REVIEWS

Equitable Assurances

by

MAURICE E. OGBORN, F.I.A., F.S.S.

[Pp. 271. George Allen and Unwin Ltd. Price, 42s.]

All actuaries, and especially those connected with mutual life offices, will find much to interest them in *Equitable Assurances*, by Maurice E. Ogborn, F.I.A., F.S.S., Joint Actuary of the Equitable Life Assurance Society, published to mark the bicentenary of that Society, affectionately known to actuaries as " The Old Equitable "—the first office to grant long-term contracts of life assurance on a scientific basis with premiums calculated according to age and type of assurance. To be able to follow the development of mutual life assurance against the changing social and economic conditions of the times and to learn about the first valuation of liabilities, the first reversionary bonus and the first interim bonus is quite fascinating and this is what Mr. Ogborn's book enables us to do.

The book explains how the Society came into being owing to the initiative and enthusiasm of James Dodson, F.R.S., who had in 1756 expounded the principles on which a mutual life office would operate. Unfortunately, Dodson died before the Society was formed, but Edward Rowe Mores, a wealthy and able young man, who was closely interested in the proposition, carried it to fruition with the aid of others.

The problems and difficulties that faced the founders of the first mutual life office, the solutions adopted, and the criticisms and dissensions to which they gave rise are described. The experience of the Equitable must have greatly influenced others who followed later; indeed many years later, for it was not until the early years of the nineteenth century that more mutual offices were formed—two in the first decade and a third, the first life office in Scotland, a few years afterwards.

Having failed in an application for a Charter for the Society, it was decided to proceed as a voluntary partnership with a Deed of Settlement, one interesting provision of which was that the title of the principal executive officer should be " Actuary ", the first use of this term in connection with life assurance. In order to meet the initial expenses, which were considerable, it was arranged that all

those who effected policies should pay 15s.% of the sum assured as entry money which should be shared from time to time among the original subscribers—an arrangement that seems oddly at variance with the mutual principle. This led to much criticism and dissension, and discussions—sometimes heated—continued until a final settlement was reached in 1770, as a result of which the original subscribers received for each share a total of about £22—" a generous settlement compared with the £5 originally paid per share " as Mr. Ogborn observes. By contrast, the preliminary expenses of the formation of the first Scottish life office, the Scottish Widows' Fund—also raised by subscriptions—were received on the understanding that the sums subscribed would be repaid on the tontine principle at the first or second decennial investigation should the Society find itself with a sufficient balance at its credit. In fact, the subscriptions were repaid at the first investigation.

The Deed of Settlement of the Equitable required, in addition to the entrance fee, a deposit of 20s.% from each assurer, apparently with the idea of building up some reserve against adverse experience in the early stages, but it seems that almost from the outset, in September 1762, the deposit was waived for all future assurances. The members were subject to whatever calls might prove to be necessary in event of heavy claims although this was stated in a vague manner in the Deed of Settlement and their liability was apparently unlimited.

The first Actuary of the Society was William Mosdell, aged about 53, who died after only two years service. Indeed, in the first four holders of the office of Actuary the Society was most unfortunate for Mosdell's successor, James Dodson, a son of the original promoter, left after two years to take an appointment with the Customs Office and was followed by John Edwards, who died after six years at the early age of 43. He was succeeded by John Pocock who had been a Director and a Vice-President, but after serving for one year died when he was only 32. Then the fortunes of the Society changed for the next Actuary was the famous William Morgan, who had been appointed Assistant Actuary early in 1774 when Pocock became Actuary. He was only 25 when he became the principal officer, and he served as Actuary for about 55 years and, on his retirement, was succeeded by his son, Arthur, who held office for some 40 years so that between them, father and son held the principal executive office for some 95 years. It is a striking fact that five of the first six principal officers, each with the title of Actuary, were appointed under the age of 40 and three of them under age 30.

William Morgan was a nephew of Richard Price, D.D., F.R.S., who was interested in life contingencies among many other things, and in 1771 published *Observations on Reversionary Payments* which remained for about a century a standard text-book on what we now know as actuarial science. Price was first consulted in 1768 about some survivorship calculations on which the then Actuary, Edwards, particularly needed help and the Society continued to consult him occasionally for about fifteen years. The book contains a most interesting biographical sketch of Price.

