or on his behalf in respect of any such class of business, so, however, that there shall be no apportionment of such premiums as between any different classes of business in respect of which they have been received;

Provided that where an underwriter carries on any such class of insurance business through more than one underwriting agent he shall, for the purposes of the foregoing provision, be deemed to carry on a separate business as respects the business carried on through each such agent, and the premiums received in respect of the business carried on through each such agent shall accordingly be placed in a separate trust fund; and

(b) he shall cause his accounts in respect of any such class of business to be audited annually by an accountant approved by the committee of the association of which he is a member (hereinafter referred to

## APPENDIX

as "the committee"), who shall furnish a certificate in the prescribed form to the committee and to the Board:

Provided that an underwriter shall not be exempt from complying with the requirements of the last foregoing section—

(a) in respect of marine business carried on by him unless before beginning to carry on that class of business he has deposited with the trustees of a deed in a form approved by the Board (or, if the Board so direct, by the committee) a sum of not less than five thousand pounds; and

(b) in respect of any other class of insurance business carried on by him, unless he has furnished to the satisfaction of the Board, (or, if the Board so direct, to the satisfaction of the committee) security, in the form either of a deposit or of a guarantee, or partly in the one form and partly in the other, which is to be available to meet claims under policies issued by him in the course of all classes of business, other than marine business, in respect of which he complies with the provisions of this section in priority to any other liabilities incurred by him, and shall never be less than the aggregate of the premiums received or receivable by the underwriter in the last preceding year in respect of the policies issued by him in the course of such classes of business as aforesaid.

(2) The trustees of any deed in accordance with which a deposit is made under this section shall, in the case of an underwriter being a member of the Society of Lloyd's, be the Society of Lloyd's either alone or jointly with other trustees, and in any other case shall be persons approved by the Board, and any such deed shall be executed by the trustees and by the underwriter, and shall make provision as to the investment, dealing with and payment of the deposit and of the investments for the time being representing it and of the interest and dividends from time to time accruing thereon.

(3) On the application of the Society of Lloyd's or of any other association of underwriters approved by the Board, the Board may by order direct that any deeds or other documents executed in accordance with the requirements of the Society or association by the members thereof before the commencement of this Act, shall have effect subject to such modifications as may be directed by the order for the purpose of adapting the provisions of the deeds or other documents to the requirements of this Act; and upon the making of an order under this subsection all such deeds and other documents to which the order relates as are in a form approved by the Board or by the committee for the purposes of the Act of 1909, shall, as modified by the order, be deemed to be in a form approved by the Board or by the committee, as the case may be, for the purposes of this Part of this Act.

### PART III.

#### SUPPLEMENTAL PROVISIONS.

##### *Miscellaneous.*

25.—(1) Before an application is made for confirmation by the Court of any scheme prepared under this Act—

Submission, confirmation and effect of schemes.

(a) a copy of the scheme shall be deposited with the Board, together with copies of the actuarial or other reports upon which the scheme is founded; and

(b) not less than one month after the said copy of the scheme has been deposited with the Board notice of the intention to make the application shall be published in the London Gazette, and, for a period of fifteen days after the publication of the notice, the scheme shall be open to the inspection of any policy owners or shareholders thereby affected at the offices of every insurer concerned; and

(c) the Board may cause a report on the scheme to be made by the President of the Institute of Actuaries, or by any other independent actuary nominated at the request of the Board by him, and copies of any such report shall be sent to the insurers concerned; and

(d) any directions which may be given by the Court, upon application made in that behalf, with respect to any proposed scheme, as to the publication of advertisements of schemes, the giving of notices to shareholders, or to policy owners or other creditors of the insurers concerned, or as to the holding of meetings of any company affected, shall be complied with; and

(e) unless the Court, upon application made in that behalf, with respect to any proposed scheme otherwise directs, copies of the scheme and of every report received by the Board in accordance with the provisions of this subsection shall, at least fifteen days before application is made for confirmation of the scheme, be transmitted by the insurers concerned to every policy owner of any class affected by the scheme.

(2) Application to the Court for the confirmation of any scheme may be made by or on behalf of any insurer concerned, and an application to the Court with respect to any matter connected with a scheme or proposed scheme may be made at any time by any person whom the Court thinks likely to be affected thereby or by or on behalf of the Board.

(3) Any person whom the Court thinks likely to be affected, shall be entitled to be heard on any application made to the Court under this section.

(4) The Court may confirm any scheme submitted to it in accordance with the provisions of this Act, either unconditionally, or subject to such modifications as the Court thinks fit.

(5) A scheme confirmed by the Court in accordance with the provisions of this Act shall be binding on all persons, and shall have effect notwithstanding anything in the memorandum or articles of association of any company, and the directors of any company affected by the scheme shall cause a copy thereof to be filed with the Registrar of Companies.

(6) All expenses incurred by the Board in connection with the obtaining of any actuary's report on a scheme prepared under this Act shall be defrayed by the insurers concerned, and any sum due in respect of such expenses may be recovered by the Board summarily as a civil debt.

26.—(1) Subject as hereinafter provided, the Board shall lay annually before Parliament printed copies of the returns deposited with them in compliance or in purported compliance with the provisions of this Act during the preceding year, and may append to any such copy any note of the Board with reference to the return and any correspondence in relation thereto:

Miscellaneous provisions as to documents deposited with the Board.

Provided that if the Board are of opinion that the effect of any return or returns can be adequately and

## DICTIONARY OF LIFE ASSURANCE

more conveniently shown by a summary or by a consolidated return, it shall be sufficient for the Board to lay before Parliament such a summary or consolidated return, but the Board shall in that case append thereto a note explaining any omissions.

(2) All returns and other documents deposited with the Board under this Act shall be kept under the custody of the Registrar of Companies, or of such other officer of the Board as the Board may direct; and all returns so deposited shall, when accepted by the Board, be open to inspection by any person, and copies thereof may be procured by any person on payment of the prescribed fees.

(3) A certificate of the Registrar of Companies or other person appointed by the Board in that behalf that any document is a document deposited under this Act with the Board, shall be conclusive evidence that the document is a document so deposited.

(4) Every document purporting to be certified by the Registrar of Companies or other person appointed by the Board in that behalf as being a copy of a document deposited with the Board, shall be deemed to be a copy of that document and shall be received in evidence as if it were the original document, unless some variation between it and the original document be proved.

27. Any notice which is by or under this Act required to be sent to any policy owner may be addressed and sent to the person to whom notices with respect to the policy are usually sent, and any notice so addressed and sent shall be deemed to be notice to the policy owner.

28.—(1) The Board may make rules for carrying this Act into effect, and those rules may in particular provide—

(a) for prescribing the classes of miscellaneous insurance business in respect of which insurers who carry on no other class of insurance business are to be exempted from making the deposit of ten thousand pounds mentioned in the First Schedule to this Act, and for prescribing the sums not exceeding five thousand pounds which such insurers are to be required to deposit in lieu thereof in respect of any classes of business so prescribed;

(b) for prescribing as to the payment of deposits, the retention by the Accountant-General of sums deposited under the Act of 1909 or the Act of 1923, the investment of deposits or dealing therewith, the deposit of stocks or other securities in lieu of money, the payment of interest or dividends from time to time accruing due on any investments in which deposits are for the time being invested, and the return, transfer and withdrawal of deposits;

(c) for prescribing the manner in which applications are to be made to the Board for warrants for the acceptance of deposits and sums on account of deposits, and for the postponement of the time for making any deposit under this Act;

(d) for prescribing the manner in which statements required by the transitory provisions of this Act with respect to statutory funds are to be prepared and certified, so, however, that any regulations or forms prescribed for that purpose shall conform, so far as practicable, to those contained in the Second Schedule to this Act;

(e) for prescribing the manner in which the accounts of an insurance undertaking (not being accounts subject to audit in accordance with the provisions of the Companies Acts, 1908 to 1917, or the Companies Clauses Acts, 1845 to 1889, relating to audit) are to be audited, and rules for that purpose may apply, with or without modifications, the provisions of the Companies (Consolidation) Act, 1908, to any such undertaking;

(f) for prescribing as to the payment, repayment and investment of and dealing with deposits made under this Act by underwriters being members of the Society of Lloyd's or of any other association of underwriters approved by the Board, for prescribing forms and regulations for the preparation by such underwriters of the annual statements to be furnished by them in respect of any classes of business, so, however, that forms and regulations conforming, so far as practicable, to those contained in the Fifth Schedule to this Act, shall be prescribed as respects statements of employers' liability business carried on by underwriters;

(g) for prescribing anything which is under this Act to be prescribed.

(2) Any rules made under this Act with respect to the deposit of sums with the Accountant-General or with respect to sums so deposited shall be subject to the concurrence of the Lord Chancellor, and any such rules may modify the provisions of Part VI of the Supreme Court of Judicature (Consolidation) Act, 1925, in their application to sums deposited with the Accountant-General under this Act in such manner as may be necessary for giving effect to the provisions of this Act or of any rules made thereunder, and the rules made by the Lord Chancellor under that Part of that Act shall not apply in relation to any sums so deposited except in so far as they may be applied in relation thereto by rules made under this Act.

29.—(1) Before any Order in Council is made under this Act a draft thereof shall be laid before both Houses of Parliament, and every rule made under this Act shall be laid before both Houses of Parliament as soon as may be after it is made, and if an Address is presented to His Majesty by either House of Parliament within the next subsequent twenty-eight days on which that House has sat after any such draft or rule is laid before it praying that the draft or the rule may be annulled it shall thenceforth be void but without prejudice to the making of any new draft or rule, and in the case of any rule, without prejudice to the validity of anything previously done thereunder.

(2) Any Order in Council made under this Act may be revoked or varied by any subsequent Order made in like manner.

30.—(1) Any order made by the Board under this Act may be revoked or varied by any subsequent order.

(2) Upon any proceedings before any court under this Act the Board shall be entitled to appear and be heard.

(3) Anything authorized under this Act to be done by the Board may be done by the President or a Secretary or Assistant Secretary of the Board, or by any person authorized in that behalf by the President of the Board.

(4) If any difficulty arises with respect to the transition to the provisions of this Act from the enactments repealed by this Act, or in bringing into operation any of the provisions of this Act, the Board may, at any time within eighteen months after the passing of this Act, by order do anything which appears to them necessary or expedient for the removal of the difficulty or otherwise for bringing this Act into operation, and any such order may modify the provisions of this Act or of the enactments thereby repealed so far as may appear necessary or expedient for carrying the order into effect.

This and the last preceding subsection shall come into operation on the passing of this Act.

Service of notices.

Power to make rules.

15 & 16 Geo. 5. c. 49.

Provision as to Orders in Council and rules.

Miscellaneous provisions as to powers of Board.

## APPENDIX

### *Offences and Penalties.*

31.—(1) Any insurer who contravenes or fails to comply with any of the provisions of this Act or of any order or rule made, or direction of the Board given, thereunder shall be guilty of an offence under this Act, and, in the case of a default in complying with any such provision, the offence shall be deemed to be continued so long as the default continues. Offences.

(2) Where an offence under this Act committed by an insurance company is proved to have been committed with the consent or connivance of, or to have been facilitated by any neglect on the part of, any director, manager, secretary, auditor, or other officer of the company, he, as well as the company, shall be deemed to be guilty of the offence.

(3) If any return or other document required by or under this Act is false in any particular to the knowledge of any person who signs it, that person shall be guilty of a misdemeanour.

(4) Notwithstanding any limitation on the time for the taking of proceedings contained in any Act, summary proceedings for offences under this Act may be commenced at any time within one year from the date on which evidence, sufficient in their opinion to justify a prosecution for the offence, comes to the knowledge of the Board, but not in any case after the expiration of three years from the commission of the offence.

For the purposes of the foregoing provision a certificate purporting to be signed by the secretary to the Board, or other person authorized in that behalf by them, as to the date on which such evidence as aforesaid came to the knowledge of the Board shall, in any proceedings instituted by the Board, be conclusive evidence thereof.

(5) Any proceedings against an insurer for an offence under this Act shall be without prejudice to any proceedings for the bankruptcy of the insurer, or in the case of an insurance company for the winding up or partial winding up of the affairs of the company, which may be taken in respect of the matter constituting the offence.

32.—(1) Any person guilty of an offence under this Act shall be liable on summary conviction to a fine not exceeding one hundred pounds, and in the case of a continuing offence to a fine not exceeding fifty pounds for every day on which the offence is continued; and, in the case of an offence being a misdemeanour under this Act, shall be liable on conviction on indictment to imprisonment for any term not exceeding two years, or to any such fine as aforesaid, or to both such imprisonment and fine. Penalties.

(2) Subject to the provisions of section five of the Criminal Justice Administration Act, 1914, the court by which a fine is imposed under this Act may direct that the whole or any part thereof shall be applied in or towards the payment of the costs of the proceedings, and subject to any such direction and to the provisions aforesaid all such fines shall be paid into the Exchequer. 4 & 5 Geo. 5.  
c. 58.

### *Interpretation, &c.*

33.—(1) In this Act the expression "insurance business" means all or any of the following classes of business, that is to say— Definition of  
insurance  
business and  
of classes of  
insurance  
business.

