

THE PAST AND FUTURE DEVELOPMENT OF THE CONSULTING ACTUARY'S WORK

By D. F. GILLEY, F.I.A., A.S.A.

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INTRODUCTION

CONFIDENT prediction of the future course of events is work for astrologers who have either a belief in their own powers which no analysis of past results can undermine, or a gullible clientele which is sufficiently large to make forecasting worthwhile. It is the business of the actuary, as a scientist, to base judgments on an analysis of past events and trends and, as a professional man, to see to it that the gullible are not imposed upon.

2. If an entrepreneur perceives that a mathematical calculation can enable him to make a shrewder appraisal of his profit expectation from a long-term enterprise which he may undertake, he may well ask an actuary to make it for him. Before the actuary's calculations can be made, he must inform himself as to the environment in which the undertaking will be carried on and consider the possibility of changes in it. The validity of his results depends as much upon his judgment of the course of events as upon his mathematical ability.

3. Regretfully we must doubt whether mathematical ability or a backward glance over the developments of the last 125 years are sufficient to enable us to make a valid assessment of the future course of actuarial consultancy. The backward glance establishes that change has taken place; we can see change taking place around us but, save to the extent to which we can perceive specific needs arising from such changes, we can only speculate as to what the future holds for Consulting Actuaries.

THE PAST AND PRESENT

The consulting actuary

4. What is a consulting actuary? For the purpose of this paper he is first and foremost the possessor of an actuarial qualification who is subject to the discipline of a professional body. He makes his living by engaging whole-time in advising on a personal basis anyone who seeks his help on a matter to which he can apply his actuarial expertise in return for a fee which is related to the work which he does and the receipt of which is not contingent upon any subsequent transaction of business. He must have the support of a professional body which must exact from him adherence to a code of conduct designed both to sustain his impartiality and make it apparent not only to those who take decisions on the basis of his advice but also to those who are affected thereby. To be able to give

impartial advice without fear of any adverse consequences from a client who finds it unpalatable, he must preserve his independence. He will find this easier if he has a wide range of unrelated clients.

The commencement of whole-time consulting practice

5. In the absence of any documentation to the contrary one can only conjecture that the first whole-time consulting actuarial practice capable of supporting the practitioner without the need of a supplementary income was established in 1878 when Reuben Watson undertook the individual valuation of some 3,500 lodges of the Independent Order of Odd Fellows, Manchester Unity. Actuarial valuation of friendly societies had not become a statutory requirement until the Friendly Societies Act, 1875. The first valuation of the Odd Fellows lodges anticipated the Act by five years but was carried out by Henry Ratcliffe, its full-time secretary. There had certainly been actuarial involvement in the affairs of friendly societies as far back as the Friendly Societies Act, 1819. This required the tables and rules of societies to be 'approved by two persons at the least known to be professional actuaries or persons skilled in calculation'. The great actuarial names of the past are recorded as serving the societies, but this appears to have been a spare-time activity for men who were in life office employment. Those actuaries had no monopoly of the right to give advice any more than actuaries do today. The magisterial bench in the area in which the formation of a Society was started had the statutory responsibility of deciding who were proper persons to certify its tables and rules pursuant to the Act of 1819, and the report of a Select Committee on the Laws respecting Friendly Societies (1825) records '... in many counties the Bench have been satisfied with the signature of petty schoolmasters and accountants, whose opinion upon the probability of sickness, and the duration of life, is not to be depended upon'.

The decline of Friendly Societies

6. Since the Second World War, we have seen the gradual decline of the friendly societies as a means of providing against sickness and death, largely because of their replacement by the National Insurance Act, 1946, as a means of financing National Insurance benefits. More recently, the Finance Act, 1966, opened up the possibility of providing larger benefits, albeit through taxed funds. This is unlikely to be a development of any help to societies other than the largest, the smaller ones still surviving being moribund. According to information kindly supplied by Mr. K. Brading, the Chief Registrar of Friendly Societies, the total number of registered societies, including registered branches of Orders, in England, Wales and Scotland, was about 13,250 in 1880 and had grown to about 23,500 by 1901. From a figure of 19,587 in 1939 the number declined to 12,481 in 1955 and 6,584 in 1971.

The growth of pension fund business

7. Although there had been pension funds and widows and orphans funds

financed on actuarial lines long before the end of the nineteenth century, some of them indeed antedating the foundation of the Equitable, it was not until some time after the opening of the twentieth century that they began to proliferate. The Journal index for the years 1850 to 1906 contains 32 entries under 'Friendly Societies', 7 under 'Pension Funds' and 4 under 'Widows Funds'. The corresponding figures for 1907 to 1924 are 12, 15 and 2, the great majority of the pension fund references following the National Health Insurance Act, 1911, and the 1910 Report of the Departmental Committee appointed by the Board of Trade to consider Railway Superannuation Funds. That report drew attention to the need for actuarial advice on the financing of long-term liabilities toward employees and the disastrous consequences of acting without it or in despite of it. The opening years of the century had seen Alfred Watson carrying on his grandfather's practice. It is alleged that when he sold out to R. G. Maudling on becoming Chief Actuary to the National Health Insurance Joint Committee in 1912, he warned his successor that he saw no future in actuarial consultancy!

8. The upsurge of pension fund references appears to have followed the Income Tax Act, 1918, and the Finance Act, 1921. These Acts conferred reliefs from taxation on contributions paid to, and interest earned on, pension funds in return for compliance with certain requirements designed to ensure the emergence of benefits in taxable form. Up to the autumn of 1928, the number of funds approved under section 32 of the Finance Act, 1921, approached 1,000. This figure had more than trebled by the end of 1947, and reached 6,500 by the end of 1956. Following the passing of the Finance Act, 1956, which enabled life offices to accumulate pension contributions in a tax free fund, the number of fully approved funds rose sharply, and reached some 28,000 by the end of 1971. The Superannuation Funds Office of the Inland Revenue who kindly provided this information, believe that prior to 1956 self-administered funds slightly outnumbered the insured funds. Of the subsequent approvals, about 1,300 were self-administered funds at the time approval was granted and the number of self-administered schemes of commercial and industrial companies and nationalized industries with fully approved status is rather less than 3,000.

Statutory valuation requirements

9. Whilst there has never been a statutory requirement that actuarial advice or valuations should be obtained except in the case of those funds which obtained registration under the Superannuation and Other Trust Funds (Validation) Act, 1927, in order to avoid contravening the rule against perpetuities, there cannot be many schemes about which actuaries have not been consulted. The Local Government and Other Officers' Superannuation Act, 1922, allowed local authorities to establish pension funds for certain of their employees and prescribed quinquennial actuarial valuations if they did so. These currently total some 500 partially approved funds, a number which may be substantially reduced by amalgamations as a result of local government reorganization. The Workmen's Compensation (Coal Mines) Act, 1934, authorized the establish-

ment by colliery owners of mutual trusts to provide for the compensation of injured employees; their finances had to be subject to actuarial review.

The causes of pension fund growth

10. The post-war decline of friendly societies was offset by the creation of pension funds in large numbers. Their proliferation may have been engendered by a social conscience aroused by the greater awareness of need which the intermingling of classes during the War brought about; it may have been partly due to competition for scarce labour or to the activities of insurance salesmen. It was certainly not due to Trade Union pressure. Until quite recently, Trade Union pressure for better pensions has normally been by way of generalized pleas, on political occasions, for improved State pensions, rather than by pressure on specific employers or industries in the course of bargaining over wages and conditions. Whatever may have been the reason for the growth of private pension provision to an extent unparalleled in Western Europe, it was fostered by reliefs from corporate and personal tax rates at levels so high that they were far more likely to come down than go up.

Sources of overseas business

11. The emergence of former colonies as sovereign states and the development of pride in a national identity has led to the creation of locally based financial institutions, notably insurance companies. The inevitable lack of a sufficiency of nationals of the underdeveloped countries with the necessary expertise to develop such enterprises on sound financial bases has not infrequently caused their sponsors to turn to United Kingdom consultants for the actuarial advice they need. Information about the extent of consultants' activities overseas is meagre. Particulars of overseas earnings are now returned to the Association of Consulting Actuaries by its members. From this it appears that overseas business has roughly doubled over the period from 1965 to 1970.

The establishment of new life offices

12. The need to protect savings against currency depreciation throughout the last quarter of a century, criticism of the reversionary bonus system as a means of giving policyholders the fruits of increasing rates of investment return and, in general, a reluctance of the established life offices to meet public demand quickly enough, has led to the establishment of new insurance companies offering mainly unit-linked life assurance contracts. For the most part, the majority shareholders have been banks or other financial institutions. This is not to imply that the presence or absence of such a connection is necessarily a guarantee that proper consideration is given by the management to the interests of the policyholders. Whilst the establishment of new offices has been a fruitful source of new references for consulting actuaries they have had to make special exertions in some cases to protect the interests of policyholders against entrepreneurs ignorant of the niceties of long-term finance or, worse, willing to exploit the advantage brought by a little less ignorance than that of the consumer. In

this situation it is the professionalism of the adviser which is the latter's defence. Whatever the associated perils, the establishment of new life offices at home and overseas has been a fruitful source of references during the last 10 years or so. An examination of the material published by Stone & Cox, relating to unit-linked assurance, shows that in the autumn of 1972 there were then operating 33 companies which had been formed since the beginning of 1961 to transact such business and which were advised by consulting actuaries. The total relevant assets of the 29 of those offices which had published accounts were £122 m. at the most recent year end, an average of £4½ m. each. This figure is believed to be growing rapidly notwithstanding the entry of old-established offices into this market.

Interest under wills

13. In addition to pension funds, life assurance companies and friendly societies, which create the majority of references, the valuation of reversions for estate duty purposes and the dissolution of will trusts has always brought a steady stream of work for consulting actuaries. The unravelling of interrelated interests and the evaluation of the discounted probabilities makes the subject one for which actuarial knowledge is not only a *sine qua non* but itself alone of limited value. Also needed are a knowledge of the relevant law and the market forces. Until fortunes can no longer be accumulated or inherited, it will be worth someone's while to rearrange interests arising under wills and this will continue to generate references.

Transfers of clients from part-time to full-time advisers

14. There is one further factor which has assisted the development of the consulting actuary's work. In 1926, during the discussion on F. A. A. Menzler's paper on 'The Future of the Actuarial Profession' (*J.I.A.*, 57, 88), R. G. Maudling expressed the view that the profession's 'Members not in private practice probably did in the aggregate more consulting work than the regular consultants'. The situation cannot but be different today. The returns made to the Government Actuary's Department of the number and size of pension funds advised by the members of the Institute and the Faculty show that over a five-year period in the mid-1960s for which records were kept, the number of funds of private, commercial and industrial employers which were advised by full-time consultants rose from 1,521 to 1,857, whilst the number advised by part-time consultants fell from 845 to 700. One supposes that the increasing complexity of the problems facing the life offices have necessarily caused them to make increased demands upon the time of their own employees with a consequential transfer of part-time business to the hands of full-time consultants.

