

THE INSTITUTE OF ACTUARIES

ADDRESS

BY THE PRESIDENT, SIR GEORGE HENRY MADDEX, K.B.E.

[Delivered 25 October 1948]

I PROPOSE this evening to deliver myself of some random and rambling reflexions prompted by recent events and the position in which we as actuaries and members of the Institute find ourselves at the present time. There will not be great weight or substance in my remarks—nothing fundamental, to use a word which is blessed in some quarters of the Institute just now—but, as I have said, ‘reflexions’, a few fleeting thoughts from a scanty leisure in the past month or two, somewhat damaged in the attempt to entrap and express them.

What I have to say, then, will not be worthy of the dignified description of a Presidential Address; if it seems to you to resemble more a fireside talk I hope you will not think the worse of it for that.

We meet in the afterglow of the Centenary Assembly, and I am sure that the thoughts of many must still be coloured and brightened by recollections of that remarkable week last June, when—with 380 of our home members, 26 of our members from overseas, nearly a score of friends from the Faculty across the Border, and 109 other visiting actuaries from abroad—a total company of 920, including the ladies, joined in a crowded programme of business and social events. It was a happy birthday party on the grand scale, carried to success by painstaking and skilful preparation by a small devoted band—to whom the rest of us should be duly grateful—and by an all-pervading friendliness in those taking part.

But there was more to it than that. May I try to indicate what I mean by mentioning three or four incidents which remain as high-lights in my memory, typifying the spirit of the Assembly.

First, the presentation of gifts from various Actuarial Societies at the opening Reception by the President. In a scene of pre-war brilliance, the whirl of talk and laughter—of the greeting of old friends and the making of new ones—was stilled by a ceremony as simple as it was moving. As, one by one, the representatives of other societies and institutes handed to our President their illuminated manuscripts and their centenary presents of silver and the like—not to mention gifts of cash—there was to me an unexpected depth and sincerity of feeling in their speeches of presentation, so various in their content and delivery, so uniform in their evidence of affection for our Institute.

So it was again on the following day at the Opening Business Meeting, in the speeches of the visiting Presidents which will be well remembered by those who heard them. And this feeling came through perhaps most intensely in those closing words of Mr Hesselberg, the President of the Norwegian Actuarial Society, when he said:

Before I finish, I must be permitted a personal remark. During the occupation of Norway in the last war I was imprisoned by the Germans and locked up in a solitary cell, with no opportunity to do anything but think. Many times my thoughts went back to the journeys that I had made in pre-war days and to the International Congresses in which I had taken part. I often wondered whether a meeting could be held

in London in 1948 to celebrate the centenary of the Institute. Believe me, I am glad that this Assembly has really been held, and on behalf of the Norwegian Actuarial Society I wish the Institute of Actuaries good luck and happiness during the coming centuries.

I appreciated then, I think, more fully than at any time in my thirty-five years membership of this Institute that we were members of something more than a well-conducted professional institution and that the Institute of Actuaries represented a living idea of inestimable importance to actuaries all over the world. Our Institute, I felt, had justified its hundred years of existence in a way perhaps not dreamt of by its founders.

The third moment of which I would remind you was the entry in procession of our President, Sir Andrew Rowell, with the Lord Mayor of London and the President of the Board of Trade at the closing Banquet in Guildhall, to the accompaniment of as fine a fanfare of trumpets as ever one heard. Our guests, one felt, could hardly fail to be thrilled, as we were, by the sense of historic occasion, the continued majesty of the City of London and the honour thus paid to our Institute.

It is not my purpose to dwell at greater length on the Centenary. A record of the Assembly will appear in full detail in the three volumes of *Proceedings* which the Council intend to issue. Some account of the week's doings, also, in a lighter vein, will be given in a small volume which we hope will form a pleasant souvenir of the Assembly to those who attended it. There is one other striking feature, however, that I would like to refer to, namely the crowded attendances, the keen interest and the high level of debate at the business meetings. One wished there had been more time and opportunity for private talks and small discussion groups, for it was clear that many of our visitors were most anxious to learn more of our affairs and to exchange information and ideas; it was clear also that most of us were deplorably uninformed on actuarial affairs in other countries.