"Life business," that is to say, the business of effecting (otherwise than in the course of industrial assurance business) contracts of insurance upon human life, including any contract whereby the payment of money is assured on death (except death by accident only) or the happening of any contingency dependent on human life, and any contract which is subject to payment of premiums for a term dependent on human life;

"Annuity business," that is to say, the business of effecting (otherwise than in the course of industrial assurance business) contracts of insurance for the granting of annuities upon human life;

"Continuous disability business," that is to say, the business of effecting contracts of insurance, which by the terms thereof are to be of more than one year's duration, whereby sums are to become payable by the insurer in the event of the occurrence, within the duration of the contract, of fatal accident or of accident or sickness causing injury or disability;

"Capital redemption business," that is to say, the business (not being life business, annuity business, or industrial assurance business) of effecting contracts of insurance, whether by the issue of policies, bonds, or endowment certificates, or otherwise, whereby in return for one or more premiums paid to the insurer a sum or a series of sums is to become payable to the insured in future;

"Employers' liability business," that is to say, the business of effecting, otherwise than incidentally to some other class of insurance business, contracts of insurance against the liability of employers under the laws of the United Kingdom to pay compensation or damages to workmen employed by them or to the dependants of such workmen;

"Industrial assurance business" as defined by the Act of 1923;

"Fire business," that is to say, the business of effecting, otherwise than incidentally to some other class of insurance business, contracts of insurance against loss by or incidental to fire or other occurrence customarily included among the risks insured against in fire insurance policies;

"Marine business," that is to say, the business of effecting contracts of insurance upon the following subject-matters of insurance, namely—

Vessels of any description, including barges and dredgers, cargoes, freights, and other interests which may be legally insured by, in, or in relation to vessels, cargoes, and freights, goods, wares, merchandise, and property of whatever description insured for any transit by land or water, or both, and whether or not including warehouse risks or similar risks in addition or as incidental to such transit;

"Motor vehicle business," that is to say, the business of effecting contracts of insurance against loss or damage to, or arising out of, or in connection with the use of, motor vehicles, including third party risks;

"Personal accident business," that is to say, the business of effecting, otherwise than incidentally to some other class of insurance business, contracts of insurance, which by the terms thereof are not, without renewal, to be of more than one year's duration, whereby sums are to become payable by the insurer in the event of the occurrence, within the duration of the contract, of fatal accident or of accident or sickness causing injury or disability;

"Miscellaneous insurance business," that is to say, the business of effecting contracts of insurance against any risk other than those hereinbefore specified.

(2) If any insurer satisfies the Board that any insurance business carried on by him ought, although it

## DICTIONARY OF LIFE ASSURANCE

is business of one of the classes hereinbefore defined by this section, to be treated as if it were business of some other class as so defined, the Board may by order direct that it shall be so treated, and upon the making of such an order this Act shall apply to that business accordingly.

General interpretation  
9 Edw. 7. c. 49.  
13 & 14  
Geo. 5. c. 8.

34.—(1) In this Act, unless the context otherwise requires, the following expressions have the meanings hereby assigned to them respectively, that is to say—

“Act of 1909” means the Assurance Companies Act, 1909, as amended by any subsequent enactment:

“Act of 1923” means the Industrial Assurance Act, 1923, as amended by any subsequent enactment:

“Accountant-General” means the Accountant-General of the Supreme Court:

“Actuary” means an actuary having such qualifications as may be prescribed:

“Board” means the Board of Trade:

“Court” means the High Court or as respects any proceedings in the winding up of an insurance company or bankruptcy of any other insurer the court having jurisdiction in those proceedings:

“Insurance” includes assurance:

“Insurer” means any person or body of persons (not being a person or body exempted by or under this Act from the application thereof), carrying on insurance business who—

(a) carries on that business within Great Britain; or

(b) has his principal place of business or is domiciled within Great Britain; or

(c) is a body corporate incorporated by or under the law of Great Britain:

“Insurance company” means any insurer being a body corporate or a partnership, association, or company which may be wound up under the Companies Acts, 1908 to 1917:

“Insurance undertaking” means the undertaking carried on by an insurer in respect of any insurance business carried on by him:

“Policy” includes any document in whatever form constituting or evidencing a contract of insurance under which an insurer undertakes liability:

“Policy owner” means the person who is for the time being the person entitled to receive the sums payable by the insurer under the policy, and, in the case of an illegal policy or a policy not within the legal powers of the insurer who issued it, means the person who would be so entitled were the policy a legal policy or a policy within such powers; and references to policy owners of any class shall be construed as references to policy owners who are or would be so entitled as aforesaid under policies issued by an insurer in the course of that class of business:

“Prescribed” means prescribed by rules made under this Act:

“Registrar of Companies” has the same meaning as in the Companies (Consolidation) Act, 1908:

“Return” includes every account, balance sheet, abstract or statement deposited with the Board in accordance with the requirements of this Act, except, statements deposited with the Board in accordance with the transitory provisions of this Act with respect to statutory funds, copies of reports on the affairs of insurance companies submitted to the shareholders or policy owners thereof, and, documents received by the Board in accordance with the provisions of this Act relating to the submission and confirmation of schemes:

“Statutory fund” means a fund established or maintained in accordance with the requirements of this Act relating to statutory funds.

(2) When an insurer has ceased to effect contracts of insurance in the course of any class of business he shall so long as he continues liable on any contracts previously effected in the course of that class of business, be deemed for the purposes of this Act to carry on insurance business of that class:

Provided that an underwriter, being a member of the Society of Lloyd's or of any other association of underwriters approved by the Board, who has ceased to effect contracts of insurance in the course of any class of business shall, upon the Board (or, if the Board so direct, the committee of the association of which he is a member) certifying that he has by re-insurance or otherwise adequately provided for the satisfaction of his liabilities on all contracts previously effected in the course of that class of business, be deemed for the purposes of this Act, to have ceased to carry on insurance business of that class.

(3) For the purposes of this Act a document shall, save as in this Act otherwise expressly provided, be deemed to be sufficiently signed by a person if his name is printed or otherwise inserted thereon in such manner as to make it appear that he is responsible for the contents thereof.

Application of Act to industrial assurance business and consequential amendments of 13 & 14 Geo. 5. c. 8.

35.—(1) In relation to industrial assurance business anything which under this Act is required or authorised to be done to, by, or with, the Board, shall or may be done to, by, or with, the Industrial Assurance Commissioner, and except where the context otherwise requires, this Act shall apply in relation to industrial assurance business as if references to the said Commissioner were substituted therein for references to the Board:

Provided that—

(a) where an insurer transacts other business besides that of industrial assurance business nothing in this subsection shall affect the powers and duties of the Board under this Act in relation to that other class of business; and

(b) where any document required by or under this Act to be sent to the Board relates both to industrial assurance business and to other insurance business the document shall be sent both to the said Commissioner and to the Board; and

(c) where any direction given by the Board under the provisions of this Act relating to transitory provisions with respect to statutory funds or to the deposit of returns with the Board, entails a consequential alteration of any document sent by an insurer carrying on industrial assurance business to the said Commissioner, it shall be the duty of the insurer to make the consequential alteration therein; and where any direction given by the said Commissioner under the provisions aforesaid or under section sixteen of the Act of 1923 entails a consequential alteration of any document sent by such an insurer to the Board, it shall be the duty of the insurer to make the consequential alteration therein.

(2) The amendments in the second column of the Eighth Schedule to this Act (which relate to consequential matters) shall be made in the provisions of the Act of 1923 specified in the first column of that Schedule.

(3) References in this Act to the Act of 1923 shall, except where the context otherwise requires, be construed as references to that Act as amended by this Act; and references in the Act of 1923 to the provisions of that Act shall be construed as references to the said provisions as amended by this Act.

(4) References in sections thirteen and fourteen of the Act of 1923 to an industrial assurance fund shall

## APPENDIX

be construed to include references to an industrial assurance statutory fund, and the reference in the said section fourteen to a life assurance fund shall be construed to include a reference to a life statutory fund, annuity statutory fund, or amalgamated statutory fund.

(5) The provisions of this Act shall in relation to industrial assurance business be in addition to and not in derogation of the provisions of the Act of 1923.

36.—(1) For the purposes of Part I of this Act any person carrying on, either alone or in conjunction with any other class of business, the business of re-insuring contracts of insurance effected by any other person in the course of life business, annuity business, continuous disability business, or industrial assurance business, shall be deemed to be carrying on insurance business of that class, but, save as aforesaid, no person carrying on the business of re-insuring contracts of insurance effected by any other person in the course of any class of business shall be deemed for the purposes of the said Part I to be carrying on insurance business of that class so long as no other insurance business of that class is carried on by him.

Application of Act to re-insurance business.

(2) For the purposes of Part II of this Act an underwriter carrying on, either alone or in conjunction with any other class of business, the business of re-insuring contracts of insurance effected by any other person in the course of any class of business shall, subject as hereinafter provided, be deemed to be carrying on insurance business of that class:

Provided that an underwriter may, in respect of the business of re-insuring contracts of insurance effected by any other person in the course of life business, annuity business, continuous disability business, capital redemption business, or employers' liability business, comply with the requirements of the alternative provisions of Part II of this Act in lieu of complying with the requirements of the said Part II which are applicable to the aforementioned classes of business in so far as they are carried on by him otherwise than by way of re-insurance.

### *Savings and Exemptions.*

37.—(1) This Act shall not affect the National Debt Commissioners or the Postmaster-General acting under the authorities vested in them respectively by the Government Annuities Acts, 1829 to 1888, and the Post Office Savings Bank Acts, 1861 to 1908.

Savings.

(2) This Act shall not apply to any body of persons registered under the Acts relating to trade unions, or certified or incorporated under the Acts relating to building societies, and, except in so far as it is applied by the Act of 1923 to collecting societies within the meaning of that Act, this Act shall not apply to any body of persons registered under the Acts relating to friendly societies.

(3) This Act shall not apply with respect to any scheme or arrangement made by an employer, or by members of any profession, providing for the payment of superannuation allowances and annuities only to persons who are or have been employed by that employer or to persons who are or have been members of that profession, as the case may be, or gratuities or other payments to the dependants of such persons:

Provided that, for the purposes of this subsection, a company and any one or more companies subsidiary thereto associated together in any such scheme or arrangement as aforesaid shall be deemed to be one employer, and persons who are or have been employed by any such companies so associated shall be deemed to be or to have been employed by the same employer.

If any question arises whether a scheme or arrangement is a scheme or arrangement to which this subsection applies, the question may be referred to the Court, and the decision of the High Court shall be final and conclusive.

38. The Board may by order—

(a) on the application of any unregistered trade union originally established before the third day of December, eighteen hundred and eighty-nine, exempt the trade union from the application of this Act; and

Power to grant exemptions.

(b) on the application of any unregistered friendly society, extend to the society the exemption conferred by this Act on registered friendly societies if it appears to the Board, after consultation with the Chief Registrar of Friendly Societies, that the society is one to which it is expedient that such exemption should be extended; and

(c) upon being satisfied by an association of employers that it is carrying on, or about to carry on employers' liability business only for the purpose of the mutual insurance of its members against liability to pay compensation or damages to workmen employed by them, and is not carrying on or about to carry on any other insurance business, exempt the association from the provisions of this Act relating to deposits in respect of the employers' liability business carried on, or about to be carried on, by it; and

(d) upon being satisfied by an association of shipowners that the association is and was before the thirty-first day of December, nineteen hundred and twenty-six, carrying on insurance business only for the purpose of the mutual insurance of its members against risks incurred by them as shipowners and that the association is not empowered under the constitution and rules thereof to carry on insurance business for any other purpose, exempt the association from the provisions of this Act relating to deposits in respect of the insurance business carried on by it.

### *General.*

39. In the application of this Act to Scotland—

(a) References to—

“the Attorney-General” shall be construed as references to the Lord Advocate;

“the London Gazette” shall be construed as references to the Edinburgh Gazette;

“the High Court” shall be construed as references to the Court of Session;

“the President of the Institute of Actuaries” shall be construed as references to the President of the Faculty of Actuaries in Scotland;

“section two hundred and thirty-seven of the Companies (Consolidation) Act, 1908” shall be construed as references to section two hundred and thirty-eight thereof;

“section one hundred and thirty-two of the Bankruptcy Act, 1914” shall be construed as references to section one hundred and ninety of the Bankruptcy (Scotland) Act, 1913;

“committing an act of bankruptcy” shall be construed as references to becoming notour bankrupt;

“bankruptcy” shall be construed as references to sequestration; and

(b) Subsection (2) of the section of this Act whereof the marginal note is “Miscellaneous provisions

Application to Scotland.

3 & 4 Geo. 5. c. 20.

## DICTIONARY OF LIFE ASSURANCE

Short title,  
extent,  
commence-  
ment and  
repeal.

as to powers of Board," and subsection (2) of the section whereof the marginal note is "Penalties," shall not apply with respect to criminal proceedings.

40.—(1) This Act may be cited as the Insurance Undertakings Act, 1927.

(2) This Act shall not extend to Northern Ireland.

(3) His Majesty may by Order in Council extend any of the provisions of this Act, subject to such modifications as may be specified in the Order, to the Isle of Man or any of the Channel Islands, and an Order in Council extending the provisions of this Act to any of those islands may direct that all or any references in this Act to Great Britain or to the United Kingdom shall be construed as including that island.

(4) This Act shall, save as therein expressly provided, come into operation on the first day of January, nineteen hundred and twenty-eight.