Consequential growth of actuarial consultancy

15. What has been the effect of all these factors on the growth of the profession of consulting actuary? Over the years the number of Fellows of the Institute engaged in full-time consultancy in the United Kingdom has progressed as follows:

As at 31 July	Number
1895	4
1925	12
1935	15
1945	20
1955	32
1965	65
1970	93
1971	101
1972	121

We are currently witnessing an explosion of activity. The growth is exponential and is matched overseas where the number of our Fellows employed in consultancy is roughly one half the number in the U.K. and has been so for many years.

Growth of consultants' staffs

16. It is believed that the growth of the non-professional staffs of the consultancy firms during the last 25 years has been less than proportionate to the increase in the number of professional staff engaged in the activity. This is due to the increased sophistication and use of mechanical aids, including the computer. When the computer first began to gain recognition it was used to prepare factors for the valuation of pension funds in the time-honoured fashion of multiplication on hand machines. Then, with growing confidence, valuations themselves were made on the computer. However, as a result of the growing diversity and complexity of pension funds, the development of the final print of the results was likely to become oppressively difficult.

Use and consequences of the computer

17. It is a feature of the consulting actuary's work that the volume of data input is normally limited in extent, as is the volume of output, but between the two there is a very great deal of repetitive calculation which the computer does with unexcelled rapidity and accuracy—if properly instructed. In consequence, the consulting actuary needs to employ relatively fewer clerks than formerly but needs to employ staff with an aptitude for computer programming work at various levels of difficulty. The replacement of clerical labour by staff capable of turning the instructions of an actuary into a program which will work creates an entirely new set of management problems. Previously the problem was to acquire a suitable number of clerks, but once recruited and trained they could be deployed and redeployed with great facility in order to accommodate conflicting and changing job priorities. One computer may do the calculation work of an army of clerks but the recruitment of sufficient programmers to afford similar flexibility is a matter of some difficulty and the loss of a programmer at a critical stage an embarrassing frustration. Although the realities are beginning to be understood, many clients have persisted in the belief that a valuation is a purely

arithmetical process which a computer can carry out from beginning to end overnight. Clients are accordingly less tolerant of delay in the production of the results on the basis of which they will be advised and will reach their decisions. One solution of the difficulty is the development of main line programs of general application to a range of tasks ranging from calculation of tables of pension fund factors to the valuation of friendly society orders including the screening of data, the preparation of experience, statutory returns, analysis of surplus and preliminary report drafting. Allowance is made for the characteristics of particular jobs by assigning values to parameters, inserting subroutines and suppressing irrelevant pieces of the main line program. The object must be so to simplify the writing of one-off programs that staff of the lowest level of programming competence may be employed without a loss of confidence that the job has been done correctly. The cost is the development of generalized programs of correspondingly inordinate length. This in its turn predicates a need for some programmers capable of writing the necessary programs economically and for consultants capable of communicating with those programmers. With the rise of a generation of actuaries brought up in the computer era the difficulties should rapidly diminish. There must have been a certain amount of confusion when actuaries had to learn to give instructions to staff armed with arithmometers when they themselves had only had tables of logarithms with which to expedite calculation. It is not necessary for the actuary himself to be able to write programs any more than he had to excel an adding machine operator in manual dexterity. But if he can read a program he may on occasion save some time if the checks on the computer output which he commissions fail to satisfy him that his instructions have not been misinterpreted by his staff. Such involvement may be costly but the alternative delay may be even costlier.

THE FUTURE

The implications of the past

18. So much for the backward glance. What does it suggest? The consultants' present workload has mostly been created by the increasing recognition of social needs necessitating the establishment of long-term financial provision. Public concern may well remain the greatest single influence creating work for consulting actuaries. In the past it has stimulated the creation of the means for financing long-term need. In the future its major effects will be the modification of arrangements already set up and their supervision. We should expect to see increased Trade Union interest in occupational fringe benefits. There will be increased political demand for the protection of contingent interests already created. There will be an increased realization of the inadequacy of court awards. The search for business efficiency will tend to undermine professional life and the creation and enlargement of multi-national companies will cause the consulting actuary to venture increasingly overseas. The development of as yet underdeveloped territories will create still more demand for actuarial services overseas. There

will be an increased recognition by businessmen that the actuary has something to offer them beyond advice on the financing of their pension funds. None of this is hard to foresee; it is already happening. Development along these lines may not last long but to forecast developments over more than a fraction of the next 125 years requires greater courage and perception than that possessed by the author.

Trade Union involvement in pension funds

19. The extent of Trade Union concern in occupational pension schemes is limited as compared with the position in North America. With the publication of the Social Security Bill we have seen the stirrings of employees' representatives who are asking whether something better than the State Reserve Scheme cannot be established by the employer at the same cost. If employers see advantages in establishing their own arrangements we may expect continued and increased representation by Unions on pension fund matters. In the U.K., pension funds for manual workers have tended to move on to a wage-related basis whereas in North America there appears to be little movement away from schemes providing benefits in fixed money terms. This may be because management and labour both see the fixed benefit scheme as affording scope for conceding improvements on the one side and exacting improvements on the other. A final wage/service scheme does not offer this scope once the pension fraction has reached a satisfactory level, because pensions are automatically kept in line with rising wages. On the other hand, a career average pension basis provides recurrent scope for improvement, at any rate in an era of inflation. The consequence could be replacement of final average wage as the pension basis by career average as amended from time to time by negotiated improvements in the past service accrual, particularly having regard to the basis of pension preservation and the standard of personal pension required for recognition under the Social Security Bill. Whatever pension basis is adopted, Union representations may be anticipated over proposals to change the general nature of benefits and the circumstances in which they become payable and over the inclusion of pensions for widows.

A possible change in the consultant's role

20. Hitherto the consulting actuary has been giving full and factual advice to employers sponsoring schemes, to trustees who administer them and to committees of management who give expression to the views of the participants. Only rarely has he been confronted by an actuary retained by a Union to help produce arguments in support of its claims. If Unions choose or are given cause to believe that the advice of the actuary to any fund is trimmed to support a preconceived case, they will retain actuaries as advocates for their own purposes. This will of course stimulate the same action by management. It is questionable whether such a development would necessarily be advantageous to any of the parties concerned. It would tend to the creation of complications in the benefit structure in order to meet immediate difficulties in negotiation but which would

have long-term repercussions of an inhibiting nature. The scope for complication with a view to preparing a negotiating position for the future is considerable.

21. In the U.K. there has, over the years, been a steady improvement of pension schemes by the employers themselves in order to meet the recognized needs of their employees. This may of course have been no more than a prudent recognition that a successful recruitment policy necessitated continuous improvement of retirement benefit schemes. Now that the Unions recognize that the consequences of labour withdrawal for the employer are judged by him to be so much more severe than an increase in his operating costs, it is not strictly relevant to the Unions' negotiating position whether labour is plentiful or scarce. This may cause employers to become reluctant to concede anything before they have to. It may be therefore that pressure for change will in future tend to come from the employees' side of the table and the consulting actuaries will find themselves increasingly called upon to devise offers designed more to save cost than to meet need. An extension of bargaining into the retirement benefit schemes area will engender a demand for more rapid calculations of costs of benefit changes and advice on the implications of apparently innocuous proposals. This in turn implies an extension of the need for professional time as opposed to the time spent by supporting staff. The adversaries will need to rely increasingly on the ability of the actuary to form qualitative and quantitative judgments on the minimum of information.

The communications field

22. As pension fund coverage approaches saturation point, it is to be anticipated that the consulting actuary will be drawn increasingly into the area of communications with employees. Consider the preparation of trust deeds and rules. There are many firms of solicitors but very few consulting actuaries. The consequence is that the consulting actuary has far more experience of the matters which have to be resolved before watertight definition of benefits and contributions can be attempted, than does the average solicitor. From work in connexion with the trust deed and rules it is a short step to the preparation of explanatory booklets, and from examples of general application to the preparation of individual assessments of prospective rights. With increased public awareness of the importance of pension funds and widows' funds, one may expect too that employers will become increasingly seized of the importance and advantages to be obtained from communicating to employees the nature of the benefits provided for them, how much those benefits amount to from time to time and what is the security for them. Already, employers are perceiving a need to provide each of their employees with a periodical statement showing the benefits to which he is prospectively entitled, taking account of his own circumstances. With the aid of the computer the preparation of such statements is a practical proposition although the U.K. pension scheme appears to be more complicated than its counterpart across the Atlantic where the service was first conceived. The higher complexity will retard the preparation of individual

statements but it is doubtful whether it will prevent their preparation. Already such statements are prepared, notably in connexion with reconstructions and the replacement of one set of benefits by another. Greater demand will necessitate the use of faster and more expensive computer equipment and the recruitment of larger staffs to cope with the preparation of reliable data. On the face of it, there would appear to be little need for the consulting actuary to concern himself with this work. However, once data have been compiled which are sufficiently good to enable individual members to be informed of the amounts of their prospective benefits, it is a short step for a commercial firm to offer their own 'valuations'. Already in the U.K. the door has been opened. The valuations will be done on lines laid down by the commercial operator and carried out *for him* by *his* actuary. It would be over-optimistic to assume that commercial considerations will never cause such valuations to be conceived as no more than arithmetic processes. In the U.S.A. the consultants have found it necessary to protect themselves by establishing their own service to provide individual benefit statements: so may consultants in the U.K.

23. In this way there will be increased involvement of the actuary in the communications area. Although the actuary may have become accustomed to expressing complicated ideas in simple language it is nevertheless a misapplication of scarce talent to ask him to do so except in the areas in which he is looked to for advice. It is otherwise the rendering of a service rather than the giving of advice. One can visualize the recruitment of staff with skills in data processing, of writers, artists and lecturers. A difficulty is that complete understanding is a precondition of ability to communicate. At the end of the day, it may be more economical of time and effort and more effective for the actuary himself to communicate the employer's message to the employees than to instruct someone else how to do it for him. In any event, communication is a two-way process and if the actuary does not himself communicate he may impair his ability to help his client.