This leads me to the question: if, as I think, international meetings of actuaries are important, not only for their social value but also for the enrichment of experience and the interchange of ideas, what can be done to make them more effective?

The Centenary Assembly, though attended by actuaries from many countries, was not an International Congress; the last Congress was held more than ten years ago; the next, with luck, may be three or four years ahead. It is not easy to maintain through the intervening years the momentum generated by these relatively infrequent gatherings of actuaries of various countries but the attempt should be made, for, I believe, the results are worth while. The example set by our Belgian friends—by holding, in 1947 and 1948, small reunions of actuaries from different countries—is, I think, worthy of applause and imitation. It is a step in the right direction, which we in this country might do well to bear in mind.

The insularity of the English—I will not speak for the Scots—may be seen in actuarial as in other matters. There are, of course, notable exceptions among us—outstandingly, in the work of Sir William Elderton—but, these apart, I do not think (and I include myself in this) that we interest ourselves sufficiently in the work done by actuaries in other countries, their approach to the problems in insurance and in actuarial science which confront them, or the records of experience in mortality, sickness, fertility and so on which they have analysed. A starting-point for such studies is provided by the extensive Notes on Foreign

Actuarial Journals which are regularly published in the *Journal* of the Institute. It is to be hoped also that the *Bulletin* of the Permanent Committee for International Congresses, publication of which is shortly to be resumed after its suspension during the war years, will be able to contribute to this end—though too much must not be expected in view of its limited resources.

Having said that, it is only fair to add that of the total membership of the Permanent Committee before the war, amounting to some 1150 in all countries, about 270 were accounted for by Great Britain—a very satisfactory proportion. And the response to the recent appeal to our members to support the Permanent Committee, issued jointly by the Institute and the Faculty, has been gratifying. My concern, however, goes deeper than that; it is to establish, on the foundations of the friendship that undoubtedly exists, an international understanding and a systematic interchange of ideas, which alone can create and maintain an active interest in international actuarial affairs. But I would not seek to underestimate the difficulties that lie in the way, of which differences of language are only one.

I was privileged to be one of a small party of British actuaries who attended a meeting of the Council of the Permanent Committee at Brussels a few weeks ago, and I may tell you that the question of holding another International Congress, and the form it should take, were very seriously considered. There is enthusiasm for the idea, but when and where such a Congress is likely to take place is as yet uncertain; it cannot be for three years or more. In the meantime let some of us, at any rate, strive to become as knowledgeable as those visitors from overseas who bombarded us with welcome questions at the Assembly this year.

May I make one suggestion. It would be a most interesting experiment, and of service to the Institute, if one of our younger Fellows (adequately qualified as a linguist) could spend a month—it might perhaps take a little longer—in a given country or group of countries, studying the organization of the actuarial profession there, methods of training, extent of the curriculum, the place of the actuary in the insurance industry and in the Government services, and so forth. I can imagine no more interesting and illuminating paper for consideration by the Institute than might result from such a study. I should like to think also that it may be possible to persuade an eminent foreign actuary to give an address to the Institute on these lines.

If we are going to try to understand better our actuarial colleagues in other lands we might, I think, profitably spend a little time in examining our own position and considering where the English actuary stands. One sometimes hears it said that the British actuary is roughly half-way between a supposed continental type and an alleged American type of actuary. However this may be, the middle course is not necessarily the golden mean, though it naturally appears so to those who follow it.

At the beginning of the last war an eminent statistician had to suggest a definition of 'statistician' for the very practical purpose of determining a criterion for reservation from military service. As I remember it his definition was: 'A person who is expert in the direction of statistical investigation or in the analysis of mass data.' As a generalized description of a very elusive category I doubt if that can be improved upon, and by this or any other general definition the actuary passes easily as a statistician. Few of us, no doubt, could qualify for admission to the small class of mathematical statistician—but this is true of most of those who are called statisticians, for the bulk of them might be

termed 'applied statisticians', taking so much of statistical theory as is necessary for their special field of work and applying it in that work. The actuary goes further than this for, starting in a sense as a population statistician, he has developed a whole collection of special techniques for his own purpose, which nevertheless may be applied with advantage to many statistical problems outside his normal field.