(5) The enactments mentioned in the Ninth Schedule to this Act are hereby repealed to the extent specified in the third column of that Schedule, so, however, that, as respects every account, balance sheet, investigation, abstract and statement required by the said repealed enactments to be prepared or made by an assurance company in relation to any financial year of the company which began before the commencement of this Act, the said enactments shall continue to be of the same force and effect as if this Act had not passed.

## SCHEDULES

### FIRST SCHEDULE.

#### DEPOSITS REQUIRED TO BE MADE.

1. An insurer shall deposit—

(a) in respect of any life business, annuity business, continuous disability business and capital redemption business, or in respect of any one or more of them carried on by him, a sum of twenty thousand pounds; and

(b) in respect of any employers' liability business carried on by him, a sum of twenty thousand pounds.

2. An insurer who does not carry on any class of business specified in the foregoing paragraph of this Schedule shall deposit in respect of any fire business and marine business, or either of them, carried on by him, a sum of twenty thousand pounds.

3. An insurer who does not carry on any class of business specified in either of the foregoing paragraphs of this Schedule shall deposit in respect of any motor vehicle business and personal accident business, or either of them, carried on by him, a sum of fifteen thousand pounds.

4. Subject as hereinafter provided, an insurer who does not carry on any class of business specified in any of the foregoing paragraphs of this Schedule shall deposit in respect of all or any classes of miscellaneous insurance business carried on by him a sum of ten thousand pounds:

Provided that an insurer who carries on miscellaneous insurance business of a class or classes prescribed in that behalf and no other class of insurance business, shall deposit in lieu of the said sum of ten thousand pounds such sum as may be prescribed not exceeding five thousand pounds.

5. Where an insurer has made in respect of any class of business a deposit which he would not have been required by this Schedule to make if he had, at the time when the deposit was made, carried on some other class of business, then, if he subsequently begins to carry on such other class of business, the sum required to be deposited by him in respect thereof shall be reduced by an amount equal to the sum previously deposited by him in respect of the first mentioned class of business.

6. An insurer shall, whether or not he carries on any class of business mentioned in the foregoing paragraphs of this Schedule, deposit in respect of any industrial assurance business carried on by him a sum of twenty thousand pounds.

### SECOND SCHEDULE.

#### REGULATIONS AND FORM FOR THE PREPARATION OF BALANCE SHEETS.

##### PART I.

##### REGULATIONS.

1. The balance sheet required to be prepared in respect of every class of business carried on by an insurer is, in the form in which it is set out in Part II of this Schedule (Form A), appropriate to a case where the insurer maintains an Amalgamated Statutory Fund in respect of all life business, annuity business, continuous disability business, and capital redemption business carried on by him and does not maintain, under a trust deed or otherwise, any separate fund except those which he is required by this Act to maintain; in a case where the insurer maintains any separate Life Statutory Fund, Annuity Statutory Fund, Disability Statutory Fund, or Capital Redemption Statutory Fund, or maintains any other separate fund or account in accordance with the provisions of a trust deed or otherwise, the balance at the credit of every such fund or account, and the assets and liabilities thereof, must be shown separately, and, subject to the provisions of the regulation next following, the necessary additional columns and headings must be added to the form.

2. The balance sheet of any class of business may be prepared as a separate document instead of being incorporated by the addition of columns and headings in the general balance sheet, but the totals of every such separate balance sheet (showing the total assets of the class of business, the balance at the credit of any statutory fund or other separate fund or account, the amount of shareholders' undivided profits and outstanding liabilities), must in any case be incorporated in the general balance sheet.

3. If any combined balance sheet is for any purpose issued by an insurer, it shall be in accordance with the form specified in this Schedule, and there shall not be included among the assets shown in any such combined balance sheet any amount in respect of any holding in or advance to any insurer whose assets and liabilities have been incorporated therein. Every combined balance sheet must show clearly on the face thereof that it is a combined balance sheet and must set out fully the name of every insurer whose assets and liabilities have been incorporated therein; if the assets and liabilities of any person not being an insurer are included in a combined balance sheet, the fact must be stated thereon.

4. Where any guarantee has been given by an insurer (otherwise than in the ordinary course of re-insurance business) in respect of the policies of any other insurer, the balance sheet of the insurer by whom the guarantee

## APPENDIX

was given must show clearly the name of every insurer whose policies have been so guaranteed and the extent of the guarantee:

Provided that this regulation shall not apply where a combined balance sheet is issued incorporating the assets and liabilities of the insurer whose policies are guaranteed.

5. Where any part of the assets of an insurer is deposited in any place outside Great Britain as security for the owners of policies issued in that place, the balance sheet shall state that part of the assets has been so deposited, and if any such part forms part of a statutory fund, shall show the amount thereof and the place where it is deposited. Where any combined balance sheet is issued by an insurer for any purpose, the information required by this regulation shall be shown in the aggregate in respect of all the insurers whose assets and liabilities have been incorporated in the balance sheet.

6. If the value as shown in the balance sheet of the Investments in Stocks and Shares is, in the aggregate, greater than the market value thereof (after deduction of accrued interest included in market prices in those cases where accrued interest is included elsewhere in the balance sheet), then such market value must be shown against the value shown by the balance sheet, so stated as to make it appear what part thereof has been ascertained from published market quotations.

7. Every balance sheet shall contain the following certificates—

(a) a certificate signed by the same persons as are required by this Act to sign the balance sheet explaining how the values as shown in the balance sheet of the Investments in Stocks and Shares have been arrived at, and how the market value thereof has been ascertained for the purpose of comparison with the values so shown:

(b) a certificate signed by the same persons as are required by this Act to sign the balance sheet and signed also, so far as respects the value of any items shown in the balance sheet under the heading of "Reversions and Life Interests," by an actuary, certifying that the values of all the assets have been reviewed as at the date of the balance sheet, and that in their belief the assets set forth in the balance sheet are shown in the aggregate at amounts not exceeding their realisable or market value under the several headings: "Loans," "Reversions and Life Interests," "Investments," "Agents' Balances and Outstanding Premiums," "Interest Dividends and Rents outstanding," "Interest Dividends and Rents accruing but not due," "Amounts due from Other Persons or Bodies carrying on Insurance Business," "Sundry Debtors," "Bills Receivable," "Cash," and the several items specified under "Other Accounts":

Provided that if the persons signing the certificate are unable to certify that the assets set forth in the balance sheet are so shown as aforesaid, a full explanation of the bases upon which the values shown in the balance sheet have been assessed shall be given in the certificate:

(c) a certificate signed by the same persons as are required by this Act to sign the balance sheet and by the auditor certifying that no part of the assets of any statutory fund has been directly or indirectly applied in contravention of the provisions of this Act relating to the application and investment of statutory funds:

(d) certificates signed by the auditor (which shall be in addition to any other certificate or report which he is required by law to give with respect to the balance sheet) certifying—

(i) that he has verified the cash balances and the securities relating to the insurer's loans, reversions and life interests, and investments; and

(ii) to what extent, if any, he has verified the investments and transactions relating to any trusts undertaken by the insurer as trustee; and

(iii) in the case of a combined balance sheet that he has audited the balance sheet and accounts of every insurer whose assets and liabilities are incorporated therein, or that any such balance sheet and accounts which have not been audited by him have been certified by independent auditors. The said certificate shall contain a reference to such reservations, if any, as may have been made by any auditor upon any report or certificate given by him with respect to the balance sheet and accounts of any insurer whose assets and liabilities are incorporated in the combined balance sheet.

8. If the values shown in the balance sheet in respect of "Holdings in Controlled Companies," "Freehold House Property and Land," "Leasehold House Property and Land," "Fou Duties" or "Lands and Heritages in Scotland," have been increased since the last previous balance sheet (being a balance sheet prepared since the year nineteen hundred and twenty-six), the certificate required by paragraph (b) of the last foregoing regulation shall state the amount of every increase not solely due to the cost of subsequent additions or, as respects holdings in controlled companies, to increased profits, and shall contain an explanation of the reason therefor.

9. For the purposes of this Schedule the following expressions have the meanings hereby respectively assigned to them, that is to say—

"combined balance sheet" includes any combined statement made by an insurer of assets and liabilities in the form of a balance sheet which includes the assets and liabilities of any other insurer.

"controlled company" means any company over the policy or management of which the insurer has power directly or indirectly to exercise decisive influence:

"market value" means as respects any asset the market value thereof as ascertained from published market quotations, or, if there be no such value, its fair value as between a willing buyer and a willing seller.

### NOTES ON FORM A, pp. 576 and 577.

(a) The Reserves or Contingency Accounts must be separately stated.

(b) The accounts shown under this heading must not, without the permission of the Board, include those of any class of business except the following—

Motor vehicle, personal accident, and the following classes of miscellaneous insurance business, viz.: burglary, fidelity guarantee and surety, livestock, public liability, plate glass, baggage, boiler and engineering, hail, and insurance against the liability of employers (not being "employers' liability business" as defined by this Act);

the accounts of any other classes of miscellaneous insurance business must be shown under the heading "Other Accounts (if any) to be specified."

(c) If the Insurer has not full and unrestricted control of the assets constituting the Pension or Superannuation Accounts, either these Accounts and the assets and liabilities relating thereto must be omitted from

[Continued on page 578.]

DICTIONARY OF LIFE ASSURANCE

PART II.

FORMS.

FORM A.

Form of Balance Sheet.

BALANCE SHEET

OF

19

	Life, Annuity, Continuous Disability, and Capital Redemption Businesses	Employers' Liability Business.	Industrial Assurance Business.	Other Classes of Business.	Total.		Life, Annuity, Continuous Disability, and Capital Redemption Businesses	Employers' Liability Business.	Industrial Assurance Business.	Other Classes of Business.	Total.
	(1)	(2)	(3)	(4)*			(1)	(2)	(3)	(4)*	
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.		£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
Shareholders' Capital (each class to be stated separately)						Loans:					
Authorized:						On Mortgages of property within the United Kingdom					
...Shares of						,, Mortgages of property out of the United Kingdom					
£...each £						,, Security of municipal and other public rates					
-Subscribed:						,, Stocks and Shares					
...Shares of						,, Insurer's policies within their surrender value					
£...each £						,, Policies of other insurers within their surrender value					
Called up:						,, Personal security					
...Shares of						To Controlled Companies (other than Reversionary) (g)					
£...each £						Reversions and Life Interests:					
Less:						Reversions and Life Interests purchased					
Unpaid calls £						Loans on Reversions and Life Interests					
Reserve or Contingency Accounts (a)						Debentures and Debenture Stocks of Controlled Reversionary Companies (g)					
Investment Reserve Account						Ordinary Stocks and Shares of Controlled Reversionary Companies (g)					
Profit and Loss Appropriation Account Balance						Loans to Controlled Reversionary Companies (g)					
Balances of Funds and Accounts--						Investments:					
Amalgamated Statutory Fund						Stocks and Shares--					
Employers' Liability Statutory Fund						Deposit with the Accountant-General					
Industrial Assurance Statutory Fund						British Government Municipal, County and Public Boards Stocks (United Kingdom)					
Fire Business Account						Dominion, Indian, and Colonial Government Securities					
Marine Business Account						Dominion, Indian, and Colonial Provincial Securities					
Motor Vehicle, Personal Accident and Miscellaneous Insurance Business Account (b)											
Other accounts (if any) to be specified											
Pension or Superannuation Accounts (c)											
Debenture Stock per cent											
Loans and Advances (d)											
Bills Payable (d)											
Estimated liability in respect of outstanding claims, whether due or intimated (e)											
Annuities due and unpaid (e)											
Outstanding dividends.											
Carried forward						Carried forward					

\* Assets and Liabilities, Shareholders' Capital and Reserves, not allocated to any class of business specified in columns (1), (2) or (3), must be shown in column (4).

APPENDIX

	Life, Annuity, Continuous Disability, and Capital Redemption Businesses.	Employers' Liability Business.	Industrial Assurance Business.	Other Classes of Business.	Total		Life, Annuity, Continuous Disability, and Capital Redemption Businesses.	Employers' Liability Business.	Industrial Assurance Business.	Other Classes of Business.	Total
	(1)	(2)	(3)	(4)*			(1)	(2)	(3)	(4)*	
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	<i>Brought forward</i>	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
<i>Brought forward</i>						<i>Brought forward</i>					
Amounts due to Other Persons or Bodies carrying on Insurance Business (d)						Dominion, Indian, and Colonial Municipal Securities . . .					
Sundry Creditors (including outstanding and accruing expenses and taxes) (d)						Foreign Government Securities . . .					
Other sums owing by the insurer (particulars to be given) (d)						Do. Provincial Securities . . .					
Contingent Liabilities (to be specified) (f) . . . £						Do. Municipal Securities . . .					
						Railway Debentures and Debenture Stocks . . .					
						Railway Guaranteed and Preference Stocks . . .					
						Railway Ordinary Stocks . . .					
						Other Debentures and Debenture Stocks . . .					
						Other Guaranteed and Preference Stocks and Shares . . .					
						Other Ordinary Stocks and Shares . . .					
						Holdings in Controlled Companies (other than reversionary) (g) . . .					
						Rent Charges . . .					
						Freehold Ground Rents . . .					
						Leasehold Do. . .					
						Freehold House Property and Land . . .					
						Leasehold Do. . .					
						Feu duties (including ground annuals) . . .					
						Lands and Heritages in Scotland . . .					
						Agents' Balances and Outstanding Premiums (h) . . .					
						Interest, Dividends and Rents outstanding (e) . . .					
						Interest, Dividends and Rents accruing but not due (e) . . .					
						Amounts due from Other Persons or Bodies carrying on Insurance Business (i) . . .					
						Sundry Debtors (j) . . .					
						Bills Receivable . . .					
						Cash: . . .					
						At Bankers on Deposit Account . . .					
						Do. Current Account and in hand . . .					
						At Call and Short Notice (k) . . .					
						Other Accounts (to be specified) (l) . . .					