Involvement with accountants

24. In his role as adviser on retirement benefits schemes the actuary may cross the path of the accountant over such things as stock option or profit-sharing schemes or the provision to be made for pensions in a company's accounts. So far as stock option schemes are concerned, the need for the involvement of the actuary *per se* is problematical. The concern of the auditor that the accounts which he is auditing shall give his principals—the shareholders—a true and fair view may well cause him difficulty. To what extent can a true and fair view at any one point of time take account of events yet to happen? The accounts of a company do not take account of the profitability of new ventures to which resources are committed, they take no account of future wage levels and staff requirements; what then is the relevance of the outlay on pensions? Is it not at least as relevant to say that there is no pension scheme or that the scheme is inadequate as it is to say that the cost of unfunded past service liability is so

much? One can see and sympathize with the difficulties of the auditor and it must be the objective of our profession to enable him to satisfy the needs of his clients and the demands of the statutes. It remains to be seen however to what extent accountants will feel constrained to concern themselves in the flow of pension fund finance and to what extent their concern will involve consulting actuaries.

Extension of State supervision

25. The Social Security Bill foreshadows an eventual demand for closer supervision of pension funds. With State-fostered growth of pension funds there will inexorably be created a demand for closer supervision of their affairs. There will be instances when the operation of funds will have fallen below acceptable standards, this will become an emotive issue and legislation will follow.

26. In similar fashion, and with reason, the supervision of motor vehicle insurance has become an emotive issue and we have seen increasingly stringent legislation passed. In the aftermath of the collapse of *Vehicle & General* the press was full of reports of proposals for the better running and supervision of non-life affairs. There were suggestions involving accountants, insurance brokers, and the British Insurance Association, but constructive comment about the positive role the actuary could play was so limited as virtually to escape notice. And yet, the problem involves the identification and quantification of risks in a continually changing environment, and the long-term settlement of claims. The determination of the adequacy or otherwise of non-life reserves is analogous to an emerging cost calculation for a widows' fund; the development of exposed to risk formulae to obtain the decrement rates may be a matter of difficulty but it is an application of techniques with which actuaries at least are conversant; if rates of interest or inflation are relevant then standard actuarial commutation functions too have their part to play. What better ground for actuarial involvement? For months, even years, previously the Institute felt inhibited from presenting its members as able to make a useful contribution. This was due to a just appreciation that the large, old-established offices had achieved a strong position over the years; they had managed without actuarial assistance and their managements were sceptical whether a profession lacking an intimate knowledge of the daily affairs of indemnity insurance had anything useful to contribute.

27. There are in any case several hundred non-life insurers and it would be a palpable impossibility overnight to make actuaries responsible for certifying the adequacy of their reserves. Nevertheless, the Institute, perceiving a need, having indicated to the Department of Trade & Industry its conviction that its members had something to offer the public for its greater reassurance, it is to be hoped that the door has been opened to actuarial involvement in the non-life area. It seems reasonable to suppose that the composite offices have actuaries whose employment on non-life affairs would not cause any unacceptable strain upon manpower resources in the life department. The purely non-life companies who recognize a need for actuarial skills, presumably will, for the most part, recruit

their own actuaries. But there may well be offices who, rather than employ their own actuaries, will follow a lead which one or two have given and turn to the consultants for help in this area; they may at least be expected to know more about the day-to-day running of non-life business than the generality of academic statisticians.

Damages

28. Apart from the indirect consequences of political action, the operation of the legal system itself may well produce more references than it has done in the past. One would have thought it self-evident that a successful litigant who was awarded cash damages in restitution for loss of an income of one sort or another might reasonably have expected the investment of that sum to produce for him, by way of interest and capital realization, the series of payments of which he had been held to have been unjustly deprived. Because the duration of life is uncertain in the individual case, one would have thought it self-evident that an actuary's advice on the relationship between cash damages and income loss might have been worth taking in order to secure a fair and reasonable equivalence under the circumstances. At all events, it ought to be better than the view of any judge, whose opinion upon the probability of sickness, and the duration of life palpably is, in the words of the Select Committee of 1825 already referred to 'not to be depended upon'. Indeed the apparent inability of some of the judiciary to see the relevance of the theory of probability and of compound interest, and their hostile reception of its exponents, not only in relation to damages but also in relation to non-life insurance, as evidenced by the Report of the *Vehicle & General Tribunal*, puts one in mind of the reception accorded to medical missionaries by tribal witch doctors. It may be that the deliberations of the Law Commission will result in actuaries' evidence being heard with greater respect in the Courts than has been the case in the past. In other lands the relevance of actuarial evidence is recognized and if, as appears possible, the deliberations of the Law Commission are reflected in changes of attitude, the same may become the standard practice in the U.K.

Investment advice

29. Moving away from a consideration of the effects of law-making and back to pension fund matters, the giving of investment advice is another area in which development may be looked for. There is at the moment a division of view amongst consulting actuaries on this topic. On the one hand there are those who maintain that there is a need to help trustees with advice not only on the general strategy but also on the choice of individual investments; this is the minority view. The majority maintain that the research needed if advice is to be given on the choice of individual stock can better be done by stockbrokers, merchant bankers and firms which specialize in giving investment advice, some of which happen to be controlled largely by actuaries. The reason for the majority view is an economic one. The sums which change hands via the Stock

Exchange are vast and the remuneration of the brokers is by related commission earnings. In the space of a twelvemonth, the investment of new money of a fund covering say 1,000 staff employees could easily amount to £¼ m. Commission, if half this amount is invested in gilt edged stock and half in equities, might well approach £2,000. This is a charge which the consumer cannot avoid and the justification for its size is the cost of the effort put into the collation and analysis of industrial information by the staffs of the brokers giving the service. For the consulting actuary to attempt to duplicate this work so as to be able to subject the broker's investment recommendations to detailed scrutiny is simply to add to his clients' costs. This is not to say that the consulting actuary has nothing to offer in this area. The profession is still the only one which provides courses of instruction and examines in any depth on the subject of investment. The role of the actuary is to give impartial advice to his pension fund client based on the facts provided by the brokers. This, it is submitted, is to the advantage of all concerned. For so long as the brokers are remunerated by commission, their activities and the advice they give will be viewed with reservations by some of their clients, more particularly the small ones. The actuary is in the position to reassure the client as to the validity of the stockbroker's recommendations for the general investment strategy for the fund and the broker can make recommendations which he might otherwise hesitate to make for fear of exposing himself to the accusation that he might be serving his own interests at least as much as those of his client.

Investment performance measurement

30. A more useful activity for the consulting actuary to engage in is the measurement of the performance of the investment manager or investment advisers relative to those advising other funds in similar circumstances. Much work is being done in the endeavour to find an objective measure. There are two standards of comparison commonly adopted. One is the calculation of the internal time-weighted rate of return. The other is the ratio of the return achieved relative to that which would have been achieved had some alternative, predetermined investment strategy been followed. The results of any bald comparisons such as these are of limited value except over a substantial period of time, during which the adviser may change. They do at least prevent the adviser taking his client for granted and if the client is reassured that his adviser is doing a good job, the cost of the investigation is amply justified. Not only that but comparison with the various indices for different sectors of the equity market can give a greater insight into the quality of the advice which is being given.

The growth of companies

31. Pension fund work takes up such a high proportion of the consulting actuary's time that at the risk of overstressing its importance, one other development and its implications should be touched upon. This is the enlargement of

commercial and industrial companies by takeover and amalgamation and the emergence of the multi-national company. It is now less likely that the purchaser of a company overlooks that there may be a vast and inescapable liability for pensions towards which no adequate provision has been made. Increasingly, the purchasers use their consulting actuary, if they have one, to determine the extent and relevance of such liabilities to the price they ought to pay for the business they seek to acquire. The work usually has to be done quickly on the basis of a minimum of factual information, and that often out of date. A takeover having been completed there is, sooner or later, a rationalization of pension arrangements. The consequence is an increase in work arising in connexion with the dissolution of funds and assistance in the protection of members' rights under the trust deeds and rules of the funds which are being dissolved.

Involvement overseas

32. With the enlargement of the overseas interests of the adviser's clients, he has increasingly to consider pension arrangements in foreign countries. This necessitates a knowledge of local conditions, in particular of taxation and social security. Bearing in mind the number of territories in which his clients together may be interested and the frequency with which changes take place, how is this situation best to be handled on behalf of the client? For the consultant to prime himself on the relevant local conditions every time there is a reference is time consuming, costly and possibly not very efficient. It would be possible to have itinerant experts to keep themselves au fait with conditions in every territory in which a reference might arise and act as consultants to their partners; this postulates a very large partnership. A third possibility which is believed to appeal to most U.K. firms is to rely upon the services of local firms, acting as correspondents. It is then the function of the U.K. firm to ensure that the local firm maintains a satisfactory service and properly understands and meets the needs of the principal. This in its turn necessitates some general interchange of information between the correspondents either by correspondence or, increasingly frequently, by meeting them either in the U.K. or on their home ground. Thus is the consultant becoming more of a traveller than he used to be. It is to be hoped that this serves to broaden his outlook and perhaps enhance the attraction of consultancy as a career.

Overseas branches

33. Yet another possibility is the establishment of branch offices overseas. The Republic of Ireland apart, this has so far been found worthwhile only in the West Indies where the volume of business is such that it is cheaper and quicker to service the needs of the local clientele from a branch office, notwithstanding all the consequent cost and inconvenience of establishing, staffing and running it, than to correspond and make frequent visits across the Atlantic. With entry to the European Economic Community, it might be thought that similar considerations would lead to the establishment of offices on the Continent. From such an

office the consultant could be on his client's doorstep practically at the drop of the telephone receiver. The volume of additional business likely to accrue upon the establishment of such an office is, however, unlikely to compensate for the costs of its establishment. Where is the additional work likely to come from? Mainly from local companies who might conceivably be prepared to seek advice from a local office of a U.K. partnership but not from an office in the U.K. Bearing in mind the language difficulty and a probable reluctance to use a foreign firm when there may be a perfectly good practitioner of the same nationality as the client, it appears probable that the bulk of the branch office's references would originate from the U.K. parents of E.E.C. subsidiaries. No U.K. partnership has yet thought this a sound basis for the establishment of branch offices. Communications are such that on most days in the year an office near an airport anywhere in Western Europe is effectively on the doorstep of any other office similarly placed.

Recruitment overseas

34. The greater the distance of the overseas operation from the U.K., and the less the available local skills, the stronger is the argument for the establishment of a local office. This necessitates the employment of nationals who ought to be *au fait* with local conditions and customs to an extent that a travelling consultant cannot hope to be unless he spends a high proportion of his time in the particular country. Most of the business is likely to come from former colonies which are lacking in the very talents which are required. Assuming however that it is found profitable to establish a local office which can acquire and train local talent, there is a distinct possibility that so soon as it is self-supporting there may be local pressures for severance. In this area, the considerations impinge less upon the consulting actuary as an adviser than as a businessman. The commercial pressures will force him increasingly to take up the role of a businessman whether he wishes to or not.