The statistical aspect of the actuary's work was recognized from the outset by those who developed our 'science', and its cultivation was specifically mentioned among the objects of the founders of the Institute. Naturally, however, since this interest arose as a subsidiary if necessary study in connexion with the administration of the business of life assurance, its growth has mainly been along rather narrow and specialized lines, though there are and always have been some exceptions to this among outstanding actuaries and the work they have achieved. After all, the so-called 'science of the actuary' is for the most part an applied science, a collection of special skills and knowledge by the acquisition of which we are enabled to practise what might better be called the 'art of the actuary', by which I mean—using the words of the *Shorter English Dictionary*—the application of an acquired faculty and a body of practice to our chosen field of work.

I do not want to be meticulous about descriptions but I think that the point is worth making and that it is this mixture of science and art that justifies us in considering ourselves members of a learned profession—and perhaps something more. We are all, I hope, good technicians and analysts, but as professional men we have to add judgment and a knowledge of affairs for the successful conduct of our business. And that will suffice for most of us; it describes, I believe, the norm of the English—and I must add, here, the Scottish—actuary, a combination of professional expert and business executive that has given him his distinctive character and accounts for his special position in the insurance world. Moreover, granted in addition the possession of certain personal qualities in the individual, this must, I believe, be the basis for the actuary's successful entry into other fields in the world of commerce and industry.

But there are not a few among us who, with no misuse of words, can more properly be called scientists. To these, more particularly, I would commend a plea made by Sir Alexander Carr-Saunders in a very interesting address to the Faculty of Actuaries in April 1946, when he invited actuaries—who concern themselves, as he said, mainly with the chances of death—to extend their interests to the whole sphere of population statistics, more particularly those relating to birth and marriage. From his association with actuaries in the Statistical Committee of the Royal Commission on Population, he had concluded that 'if actuaries will turn their attention to these matters (that is to say, apply to the field of fertility and marriage those techniques which they have developed so successfully for the analysis of mortality) we shall have all the skill necessary to make rapid progress with these problems which are certainly most interesting and also in my view very pressing'. At a time when the principles and practice of statistical analysis as applied to the business of life assurance are well established, and actuaries are looking for new fields of interest, I would like most sincerely to support this plea.

I cannot refrain also from quoting Sir Alexander's quip that the study of these merrier subjects might be welcome to actuaries and enable them to be classed among the children of light instead of as at present—though he did not

actually pin this label on our profession—among the children of darkness. He might have gone a little further and quoted the lines of Wordsworth:

The Clouds that gather round the setting sun
Do take a sober colouring from an eye
That hath kept watch o'er man's mortality.

Whether or not there is anything in this view of the sombre science of the actuary (as elsewhere expressed), it will be a great pity if some members of the profession do not play a part in this rapidly developing section of population studies.

May I develop another point made in Sir Alexander's address, namely, that it is mainly due to an accident of history that in England training for the professions became divorced, generally, from education at the Universities. Certainly the English actuary does not, like some of his European colleagues, receive part of his training at a University and acquire a degree in science or philosophy prior to passing on to his more strictly professional training, but receives the whole of his training through the Institute and accordingly is granted a Diploma and not a Degree. As a result the high academic qualifications implied by the passing of the earlier Parts of the Institute examinations, up to the Associateship stage, are not always recognized. This situation, on occasion, has had unfortunate consequences in the non-recognition of our Diploma for the purpose of some statistical appointments—a limitation upon our professional usefulness which we must continue to strive to remove.

For this, among other reasons, there would I believe be substantial advantages—as regards a proportion of the recruits to the profession—in linking up the earlier stages of our training with University education if that be possible, making it in suitable cases part of a Degree course associated with mathematics, statistics, economics or social science. The completion of the later stages of our training, represented by the passage from Associate to Fellow in the new examination syllabus of the Institute, would necessarily have to be dealt with, as at present, under the immediate control of the Institute.