Assets and Liabilities, Shareholders' Capital and Reserves, not allocated to any class of business specified in columns (1), (2) or (3), must be shown in column (4).

## DICTIONARY OF LIFE ASSURANCE

the balance sheet or the assets of which the insurer has not such control must be clearly indicated on the face of the balance sheet.

(d) If the insurer has deposited security as cover in respect of any of these items, the amount and nature of the securities so deposited must be clearly indicated on the face of the balance sheet.

(e) These items are or have been included in the corresponding items in the Revenue or Profit and Loss Account. Outstanding and accruing interest, dividends and rents must be shown after deduction of income tax or the income tax must be provided for amongst the liabilities on the other side of the balance sheet.

(f) Such items as amount of liability in respect of bills discounted, uncalled capital of controlled companies, uncalled capital of other investments, &c., must either be shown in their several categories under the heading "Contingent Liabilities" or the appropriate items on the asset side must be set out in such detail as will clearly indicate the amount of the uncalled capital.

(g) As respects life, annuity, continuous disability, capital redemption, and industrial assurance businesses, full particulars of holdings in and loans to controlled companies must be stated, giving the name of each company, the number and description of each class of shares held, the amounts paid up thereon, and the value at which the holdings in each company stand in the balance sheet.

(h) Either this item must be shown net or the commission must be provided for amongst the liabilities on the other side of the balance sheet.

(i) Loans or advances to or balances due from controlled companies must not be shown under this heading, but under the separate appropriate headings provided, unless they are of a temporary character in respect of current transactions which are cleared within three months of the date of the balance sheet.

(j) Amounts due from directors and officials, unless fully secured, must be shown separately.

(k) No amounts must be entered under this heading unless fully secured. If not fully secured the amounts must be included under the heading "Sundry Debtors."

(l) Under this heading must be included such items as the following, which must be shown under separate headings suitably described: office furniture, goodwill, preliminary, formation and organization expenses, development expenditure account, discount on debentures issued, other expenditure carried forward to be written off in future years, balance being loss on Profit and Loss Appropriation Accounts, &c. The amounts included in the balance sheet must not be in excess of cost.

### THIRD SCHEDULE.

#### REGULATIONS AND FORMS FOR THE PREPARATION OF PROFIT AND LOSS ACCOUNTS.

##### PART I.

##### REGULATIONS.

1. The items on the income side of the Profit and Loss Account and Profit and Loss Appropriation Account must relate to income, whether actually received or not, and the items on the expenditure side must relate to expenditure, whether actually paid or not.

2. Deductions from Interest, Dividends and Rents to be shown in respect of income tax must include all United Kingdom income tax whether or not it has been or is to be deducted at source or paid direct.

3. The Interest, Dividends, and Rents, less Income Tax thereon shown in the Revenue Accounts for employers' liability business or for any classes of business other than those in respect of which statutory funds are required to be kept may, if the insurer so desires, be included with the corresponding items in the Profit and Loss Account.

##### PART II.

##### FORMS.

##### FORM B.

##### *Form of Profit and Loss Account.*

PROFIT AND LOSS ACCOUNT OF	FOR THE YEAR ENDED	, 19 .
	<i>£ s. d.</i>	
United Kingdom Taxes on the Insurer's Profits (not applicable to any particular Fund or Account)		Interest, Dividends and Rents (not applicable to any particular Fund or Account) . . . . . £
Expenses of Management (not applicable to any particular Fund or Account)*		Less: Income Tax thereon £ _____
Loss on Realization of Investments (not charged to Reserves or any particular Fund or Account) . . . . .		Profit on realization of Investments (not credited to Reserves or any particular Fund or Account) . . . . .
Depreciation of Investments (not charged to Reserves or any particular Fund or Account) . . . . .		Appreciation of Investments (not credited to Reserves or any particular Fund or Account) . . . . .
Loss transferred from Revenue Accounts (details to be given) . . . . .		Profit transferred from Revenue Accounts (details to be given) . . . . .
Other Expenditure (to be specified) . . . . .		Transfer Fees . . . . .
Balance for the year carried to Appropriation Account . . . . .		Other Income (to be specified) . . . . .
		Balance being loss for the year carried to Appropriation Account . . . . .

\* If any sum has been deducted from this item and entered on the assets side of the balance sheet, the amount so deducted must be shown separately.

## APPENDIX

### FORM C.

#### *Form of Profit and Loss Appropriation Account.*

PROFIT AND LOSS APPROPRIATION ACCOUNT OF \_\_\_\_\_ FOR THE YEAR ENDED \_\_\_\_\_, 19 .

	£	s.	d.		£	s.	d.
Balance being loss brought forward from last year				Balance brought forward from last year			
Balance being loss for the year brought from Profit and Loss Account (as in Form B)				Less: Dividends since paid in respect of last year (to be specified and if "free of tax" to be so stated)*			
Dividends paid during the year on account of the current year (to be specified and if "free of tax" to be so stated)							
Transfers to any particular Funds or Accounts (details to be given)				Balance for the year brought from Profit and Loss Account (as in Form B)			
Balance at end of the year as shown in the Balance Sheet				Balance being loss at end of the year as shown in the Balance Sheet			

\* NOTE. -This item may be shown on the other side of the account if preferred.

### FOURTH SCHEDULE.

#### REGULATIONS AND FORMS FOR THE PREPARATION OF REVENUE ACCOUNTS.

##### PART I.

##### REGULATIONS.

1. Form D is, as set out in Part II of this Schedule, appropriate for life business, annuity business, continuous disability business, capital redemption business, and industrial assurance business, but a separate revenue account must be prepared for every class of business in respect of which the insurer maintains a statutory fund, or any other separate fund or account maintained in accordance with the provisions of a trust deed or otherwise.

2. Form G is, as set out in Part II of this Schedule, appropriate for fire business, motor vehicle business, personal accident business, and miscellaneous insurance business. A separate revenue account must, however, be prepared for fire business: motor vehicle, personal accident, and the following classes of miscellaneous insurance business, viz. :—burglary, fidelity guarantee and surety, livestock, public liability, plate glass, baggage, boiler and engineering, hail, and insurance against the liability of employers (not being "employers' liability business" as defined by this Act)—may be included in one revenue account, but the revenue account of any other class of miscellaneous insurance business must be prepared separately unless the permission of the Board has been obtained to the inclusion thereof with the aforementioned classes of miscellaneous insurance business.

3. If any combined revenue account is for any purpose issued by an insurer it must be in accordance with the forms specified in this Schedule and must clearly show on the face thereof that it is a combined revenue account, and must set out fully the name of every insurer required to make separate returns under this Act whose revenue and expenditure have been included therein; if the revenue and expenditure of any person not being an insurer are included in a combined revenue account, the fact must be stated thereon.

4. The items on the income side of the revenue account must relate to income whether actually received or not, and the items on the expenditure side must relate to expenditure whether actually paid or not.

5. Re-insurance premiums whether on business ceded or accepted, are to be brought into account gross (i.e. before deducting commissions) under the head of premiums.

6. As respects life business, annuity business, continuous disability business, capital redemption business, and industrial assurance business, statements of new insurances in respect of which a premium has been paid during the year of account, must be appended to every revenue account relating to those classes of business showing separately as respects business within and business outside the United Kingdom the number of policies, the total sums assured, the amount received by way of single premiums (including all premiums paid at the outset where no subsequent premium is payable), and, except with respect to industrial assurance business, the amount of the yearly renewal premium income; the items to be net amounts after deduction of the re-insurances of the insurer's risks.

Policies of insurance upon the lives of a group of persons whereby sums assured are payable in respect of several persons included in the group must be excluded from any such statement as respects the classes of business aforesaid and must be shown in a separate statement giving the like particulars.

7. Any office premises which form part of the assets of a statutory fund must be treated as an interest-earning investment, and accordingly, in the Revenue Account for the class of business in respect of which the fund is maintained, a fair rent for the premises must be included under the heading "Interest, Dividends and Rents," and in the Revenue Account for every class of business for which the premises are used proper charges for the use thereof must be included under the heading "Expenses of Management":

Provided that this regulation shall not apply where the insurer carries on insurance business of one class only or maintains an Amalgamated Statutory Fund in respect of all the insurance business carried on by him, if he carries on no other business.

8. The expenses of management charged to the Revenue Account for any class of business in respect of which a statutory fund is maintained must not exceed the amount of such expenses properly referable to the

## DICTIONARY OF LIFE ASSURANCE

class of business in respect of which the fund is maintained, and, in particular, no such account must be charged with more than a fair sum for the use of any office premises having regard to the extent to which they are used for the purposes of the class of business.

9. Deductions from Interest, Dividends and Rents in respect of income tax must include all income tax whether or not it has been or is to be deducted at source or paid direct; the income tax to be shown as so deducted in Revenue Accounts for any classes of business in respect of which statutory funds are required by this Act to be kept, except employers' liability business, is United Kingdom, Foreign and Dominion income tax, but the income tax to be shown as deducted in Revenue Accounts for any other classes of business (including employers' liability business) is United Kingdom income tax only.

### PART II.

#### FORMS.

#### FORM D.

*Form of Revenue Account applicable to Life Business, Annuity Business, Continuous Disability Business, Capital Redemption Business, and Industrial Assurance Business.*

Revenue Account of	for the year ended			, 19	, in respect of	Business.		
	Business within the United Kingdom.	Business out of the United Kingdom. (a)	Total.		Business within the United Kingdom.	Business out of the United Kingdom. (a)	Total.	
	£ s. d.	£ s. d.	£ s. d.		£ s. d.	£ s. d.	£ s. d.	
Claims under Policies (including provision for claims due or intimated) less Re-insurances . . . . .				Balance of Fund at the beginning of the year	---	---		
By death . . . . .				Premiums, less Re-insurances				
By maturity . . . . .				Consideration for Annuities				
Annuities, less Re-insurances				Granted, less Re-insurances (c) . . . . .				
Surrenders (including Surrenders of Bonus), less Re-insurances . . . . .				Interest, Dividends and Rents . . . . .	£	£		
Bonuses in Cash less Re-insurances . . . . .				Less: Income Tax thereon (d) . . . . .	£	£		
Bonuses in Reduction of Premiums, less Re-insurances . . . . .				Registration Fees . . . . .				
Commission (less that on Re-insurances) . . . . .				Other Income (to be specified) . . . . .				
Expenses of Management (b) . . . . .				Loss transferred to Profit and Loss Account . . . . .				
Bad Debts . . . . .				Transferred from Appropriation Account . . . . .				
Foreign and Dominion Taxes . . . . .								
Other Expenditure (to be specified) . . . . .								
Profit transferred to Profit and Loss Account . . . . .								
Balance of Fund at the end of the year as shown in the Balance Sheet . . . . .								

NOTES.—(a) In the case of an insurer having his head office in the United Kingdom, these columns apply only to business carried in the books of any Branch Offices or agencies outside the United Kingdom.

(b) If any sum has been deducted from this item and entered on the assets side of the balance sheet, the amount so deducted must be shown separately.

(c) All single premiums for annuities, whether immediate or deferred, must be included under this heading.

(d) United Kingdom, Foreign and Dominion income tax on Interest, Dividends and Rents must be shown under this heading, less any rebates of income tax recovered from the revenue authorities in respect of expenses of management. The separate heading on the other side of the account is for Foreign and Dominion taxes, other than those shown under this item.

APPENDIX

FORM E.

Form of Revenue Account applicable to Employers' Liability Business  
 Revenue Account of \_\_\_\_\_ for the year ended \_\_\_\_\_, 19\_\_\_\_, in respect of  
 Employers' Liability Business.

	£	s.	d.		£	s.	d.
Claims under Policies, less Re-insurances (a)—							
Paid during the year . . . . .			£		Balance of Employers' Liability Statutory Fund at beginning of the year—		
Total estimated liability in respect of outstanding claims at end of the year whether due or intimated . . . . .			£		Reserve for Unexpired Risks . . . . .		£
Total . . . . .			£		Additional Reserve (if any) . . . . .		£
Less: Outstanding at end of previous year (b) . . . . .			£		Premiums, less Re-insurances Interest, Dividends, and Rents . . . . .		£
Commission . . . . .					Less: Income Tax thereon . . . . .		£
Expenses of Management (c) . . . . .					Other Income (to be specified)		
Bad Debts . . . . .					Loss transferred to Profit and Loss Account		
Other Expenditure (to be specified) . . . . .					Transferred from Appropriation Account.		
Profit transferred to Profit and Loss Account . . . . .							
Balance of Employers' Liability Statutory Fund at the end of the year as shown in the Balance Sheet—							
Reserve for Unexpired Risks, being per cent of premium income of year . . . . .			£				
Additional Reserve (if any) . . . . .			£				
				£			

NOTES.—(a) This heading must include all expenses directly incurred in settling claims.  
 (b) If in any year the claims actually paid and those still unpaid at the end of that year in respect of the previous year or years, are in excess of the amount included in the previous year's Revenue Account as provision for outstanding claims, then the amount of such excess must be shown in the Revenue Account.  
 (c) If any sum has been deducted from this item and entered on the assets side of the balance sheet, the amount so deducted must be shown separately.