Friendly Societies overseas

35. The increased affluence and social spending in the U.K. which has caused the decline of the friendly society movement here, may cause us to overlook that in parts of our former empire the friendly society may have a role to play which is akin to that which it filled in the U.K. before the Second World War. In Malaysia, for example, there are about 1,000 village friendly societies with a total membership of some 600,000. These societies insure sickness and death benefits. There is an increasing awareness of a need for actuarial advice because the financing of some of them is thought to be less sound than it should be. The situation displays features recognizably similar to those shown by the movement in the U.K. before the formation of the Institute. Whether the rise and, presumably inevitable, ultimate decline of these societies will cover so long a period as it did in the U.K. remains to be seen. It presumably depends upon the ability of a country to achieve such affluence that voluntary association for self-help in

time of trouble is replaced by state action. It is not inconceivable that this is another area in which the United Kingdom consultants may find themselves increasingly asked for help, particularly if matters which they conceive to be of greater moment cause them to establish overseas offices.

The impact of commercial firms

36. Over the last twenty years the financing of the insured pension scheme has been transformed. From a scheme financed by non-profit policies under which the premium was the total of separately calculated figures for each member, it has developed through profit sharing and controlled funding to the managed fund. The insured scheme may now be insured to a minimal extent and be virtually a self-administered scheme with a life office responsible for the management of the investments. Advice of an actuarial nature is, however, sometimes given by the life office, or a commercial firm of insurance brokers or pension consultants; sometimes advice is given by a consulting actuary. Particularly in the field of company acquisitions do the commercial firms and the professional firms confront each other. What is the difference between them?

Professionalism and Commercialism

37. The provision of professional services is not a commercial activity to be judged by the same standards as the provision of goods. Primarily, the supplier is held to be in business for profit; he gauges the market and supplies what he believes the consumer wants at a price which the consumer is prepared to pay. Provided he does not misrepresent what he is selling, the onus is on the consumer to make sure he is getting what he wants. This is the principle of *caveat emptor*. The consumer who wants it cheaper must seek out a cheaper supplier. If competing suppliers operate with the same efficiency the cheaper product will be that much inferior. Advice cannot be sold on the same basis. The mere fact that advice is sought is indicative that the consumer is in no position to form a judgment of the value of what he is getting. Advice can be given on nothing without the problem be first ascertained and the factors relevant to its solution. There may be several solutions, their economic costs may be different but the client cannot take a decision without first knowing the alternatives. Corners cannot be cut in this process, only one quality is acceptable and there is no room for the principle of *caveat emptor*. Rather, let the adviser beware. The professions exist to ensure that their members are competent to serve the public and properly discharge their duty of care and responsibility to those who come to them for help and are in no position to judge the quality of what they get. It is for these reasons that members must be required to adhere to a code of conduct laid down by their profession with a view to the preservation of the highest standards. If, in consequence, they thereby expose themselves to the attack of others who are not restricted in the same way but operate in the same area, the profession should take such steps as are necessary to ensure that the public appreciates the differences between what is offered. If advice is no more than a commodity to be sold

over the counter it is in the highest degree improbable that standards will remain high: competitive forces on the would-be advisers will see to that.

Combination with other professions

38. Attention has already been drawn to the probability that the consulting actuarial firms will feel themselves constrained to enlarge the range of the services which they provide. This will necessitate the engagement of the services not only of communications men, technicians and salesmen but also of other professionals, solicitors and accountants, for example. Pension consultants and management consultants already make a feature in their publicity that they have other skills to offer besides those of the mere actuary! How will these others react to permanent exclusion from a partnership either because of the Institute's code of professional conduct or that of their own professional body? In order to secure the participation of men of suitable calibre it will be necessary either to harmonize the codes of conduct of different professions or to replace the professional partnership by an employce-owned company in which actuaries and non-actuaries will have comparable status. The consulting actuarial firms will, in the latter event, then be reduced to comparable status with the commercial firms. It is not beyond the bounds of possibility that under commercial pressure consulting actuaries may decide voluntarily to relinquish professional status as it is understood today, become limited liability companies and sell out to any commercial interest willing to pay a price for the acquisition of the goodwill and an outlet for the sale of investment and insurance services.

The pursuit of efficiency

39. Today the emphasis in the business world appears to be on the maximization of efficiency; the elimination of that which has no immediately apparent profit-making capacity. This is the antithesis of civilization and we may hope that gradually it is being recognized as such. Nevertheless, for the moment, the commercial pressures are considerable and will tend to squeeze the time set aside for non-profit-making activities such as, for example, participation in the affairs of the Institute of Actuaries or other bodies where actuaries meet to regulate their affairs. The advantage of such participation to the individual is, it is to be hoped, a widening of interest, knowledge and involvement, albeit at the expense of a material encroachment upon the time spent on family and friends. The price is high but we may hope that it will continue to be paid or that the pressures will be reduced by a shortening of the working week. One suspects that highly paid, highly skilled people will be the last to benefit in this way. Be that as it may, however, if the pressures are not lifted the effect may in the long run be less willingness to become involved and a consequential narrowing of the vision of consulting actuaries collectively and an impairment of the service they can give their clients.

The consequences of growth

40. It should be easier for a consultant to devote time to non-profit-making

activities if he is part of a larger firm. The enlarged range of services which a consulting firm may find itself constrained by events to give will probably necessitate its growth to a far larger organization than the giving of advice on conventional actuarial matters alone would require. Such expansion inevitably brings administrative problems in its train. Such matters as property, supplies, recruitment, workflow, business management, research, finance, all obtrude themselves upon the notice of the partners responsible for the running of their business. The following analysis gives a broad indication of the way in which the partners of a large firm spent their time during 1972:

	%
Work done for and chargeable to specific clients	66
Work done for clients in general	14
Holidays, sickness and other non-productive time away from the office	12
Administration of the business	4
Work done for professional bodies	4
	<hr style="width: 100%; border: 0.5px solid black;"/> 100

On the face of it, this analysis suggests that the charges to the clients must be inflated because of the proportion of non-chargeable hours spent by the owners. On the other hand, the return from time spent on administration, research and development is an ability to delegate a higher proportion of work so that it can be carried out at a lower cost; it cannot be assumed that time which is not chargeable to a client is wasted. The need to limit the cost of 'non-productive' effort will be another force impelling firms to grow.

The wider field

41. Forty-seven years ago, F. A. A. Menzler was telling actuaries to look beyond the solution of conventional actuarial problems and apply their talents and knowledge more widely in the service of industry and commerce. With the passage of time this has started to come about. There were, at 30 June 1972, fifty actuaries in the wider field, many of whom were no longer employed on the pension fund matters which had, in the first place, caused their recruitment. We are currently witnessing a ferment of activity in actuarial consultancy as a result of the Social Security Bill. This activity is by no means confined to the consideration of long-term financial planning and when it subsides consultants may find themselves with the time, inclination and opportunity to bring their talents and skills to the solution of management problems. It is inevitable that the actuary, surrounded as he is by the business environment of his clients, should, in the course of applying his professional training and skill to the solution of the long-term financial problems with which he is confronted, become aware of other problems which he is well qualified to be entrusted to solve.

The attributes of the actuary

42. Why is he entitled to take this view? The attributes of the actuary have

been discussed by Usherwood (*J.I.A.*, 89, 1) and by Rushton (paper submitted to The Manchester Actuarial Society on 29 November 1972) and may be briefly summarized as follows. A high general level of education plus a level of mathematical ability which is above average rather than esoteric; willpower and self discipline as evidenced by the completion of a long course of difficult and largely unsupervised study; a training in statistics, finance and economic theory, and a grounding in compound interest which makes the subject of discounted cash flow for him a rather simple, special case; a logical and objective approach to the solution of problems which is engendered by a scientific and professional background; and an exceptionally high level of analytical skill and common-sense in drawing conclusions from the analysis. All of this is directed by personal, professional integrity.

43. The consultant's activities bring him into the boardrooms of a high proportion of the largest employers. If his clients find him capable and willing to devote time to a wider range of problems they will invite him to do so. Throughout the recent past, however, the consultant will have found no necessity to venture beyond the conventional range of specifically actuarial problems. One thing leads to another; the greater the breadth of the consultant's view the more things he will be consulted about and the more he will address himself to problems outside the normal range.

The implications for future training

44. What is the relevance of all these possible developments to the recruitment of students by the profession and their education? Speculation about the future is all very well but it is hardly a foundation for action. If it serves to create an awareness of the possibility of change and an increased capacity to recognize it when it turns up it will be possible to make modifications in the education syllabus to meet the needs which will develop. This is a continuing process. The aims of the profession as expressed in its charter and to be clothed by the examination syllabus will need no foreseeable change. The business of the actuary is based on probability and finance, the training includes the application of the theory to the questions it can help to answer. This remains the same for the future. To the extent to which the actuary enlarges his field of activity he will merely be passing through a door which has opened to him because of the background against which his professional and technical skills have placed him. The developing areas do not themselves necessitate any fundamental change in the form of the actuary's education nor the calibre of the next generation. The emphasis may change, as in the past, but not the underlying basis. The qualities needed to develop and apply the basis to the service of mankind remain unaltered.

ABSTRACT OF THE DISCUSSION

Mr R. J. Myers, opening the discussion, wished that a similar paper were available to describe the work of the consulting actuary in other countries as it now existed and as it had developed over the years. He wanted to contrast the situation of the consulting actuary in the U.K. with that in North America.

It had, indeed, been fortuitous for consulting actuaries in the U.K. that the work in connection with the rapid growth of self-administered pension funds had counterbalanced the decline in the role of the friendly societies. In North America there had been a similar growth in pension funds, but it had been entirely 'new business', with no offsetting decline in business elsewhere.

In North America, consulting actuaries had for many years played a significant role in providing the actuarial services for life insurance companies that were too small to afford a full-time staff actuary. Conversely, they had played a relatively small role in the field of variable life insurance and annuities, because those lines of business had been developed either by very large companies or by specialty companies which employed their own actuarial staffs.