Tentative discussions on these lines have been taking place with representatives of the University of London during the formulation of the new syllabus. There are considerable practical difficulties, owing to the complexity of degree courses and the smallness of our numbers, but the advantages to be gained from the incorporation of some part of our professional examinations into a scheme of full-time study are apparent. I am sure that if it were found possible to develop our educational system in this way it would be of the greatest benefit not only to those who may be attracted to the actuarial profession—and I think we might improve the standard of our recruits by this means—but also to our Institute and to the employers of actuaries.

In this connexion I would remind you also of some remarks in the Report of the Lever Committee on the Institute's educational system. Speaking of the significance of changing educational conditions in this country and the increasing opportunities for University education, the Report continued:

It is not at all fanciful to contemplate that in the not too distant future young people who do not proceed to a University will tend to be second class material. The Institute must, therefore, be continuously watchful of the developments taking place and take such steps as may be possible from time to time to ensure that it obtains a fair share of the more able youths of the country.

Some doubts have been expressed recently as to whether we may not be seeking to recruit and train too many actuaries. I do not share this view. The intake of actuarial students since the war—and even in the years just before the war—has been inadequate either for the staff requirements of the insurance companies or for the maintenance of the Institute's membership in a healthy state in future. So much so that the Council has, within the last few months, initiated some mild publicity and a direct approach to schools which we hope will, in due time, produce a flow of actuarial cadets of the right type. May I appeal to the managements of the companies to recognize and accept their responsibilities in this matter.

There are of course difficulties in the way of planning a staff as if it were a service table, particularly in the case of the smaller companies. Moreover, it may be thought that the stage reached in the organization of the insurance industry has set a limit to the employment of actuaries; a limit which some would suggest may shrink in view of current governmental tendencies.

Whatever the ultimate probabilities, it seems to me that recent Government action in nationalization, and its consequences, has created enough work to keep actuaries busy for as long a period as we need consider. And there are enough instances of continuing expansion in the actuarial staffs of life offices—or, more properly, in the number of actuaries engaged in various activities in life assurance business—to make one reject the pessimistic view. In addition there is the increasing demand for actuaries in other employments, which has become more noticeable since the end of the war—a movement that must be regarded as all to the good, on a broad view of the interests and usefulness of the profession, though it may be very embarrassing for individual offices in present conditions.

The size of the Institute's membership at the present time does indeed give cause for some concern. There are now some 630 qualified F.I.A.'s spread over the world; about 30 more than a year ago and 100 more than in 1939. But the number of students, which was about 1000 before the war, fell to 830 last year and is now only 790; whilst the intermediate class of Associates stands at under 300, which is 60 or more below the figure reached in 1939.

The drop in numbers of those in course of becoming qualified is thus relatively large and amply justifies the steps now being taken by the Council to which I have already referred. The position when one looks at the number of fully qualified members available in Great Britain is hardly more comforting, for out of the 630 Fellows, 110 are living overseas and another 100 or more are in retirement at home, leaving about 400 Fellows actively at work in Great Britain—a total only 20 more than the 1939 figures. Including also Fellows of the Faculty, the number of qualified actuaries available to meet the varied and growing demands for the services of our profession is therefore very small.

I feel I must remind you also of the demands which the training and testing of would-be actuaries makes upon this limited man-power. This year no less than 37 F.I.A.'s are serving on the Board of Examiners and 46 on the Official Panel of Tutors. Thus 83 out of our total of about 400 qualified members—more than one in five—are engaged, after the main work of the day, in the business of teaching and examining students; and to this must be added, at the present time, the task of writing the ambitious series of new Text Books which the Institute and the Faculty have in preparation. Moreover, these are largely, may I say, the keen and promising men to whom the Institute must look for progress in investigation and research and for that widening of the scope of

the profession which has been a continuing theme for youthful enthusiasm for a generation past.

It is a heavy load, and personally I think that the point has been reached at which its effects may react injuriously upon the profession. This reason alone should cause us to regard favourably the review of our educational system on the lines I indicated earlier.

I want now to refer briefly to a few of the elements in the actuarial problems with which we are all faced in our day-to-day work. The most tantalizing at the present time is no doubt the yield to be expected on the invested funds of insurance companies and pension funds. Complicated as that question is by the changing composition of the stock market, the disconcerting variations in yield differentials between different types of security (so different from the steady margins of the good old days), and—over all—the heavy and peculiar incidence of taxation, it is of course a very difficult and serious matter for those concerned with investment policy and practice.