FORM F.

Form of Revenue Account applicable to Marine Business.

Revenue Account of \_\_\_\_\_ for the year ended \_\_\_\_\_, 19\_\_\_\_, in respect of Marine Business.

	Current Year.	Last Preceding Year.	Previous Years.	Total.		Current Year.	Last Preceding Year.	Previous Years.	Total.
	£ s. d.	£ s. d.	£ s. d.	£ s. d.		£ s. d.	£ s. d.	£ s. d.	£ s. d.
Claims paid (less Salvages and Re-insurances) (a) . . . . .					Balance of Marine Business Account at beginning of the year—				
Commission . . . . .					Balances . . . . .				
Expenses of Management (b) . . . . .					Additional Reserve (if any) . . . . .				
Bad Debts . . . . .					Premiums (less Returns, Re-insurances, Brokerages and Discount) . . . . .				
Foreign and Dominion Taxes . . . . .					Interest, Dividends, and Rents . . . . .				
Other Expenditure (to be specified) . . . . .					Less: Income Tax thereon . . . . .				
Profit transferred to Profit and Loss Account . . . . .					Other Income (to be specified) . . . . .				
Balance of Marine Business Account at end of year as shown in the Balance Sheet—					Loss transferred to Profit and Loss Account				
Balances . . . . .					Transferred from Appropriation Account . . . . .				
Additional Reserve (if any) . . . . .									

NOTES.—(a) This heading must include all expenses directly incurred in settling claims.  
 (b) If any sum has been deducted from this item and entered on the assets side of the balance sheet, the amount so deducted must be shown separately.

DICTIONARY OF LIFE ASSURANCE

FORM G.

Form of Revenue Account applicable to Fire Business, Motor Vehicle Business, Personal Accident Business, and Miscellaneous Insurance Business.

Revenue Account of	for the year ended 19 , in respect of		Business.
	£ s. d.		£ s. d.
Claims under Policies, less Re-insurances (a)—		Balance of Account at beginning of the year—	
Paid during the year . . . . . £		Reserve for Unexpired Risks . . . . . £	
Total estimated liability in respect of outstanding claims at end of the year whether due or intimated . . . . . £		Additional Reserve (if any) . . . . . £	
Total . . . . .		Premiums, less Re-insurances . . . . .	
Less: Outstanding at end of previous year (b) . . . . . £		Interest, Dividends and Rents . . . . . £	
Commission . . . . .		Less: Income Tax thereon . . . . . £	
Expenses of Management (c) . . . . .		Other Income (to be specified) . . . . .	
Bad Debts . . . . .		Loss transferred to Profit and Loss Account . . . . .	
Foreign and Dominion Taxes . . . . .		Transferred from Appropriation Account . . . . .	
Other Expenditure (to be specified) . . . . .			
Profit transferred to Profit and Loss Account . . . . .			
Balance of Account at the end of the year as shown in the Balance Sheet:			
Reserve for Unexpired Risks, being per cent of premium income of year . . . . . £			
Additional Reserve (if any) . . . . . £			
	£		£

NOTES.—(a) This heading must include all expenses directly incurred in settling claims, and in the case of Fire Business must include contributions to Fire Brigades.  
 (b) If in any year the claims actually paid and those still unpaid at the end of that year in respect of the previous year or years are in excess of the amount included in the previous year's Revenue Account as provision for outstanding claims, then the amount of such excess must be shown in the Revenue Account.  
 (c) If any sum has been deducted from this item and entered on the assets side of the balance sheet the amount so deducted must be shown separately.

FIFTH SCHEDULE.

REGULATIONS FOR THE PREPARATION OF ABSTRACTS OF ACTUARIES' REPORTS, &C. AND REQUIREMENTS APPLICABLE TO SUCH ABSTRACTS, &C.

PART I.

REGULATIONS.

- Abstracts and Statements must be so arranged that the numbers and letters of the paragraphs correspond with those of the paragraphs of Parts IIA, IIB, IIC, III and IV, respectively, of this Schedule.
- Abstracts in respect of industrial assurance business must be prepared separately from those in respect of any other class of business.
- Where a separate statutory fund is maintained in respect of annuity business, forms H and J must be prepared as separate documents, and the information required by paragraphs 5, 6 and 8, of Part IIA of this Schedule must be given separately, as respects that class of business.
- Where an amalgamated statutory fund is maintained in respect of capital redemption business or continuous disability business as well as in respect of life business, abstracts in respect of capital redemption business or continuous disability business may be incorporated in the abstract prepared under Part IIA of this Schedule instead of being prepared under Parts IIB and IIC thereof, and, in that case, the necessary additional Divisions must be added to the Form I annexed to Part IIA of this Schedule.
- Where any table of mortality or sickness used in a valuation is not a published table, then, for the purpose of complying—  
 (a) with paragraph 3 of Part IIA of this Schedule, specimen policy values must be given at the rate of interest employed in the valuation in respect of whole life insurance policies effected at the respective ages of 20, 30, 40, and 50, and having been in force respectively for five years, ten years and upwards at intervals of ten years; and similar specimen policy values must be given in respect of endowment insurance policies effected at the respective ages of 20, 30, and 40 for endowment terms of twenty and thirty years; and  
 (b) with paragraph 3 of Part IIC of this Schedule, specimens of the valuation factors must be given:  
 Provided that, where the specimen policy values required by this regulation to be given are the same as those given in any abstract prepared under Part IIA of this Schedule previously submitted by the insurer to

## APPENDIX

the Board, it shall be sufficient in any abstract subsequently submitted to refer to the specimens so given in such manner as to enable the required information to be ascertained therefrom by the Board.

6. In showing the proportion which that part of the annual premiums reserved as a provision for future expenses and profits bears to the total of the annual premiums, in accordance with the requirements of paragraphs 4 of Parts IIA, IIB, and IIC of this Schedule, no credit is to be taken for any adjustments made in order to secure that no policy is treated as an asset.

7.—(1) The average rate of interest yielded in any year by the assets constituting a statutory fund shall, for the purposes of paragraphs 5 of Parts IIA, IIB, and IIC of this Schedule, be calculated by dividing the interest of the year by the mean fund of the year; and for the purposes of any such calculation the interest of the year shall be taken to be the whole of the interest credited to the statutory fund during the year after deduction of income tax (any refund of income tax made during the year being taken into account), and the mean fund of the year shall be ascertained by adding a sum equal to one-half of the amount of the statutory fund at the beginning of the year to a sum equal to one-half of that fund at the end of the year, and deducting from the aggregate of those two sums an amount equal to one-half of the interest of the year.

(2) For the purposes of the calculation aforesaid either—

(a) all profits and income arising during the year from sums invested in reversions shall be included in the interest credited to the statutory fund during the year; or

(b) such portion of the statutory fund as is invested in the purchase of reversions, and the profits and income arising therefrom, shall be excluded from the calculation; but in that case a statement must be added to the information required under the said paragraphs 5, showing in respect of the portion of the fund so excluded as aforesaid, the average rate of annual profit and income for which credit has been taken during the five years last preceding the valuation date, and explaining the manner in which the said average rate has been calculated.

(3) The information given in accordance with the requirements of the said paragraphs 5, shall show clearly by which of the methods hereinbefore in this regulation mentioned the sums invested in reversions and the profits and income arising therefrom have been dealt with.

8. Every abstract (including any abbreviated abstract) prepared in accordance with the requirements of Parts IIA, IIB, IIC, and III of this Schedule shall be signed by an actuary and shall contain a certificate by him to the effect that he has satisfied himself as to the accuracy of the valuations made for the purposes thereof and of the valuation data:

Provided that in the case of an abstract prepared on behalf of an insurance company, if the actuary who signs the abstract is not a permanent officer of the company, the certificate as to the accuracy of the valuation data shall be given and signed by the principal officer of the company and the actuary shall insert on the abstract a statement signed by him showing what precautions he has taken to ensure the accuracy of the data.

9. The estimated liability in respect of claims outstanding as at the end of the fifth year preceding the year of account, required by paragraph 1 (c) of Part IV of this Schedule to be shown in the fourth column of form S for that year, shall be the estimated liability as computed for the purposes of the Fourth Schedule to this Act.

10.—(1) The statement required by paragraph 1 (d) of Part IV of this Schedule and any statement of further particulars given in accordance with the requirements of paragraph 2 of that Part of this Schedule shall be prepared and signed by an actuary.

(2) The particulars required by paragraph 1 (d) of Part IV of this Schedule to be shown in form T shall be shown separately in respect of male and female workers, and those particulars and the particulars required to be given by paragraph 2 (a) (vi) of that Part of this Schedule shall be separately stated in respect of each year of life of the workmen from the youngest to the oldest.

11. For the purposes of this Schedule the following expressions have the meanings hereby respectively assigned to them, that is to say—

“extra premium” means a charge for any risk not provided for in the minimum contract premium:

“inter-valuation period” means, as respects any valuation, the period to the valuation date of that valuation from the valuation date of the last preceding valuation in connection with which an abstract or abbreviated abstract was prepared under this Act or under the enactments repealed by this Act, or, in a case where no such valuation has been made in respect of the class of business in question, from the date on which the insurer began to carry on that class of business:

“maturity date” means the fixed date on which any benefit will become payable either absolutely or contingently:

“net premiums” means as respects any valuation the premiums taken credit for in the valuation:

“premium term” means the period during which premiums are payable:

“standard basis” means in relation to the estimated liability in respect of claims arising in the course of employers' liability business the basis of the amount which would be required to purchase from the National Debt Commissioners, through the Post Office Savings Bank, an immediate life annuity for the workmen equivalent to seventy-five per cent of the amount of the weekly payment, according to the sex and actual age of the workers:

“valuation date” means as respects any valuation the date as at which the valuation is made.

### PART IIA.

#### REQUIREMENTS APPLICABLE TO AN ABSTRACT IN RESPECT OF LIFE, ANNUITY, AND INDUSTRIAL ASSURANCE BUSINESS.

The following tabular statements shall be annexed to every abstract prepared in accordance with the requirements of this Part of this Schedule, that is to say—

(a) a Consolidated Revenue Account, in the form H annexed to this Part of this Schedule, for the inter-valuation period (except that it shall not be necessary to prepare such an account in respect of any class of business so long as the insurer deposits annually with the Board an abstract or abbreviated abstract in respect of that class of business); and

(b) a Summary and Valuation in the form I annexed to this Part of this Schedule, of the policies included at the valuation date in the class of business to which the abstract relates; and

## DICTIONARY OF LIFE ASSURANCE

(c) a Valuation Balance Sheet, in the form J annexed to this Part of this Schedule, and every such abstract shall show—

1. The valuation date.

2. The general principles and full details of the methods adopted in the valuation of each of the various classes of insurances and annuities shown in the said form I, including statements on the following points—

(a) whether the principles were determined by the instruments constituting the company or by its regulations or bye laws, or how otherwise;

(b) the method by which the net premiums have been arrived at and how the ages at entry, premium terms, and maturity dates, have been treated for the purpose of the valuation;

(c) the methods by which the valuation age, period from the valuation date to the maturity date, and the future premium terms, have been treated for the purpose of the valuation;

(d) the rate of bonus taken into account where by the method of valuation definite provision is made for the maintenance of a specific rate of bonus;

(e) the method of allowing for—

(i) the incidence of the premium income; and

(ii) premiums payable otherwise than annually;

(f) the methods by which provision has been made for the following matters—

(i) the immediate payment of claims;

(ii) future expenses and profits in the case of limited payment and paid-up policies,

(iii) the reserve in respect of lapsed policies, not included in the valuation, but under which a liability exists or may arise; and

whether any reserves have been made for the matters aforesaid;

(g) whether under the valuation method adopted any policy would be treated as an asset, and if so what steps, if any, have been taken to eliminate such asset;

(h) a statement of the manner in which policies on under-average lives and policies subject to premiums which include a charge for climatic, military or other extra risks have been dealt with;

(i) the rates of exchange at which liabilities in respect of policies issued in foreign currencies have been converted into sterling, and what provision has been made for possible increase of liability arising from future variations in the rates of exchange.

3. The table of mortality used, and the rate of interest assumed, in the valuation.

4. The proportion which that part of the annual premiums reserved as a provision for future expenses and profits bears to the total of the annual premiums, separately specified in respect of insurances with immediate profits, with deferred profits, with profits under discounted bonus systems, and without profits.

5. The average rates of interest yielded by the assets, whether invested or uninvested, constituting the relevant statutory fund for each of the five years preceding the valuation date.

6. The basis adopted in the distribution of profits as between the insurer and policy owners, and whether such basis was determined by the instruments constituting the company, or by its regulations or bye laws, or how otherwise.

7. The general principles adopted in the distribution of profits among policy owners, including statements on the following points—

(a) whether the principles were determined by the instruments constituting the company, or by its regulations or bye laws, or how otherwise;

(b) the number of years' premiums to be paid, period to elapse, and other conditions to be fulfilled before a bonus is allotted;

(c) whether the bonus is allotted in respect of each year's premium paid, or in respect of each completed calendar year or year of assurance or how otherwise;

(d) whether the bonus vests immediately on allocation, or, if not, the conditions of vesting.