Work in connection with valuations for wills involving complex life contingencies was done by American consulting actuaries, but it was not nearly so prevalent as in the U.K. Again, North American consulting actuaries did a certain amount of overseas work, particularly with regard to pension plans of American employers having world-wide operations, but probably not to the same extent as their colleagues in the U.K. The non-life field was an important one where consulting actuaries were more active in North America than in the U.K., although he recognized that company actuaries too in the U.K. were also largely absent from that field. Also, American consulting actuaries seemed much more involved than their British colleagues in general management, including the development of all types of fringe benefits, communications with the participants, and even general matters of administration. On the other hand, consulting actuaries in the U.K. were probably far more active in the area of investment advice for pension funds and life insurance reserves than were their North American colleagues.

There was some difficulty in defining a full-time consultant. In North America, many company actuaries, after retiring from their firm, did not 'fade away', but became consultants with varying degrees of activity. Accordingly, the data had to be analysed as they were reported by the individuals concerned.

The author had stated that in 1972 there were 121 full-time consultants in the U.K. who were Fellows of the Institute. According to the speaker's reckoning this represented 13% of non-retired Fellows working in the U.K. The corresponding figure for Associates was 7% and, for the total membership, 12%.

The membership of the Society of Actuaries in Canada and the U.S. indicated a much higher proportion of consultants among the non-retired membership in 1972, namely about 23% both for Fellows and for Associates. The rapid growth of the proportion of consultants was indicated by the fact that this figure had been 16% in 1964 and 9% in 1953.

Consultants also played a significant role in the non-life field in Canada and the U.S.A. The percentage among the non-retired membership of the Casualty Actuarial Society was about 10% in 1972, again being about the same for Fellows and Associates. Over the past two decades the proportion of consulting actuaries in the membership of the Casualty Actuarial Society had remained relatively level.

The author had not presented data of the number of different consulting firms in the U.K. and the relative sizes of their staffs. The table showed the distribution of consulting firms in Canada and the U.S.A. according to the number of actuaries in their employ (both Fellows and Associates) as of mid-1972 (see page 91).

It was noteworthy that 56% of the firms were one-man businesses. On the other hand, 60% of the consulting actuaries were in the 10% of the firms which were the largest (over 10 actuaries). In fact, the three 'giant' firms had 48, 53 and 59 actuaries respectively, or 21% of the total consultant actuaries (numbering 778).

<i>Number of Actuaries in Consulting Firm</i>	<i>Number of Firms</i>
1	105
2	27
3	16
4	6
5	6
6-10	7
11-15	6
16-20	5
21-25	3
Over 25	5
Total	186

The author had painted a glowing picture of the general prospects for consulting actuaries in the U.K. He considered that many opportunities would probably open up in the U.K. as trade unions became more concerned with the fringe-benefit aspects of remuneration. In North America, a number of consulting actuaries worked directly for labour unions. Although some firms tended to specialize in that area, none did so completely.

It could be argued that truly professional actuarial work should not involve the actuary playing the role of adversary in any bargaining between labour and industry. Yet it might often be, or at least seem, essential for each side of the bargaining table to have its own professional advisers. Different assumptions about the long-range future were tenable, and so there was room for difference of opinion. Then, too, it was possible that labour might feel that actuaries, being highly-paid professional men, would tend to favour the 'monied interests'. He hoped that that would never be the case in the giving of professional advice, but he could well understand how people could have such feelings.

Consulting actuaries in the U.K. would have important work to do in the non-life field in the future. That would be so particularly because the importance of actuarial work in that field was now being more fully recognized, and it would take a long time for companies to develop their own qualified actuarial staffs.

If there were a closer supervision of pension funds, whether in the U.K. or in North America, consulting actuaries would have much additional responsibility and work. It was noteworthy—and, he believed, praiseworthy—that actuaries had often opposed legislative efforts for more governmental supervision on the grounds that it was unnecessary, even though more work, and thus remuneration, for them would inevitably result.

Other fields where consulting actuaries in both the U.K. and North America would, or at least should, play a major role were in connection with damage suits and measurement of investment performance. It was dismaying to see the haphazard way in which the amounts involved in damage suits were determined under the judicial procedures that had been followed in the past.

For some time to come there would be challenging and interesting opportunities for actuaries to serve in overseas assignments. That, however, would probably be a relatively short-term operation. As developing nations matured, they would be able to provide their own trained actuaries from among their own citizens. In the meantime, those actuaries who were so fortunate as to participate in such work had great opportunities for service to mankind. One ethical problem was worthy of note: charges should not appear excessive to those nations in the light of their general earnings levels, but at the same time remuneration should be consistent with earnings levels in the actuary's home country.

Another challenging area would be the relationship with other professions, particularly with accountants. In the U.S. the accounting profession had expanded its responsibilities in the fields of insurance and pension plans. Some accountants seemed to believe that they should prescribe the assumptions and even the general valuation concepts. The actuaries in the U.S., as a result, were vigorously attempting to clarify and delineate their role and responsibilities in

those areas where only they had competence. It was to be hoped that co-operation between actuaries and accountants would be achieved so that the public interest would be best served. Perhaps British actuaries should consider more closely what had been happening in the U.S., to be better prepared in case British accountants became more interested in such matters.

Perhaps the most difficult problem currently facing actuaries in North America was the question of professionalism and independence. From what the author had said, that was not a problem in the U.K. and that was most fortunate. Some people in North America felt that an actuary employed by an insurance company could not be truly professional and independent and that, therefore, any audit of the insurance company should involve a consulting actuary. Others, however, asserted that the in-house actuary could and did rise above his 'employee' status and would truly function as an independent professional with a significant loyalty to the policyholders, and not merely to management.

Certainly, if the author were correct in what he stated were the attributes of the actuary (and he heartily agreed with him), then the actuary could and should serve as an independent professional regardless of whether he was an employee of an insurance company or a consultant. However, if actuaries could not convince the public of their independent professionalism, then they must, in good grace, agree that no harm would be done (other than the additional cost to the insurance company) if a consulting actuary were brought in to review the work of the in-house actuary, in the preparation of the valuation of the company.

Mr J. A. T. M. Brans (Chairman of the International Association of Consulting Actuaries) was very happy that one of the two main subjects at the 125th anniversary of the Institute had dealt with the role of the consulting actuary in the field of actuarial practice. That choice was a typical example of British tolerance and intelligence, that wonderful mixture of feeling for tradition combined with an open mind for the necessary changes due to the progress of time.

Referring to paragraph 24 of the paper, for many years the recognition of foreign chartered accountants and actuaries had been the subject of study in the national organizations of both professions, although without complete success. In some countries the chartered accountant's certificate was not only a statement for the management of the company but also for the individual policyholders and for the government. The situation was similar with the actuary's certificate; all in relation to written or unwritten rules of conduct and ethics.

Whereas a chartered accountant often had to certify the whole balance sheet and profit and loss account, it was not possible for him to make an exception for the most important amount on the right side of the balance, the premium reserve although he had not the knowledge of the actuary for that amount. There was a similar problem for the actuary in so far as he was not wholly expert on the left side of the balance sheet; nor was he an expert in the field of organization and control in the non-actuarial fields. Therefore the only solution was close co-operation between the actuary and the chartered accountant which led to a common responsibility and certification for the total balance sheet and profit-and-loss account. This was very important; both actuary and accountant were experts, and besides their own tasks of control and advice, they had the task in common of informing the company about its continuity. They had to do that together. Actuaries and accountants should respect each other's knowledge and responsibility. Too often the actuary saw the chartered accountant as the book-keeper who could not enter the holy house of actuarial mathematics, whereas the accountant saw the actuary as a mathematician with a shortage of knowledge of economics and control. In reality, as so often in life, the truth was in the middle.

He hoped there would be an evolution leading to a common certification of balance sheet and profit and loss account by chartered accountants and independent actuaries.

Mr J. C. Maynard drew attention to a developing experience in one of the provinces of Canada of which discipline had been one ingredient. It certainly touched on the consulting actuary, and he thought that a brief outline of some of the main points would be of interest.

In the early 1960s, the Province of Ontario and its Government had decided to undertake the

supervision of private pensions. They were concerned that private pensions were not providing paid-up benefits for people who changed employment, and so were not fulfilling their purpose. That had led to compulsory vesting and to compulsory measures for adequate funding. There had been good working relationships among actuaries, representatives of industry, and government. Legislation and regulations were introduced which left the actuary free to make valuations subject to stipulated maximum periods in which to meet past service liabilities and any experience deficiencies which might arise.

The problems of meeting those requirements together with those arising in individual plans had been quite difficult. The demands on actuaries increased quickly and some young actuaries found themselves dealing with the problems without a great deal of experience behind them. The Ontario Pension Commission became concerned with the quality of the valuation reports in a few instances, and invited the Canadian Institute of Actuaries to set standards against which actuarial reports could be tested and measured. The question was examined in committee for over a year and the conclusion reached that no single or simple solution would work, but that a whole range of measures should be taken, for example:

- (i) a revision in the wording of the actuary's certificate;
- (ii) additions to the guides to professional conduct;
- (iii) facilities for review of an actuarial report by a committee if requested by the actuary;
- (iv) continuous surveys of valuation assumptions;
- (v) presentation of papers and discussions on current topics;
- (vi) stricter disciplinary measures.

Steps were being taken in each of these directions. In the matter of discipline, the Canadian Institute would investigate complaints under the terms of its Bye-Laws.

Dr P. Johansen remarked that small countries like Denmark had hardly any full-time consulting actuaries, so that the work that had to be done was done by younger people from insurance companies who were allowed by their management to work part-time in various consulting jobs. The remuneration of younger actuaries when he was young (some 40 years ago) had been very small, so they had been very happy to find consulting jobs to add to their incomes. It had been no problem to find company-employed actuaries for evaluating private pension funds. That was typical work for consulting actuaries, and official actuarial valuations, according to supervision laws, had to take place at least every three years. Actuaries in Denmark had had no serious problems with their integrity in relation to the companies where they worked and as the trustees of the pension funds. He had always pointed out to his clients that there might be, although unwillingly, a bias caused by his employment by his company.

In consulting practice he had met several problems outside pension fund work. For many years he had worked as an actuary for a group of fire insurance companies, handling their risk statistics and premium systems. That had been for him a most thrilling experience with an unknown aspect of insurance business. That application of actuarial methods had led him into the fertile fields of actuarial work outside the classical application, and he had soon found out that a few colleagues in various other countries were interested in the same problems. Recently after mergers between Danish assurance companies, some companies had become so important that they employed full-time actuaries on their non-life business.

Mr J. C. S. Hymans wondered whether they were right in thinking that because a man was paid by fees he was necessarily unbiased. If he were a young, or perhaps not so young, very ambitious consulting actuary, he might from time to time tend to give biased advice either in order to get a client or keep one.