It would be unbecoming of me in view of my official position to comment in any detail upon the future of the rate of interest, although indeed the Government Actuary, like other consulting actuaries, has to deal with references in connexion with which he must make his own assessment of a reasonable rate of interest to assume, on a long-term view, for a real fund built up by means of real investments—as well as other references in which a hypothetical fund is accumulated with notional investments. It is easy to say that one should not be stampeded by the course of the stock market in the last few years into assuming unduly low rates of interest for the future; that the actuary's concern is with averages over a very long future. However this may be, it does not dispose of the immediate difficulty which faces those responsible for the funds of insurance companies, pension funds and the like, of investing advantageously in a market where nationalization stocks loom larger and larger.

There is, moreover, that other factor of increasing weight, namely the pressure (whether natural or otherwise) exercised on the market for trustee and similar securities by the enormous sums that are now being diverted from the national income to direct and indirect savings, whether voluntary or compulsory. I cannot but think that this factor will continue to operate as an effective regulator to maintain at a relatively low level the yield basis of gilt-edged securities. Those concerned with investment research will find here a subject which deserves study and statistical analysis.

Income tax is another subject on which it is difficult for me to speak freely, but I cannot refrain from noting that the general taxation position, as it now affects life assurance and pensions business, has given rise to serious anomalies. These are hardly to be avoided whilst taxation levied through the income tax machine remains at anything like the level now required to meet the expenses of Government. But, in the realm which specially concerns us as actuaries, one has only to consider:

- (i) that the form of a superannuation scheme, and whether it is drafted under the terms of the Income Tax Act of 1918 or the Finance Act of 1921, is largely governed by the differential incidence of tax under those two Acts;
- (ii) that the terms quoted by offices for the purchase of life annuities vary to a quite remarkable extent, depending on the distribution of the company's business between various funds, as it exists at the moment, and the consequential incidence of tax; and

- (iii) that the devices adopted, quite legitimately, in order to avoid the consequences of the taxation—under the British law—of life annuities in the hands of the recipient as if they consisted wholly of current income have led to an exceedingly embarrassing position.

The tangle is obvious, and its consequences must be repugnant to actuaries whether or not some features of it may, temporarily, be advantageous to the business of their own company. Let us hope that the authorities will endeavour to straighten out some at least of the strands, despite the practical difficulties involved.

The question of expenses, upon which I do not propose to comment, is also not without its difficulties and it is somewhat ironical that mortality, which has received so much attention in the past, is the factor that has proved the least intractable of those that an actuary has to consider—at any rate in the purely life assurance field.

I should like to say a few words about the trend of mortality, which has shown some interesting features during the last war. The dramatic and continued fall in infant mortality will not be unknown to members of this Institute, though it may be news to some that the present rate—which is only about 30 deaths per 1000 births in the first year of life, compared with a level of about 55 per 1000 immediately before the war—is lower than what was regarded by the medical experts not many years ago as the practical minimum. You will be aware also of the continuing decline in the already favourable rates of mortality at the young and middle ages. But you may not be fully acquainted with the character and extent of the changes in what we used to call elderly mortality—say from age 60 onwards—which merits the most careful attention of actuaries.

During the war of 1914–18 the downward trend of mortality at these ages, which had been previously in evidence, was substantially arrested, but the rate dropped again sharply in 1919–20 and continued to decline thereafter for some years. Taking for convenience of comparison that admittedly unsatisfactory index, the complete expectation of life, on the national life tables for England and Wales the expectation for men at age 60 was 13·8 years in 1910–12 and 14·4 in 1920–22—an increase of rather more than 4% in the ten years—whilst for women it was 15·5 in 1910–12 and 16·2 in 1920–22, indicating a comparable improvement. The improvement was similar, but not so great, for the expectations at older ages.

From about 1923, however, there was a slackening in the improvement in elderly mortality, and at some ages the death rates actually increased. These features were particularly noticeable in the case of men, for whom the expectation at age 60 was 14·6 in 1936–38, that is, only about 1½% better than the 1920–22 figure; whereas the corresponding expectation for women was 16·8, an increase of rather less than 4%. Parallel increases occurred at the older ages.