8.—(1) The total amount of profits arising during the inter-valuation period, including profits paid away and sums transferred to reserve funds or other accounts during that period, and the amount brought forward from the preceding valuation (to be stated separately) and the allocation of such profits—

(a) to interim bonus paid;

(b) among policy owners with immediate participation, giving the number of the policies which participated and the sums assured thereunder (excluding bonuses);

(c) among policy owners with deferred participation, giving the number of the policies which participated and the sums assured thereunder (excluding bonuses);

(d) among policy owners in the discounted bonus class, giving the number of the policies which participated and the sums assured thereunder (excluding bonuses);

(e) to the insurer, or in the case of an insurance company, among shareholders or to shareholders' accounts (any such sums passed through the accounts during the inter-valuation period to be separately stated);

(f) to every reserve fund, or other fund or account (any such sums passed through the accounts during the inter-valuation period to be separately stated);

(g) as carried forward unappropriated.

(2) Specimens of bonuses allotted as at the valuation date to policies for one hundred pounds—

(a) for the whole term of life effected at the respective ages of 20, 30 and 40, and having been in force respectively for five years, ten years, and upwards at intervals of ten years;

(b) for endowment insurances effected at the respective ages of 20, 30 and 40, for endowment terms of fifteen, twenty and thirty years, and having been in force respectively for five years, ten years, and upwards at intervals of ten years;

together with the amounts apportioned under the various manners in which the bonus is receivable.

9. A statement of the value, if any, allowed for the surrender of policies for one hundred pounds—

(a) for the whole term of life effected at the respective ages of 20, 30, and 40 and having been respectively in force for five years, ten years, and upwards at intervals of ten years; and

(b) for endowment insurances effected at the respective ages of 20, 30 and 40 for endowment terms of fifteen, twenty and thirty years, and having been in force respectively for five years, ten years and upwards at intervals of ten years.

In the case of industrial assurance policies, where free or paid-up policies are granted in lieu of surrender

## APPENDIX

values, the conditions under which such paid-up policies are granted must be stated, and unless such policies are identical with those prescribed by the Act of 1923, specimen policies must be shown in relation to the same ages and durations as those in relation to which statements of the surrender values are required by this paragraph.

### FORM H.

Consolidated Revenue Account of for years commencing and  
ending

	£	s.	d.		£	s.	d.
Claims under Policies (including provision for claims due or intimated) less Re-insurances . . . . .				Balance of Statutory Fund at the beginning of the period . . . . .			
By death . . . . .				Premiums, less Re-insurances . . . . .			
By maturity . . . . .				Consideration for Annuities Granted, less Re-insurances (b) . . . . .			
Annuities, less Re-insurances . . . . .				Interest, Dividends and Rents . . . . .	£		
Surrenders (including Surrenders of Bonus) less Re-insurances . . . . .				Less: Income Tax thereon (c) . . . . .	£		
Bonuses in Cash, less Re-insurances . . . . .				Registration Fees . . . . .			
Bonuses in Reduction of Premiums, less Re-insurances . . . . .				Other Income (to be specified) . . . . .			
Commission (less that on Re-insurances) . . . . .				Loss transferred to Profit and Loss Account . . . . .			
Expenses of Management (a) . . . . .				Transferred from Appropriation Account . . . . .			
Foreign and Dominion Taxes . . . . .							
Bad Debts . . . . .							
Other Expenditure (to be specified) . . . . .							
Profit transferred to Profit and Loss Account . . . . .							
Balance of Statutory Fund at end of the period as shown in the Balance Sheet . . . . .							
	£						£

NOTES.—(a) If any sum has been deducted from this item and entered on the assets side of the balance sheet the amount so deducted must be shown separately.

(b) All single premiums for annuities, whether immediate or deferred, must be included under this heading.

(c) United Kingdom, Foreign and Dominion income tax on Interest, Dividends and Rents must be shown under this heading, less any rebates of income tax recovered from the revenue authorities in respect of expenses of management. The separate heading on the other side of the account is for Foreign and Dominion taxes, other than those shown under this item.

DICTIONARY OF LIFE ASSURANCE

FORM I.

Summary and Valuation of the Policies of

as at 19 .

Description of Transactions.	Particulars of the Policies for Valuation.					Valuation.			
	Number of Policies.	Sums Assured.	Bonuses.	Office Yearly Premiums.	Net Yearly Premiums.	Sums Assured, and Bonuses.	Office Yearly Premiums.	Net Yearly Premiums.	Net Liability.
<b>DIVISION I.</b>									
<i>Insurances.</i>									
Group A.—With immediate participation in profits									
For whole term of life									
Other classes (to be specified) . . .									
Extra premiums . . .									
Total insurances . . .									
Deduct re-insurances . . .									
Net insurances . . .									
Group B.—With deferred participation in profits									
For whole term of life									
Other classes (to be specified) . . .									
Extra premiums . . .									
Total insurances . . .									
Deduct re-insurances . . .									
Net insurances . . .									
Group C.—Under discounted bonus systems									
For whole term of life									
Other classes (to be specified) . . .									
Extra premiums . . .									
Total insurances . . .									
Deduct re-insurances . . .									
Net insurances . . .									
Total insurances with profits									
Group D.—Without participation in profits									
For whole term of life									
Other classes (to be specified) . . .									
Extra premiums . . .									
Total insurances . . .									
Deduct re-insurances . . .									
Net insurances . . .									
Total insurances without profits									
Total of the insurances shown in all groups . . .									
Deduct re-insurances									
Net amount of insurances . . .									
Adjustments, if any (to be separately specified) . . .									
<b>DIVISION II.</b>									
<i>Annuities on Lives.</i>									
Immediate Annuities									
Deferred Annuities, with return of Premiums . . .									
Deferred Annuities, without return of Premiums . . .									
Other classes (to be specified) . . .									
Total Annuities . . .									
Deduct re-insurances . . .									
Net Annuities on Lives . . .									
Total of the results (after deduction of re-insurances).									

## APPENDIX

NOTES.—1. Items in this Summary are to be stated to the nearest £.

2. No policy of insurance upon the lives of a group of persons, whereby sums assured are payable in respect of the several persons included in the group, is to be included in Groups A, B, C, or D of this form; any such policies must be shown in a separate Group which must be added to the form.

3. If policies without participation in profits but with a guaranteed rate of bonus are issued they must be separately specified in Group D of this form.

4. Policies under which there is a waiver of premiums during disability must be shown as a separate class.

5. Separate forms must be prepared in respect of classes of policies valued by different tables of mortality or at different rates of interest or involving the valuation of net premiums on different bases.

6. In cases where separate valuations of any portion of the business are required under local laws in places outside Great Britain and reserves based on such valuations are deposited in such places, a statement must be furnished in respect of the business so valued in each such place showing the total number of policies, the total sums assured and bonuses, the total office yearly premiums, and the total net liability on the bases as to mortality and interest adopted in each such place with a statement as to such bases respectively.

7. Office and net premiums and the values thereof must be shown after deduction of abatements made by the application of bonus.

FORM J.  
Valuation Balance Sheet of \_\_\_\_\_ as at \_\_\_\_\_ 19 .

	£	s.	d.		£	s.	d.
Net liability under business as shown in the Summary and Valuation of Policies				Balance of			
Surplus, if any				in the Balance Sheet			
				Deficiency, if any			

NOTE.—If the proportion of surplus allocated to the insurer, or in the case of an insurance company to shareholders, is not uniform in respect of all classes of insurances, the surplus must be shown separately for the classes to which the different proportions relate.

### PART IIb.

#### REQUIREMENTS APPLICABLE TO AN ABSTRACT IN RESPECT OF CAPITAL REDEMPTION BUSINESS.

The following tabular statements shall be annexed to every abstract prepared in accordance with the requirements of this Part of this Schedule, that is to say—

(a) a Consolidated Revenue Account, in the form K, annexed to this Part of this Schedule, for the inter-valuation period (except that it shall not be necessary to prepare such an account in respect of capital redemption business so long as the insurer deposits annually with the Board an abstract or abbreviated abstract in respect of that class of business); and

(b) a Summary and Valuation, in the form L, annexed to this Part of this Schedule, of the policies included at the valuation date in the capital redemption business; and

(c) a Valuation Balance Sheet, in the form M, annexed to this Part of this Schedule, and every such abstract shall show—

1. The valuation date.

2. The general principles and full details of the methods adopted in the valuation, including statements on the following points—

(a) whether the principles were determined by the instruments constituting the company or by its regulations or bye laws or how otherwise;

(b) the method by which the net premiums have been arrived at, or the proportion of the office premiums reserved as provision for future expenses and profits;

(c) the methods by which the period from the valuation date to the maturity date, and the future premium terms, have been treated for the purpose of the valuation;

(d) the reserve made in respect of lapsed policies not included in the valuation but under which a liability exists or may arise;

(e) whether under the valuation method adopted any policy would be treated as an asset, and, if so, what steps, if any, have been taken to eliminate such asset.

3. The rate of interest assumed in the valuation.

4. The proportion which that part of the annual premiums reserved as a provision for future expenses and profits, bears to the total of the annual premiums, separately specified in respect of insurances with profits and without profits.

5. The average rates of interest yielded by the assets, whether invested or uninvested, constituting the capital redemption statutory fund for each of the five years preceding the valuation date.

6. The basis adopted in the distribution of profits as between the insurer and policy owners, and whether such basis was determined by the instruments constituting the company or by its regulations or bye laws, or how otherwise.

7. The general principles adopted in the distribution of profits among policy owners including statements on the following points—

(a) whether the principles were determined by the instruments constituting the company or by its regulations or bye laws, or how otherwise;

(b) the number of years' premiums to be paid, the period to elapse, and other conditions to be fulfilled before a bonus is allotted and vests.

8.—(1) The total amount of profits arising during the inter-valuation period (including profits paid away and sums transferred to reserve funds or other accounts during that period) and the amount brought forward from the preceding valuation (to be stated separately), and the allocation of such profits—

(a) among policy owners, giving the number and amount (excluding bonuses) of the policies which participated;



APPENDIX

FORM M.

Valuation Balance Sheet of

as at

19

	£ s. d.		£ s. d.
Net liability under Capital Redemption Business as shown in the Summary and Valuation of Policies . . . . .		Balance of Capital Redemption Statutory Fund as shown in the Balance Sheet . . . . .	
Surplus, if any . . . . .		Deficiency, if any . . . . .	

PART IIc.

REQUIREMENTS APPLICABLE TO AN ABSTRACT IN RESPECT OF CONTINUOUS DISABILITY BUSINESS.

The following tabular statements shall be annexed to every abstract prepared in accordance with the requirements of this Part of this Schedule, that is to say—

(a) a Consolidated Revenue Account, in the form N. annexed to this Part of this Schedule, for the inter-valuation period (except that it shall not be necessary to prepare such an account in respect of continuous disability business so long as the insurer deposits annually with the Board an abstract or abbreviated abstract in respect of that class of business); and

(b) a Summary and Valuation, in the form O. annexed to this Part of this Schedule, of the policies included at the valuation date in the continuous disability business; and

(c) a Valuation Balance Sheet, in the form P. annexed to this Part of this Schedule, and every such abstract shall show—

1. The valuation date.

2. The general principles and full details of the methods adopted in the valuation of the various classes of policies, including statements on the following points—

(a) whether the principles were determined by the instruments constituting the company or by its regulations or bye laws, or how otherwise;

(b) the method by which the net premiums have been arrived at, or the proportion of office premiums reserved as provision for future expenses;

(c) the methods by which the valuation age, period from the valuation date to the maturity date, and the future premium terms have been treated for the purpose of the valuation;

(d) the method of allowing for—

(i) the incidence of the premium income; and

(ii) premiums payable otherwise than annually;

(e) the method of determining the reserve in respect of policies under which claims are current at the valuation date;

(f) the reserve made in respect of lapsed policies not included in the valuation but under which a liability exists or may arise;

(g) whether under the valuation method adopted any policy would be treated as an asset, and if so, what steps, if any, have been taken to eliminate such asset;

(h) a statement of the manner in which policies on under-average lives, and policies subject to premiums which include a charge for climatic, military, or other extra risks have been dealt with.

3. The table of mortality, sickness, and accident, used in the valuation for males and females respectively, and the rate of interest assumed in the valuation.

4. The proportion which that part of the annual premiums reserved as a provision for future expenses and profits bears to the total of the annual premiums, separately specified in respect of insurances with profits and without profits.

5. The average rates of interest yielded by the assets, whether invested or uninvested, constituting the disability statutory fund, for each of the five years preceding the valuation date.

6. The basis adopted in the distribution of profits as between the insurer and policy owners and whether such basis was determined by the instruments constituting the company or by its regulations or bye laws, or how otherwise.

7. The general principles adopted in the distribution of profits amongst the policy owners, including statements on the following points—

(a) whether the principles were determined by the instruments constituting the company or by its regulations or bye laws, or how otherwise;

(b) the number of years' premiums to be paid, period to elapse, and other conditions to be fulfilled, before a bonus is allotted and vests.