He had felt for the past 20 years that actuaries in the U.K. would be able to give a very much better service if they could, as consulting actuaries, form firms which had other professional men who could give unbiased advice in accountancy, law, statistics, etc.

He had been very interested to see in paragraph 40 that partners in larger firms could have

more time to do chargeable work for clients. He would be very happy indeed to be able to have 66% of his time chargeable to clients.

As examples of other activities of consulting actuaries, he had been involved over the years in statistical research, design of experiments, surveys, and doing projections where actuarial techniques were used, for example, to help in forming recruitment policy. There were many odds and ends that came into the consulting actuary's office that did not always get a lot of publicity.

With regard to paragraph 43, often when a pension fund was being started, the actuary was in contact with the board, but after a while the pension fund was relegated to the company secretary or to the accountant. Frequently the actuary was then regarded as a chap who just did sums, and he never saw the board at all. That was very difficult to control. It was not true to say that the actuary was always in the boardroom.

Mr C. D. Sharp endorsed what Mr Hymans had said about independence. Everyone was familiar with the Normal curve, and he suggested that it also applied to matters like probity. For a consultant to stay in business he had to be a businessman. Integrity was not confined to professional men and they all had different sets of values which they employed in different circumstances. Unless that was recognized judgments would be distorted.

The importance of the professional attitude had been brought out during the previous day. That attitude was part and parcel of an actuary's training which gave him a special position in dealing with commercial and similar matters. He had an independent set of values which he could use to determine whether the commercial aspect was going too far.

Actuarial certification was an area under the new Social Security legislation that actuaries were going to have to meet very shortly and it was liable to bring some very difficult problems. Quite apart from individual certification for pension schemes there was another aspect, and he drew attention to paragraph 12 of the paper which said that the consulting actuaries had to make special exertions in some cases to protect the interests of policyholders against entrepreneurs ignorant of the niceties of long-term finance, or willing to exploit the advantage brought by being a little less ignorant than the consumer. Actuaries would be faced shortly with the problem of pension scheme recognition under the Social Security Act, and insurance companies would be used to obtain recognition for a very large number of schemes. If there were cases where the entrepreneur was going to try to take advantage of the ignorance of the consumer, then he suggested that that was a particularly dangerous area. Pensions were long-term business and the life company not only had to be financially secure, but it also had to be properly run.

Dr G. Heubeck had found the author's forecast of the future of the profession of consulting actuaries to be lukewarm. For two main reasons he was convinced of the growing importance of the profession. First, there was a growing use of mathematics in all the faculties, including economics, medicine, etc., where qualified decisions had to be brought more and more from quality to quantity. Actuarial science, being part of mathematics, was included in that trend.

Second, in Switzerland a law was being prepared to combine state pension and private pension plans. In Western Germany the Ministry of Labour was preparing a new law to improve occupational pension plans by vesting rights and conditions on early retirement. Additional legislation and regulations produced an additional need for advice and other actuarial work. Quality gave confidence. There was a saying about the State of Michigan: 'This is a fine landscape with a successful history and a wonderful future.' That could equally well be applied to the profession of consulting actuary.

Mr A. Knudsen referred to paragraph 41, where the author had said that in the last 50 years or so there had been a perceptible widening of the work of the actuary, and that about 50 actuaries were now working with general management problems outside the insurance industry. In his last paragraph the author had expressed the opinion that that did not necessarily lead to any

special change in the syllabus of the Institute. The speaker said he would find it a logical conclusion that more emphasis should be placed on the mathematical and statistical part of the syllabus.

Mr C. J. Cornwall joined in the discussion with some diffidence as he was not and never had been a consulting actuary. For consultants the interests of the client were paramount, and at one time or another he had been advised by half a dozen firms of consultants within the U.K. and by two or three in North America. It might be helpful to consider what it was that a client required from his consulting actuary, and whether he was likely to find it in the future.

First, the client looked for technical competence as a *sine qua non*. For so long as the Institute continued to award its Fellowship only on proof of the requisite skills and assisted the members, in its capacity as a learned society, to develop their knowledge and to keep it up to date, the client would not look in vain.

Second, the client must have confidence in the integrity of the actuary, and needed to feel assured that the client's interests were indeed paramount. In its capacity as a professional body the Institute maintained its code of professional conduct for precisely those purposes. Lord Boyd-Carpenter had expressed his confidence that the professional man did have a future and that the client need have no fears on that score.

Next, the client required a wide range of services from his consultant. He agreed with what Mr Hymans had said on that subject, and was also in full agreement with what the author said in paragraph 38 about multi-professional partnerships and in paragraph 22 about communications.

Then, speed. Very often a nearly right answer given quickly was infinitely preferable to a completely correct answer several months later. Examples were the negotiation situation described in paragraph 21 of the paper and the take-over situation described in paragraph 31. A solution to that problem must lie partly in a continuation of the growth in the number of consultants, as shown, so far as the U.K. was concerned, by the table in paragraph 15 and illustrated, so far as North America was concerned, by Mr Myers' opening remarks. Such a growth should relieve the chronic state of overwork among consultants. There was also the development of computer programs, as suggested in paragraph 17 of the paper. In addition, there was a need for consultants to become more willing to make broad estimates. He had doubts whether emphasis on the view that corners could not be cut and that only one quality of advice was acceptable, as in paragraph 37, was altogether helpful in that context.

The client might or might not want to be told what to do, but he did want advice. In other words, he wanted his consultant to explain to him in a way he could understand how the technical basis was chosen and what was its relevance to the pace of funding. That posed difficulties because the well-informed client would want a discussion in depth, while the less sophisticated client would need a much simpler explanation. The client would want the consultant to take account of his own views and needs with regard to the pace of funding, and yet the consultant must not abandon his professional principles. The consultant had to overcome the image he often had of recommending an excessively cautious approach, and yet he had to continue to command the respect of the scheme members. The speaker wondered how consultants managed to resolve those difficult problems as well as they did, but there seemed every reason to hope that successive generations of consultants would be able to follow in the footsteps of their predecessors.

Clients would often prefer to consult a local man, in a phrase their 'friendly neighbourhood actuary'. The list of consultants maintained by the Institute—counting the branch offices of a firm separately—showed 16 firms in London and the Home Counties, and only four in the whole of the rest of England. The list also showed three offices in Scotland, two in Ireland and none in Wales. Finance directors and company secretaries in the provinces were often suspicious—perhaps rightly—of the man from London. Pension brokers could easily be found in Leeds, Bradford, Nottingham and Leicester, and there was no consulting actuary within many miles of those important industrial centres. Was it any wonder that employers there, who had perhaps never met an actuary, were quite unaware of the services which he could provide?

Was it too much to hope that consultant firms would establish more branch offices in such areas and lose some of their present metropolitan image?

Mr J. H. C. Jansen saw reflected in the paper much of the experience he had had in the Netherlands as a consulting actuary during the last 10 years.

He would particularly like to underline paragraph 33 which referred to Britain's entry into the European Common Market and the possibility of good contacts being made with firms of consulting actuaries.

Regarding the communication problems mentioned in paragraph 23, he would like to comment on the role of the employee representative on the board of a pension fund. Two years earlier he had had a client with a self-administered pension scheme. The extra reserve was growing very fast, and something had to be done. He had made a report that either the pensions had to be raised or the premium lowered. Of the whole premium, the employer paid 60% and the employees 40%. Overall the premium could be lowered by 1% of wages. The president of the board of the fund, who was also the managing director of the company, had said when he had read the report: ' $\frac{1}{2}$ % of wages for each of us; $\frac{1}{2}$ % for the employer and $\frac{1}{2}$ % for the employees.' He had thought he could arrange matters quickly in the meeting of the board, but one of the employee representatives had said: 'No, the pensions must become higher. I have explained this to all the members of our pension scheme'—and there were about 1,000 people—'that we lose your $\frac{1}{2}$ % if we say yes to your suggestion. You pay the same premium and we pay the same premium, and the pensions will become higher.' That had been the result of good communications between the employee representative and the members of the scheme. The employee representative had told him that it had been very difficult to convince his colleagues, but finally he had succeeded.

Nowadays there was in the Netherlands a new task for what was called the Company Council, chosen by the employees. Their new task was the approval of changes in the pension schemes for the employees. He had had occasion to speak several times to Company Councils, and he had found that that also was a very useful medium in which to communicate.

Mr T. G. Arthur wondered whether the primary expansion of consultancy would be in the employee benefit direction or in the mathematical direction. In the U.K., they might be forced to move further into the employee benefit field and become experts in all sorts of fringe benefits. Pressure could come from the attraction of a package deal approach and also from the need to know a little about other fringe benefits as well in order to give good pension advice. On the other hand, there was already a lot of competition in the employee benefit field, and it could be argued that an actuarial training did not give a specific advantage in advising on fringe benefits.

The other main strand was the mathematical one, and he had been delighted to hear the remarks of overseas speakers about that. Whether the Institute's syllabus was quite right or not, as managements became more scientific, there would be much scope for professional advice on mathematical and statistical matters. There was a surprising lack of professional advisers on statistical matters. Also, actuarial training had already equipped them fairly well for it.

From involvement in the measurement of investment performance, actuaries could be asked to screen potential investment managers for pension fund clients. Measurement of investment performance was only one element, and, perhaps, a not very important element in the choice of an investment adviser, but the level of sophistication employed in choosing an investment adviser was fairly low and actuaries might be asked to investigate measurement of performance and other qualities of investment managers.

Mr P. C. Bassett thought that not only did the actuarial profession need to review its relationships with the other professions, but that other professions likewise had an obligation to review their relationships with actuaries. Several years ago in the U.S.A., actuaries had had lengthy discussions with members of the legal profession as to the role of the consulting actuary in preparing plan documents, deeds of trust and tax material for pension plans. They had reached

an understanding. For example, the actuary's valuation report, which stated the amount of tax-deductible contributions was, in a way, a legal document. The legal profession did not object to actuaries stating what they believed would be the tax limit on company contributions.

The President of the Academy of Actuaries (Mr Miller) had established a working party in which leading accountants and actuaries would examine possible conflicts of responsibility. That was particularly important in the U.S. because legislation for private pension plans with much stricter regulations than in the past would probably be introduced by the end of 1974. The legislation would require the provision of certificates and would prescribe much more extensive duties. Currently the consulting actuary gave advice but could not oblige his client to accept it. The client made the final decision. If any of the proposed laws were passed, the position of the actuary would change. He would have to certify that a fund was sufficient for certain purposes. An accountant would have to certify as to how the assets of the fund were handled, and so on.

He thought that the professions should agree that actuaries and accountants could work together in one organization. There were already several actuaries working for accounting firms.