During the last war, in contrast to the position in 1914–18, a dramatic change took place, attributable in part to the rapid development of chemotherapy and the application of new drugs in acute conditions that had previously often proved fatal. There was a large drop in the death rates in 1942, to a new minimum, and a further drop in 1944–45 to what at the moment looks like a new low level. Averaging the mortality of the three years 1945–47, which differ little between themselves, the expectation at age 60 is now 15·6

years for men—or 7% better than the 1936–38 figure—and 18·6 for women, that is 10½% above the 1936–38 figure.

These are astonishing results, which I can only note here without more detailed comment except to say that the improvement is even more marked at older ages—a new feature in recent experience. Thus at age 70 the expectation of life on 1945–47 mortality is 9·9 years for a man and 11·7 years for a woman, roughly 13% longer in each case than the immediate pre-war average.

The changes to which I have drawn attention may not of course be reproduced, to the same extent, in the mortality of assured lives and annuitants, but these results suggest the need for intensive and continuous examination of that mortality and a further development of research in this field.

There were not less interesting contrasts in the behaviour of rates of sickness in the two wars. I am able to compare only, and very broadly, the experience under the National Health Insurance system. With the material derived from the first valuations of the Approved Societies, Sir Alfred Watson showed that during the war of 1914–18 the cost of sickness benefit (i.e. short-term sickness) fell gradually to about 80% of its pre-war level in the case of men and 60% in the case of women, and he attributed this not only to abundant employment and high wages but also to a ‘universal will to work’ under the stress of national necessity. After the war, however, the level of sickness rose gradually to the pre-war figure or beyond.

In 1939–45 the experience was entirely different. Just before the outbreak of war, sickness was at a level which—as compared with previous experience—might be considered generally satisfactory. But the effect of war conditions produced an opposite trend to that observed in 1914–18. Leaving out the specially heavy periods due to influenza epidemics, sample investigations showed that short-term sickness rose gradually from the latter part of 1941 onwards, until by 1943 and 1944 the rates were 60% and more above the pre-war level, both for men and for unmarried women, in spite of full employment and high wages; the experience for married women did not give a reliable basis for analysis of trend. This was an unexpected and disturbing position, superficially at variance with medical views as to the high level of health maintained through the war years. Fortunately, the latter part of 1945 saw a turn in the figures, and the level of short-term sickness fell steadily until, by the end of 1947, the pre-war level had been reached again. With some relief one is able to record that this alarming war-time experience, which was associated with various artificial conditions of residence, employment, etc., has evaporated with their cessation and is apparently to be attributed largely to these causes.

The assessment of the trend of long-term sickness under such conditions is more uncertain, but there is no doubt that its cost fell considerably during the war. This was largely due to the fact that many persons who had been regarded as invalids, incapable of finding work or of keeping it in ordinary times, were able to fill a niche in some sort of job in the exceeding stringency of war-time manpower—and these conditions appear likely to continue, in a reduced degree, for some time to come.

In the field of sickness and sickness absenteeism statistics much has been done by actuaries, but much remains to be done, in the way of investigation. The old technique of the average rate of sickness, combining a rate of attack and an average duration of attack, has served us well and will continue to do so; but one would like to see the development of a more discriminating analysis,

employing (as has been done in some other countries) the service table idea with transfers to and from an invalid category. There are, however, some very serious difficulties in the way of progress, of which I will mention only two: first, the material, where it exists, is usually in a form that makes extraction and manipulation of data very cumbersome and costly in time; secondly, sickness is a notoriously unstable thing, affected appreciably, and sometimes violently, by subjective as well as by outside factors. I need hardly remind you also of the danger of attempted comparisons of non-comparable experiences and the drawing of inferences which are invalid; a point which is of considerable importance now that the compilation and analysis of absenteeism records by employers is beginning to be popular.