8.—(1) The total amount of profits arising during the inter-valuation period (including profits paid away and sums transferred to reserve funds or other accounts during that period) and the amount brought forward from the preceding valuation (to be stated separately) and the allocation of such profits—

(a) among policy owners, and the number and amount (excluding bonuses) of the policies which participated;

(b) to the insurer, or in the case of an insurance company, among shareholders or to shareholders' accounts (any sums passed through the accounts during the inter-valuation period to be separately stated);

(c) to reserve funds or other accounts (any sums passed through the accounts during the inter-valuation period to be separately stated);

(d) as carried forward unappropriated.

(2) Specimens of bonuses allotted as at the valuation date to policies for one hundred pounds effected at the respective ages of 20, 30, and 40, and having been in force respectively for five years, ten years, and upwards at intervals of ten years.

# DICTIONARY OF LIFE ASSURANCE

## FORM N.

Consolidated Revenue Account of \_\_\_\_\_ for \_\_\_\_\_ years, commencing \_\_\_\_\_ and ending \_\_\_\_\_

	£ s. d.		£ s. d.
Claims under Policies (including provision for claims due or intimated) less Re-insurances.		Balance of Disability Statutory Fund at the beginning of the period	
Surrenders, (including surrenders of Bonus) less Re-insurances		Premiums, less Re-insurances	
Bonuses in Cash, less Re-insurances		Interest, Dividends, and Rents	£
Bonuses in Reduction of Premiums, less Re-insurances		Less: Income Tax thereon (b)	£
Commission (less that on Re-insurances)		Registration Fees	
Expenses of Management (a)		Other Income (to be specified)	
Foreign and Dominion Taxes		Loss transferred to Profit and Loss Account	
Bad Debts		Transferred from Appropriation Account.	
Other Expenditure (to be specified)			
Profit transferred to Profit and Loss Account			
Balance of Disability Statutory Fund at the end of the period as shown in the Balance Sheet.			

NOTES.—(a) If any sum has been deducted from this item and entered on the assets side of the balance sheet the amount so deducted must be shown separately.

(b) United Kingdom, Foreign and Dominion income tax on Interest, Dividends and Rents must be shown under this heading, less any rebates of income tax recovered from the revenue authorities in respect of expenses of management. The separate heading on the other side of the account is for Foreign and Dominion taxes, other than those shown under this item.

## FORM O.

Summary and Valuation of the Policies of \_\_\_\_\_ as at 19 \_\_\_\_\_

Description of Transactions.	Particulars of the Policies for Valuation.					Valuation.				
	Number of Policies.	Sums Assured.		Office Yearly Premiums.	Net Yearly Premiums.	Sums Assured.		Office Yearly Premiums.	Net Yearly Premiums or alternatively Provision for Future Expenses and Profits.	Net Liability
		By Capital Sums.	By Weekly Payments.			By Capital Sums.	By Weekly Payments.			
Extra Premiums . Adjustments, if any (to be separately specified) .										
Total Insurances . Deduct Re-insurances .										
Total of the results										

NOTES.—1. Items in this summary are to be stated to the nearest £.

2. Particulars and valuation results in respect of the various types of policies issued must be shown separately.

3. Life Insurance policies under which no disability benefit is payable apart from waiver of premiums during total disability must not be included in this summary.

4. Separate forms must be prepared in respect of classes of policies valued by different tables of mortality, sickness or accident, or at different rates of interest or involving the valuation of net premiums on different bases.

5. Separate forms must be prepared in respect of males and females.

6. Office and net premiums and the values thereof must be shown after deduction of abatements made by application of bonus.

## APPENDIX

### FORM P.

Valuation Balance Sheet of

as at

19 .

	£	s.	d.		£	s.	d.
Net liability under Continuous Disability Business as shown in the Summary and Valuation of Policies . . . . .				By Balance of Disability Statutory Fund as shown in the Balance Sheet . . . . .			
Surplus, if any . . . . .				Deficiency, if any . . . . .			

### PART III.

#### REQUIREMENTS APPLICABLE TO AN ABBREVIATED ABSTRACT.

There shall be annexed to every abbreviated abstract prepared in accordance with the requirements of this Part of this Schedule a Valuation Balance Sheet, in the form annexed to Part II A, Part II B, or Part II C of this Schedule (as the case may require), of the policies included at the valuation date in the class of business to which the abbreviated abstract relates, and every such abbreviated abstract shall show the total amount of profits arising during the inter-valuation period, including profits paid away and sums transferred to reserve funds or other accounts during that period, and the amount brought forward from the preceding valuation (to be stated separately) and the allocation of such profits—

- (i) to interim bonus paid;
- (ii) among policy owners with immediate participation, giving the number of the policies which participated and the sums assured thereunder (excluding bonuses);
- (iii) among policy owners with deferred participation, giving the number of the policies which participated and the sums assured thereunder (excluding bonuses);
- (iv) among policy owners in the discounted bonus class, giving the number of the policies which participated and the sums assured thereunder (excluding bonuses);
- (v) to the insurer, or in the case of an insurance company, among shareholders or to shareholders' accounts (any such sums passed through the accounts during the inter-valuation period to be separately stated);
- (vi) to every reserve fund, or other fund or account (any such sums passed through the accounts during the inter-valuation period to be separately stated);
- (vii) as carried forward unappropriated.

Where, as respects life, annuity or industrial assurance business there has been a change in the rate of bonus granted to policy owners since the last abstract or abbreviated abstract submitted to the Board was prepared, an abbreviated abstract must, in addition to the matters aforesaid, show specimens of bonuses allotted as at the valuation date to policies for one hundred pounds—

- (a) for the whole term of life effected at the respective ages of 20, 30, and 40, and having been in force respectively for five years, ten years, and upwards at intervals of ten years; and
  - (b) for endowment insurances effected at the respective ages of 20, 30, and 40, for endowment terms of fifteen, twenty and thirty years and having been in force respectively for five years, ten years, and upwards at intervals of ten years:
- together with the amounts apportioned under the various manners in which the bonus is receivable.

### PART IV.

#### REQUIREMENTS APPLICABLE TO STATEMENTS OF EMPLOYERS' LIABILITY BUSINESS.

1. The statements required to be prepared under this Part of this Schedule are as follows, that is to say—

- (a) A statement, in the form Q. annexed to this Part of this Schedule, showing the claims which arose and were settled during the year of account.
- (b) A statement, in the form R. annexed to this Part of this Schedule, showing as at the end of the year of account—
  - (i) the number of claims outstanding which arose during that year;
  - (ii) the amount paid in respect of those claims;
  - (iii) the estimated further liability in respect thereof.
- (c) Five statements, in the form S. annexed to this Part of this Schedule, showing in respect of the first, second, third, fourth and fifth years preceding the year of account—
  - (i) the claims which arose respectively in every such year;
  - (ii) the estimated liability in respect of claims outstanding as at the end of the year in which those claims arose;
  - (iii) the claims paid during the period between the end of the year in which the claims arose and the end of the year of account;
  - (iv) the estimated liability in respect of claims outstanding as at the end of the year of account.
- (d) A statement, in the form T. annexed to this Part of this Schedule, showing as at the end of the year of account—
  - (i) the number of claims outstanding and having durations of five years and upwards; and
  - (ii) the amounts of the weekly payment and of the annual payment due in respect of those claims; and
  - (iii) the estimated liability in respect of those claims computed on the standard basis; and
  - (iv) the estimated liability in respect of those claims computed upon the basis upon which it was computed for the purposes of the Fourth Schedule to this Act.
- (e) A summary, in the form U. annexed to this Part of this Schedule, showing as at the end of the year of account the estimated liability in respect of outstanding claims.

2. Where the estimated liability in respect of claims outstanding and having durations of five years and upwards as at the end of the year of account was not computed for the purposes of the Fourth Schedule to this

## DICTIONARY OF LIFE ASSURANCE

Act on the standard basis, the following particulars shall be given in addition to those hereinbefore required to be given in form T., that is to say—

(a) If the estimated liability is determined on the basis of the value of an immediate life annuity—

- (i) the table of mortality upon which the life annuity values are based ;
- (ii) the rate of interest at which the life annuity values are computed ;
- (iii) whether the life annuity values are discriminated according to the sex of the workers ;
- (iv) the proportion of the life annuity values representing the estimated liability ;
- (v) the modifications (if any) made in the actual ages of the workmen, in deducing the estimated liability ;
- (vi) the amount of the estimated liability.

(b) If the estimated liability is not determined on the basis of the value of an immediate life annuity full particulars are to be given as to the precise method adopted in deducing the estimated liability.

### FORM Q.

Statement of \_\_\_\_\_ for the year of account ending 19 . . .  
Particulars as to claims which arose and were settled during the year of account.

Class of Claim.	Number.	Amount paid.
(1)	(2)	(3)
Fatal claims . . . . .		£
Non-fatal claims . . . . .		
Total . . . . .		

### FORM R.

Statement of \_\_\_\_\_ for the year of account ending 19 . . .  
Particulars as to claims outstanding as at the end of the year of account which arose during that year.

Class of Claim.	Number.	Amount paid during year of account.	Estimated Liability.
(1)	(2)	(3)	(4)
Fatal claims . . . . .		£	£
Non-fatal claims . . . . .			
Total . . . . .			

### FORM S.

Statement of \_\_\_\_\_ for the year of account ending 19 . . .  
Particulars as to claims which arose during the (a) year preceding the year of account  
(namely from the 19 , to the 19 ).

Particulars of Claims.	Estimated Liability in respect of Claims outstanding as at the end of the (a) year preceding the year of Account.		Claims paid during the period of (b) year(s) between the end of the (a) year preceding the year of Account and the end of the year of Account.		Estimated Liability in respect of Claims outstanding as at the end of the year of Account.		Total of Columns (3) and (4).	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Number.	Amount.	Number.	Amount.	Number.	Amount.	Number.	Amount.
Fatal claims . . . . .		£		£		£		£
Non-fatal claims— Terminated . . . . .					—	—		
Not terminated . . . . .								
Total . . . . .								

NOTES.—(a) Here fill in the first, second, third, fourth or fifth, as the case may be.  
(b) Here fill in one, two, three, four or five, as the case may be.

## APPENDIX

**FORM T.**  
**Statement of** 19 .  
**Particulars as to Claims of Five Years' duration and upwards outstanding as at the end of the year**  
**of account.**

Number of Claims.	Ages of the Workmen as at the end of the Year of Account.	Amount of Weekly Payment.	Amount of Annual Payment.	Estimated Liability computed on the Standard Basis.	* Estimated Liability, computed on the basis upon which it was computed for the purposes of the Fourth Schedule to the Insurance Undertakings Act, 1927.
(1)	(2)	(3)	(4)	(5)	(6)
		£	£	£	£

\* This column may be left blank if the estimated liability has been computed for the purposes of the said Fourth Schedule upon the standard basis.

**FORM U.**  
**Statement of** 19 .  
**Summary of estimated liability in respect of outstanding claims as at the end of the year of account.**

Estimated Liability.	
As shown in column (4) of Form R.	£
"  "  (4)  "  Form S. for first year preceding the date of account . . . . .	
"  "  (4)  "  Form S. " second " " " . . . . .	
"  "  (4)  "  Form S. " third " " " . . . . .	
"  "  (4)  "  Form S. " fourth " " " . . . . .	
"  "  (4)  "  Form S. " fifth " " " . . . . .	
"  "  *(6)  "  Form T. " " " " " . . . . .	
<b>Total estimated liability in respect of outstanding claims as at the end of the year of account as shown in the Revenue Account prepared under the Fourth Schedule of the Insurance Undertakings Act, 1927</b>	

\* If column (6) of Form T. has, in accordance with the note appended to that form, been left blank, the estimated liability as shown in column (5) is to be inserted under this heading.

### SIXTH SCHEDULE. REGULATIONS FOR PREPARING STATEMENTS OF BUSINESS IN FORCE AND REQUIREMENTS APPLICABLE TO SUCH STATEMENTS.

#### PART I. REGULATIONS.

1. Statements prepared under this Schedule must be prepared, so far as practicable, in tabular form and must be identified by numbers and letters corresponding with those of the paragraphs of Parts II, III and IV respectively of this Schedule.

2. Except with respect to rates of premium or contribution, items in statements prepared under this Schedule are to be shown to the nearest pound.

3. Separate statements must be prepared in respect of every class of business in respect of which a separate abstract is prepared under the Fifth Schedule to this Act, and in any case in which a separate form of Summary and Valuation is required by that Schedule to be prepared.

4. Statements prepared under Part IV of this Schedule must show the various classes of policies issued, giving particulars as to any reduction of benefit after any specified periods of disablement and as to the conditions, if any, under which premiums cease during disability, and where different classes of continuous disability policies are issued under which disability benefit ceases at different ages, separate statements under that Part of this Schedule must be prepared in respect of each such class.

5. Extra premiums shown in the forms of Summary and Valuation prepared under the Fifth Schedule to this Act must not be included in statements prepared under this Schedule.

## DICTIONARY OF LIFE ASSURANCE

6. Every statement prepared under this Schedule shall be signed by the actuary making the investigation in connection with which it is prepared.

7. For the purposes of this Schedule the following expressions have the meanings hereby respectively assigned to them, that is to say—

“Annual loading” means the provision made for future expenses and profits;

“Extra premiums” means a charge for any risk not provided for in the minimum contract premium;

“Net premium” means the premiums taken credit for in the valuation in connection with which any statement is prepared;

“Valuation date” means as respects any valuation the date as at which the valuation is made.