It had been reported recently in the *Financial Times* that accountants were to get together at an international level to work out some accounting rules. Actuaries would have to do the same and also devise ways of operating with the accountants and other professions.

The author had mentioned that some actuarial firms were having to employ other professionals and that that presented problems in the structure of the organization. One approach was to avoid partnership arrangements and for all staff to be employees. He would like to illustrate the importance of that by an example. A client of his wanted to do something further for several top executives. His client proposed to amend his pension plan to give the executives larger pensions. However, the speaker had realized that his client's problem was not one of pensions. What he had really wanted to do was to select individuals for a deferred incentive compensation programme, and that was not the speaker's field. He was not expert in deferred compensation, but pensions. However, within his own company there were professionals who were competent in the deferred compensation field, so he had arranged for them to meet his client. An executive deferred compensation contract had been chosen, and he believed that his client had got the best possible advice. He wondered what his client might have done if the other talent had not been readily available.

On the question of whether an actuary could do the best job for his client while working as an employee, he recognized that that worried some people who felt that the actuary might compromise his position. He had been delighted to hear Lord Boyd-Carpenter emphasize the fact that one's first responsibility was not to the organization that one worked for but to oneself, and then to the profession. Whether one worked for an employer or in a partnership on one's own, it was the profession that set the standard, and everyone could operate professionally in any type of organization. The actuary would give the best advice to his client as long as he kept the code of ethics and the standards of his profession in mind.

Mr G. W. Pingstone explained that his interest in the paper stemmed from being currently engaged in pensions activities on an international basis and in relation to multi-national companies. He had found himself in very close agreement with the author's appraisal of the various facets that he had considered in the light of his own experience. He felt quite sure, for example, that the author was right to say that the enlargement of multi-national companies would cause the consulting actuary to venture increasingly overseas.

He had been interested in the author's reference to the type of scheme that might evolve from negotiations with trade unions, and agreed that a career average pension basis which took into account inflation had great merits when one came to negotiate with unions. The final salary was not always the best basis for workpeople who might transfer from shift work to ordinary work, say, at age 50 because shift work had become too onerous.

He also agreed that consulting actuaries would find themselves called upon to devise offers designed more to save cost than to meet need, another facet which might not be familiar.

Pensions had tended to grow as a matter of goodwill, for example, but once a bargaining situation arose, they were treated as a right.

He had been a little surprised at the remark that, as pension fund coverage approached saturation point, it was to be anticipated that the consulting actuary would be drawn increasingly into the area of communications with employees. He thought that a communications problem had always existed when setting up or altering a pension scheme. When multi-national companies started up in a particular country, they made individual pension and similar arrangements for a handful of people. That handful grew until perhaps 20 or 30 people were provided for and possibly another 600 or 700 were not. Then a problem arose in persuading the original handful that what was being proposed for everybody did in fact satisfy each and every one of them.

The author had said that the Social Security Bill foreshadowed an eventual demand for closer supervision of pension funds. The President had made a telling point when he had said that life assurance companies had total assets of £15,000m. and that pension funds had total assets of £10,000m., so that, if life assurance needed supervision, so also did pension funds. The situation about legal compensation for damages was deplorable, and it was almost a national scandal that there were awards made in the courts without any proper regard, *inter alia*, to the needs or life expectancies of the individuals concerned.

He entirely agreed also with the author's remarks about the need for more activity to measure the performance of investments. There was a tendency to make investments and then not look at them afterwards.

In paragraph 31 the author had said: 'It is now less likely that the purchaser of a company overlooks that there may be a vast and inescapable liability for pensions towards which no adequate provision has been made.' That was only half the story; there was also the interest of the employees, who could be left high and dry. If trade unions became involved, they would want actuarial advice on their own side to see that their members were being properly treated.

He had been particularly interested in the suggestion about involvement overseas and of having itinerant experts to keep themselves *au fait* with conditions in every territory. There had been international links amongst insurance companies to try and meet that problem.

The author had referred to the establishment of branch offices overseas where the consulting work would originate. He made the point that it appeared probable that the bulk of the branch offices' references would originate from the U.K. parents of E.E.C. subsidiaries. Local consulting actuaries should be used where possible, but it would be the controlling management in the U.K. which would decide what subsidiaries were allowed to do, and their philosophy might differ from that of the local management employees or consulting actuaries. Considerable resistance might be met in various countries according to their particular social security situations, but the company in the U.K. might not be prepared to spend more than a certain amount, and might be indifferent to the local social security position.

Mr W. A. Dreher referred to paragraph 4 of the paper which emphasized the importance of the actuary giving advice on a personal basis. Others had emphasized that individual actuaries were assisted in that effort by the guides to professional conduct and by the ethical requirements set up by the profession. Although independence was not essential, it was influenced by one's sense of security, including economic security. He believed that, particularly as corporations and the other clients whom they advised became larger, the corporate form of private practice had definite virtues giving the support that came from having colleagues of skill and also the economic resources of the firm. In those circumstances the individual actuary could give courageous advice, knowing that his economic security was not hostage to the risk of losing that client.

Independence ought to focus more on the separation of the actuary from the products, the services and the implementation of decisions made by his client. Therefore, it would be hazardous to the professional probity of the actuary if he worked for someone, for example, who owned an insurance company, a unit trust or some other vehicle through which a pension fund or other employee benefit plan could be financed. Because of that, he was less concerned

about the form in which the actuary's compensation was received. It was an essential requirement that it be disclosed to his client and approved. The mere fact that a commission might be paid, as long as it was recognized as part of the total compensation received, did not mean that the judgment which led to the purchase of an insurance product was necessarily prejudiced. However, if the actuary only had one form of identification with a specific insurance company, he would view that with alarm.

Paragraphs 19 to 21 described a development in the U.K. with respect to collective bargaining. Many had been involved in that process, on one side or the other, in the U.S., and it was both a natural, and an important, extension of the actuary's talents. Everyone recognized that actuaries were forecasting the future and that meant that they might differ as to the long-term implications of a proposal to set up a particular form of benefit plan. As long as actuaries were functioning within the boundaries defined by sound practice, it was legitimate to have them on either side representing the combination of interests which their principals brought to the bargaining process.

In the U.S. it was not uncommon to have reached a monetary settlement and then to have to decide how to divide it between current cash and other forms of employee benefits, and often the actuary could be helpful in assisting his principal in that.

He was hopeful that the newly formed committee of the American Academy of Actuaries would be able to make progress with the accounting profession. But he thought they had got an uphill battle because already there existed two pronouncements from accountants which affected actuaries. One dealt with pension costs, on which he thought they had worked out a comfortable *détente*. However, with respect to audits of insurance companies there was an unfortunate precedent, which said that the accountant although urged to rely upon the skills of a competent actuary was, in fact, expressly denied the right to refer to the actuarial expert in the written expression of his (the accountant's) opinion on the financial statements. There would be national and local prohibitions to a single expression of opinion with the dual signature of the actuary and the accountant. In the U.S. there was a precedent for a dual certificate where the actuary and the auditor could separately release their opinion with a proper expression of reliance upon the other in areas of their particular competence.

Perhaps, as had been mentioned, in view of the accountants' recent action to form an international consortium to study matters of accounting practice around the world, the present would be a suitable time for the President of the Institute of Actuaries to take the initiative in suggesting at least some informal international co-operation among actuarial bodies.

In respect of the role of the actuary in the investment process, it seemed natural that the actuary's initial involvement with investment matters should be from the mathematical side, effectively measuring and monitoring results, and some excellent work was being done in the U.K. which would be useful to Americans. Also, the U.K. had led in terms of the actuary's involvement with investment analysis and portfolio management techniques.

In the U.S. some actuaries had become involved because a number of stockbroking firms had been offering to select investment managers as well as to measure and monitor investment performance. The actuary clearly had a role to play in that, and he hoped that that would be recognized. He thought actuaries could assist their clients in filtering out the less attractive investment policies and the less desirable suppliers of investment services. They should venture into that new area of service, but with caution.

He favoured a type of firm which combined actuarial and other disciplines; his own firm employed a chartered financial analyst. Each learned from the other and both did a better job through the exchange of ideas and an understanding of the other's professional principles and standards.

They should not lose sight of the fact that profit was essential if consulting firms were going to be viable in the future. They had to find a blend of respect for high professional standards and a means of seeing that they were adequately paid in order that they could continue to grow, finance research activities and meet client needs.

Mr E. A. Johnston remarked that, in a discussion of the work of consulting actuaries, it was natural to speak mainly of the private sector, but he would like to say a few words about the public sector in the U.K.

The remark quoted in the paper attributed to Watson, that he saw no future in actuarial consultancy was, in retrospect, not only incorrect but ambiguous. Having sold out his private practice Watson had entered the Government service and found that the Government Actuary's Department was very like a consultancy. Broadly speaking, the work had fulfilled and still fulfilled all the requirements of a consultant mentioned in paragraph 4, except for the last one, which the author regarded as helpful but not essential: there was not a wide range of unrelated clients. It was possible to maintain an independent consulting position for two reasons. First, there was a general acceptance in the U.K. by Government and by the public of the position of the Government Actuary as an independent professional man. Second, many of the matters with which he was concerned were matters of public interest on which formal reports had to be made, laid before Parliament, and so on. That put the Department in some ways in a slightly different position from the private consultant in that its work had to be viewed by the public and by those who were strenuously opposing its clients' actions.

There were two particular features in the public sector which he would like to mention. One was that they were very much concerned with relations between the Government and the private sector in matters where actuaries were concerned. That was something which he expected would increase in future. He took, as an example, insurance companies. His audience had heard the previous day about the complicated actuarial returns and information which insurance companies had to make public. He had often wondered what the public made of those returns. However, the sort of actuarial scrutiny given to them by the Government Actuary's Department did more than just serve the direct needs of the Department of Trade and Industry; it also buttressed the position of the company actuary and enabled him to play the role for which he was cast in the British system of insurance supervision. Both Mr Sharp and Mr Pingstone had referred to other areas which might in future cause some concern.

His other point was that the Department did a certain amount of work, particularly on superannuation, which was exactly similar to work done in the private sector, and that had the priceless advantage that those who were advising the Government were fully aware from their own day-to-day work of the sort of problems which faced their private sector colleagues.

There had been very few references made to relationships with statisticians. Contact with the statistician was the most common interprofessional relationship in the Government service, and he suspected that it might become very much more common in the private sector also.

Mr H. de G. Laurie claimed to have covered all sides of the field. He had had two pension funds that he advised privately, he had become the investment manager of a life office, and had ended up being a merchant banker advising pension funds. He had concluded that it was essential that the actuary should take as active a role as possible in investment advice to the fund so as to bring the various aspects together, and in particular to be sure that not too short a view was taken of investments.