The need for a proper valuation of liabilities was apparently appreciated by Edwards when he was Actuary and at the end of 1772 he made the first attempt to give something akin to a valuation but it is impossible to know exactly what was done. It seems that the first detailed valuation of liabilities was made by William Morgan in 1776 and the surplus then disclosed was applied to reduce premiums, credit being given for past over-payments of premium by way of offset against the next premium, the excess, if any, being paid in cash.

There is an interesting chapter entitled " The Tredegar Family " which gives information about a family which supplied three successive Presidents of the Society covering a period of more than 100 years—Sir Charles Gould, who later became Sir Charles Morgan, Bt., his son, Sir Charles Morgan, Bt., and the son of the latter who was created the 1st Lord Tredegar in 1859. Sir Charles Gould held the office of President from 1773 to 1806—a critical period in the history of the Society—and his wise and strong leadership and his support of William Morgan were invaluable.

In 1781 the first reversionary bonus was granted, and apparently William Morgan felt that it was better to apply any surplus in this form rather than as a cash bonus or in reducing premiums so that the amount would be retained in the funds and be available against unforeseen contingencies. As the Society was in the form of a voluntary partnership, it was open to members at any general meeting, of which there were four each year, to put forward motions for consideration at the meeting and it was this circumstance that was responsible for so many of the difficulties with which the Society had to contend before it eventually became registered under the Companies Acts in 1893. It led to the granting of four further reversionary bonuses before the end of the eighteenth century but, when a request was made for another distribution of surplus in 1797, this was refused, and Morgan clearly felt that there should be a reasonable interval—probably ten years—between distributions,

especially when the reversionary bonus was granted in proportion to the total period a policy had been in force and not merely to the number of years since the previous distribution. In 1800 a further reversionary bonus was allowed on the basis of a valuation at the end of 1799 and it was resolved on Morgan's advice—

(*a*) that a valuation should be made every ten years;

(*b*) that no distribution of surplus should be made without a full valuation; and

(*c*) that the maximum amount distributed should be two-thirds of the surplus.

In spite of these decisions, repeated requests were made for a distribution of surplus within the ten-year period but no further bonus was allotted until after the 1809 valuation and at that time, in order to satisfy those who complained that there would be a considerable loss in event of death shortly before a distribution of bonus, what is now known as an intermediate bonus was introduced—the first interim bonus.

Morgan had for some time felt that it would be desirable to have a flexible waiting period and eventually he suggested a provision that a policy should not participate until it became one of the first 5,000 assurances in existence but should then be entitled to bonus in respect of all premiums paid from the outset. The actual resolution, adopted in 1816, provided that, after the expiry of the waiting period, policies should be entitled to bonus *in respect of all premiums paid thereafter*, thus differing considerably from Morgan's suggestion, and introducing material differences between policies effected up to 1816 and those taken out thereafter, which created an inequitable position that led to many difficulties in later years. From time to time some members urged the distribution of more of the surplus and other alterations in the methods, but no change was made and in 1820 on the basis of the 1819 valuation a further reversionary bonus was granted on the same principles as before when a further attempt was made by some members, without success, to get a larger share of the surplus.

After the Napoleonic Wars there was considerable appreciation in Government Stocks and the 3% Stock, which had been about 60 in 1815-16, was around 80 in 1822 and 90 in 1824, and in 1824 a determined attempt was made to obtain the distribution of more of the surplus "in consequence of the great increase in the value of public funds", even though this might in effect mean the liquidation of the Society for the benefit of the existing members.

Extraordinary events took place in the 1820's when there were

various heated discussions but after several difficult meetings, at one of which the Directors' motion was defeated, it was eventually resolved that the 1829 valuation be conducted by the accustomed methods and that two-thirds of the surplus should be distributed according to the plan followed in 1809 and 1819.

The 1829 investigation showed a very high surplus though much must have come from valuing the 3% stock at the high current prices. Morgan must have had misgivings about taking the assets at inflated market values in order to arrive at surplus but felt bound to pursue the same methods as formerly. He must have been thankful that the established methods required one-third of the surplus to be held in reserve as this seemed fully necessary for the reversionary bonus system adopted. This was some protection against proposals to distribute more of the surplus with which he did not agree for he clearly felt that, in equity at any rate, the funds of a mutual society do not belong exclusively to the members at a particular point of time but that such a society is a continuing business and "each generation of members comes into a heritage from the past" and "should endeavour to pass on that heritage unimpaired to the generations that succeed it".