### PART II.

#### REQUIREMENTS FOR STATEMENTS APPLICABLE TO LIFE, ANNUITY, AND INDUSTRIAL ASSURANCE BUSINESS.

The statements required to be prepared under this Part of this Schedule are as follows, that is to say—

1. Statements, separately prepared in respect of policies with and without participation in profits, showing—

(a) as respects policies for the whole term of life, the rates of office premiums charged, in accordance with the published tables in use, for new policies giving the rates for decennial ages at entry from 20 to 70 inclusive;

(b) as respects endowment insurance policies, the rates of office premiums charged, in accordance with the published tables in use, for new policies with original terms of ten, fifteen, twenty, thirty, and forty years, giving the rates for decennial ages at entry from 20 to 40 inclusive, but excluding policies under which the age at maturity exceeds 60:

Provided that in the case of policies effected in the course of industrial assurance business there shall be shown, in lieu of the rates of office premiums charged, the sums assured in accordance with the published tables in use in return for fixed weekly and monthly office premiums by new policies with the original terms aforesaid, giving the rates for the ages at entry aforesaid and in addition for ages at entry 1, 5, 10, and 15.

2. Statements, separately prepared in respect of policies with immediate profits, with deferred profits, with profits under discounted bonus systems, and without profits, showing in quinquennial groups—

(a) as respects policies for the whole term of life—

(i) the total amount assured (specifying sums assured and reversionary bonuses separately), grouped according to ages attained; and

(ii) the amount per annum, after deducting abatements made by application of bonus, of office premiums payable throughout life, and of the corresponding net premiums, grouped according to ages attained; and

(iii) the amount per annum, after deducting abatements made by application of bonus, of office premiums payable for a limited number of years, and, either, the corresponding net premiums grouped in accordance with the grouping adopted for the purposes of the valuation, or, the annual loading reserved for the remaining duration of the policies, grouped according to ages attained:

(b) as respects endowment insurance policies—

(i) the total amount assured (specifying sums assured and reversionary bonuses separately), grouped in accordance with the grouping adopted for the purposes of the valuation; and

(ii) the amount per annum, after deducting abatements made by application of bonus, of office premiums payable, and of the corresponding net premiums, grouped in accordance with the grouping adopted for the purposes of the valuation:

Provided that—

(a) as respects endowment insurance policies which will reach maturity in less than five years, the information required by sub-paragraph (b) (i) of this paragraph must be given for each year instead of in quinquennial groups; and

(b) where the office premiums payable under policies for the whole term of life for a limited number of years, or the office premiums payable under endowment insurance policies, or the corresponding net premiums, are grouped for the purposes of the valuation otherwise than according to the number of years' payments remaining to be made, or, where the sums assured under endowment insurance policies are grouped for the purposes of the valuation otherwise than according to the years in which the policies will mature for payment or in which they are assumed to mature if earlier than the true year, then, in any such case, the valuation constants and an explanation of the method by which they are calculated must be given for each group, and in the case of the sums assured under endowment insurance policies a statement must also be given of the amount assured maturing for payment in each of the two years following the valuation date.

3. Statements as respects any policies in force under which premiums cease to be payable, whether permanently or temporarily, during disability arising from sickness or accident, showing the total amount of the office premiums payable.

4. Statements as respects immediate annuities on single lives for the whole term of life, separately prepared in respect of annuities on male and female lives, showing in quinquennial age groups the total amount of such annuities.

5. Statements as respects deferred annuities, separately prepared in respect of annuities on male and female lives, showing the specimen reserve values for annuities of ten pounds which will be produced on maturity on the basis of valuation adopted at ages, in the case of male lives, 60 and 65, and in the case of female lives, 55 and 60; the said statements must show the specimen reserve values which will be produced under the table of annual premiums in use for new policies, and if under any other table of annual premiums in use for any other deferred annuity policies in force smaller reserve values will be produced, the like specimens of these must also be given.

6. Statements as respects any policies of insurance upon the lives of a group of persons, whereby sums assured are payable in respect of the several persons included in the group, showing the total claims paid since the date as at which the last statements were prepared under this Part of this Schedule or under the enactments repealed by this Act, or, where no such statements have been prepared, since the date on which the insurer began to carry on the class of business to which the statements relate, and the reserves for unexpired risks and outstanding claims.

## APPENDIX

### PART III.

#### REQUIREMENTS FOR STATEMENTS APPLICABLE TO CAPITAL REDEMPTION BUSINESS.

The statements required to be prepared under this Part of this Schedule are as follows, that is to say—

1. Statements, separately prepared in respect of policies with and without participation in profits, showing the rates of office premiums charged, in accordance with the published tables in use, for new policies with original terms of ten, fifteen, twenty, and thirty years.

2. Statements, separately prepared in respect of policies with and without participation in profits, showing in quinquennial groups—

(a) the total amount assured (specifying sums assured and reversionary bonuses separately), grouped according to the number of complete years unexpired at the valuation date; and

(b) the amount per annum of office premiums payable and of the corresponding net premiums, grouped according to the number of payments remaining to be made:

Provided that as respects policies which will reach maturity in less than five years the information required by sub-paragraph (a) of this paragraph must be given for each year instead of in quinquennial groups.

3. Statements as respects policies which during the five years preceding the valuation date—

(a) have lapsed (excluding any policies revived during that period); and

(b) have been surrendered,

showing in each case the number of such policies, the amount assured, the yearly office premiums, and the total office premiums received since the policies were effected, classified according to the years in which the policies were effected and lapsed respectively:

Provided that where there has been granted on the lapse or surrender of all policies an allowance amounting to not less than ninety per cent of all the premiums paid thereon, excluding that paid in respect of the first year, a statement to that effect may be made in lieu of the statements hereinbefore required by this paragraph.

4. Statements as respects any policies under which policy owners are entitled to claim advances in excess of the surrender values of the policies, whether on the security of house property or land, or otherwise, showing the terms and conditions on which advances are made and on which the redemption of advances is granted under such policies, and giving specimens of redemption values in respect of policies having different durations and different unexpired terms at the date of redemption.

5. Statements as respects advances made under the loan provisions of policies in excess of the surrender values, whether on the security of house property or land, or otherwise, showing separately as respects advances on first mortgage and advances on second or subsequent mortgage, the total number of such advances made since the date as at which the last statements were prepared under this Part of this Schedule or under the enactments repealed by this Act, or, where no such statements have been prepared, since the date on which the insurer began to carry on the class of business to which the statements relate, and the total amount of such advances outstanding at the valuation date.

### PART IV.

#### REQUIREMENTS FOR STATEMENTS APPLICABLE TO CONTINUOUS DISABILITY BUSINESS.

The statements required to be prepared under this Part of this Schedule are as follows, that is to say—

1. Statements separately prepared in respect of every class of policies showing specimens of the office premiums charged, in accordance with the published tables in use, for new policies for decennial ages at entry from 20 to 40 inclusive.

2. Statements, separately prepared in respect of every class of policy, showing in quinquennial groups—

(a) the total amount of benefit insured under the policies, grouped according to ages attained:

(b) the amount per annum, after deducting abatements made by application of bonus, of office premiums payable (including premiums of which payment is, at the valuation date, suspended owing to disability arising from sickness or accident) and the corresponding net premiums, grouped according to ages attained.

3. Statements showing in quinquennial groups the amount per annum of benefit payable at the valuation date in respect of disability of more than one year's duration, grouped according to ages attained.

4. Statements showing the total amount of disability benefit paid in each of the five years preceding the valuation date.

### SEVENTH SCHEDULE.

#### RULES AS TO THE VALUATION OF THE LIABILITIES OF AN INSURER IN BANKRUPTCY OR LIQUIDATION.

##### PART I.

1. The liabilities of an insurer in respect of current contracts effected in the course of life business, annuity business, continuous disability business, capital redemption business, or industrial assurance business, shall, subject to any directions which may be given by the Court, be calculated upon the basis of the rate of interest and rates of mortality and sickness upon which in the opinion of the liquidator or trustee in bankruptcy the like calculation could properly be based if the obligations under the contracts were to be fulfilled as and when they became due, taking into account the premiums which would be received under the contracts and such sum as, in the opinion of the liquidator or trustee in bankruptcy, is the lowest that could properly be assumed in respect of the office expenses and other charges which would be incurred in respect of the contracts.

2. The liability of an insurer in respect of any periodical payment payable under a contract effected in the course of employers' liability business or personal accident business shall, in the case of total permanent incapacity, be assessed at such an amount as would, if invested in the purchase of an immediate life annuity from the National Debt Commissioners through the Post Office Savings Bank, purchase an annuity equal to seventy-five per cent of the annual value of the periodical payment, and in any other case, shall be such proportion of such amount as aforesaid as may in the circumstances of the case be proper.

##### PART II.

In the winding-up of an insurance company and in the bankruptcy of any other insurer the liquidator or trustee in bankruptcy shall, subject to any directions which may be given by the Court, ascertain in such manner and upon such basis as he thinks proper the value of the liability of the insurer to every person appearing by the books of the insurer to be entitled to or interested in policies granted by him, and shall in such

## DICTIONARY OF LIFE ASSURANCE

manner as he thinks proper give notice to every such person as aforesaid of the value so ascertained, and every person to whom notice is so given shall be bound by the value so ascertained, unless he disputes the valuation in such manner and within such time as may be prescribed by rules of court, or as the Court may in any particular case by order direct:

Provided that, before such notice as aforesaid is given in respect of policies granted by an insurer in the course of any class of business in respect of which a statutory fund is required by this Act to be established and maintained, the manner and basis of valuation to be adopted as respects the several categories of policies so granted shall be approved by the Court.

### EIGHTH SCHEDULE.

#### CONSEQUENTIAL AMENDMENTS TO THE INDUSTRIAL ASSURANCE ACT, 1923.

Provision of  
13 & 14 Geo. 5. c. 8,  
amended.

#### Amendment.

Section 1.—In subsection (1) for the words "assurance company within the meaning of the Assurance Companies Act, 1909" there shall be substituted the words "insurance company within the meaning of the Insurance Undertakings Act, 1927," and for the words "assurance company" where those words secondly occur there shall be substituted the words "insurance company."

Section 7.—In subsection (1) for the words "section two of the Assurance Companies Act, 1909, as applied by this Act to industrial assurance companies, shall apply accordingly subject in its" there shall be substituted the words "sections one and two of the Insurance Undertakings Act, 1927, as they apply to industrial assurance companies, shall apply accordingly, subject in their," in paragraph (b) of the said subsection (1) there shall be substituted for the words "subsection (3)" the words "subsections (5) and (6) of section one," and in paragraph (f) of the said subsection (1) the words from "but" to the end of the paragraph shall cease to have effect.

Section 12.—Subsections (1) and (2) shall cease to have effect, in subsection (3) for the words "Assurance Companies Act, 1909" there shall be substituted the words "Insurance Undertakings Act, 1927," paragraphs (a), (d), (e) and (g) of the said subsection shall cease to have effect, in paragraph (f) of the said subsection (3) for the words "such petition" there shall be substituted the words "application for confirmation by the Court of any scheme prepared under section thirteen of the said Act."

Section 17.—In subsection (1) for the words "the Assurance Companies Act, 1909" there shall be substituted the words "the Insurance Undertakings Act, 1927."

Section 18.—In paragraph (a) of subsection (1) for the words "Assurance Companies Act, 1909, as modified by this Act" there shall be substituted the words "Insurance Undertakings Act, 1927," and in paragraph (g) of the said subsection for the words "Assurance Companies Act, 1909," there shall be substituted the words "Insurance Undertakings Act, 1927."

Section 26.—In subsection (1) for the words "Assurance Companies Act, 1909" there shall be substituted the words "Insurance Undertakings Act, 1927."

Section 37.—For the words "Assurance Companies Act, 1909, as amended by this Act" there shall be substituted the words "this Act and of the Insurance Undertakings Act, 1927."

Section 39.—In subsection (2) for the words "Assurance Companies Act, 1909, and section twenty-three of that Act" there shall be substituted the words "Insurance Undertakings Act, 1927, and the provisions of that Act relating to penalties."

Second Schedule.—In paragraph 2 for the words "Form referred to under Heading No. 7 in the Fourth Schedule (A) to the Assurance Companies Act, 1909," there shall be substituted the words "Form I set out in the Fifth Schedule to the Industrial Undertakings Act, 1927"; and in paragraph 3, for the words "answer to question 5 of the Fourth Schedule (A) to the Assurance Companies Act, 1909," there shall be substituted the words "compliance with the requirements of Part IIA of the Fifth Schedule to the Insurance Undertakings Act, 1927."

### NINTH SCHEDULE.

#### ENACTMENTS REPEALED.

Session and Chapter.	Short Title.	Extent of Repeal.
9 Edw. 7. c. 49	The Assurance Companies Act, 1909.	The whole Act.
13 & 14 Geo. 5. c. 8.	The Industrial Assurance Act, 1923.	In section seven, in paragraph (f) of subsection (1) thereof the words "but, subject as aforesaid, subsection (4) of the said section shall apply"; in section twelve, subsections (1) and (2), and paragraphs (a), (d), (e) and (g) of subsection (3); in section sixteen the words "or company," the words "or an industrial assurance company," and the words "or the Assurance Companies Act, 1909," and subsection (2) thereof; and section forty-two.



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