What I have said about research into mortality and sickness statistics leads me to offer one remark on sampling technique. We actuaries are used to large samples, very large samples as compared with those to which investigators in many other fields are accustomed. It was certainly a long step from the enormous labours of the 1863-1893 mortality experience of assured lives to the relatively compact task of the 1924-1929 experience. It may well be that another step in our methods could now be taken with advantage, for the purpose of subsidiary mortality investigations for instance, and generally to enable us to keep more up-to-date in our knowledge of the trends of the factors with which we are concerned. I have no doubt, at least, that useful results would emerge from a study of present-day procedures by small samples, and their possible application to actuarial investigations.

May I say a word about Friendly Societies and their present troubles? The coming into force of the National Insurance Act and the National Health Service this year has presented some difficult problems not only to the societies but also to their actuarial advisers. In the larger societies it is necessary to consider whether the existing ranges of benefits and contributions, and indeed the types of contract offered, call for modification if the societies are to continue to thrive. Among the smaller societies the Act has already hastened, if it has not actually caused, many dissolutions. This is understandable; the higher rates of State benefit during sickness and the greatly increased contributions for National Insurance must have inclined members to drop their Friendly Society membership and—perhaps more important—dissuaded new members from joining. If a society cannot recruit sufficient new members, there comes a time when dissolution is the only reasonable course. But I would suggest that actuaries who are consulted on such matters should not lightheartedly approve or recommend proposals for dissolution. Every effort should be made by the professional adviser to assist his clients to adapt their benefits and their methods to the new era. One remembers how, in the last two generations or more, many Friendly Societies were nursed through periods of difficulty and virtual insolvency by a few members of our profession and brought gradually into a flourishing position. The task is different today: most societies are in a sound financial position but their membership is only too often stationary or declining. That, admittedly, is a state of affairs in which it is more difficult for the actuary to give positive help but he is often in a position to give guidance, and dissolution should be a last resort. In some cases, if the society does not appear likely to thrive alone, a transfer of engagements or the merging of small units may yet prove a practicable and desirable alternative.

There is one other matter of current interest to which I want to refer. Within the next two years the Institute brings into operation the new and

radically changed Examination Syllabus, one of the features of which is the principle of 'specialized emphasis', giving an option in the final examination by which, in a choice of two out of three groups of subjects, one is taken to an advanced stage and a second to a less advanced stage. It is right, I think, that notwithstanding this differentiation we shall all still remain, on qualification, simply fully qualified F.I.A.'s without any limiting endorsement; anything which tended to brand us as 'social insurance actuary', 'life office actuary', etc., would, I am sure, be a retrograde step and might have very undesirable developments. It is the more important therefore that those who qualify under the new régime should, after graduation, take any necessary steps to extend their knowledge. As a particular instance, the part played by life offices in the provision of pension benefits in one form or another is now so considerable that I would urge those young actuaries who are largely engaged in this work, but who choose 'Life Offices' for their more advanced group in the final examination, to take every opportunity to add to their understanding of superannuation problems, remembering also that in these matters they are very much in the position of professional advisers to their clients. This aspect of the actuary's work has acquired added significance as a result of recent national developments. The interrelation of employers' superannuation schemes with the retirement pensions under the National Insurance Act, and the many problems connected with the pension arrangements of the large numbers employed in the Local Government services and the various socialized industries, give full scope for the exercise of the professional knowledge and judgment of actuaries.

I have come to the end of what I have to say. This happens to be the hundred and first year of the Institute's existence and it would have been well if your President on this occasion could have surveyed with suitably majestic sweep the past and the future. I am conscious that in these remarks I have neither summed up the achievements of the Institute in its first hundred years—Mr Simmonds has gone far towards doing that in the invaluable History he prepared for the Centenary Assembly—nor have I gazed far into the actuarial future. Having regard to the times in which we live I trust you will not blame me for this. But we all—individually and collectively—have plenty of work to do in the next few years, and old and new problems to solve, and it is on these that I have pondered for a while this evening. And if there has been rather too much exhortation in places, I beg your pardon; it is in the air—and in the mode. Looking at the longer future also, it seems to me that the actuary should not lack for work and for problems. The spacing of events in time provides a primary reason for the actuary's existence, and so long as the 'busy beat of time' endures and we have with us the odour of mortality so long surely will there be abundant material and need for the exercise of our science and art.