In 1830 William Morgan retired and was succeeded by his son, Arthur, whose term of office coincided with a period of intense speculation in company promotions and particularly in the promotion of life offices—some ill-conceived and some even fraudulent—and Mr. Ogborn describes how, after more than one select committee had enquired into the position, the Companies Act 1844 was passed and eventually the Life Assurance Companies Act of 1870 following the failure of two offices, the Albert and the European. Thus the first Act regulating the operations of life assurance companies came into being. Also during Arthur Morgan's term of office the Institute of Actuaries and the Actuaries Club were formed though apparently Morgan did not play a leading part in what was done. He was not an original member of either body and did not allow his name to go forward for membership of the Actuaries Club until about 1867.

At the end of each 10 year period from 1829 to 1869 surplus was distributed on the same principles as before but, full credit having been taken for capital appreciation in 1829, surplus was now accruing at a lower rate as interest rates were low. There was a noisy meeting in 1849 and agitation for some alteration continued during the 1850's but no change was made. Although the Directors had devised various possible changes, Counsel had advised against them all.

Arthur Morgan retired early in 1870 owing to a sudden illness and

died shortly afterwards. He was succeeded by J. W. Stephenson who, on his appointment, was elected a member of the Actuaries Club. He retired in 1888 but is not known, by name, to most of the actuaries of the present day. In 1892—a few years after his death—the last of the members assured before 1817 died and the Society at once applied for registration under the Companies Act. The Memorandum and Articles adopted in 1893 " gave the requisite powers to the Board of Directors, acting on the advice of the Actuary, thus giving a centralised authority which had been so banefully lacking from the original constitution ".

The actuaries who followed Stephenson all bear names familiar to the present generation. First was A. F. Burridge who served from 1888 to 1893, when he returned to the life office from which he had originally come. To succeed him the Directors appointed H. W. Manly of pension fund fame but, unfortunately, owing to failing eyesight he retired in 1905 to be followed by that outstanding actuary, G. J. Lidstone, who left in 1913 to become Manager and Actuary of the Scottish Widows' Fund. He was followed by William (later Sir William) Palin Elderton who had held office for nearly 30 years when he retired from the principal executive post in 1942. He was elected a director in 1940 and was President from 1947 to 1953. In the history of the " Old Equitable " the name of the eminent Sir William Elderton will always rank as the architect and inspirer of the vast development of the past 50 years just as the name of William Morgan will be identified with its early days.

It is a rather remarkable fact that the only two actuaries who have received gold medals presented jointly by the Faculty and the Institute for outstanding services to actuarial science should both have been Actuary of the Equitable. The reviewer was privileged to know both of these distinguished actuaries and work closely with them—Lidstone at the Scottish Widows' Fund and Elderton in connection with mortality investigations—and is tempted to contrast the outstanding qualities of the two men but this is no place to do so. Perhaps it is enough to say that, while Lidstone always seemed to arrive at his results by a closely worked out process of logical reasoning, Elderton often went straight to the solution of a problem, apparently by intuition, without seeming to pass through the intermediate logical processes. In thinking of Elderton, the writer has always been reminded of a paragraph in a biographical essay on Newton, by J. M. Keynes. " There is the story of how he informed Halley of one of his most fundamental discoveries of planetary motion. ' Yes,' replied Halley, ' but how did you know that ?'

'Have you proved it?' Newton was taken aback. 'Why, I've known it for years', he replied. 'If you'll give me a few days I'll certainly find you a proof of it'—and in due course he did."

The reviewer has given something in the nature of a brief summary of portions of a book which it is quite impossible to summarise effectively because so much of the human part is lost when one cannot refer in detail to various stormy meetings that are described in the text nor to some of the biographical facts of great interest to all who want to know about those concerned with the early days of mutual life assurance, and nothing has been said about the various Presidents of the Society, apart from those connected with the Tredegar family, nor about the wider interests of the Morgans who were both elected to Fellowship of the Royal Society, nor of Dr. Price's interest in social affairs and the principles of Government nor of the help and advice he gave to Pitt in establishing the Sinking Fund in 1786. No reference has been made to the first tax on life assurance offices and a proposal to charge a tax on life assurance premium income which was abandoned after a Committee of the House of Commons, under the Chairmanship of Sir Charles Morgan who was at that time President of the Equitable, had reported on the objections to the proposition and the Chancellor had found that much more could be raised by a tax on Scotch whisky! All that and much more can be found in this interesting book which will well repay perusal and study by actuaries.

R. Ll. G.

Surplus in British Life Assurance

by

P. R. COX, F.I.A., F.S.S., and R. H. STORR-BEST, F.I.A.

[Pp. 132. Cambridge University Press. Price 17s. 6d.]

Like the volume reviewed above this book also arises from the bicentenary of scientific life assurance. It is fitting that this anniversary should be celebrated by a historical study of some aspect of the period, and the authors are to be congratulated in their choice of theme.

From the beginning surplus has been a prominent feature of British life assurance though, as the authors point out, there have been from time to time (and probably still are) those who contend that it plays too large a role. Nevertheless the character of participating life assurance (as distinct from group pension schemes) has long been established. Probably there is no actuarial theme

on which (as will be seen) so much has been contributed by so many; yet there has been no single comprehensive work. The profession must now be grateful to the authors for supplying this want in a volume on surplus which, as the sub-title indicates, describes " The Actuarial Control Over Its Emergence and Distribution Through 200 Years ".

Liberal use has been made of a wide range of sources of information. The index of authors reveals that the text contains over 250 references from about 150 different authors, and this is supplemented by a most valuable list of no less than 173 references to sources of material. By contrast the index for the text of the book itself appears slender. Curiously it contains no reference to surplus nor to the uniform reversionary bonus method. The text of the book itself abounds with richness of material; the development of the theme is maintained throughout; and divers paths are traversed. Those who wish occasionally to follow a particular route will require more numerous signposts in a territory which, even after 200 years, is not fully mapped.

Surplus is a function of most of the fundamental actuarial facts and estimates. The reader will not, therefore, be surprised when he encounters frequently and in some detail the items of mortality, interest, expenses, taxation and withdrawals, and also legislation and valuation methods for both liabilities and assets. In many ways the book is a wider account of the development of actuarial principles and practice against a background which has always changed and no doubt will continue to do so in the future.

The authors describe how surplus in British life assurance had its origin in the premium rates assessed conservatively 200 years ago because of uncertainty about mortality; the same uncertainty led to valuations to prove the continued solvency of the fund, and these disclosed large surpluses. Next came the realisation that the valuation basis and surplus are closely linked, the former controlling the emergence of the latter. We are now accustomed to the uniform reversionary bonus method of distributing surplus. It was not always so, and the authors have rendered a great service in reminding us how the actuaries of earlier generations explored many other methods of distributing surplus. Arising from these attempts to achieve equity for the different classes, ages and generations of policyholders, attention was directed to analysing the surplus into its sources and it became apparent that the premium bases also should be consistent with the methods of valuation and distribution of surplus. Only during the present century, perhaps because

conditions hitherto were relatively stable, were the valuation of the assets and investment policy formally recognised to be integral parts of the structure. It is interesting to travel with the authors and see how, for example, the emphasis placed in 1762 on mortality has changed to the spheres of interest rates and asset values.

The authors wisely give their readers opportunities to pause and reflect by dividing the whole period into stages. The first was formative " stretching from Morgan to De Morgan " and included the beginnings and the spread of scientific life assurance. The second was the progressive stage beginning at the early days of the Institute and the Faculty and ending with the first World War. In the more modern third stage interest is centred on the way the material reacted to changes (sometimes violent) in the surrounding conditions. At only one of these stages is a formal summary given of the conclusions; but the authors more than make amends by tracing, for a sample of offices, the changes which have occurred at intervals from 1875 to 1960 in the items of interest, expenses, mortality, premiums, valuation methods and bonuses. All students of the period will be grateful for this most valuable factual summary of trends.

History becomes topical when the authors discuss the modern thoughts of the profession on such matters as actuarial management, valuation strategy, matching and immunisation of assets and liabilities and investment in equities. Clearly the pursuit of equity in a system predominantly based on net premium valuations and the uniform reversionary bonus system is likely to continue to exercise the minds of actuaries for a long time to come. The chapter on variable policies and with-profit annuities appears curiously detached from the main theme, but views and practice on these are still evolving and perhaps the passage of time will establish their place in the general structure.

For the most part the authors record and discuss events and the ideas of others. In a subject which, after 200 years, is still very much alive questions inevitably arise about past and future courses of action. In their final chapter the authors themselves engage in comment and speculation, and to wish for more of this is perhaps to ask too much from the authors who have so clearly undertaken an impressive amount of research. This they have sifted and compressed into an account which compels the interest of the reader and will be of great assistance to students, though possibly at a later stage in their studies since the book assumes a prior knowledge of techniques and concepts.

J. Y.