He doubted whether stockbrokers were good advisers for pension funds, since they tended to take a rather short view and measured their success in a matter of months, whereas actuaries thought in decades. He thought that the measurement of investment performance required much more study. In his opinion, investment results could only be measured by the return on the investment in money terms and not in market values.

Mr S. I. Kiga had been in London 40 years earlier to study actuarial theory and practice, at which time it had not been possible to study actuarial science in Japan. However, there were now fairly well organized facilities for newcomers to study the science in Japan, including opportunities for Asian students.

At the London Congress in 1964, he had submitted a report on pension schemes in Japan, saying that they had started a tax-free pension system the previous year, and that very little business had developed at that stage. Since then several thousand pension schemes had begun in

Japan. However, it still seemed too early for many consulting actuaries to exist in Japan. At present, most firms relied entirely upon life assurance companies or trust banks which undertook to plan the scheme and calculate the costs. There were no actuaries who were working for the benefit of the firms, which he thought was rather an undesirable situation, but he was certain that firms would realize the need for consulting actuaries who would be willing to work on their behalf.

Mr A. M. Parker felt that consulting actuaries had done an enormous amount of good for the image of actuaries in general, who, as a result, were better known by the public than they used to be. They had an excellent reputation, and that was largely due to the consulting actuaries who were in touch with the public.

On the previous day there had been a consensus in favour of consulting actuaries becoming companies with limited liability. The S.E.C. in the U.S. had at present an action against the biggest firm of stockbrokers for having given what the S.E.C. considered to be incorrect advice. Consulting actuaries gave advice, so that whatever the present law might be there was the risk that they could be sued for damages arising out of advice which might be considered incorrect.

There was a general feeling that advertising by actuaries was no longer improper. Advertisements could be of great use to actuaries, and they could be of great use to the community, which was much more important. Advertising would bring actuaries into close touch with the public, much more than did the public relations publicity currently used.

He thought that the author had been a little hard on the entrepreneur. Occasionally an actuary did become an entrepreneur, and, with the training that he had, integrity remained unchanged. Such an actuary might look at his entrepreneurial activities by saying: 'What is good for my clients? What is good for my consumers, whatever the product might be? If it is good for them then, all being well, it will be good for me.' Surprisingly, perhaps, that was the attitude adopted by a lot of companies.

On the future of the consulting actuary he had discovered as an entrepreneur that an actuary could put his qualifications and experience to very good use in three fields. Investment had already been mentioned. He was very sceptical indeed about almost all investment advice, but certain actuaries who had studied the subject could and did give very good investment advice. The other two fields were selling and advertising. Selling seemed far removed from actuarial work, but an analysis of selling methods, ways of paying commission, and so on, would show that statistical actuarial techniques were involved. The same was true of advertising. There was a very big future for consulting actuaries in those three fields.

Mr M. Lander referred to paragraph 29, where the author had spoken about the minority of actuaries who were active in giving investment advice in the fullest sense of that term. He was one of that minority, and he thought that the paragraph contained a *non sequitur*. It was a matter of opinion whether the alleged minority who gave detailed advice, or the majority who did not, had reached the right conclusion. However, he did not think the reasons could be those which were set out in paragraph 29. Stockbrokers, merchant bankers and others who gave advice had their research departments, but in very many cases the people who gave the advice were not the analysts who actually did the research. The people in contact with the client who were advising what to buy and sell and how to implement the investment policy were using, in most cases, the results of the analyses carried out by their own and, indeed, other departments. A consulting actuary who entered that field was in precisely the same position. It did not matter whether the analyst was situated inside his own office or not provided that he had access to his results, which, of course, he had, and on a wide scale. Therefore, he could not accept that as a valid reason for actuaries not to give individual advice.

Paragraph 30 had started with a value judgment on investment performance measurement. He queried that judgment. It was probably fair to say that in the U.S.A. the measurement of portfolio performance had gone a good deal further than in the U.K.; there were firms and organizations in the U.S.A. whose entire function it was to market and sell the measurement of

portfolio performance. Those firms and companies would not invest money under any circumstances, because it was not their job to do so: they only measured performance. Was that desirable? Recently he had attended the annual general meeting of the Society of Actuaries in Florida, and one of the meetings had been on the measurement of portfolio performance. He had been asked to speak, but before speaking he had asked those present to raise their hands if they had ever had to invest a dollar and decide what stock to buy. At that large gathering only two hands had been raised, so he had begun by saying that he had suspected from listening to the discussion that that would be the case, because those who actually had to invest took a different view from those who were merely trying to measure what others did.

His own attitude could be summed up by a quotation in *The Actuary*, which said: 'This is an attempt to measure the unmeasurable in order to prove the unprovable.' Nevertheless, he readily admitted that they must continue research and see if something useful could come out of it.

Referring to paragraph 37 on professionalism and commercialism, the important factor was not the sort of organization adopted or whether remuneration was collected in a particular way; it was what the consultant did and how he did it that was important, and adherence to the best traditions of the profession. Of course, rules were necessary; the Institute had changed its rules on professional conduct quite a bit in recent times, and he thought that it would have to change them further, because what was going on in the outside world had to be recognized. In the world of pensions and employee benefits generally, there were other people operating who were not actuaries. The pension situation in the U.K. was unique when a comparison of the actuarial profession with other professions was made. There were other powerful, well-organized and competent organizations operating. No other profession had a comparable situation to that. Increasingly, clients valued the idea of getting a package deal. They wanted to go to one place where they could get advice on a variety of topics. It was not the slightest use for actuaries to say that they were only good at doing a particular bit. They had to move in the other direction and change the rules if the changing circumstances of the times seemed to indicate that that was in the best interests of the public. The rules of professional conduct in any profession fell into two categories: either they were there to protect the public or to make life more comfortable for the practitioner. He approved the former and decried the latter.

Mr E. S. Knight felt that the paper suggested that there was a difference between the employed actuary and the consulting actuary. From the Institute's point of view there should be no difference because it insisted that all who practised should give high quality, independent professional actuarial advice. The employed actuary advised one client, whereas the consulting actuary advised a number of clients. However, if an employed actuary wanted to vie with others in his organization for non-actuarial positions, the Institute was not concerned; he was competing for positions of management not associated with giving actuarial advice.

In Australia over the past 10 years there had been a rapid growth of new life insurance companies, which had been introduced under the control of the insurance commissioner. That had given actuaries, particularly consulting actuaries, considerable experience in the anatomy of life insurance business. Numerous projections had been called for not only from the new offices but also from the older offices, and with knowledge thus acquired he could see why Mr Plymen, the previous day, had asked for more information. It was possible, with some of the powerful computer programs available, to pick up each contract individually and value it, and with that information (as the sole stock-in-trade of a life insurance company was money and investments) it was possible to determine exactly the financial position of the life insurance company, including the amount of its free reserves. Further useful information would be the source of its business and full details of its assets. That information would provide an ideal hunting ground for entrepreneurs waiting to take over or liquidate life companies and for the amalgamation of life companies, if allowed by the government.

The author had referred to the intervention of unions in regard to superannuation. Mr Knight thought that blue-collar workers had not been greatly concerned with superannuation hitherto, to provide moneys after their retirement, because until relatively recently they had not been able

to earn enough money to provide a reasonable standard of living whilst they were employed. However, with increasing affluence, the blue-collar workers appeared, through their unions, to be on the brink of changing that. Tremendous activity would be provided for actuaries by the change provided they recognized the real problem. It was not 'what sort of life insurance contract should we have?' but rather one of goods and services, and 'how can the present generation of employees forego a portion of their earnings and then at some future time after retirement, and through investment, recapture an equivalent value of them?' Investment was the only known way, through life insurance and superannuation funds.

There was a tug-of-war going on all the time for larger shares of the community's goods and services between the workforce that produced them and the people who did not. The actuary was deeply involved because his main function was directed towards ensuring that long-term financial contracts would be honoured. At any point in time the volume of goods and services available to any community was fixed. If more money was given to those in retirement they could purchase more goods and services. That required the workforce to accept less and if they were not agreeable to a reduction they usually went on strike. As a result, the workforce was given more money, costs went up, and unfortunately the poorer retired people were generally worse off than they had been before. The main task of the actuary was to make the investment system work.

Mr R. W. Abbott, in closing the discussion, said that it might be thought that the problems of consulting actuaries who, even now, numbered less than one-tenth of the total number of actuaries in the U.K. might be of small interest to the membership at large and of smaller interest still to the many distinguished actuaries from overseas. That was evidently not so.

Interest in the paper stemmed, he believed, from a recognition of the fact that whether they were life office actuaries, consulting actuaries or actuaries in the wider field they were members of one profession, and the problems of each were the problems of all. For that reason he would not spend time in attempting to define a consulting actuary or to amend the author's definition, as Mr Johnston had done. Mr Johnston, the Government Actuary, had made a powerful claim for consultant status on behalf of himself and his firm! The plain fact was that every actuary carried a consulting actuary's computer in his knapsack, and there were many examples of life office actuaries who, on retirement, had made a brilliant second career for themselves as consulting actuaries. Perhaps, therefore, they should encourage Mr Kiga to return to Japan with the author's statistics in his pocket. If 4 consulting actuaries could grow to 140 in the U.K. in 75 years, then the growth rate in Japan could mean that they ought to have 140 consulting actuaries there in, perhaps, four years time!

All the discussions during the Assembly had had the underlying theme of the role of the actuary, as a professional person, exercising his craft in the manifold tasks entrusted to him. His conviction was that the term 'professional person' was the essential one. Mr Cornwall had given consulting actuaries full marks for integrity, even if rather less than full marks for celerity. Mr Gilley was in no doubt that in order to serve his client properly the actuary must be both protected by and subject to the discipline of his professional body. He must be protected from the pressures of commercialism. He must be supported and strengthened by the formulation of a strict code of professional conduct. Messrs Hymans, Sharp and Dreher had all commented on that matter, and he thought that they would probably agree that the forces of naked commercialism did not produce the best advice. Those forces produced only the cheapest advice or that most congenial to the client. An actuary, like any other professional man, had often to give his principal unwelcome advice, and that was particularly true in the area of pension fund financing. If they allowed commercialism to enter into their relations with each other they would thereby fail to honour each other as common members of a profession and the public would cease to honour and to trust them. If the public could not trust them, it could not benefit from the advice actuaries gave.

These points were worth making because it sometimes seemed to him that the forces of commercialism were in the ascendant. Mr Myers had said that the author had painted a glowing picture of the general prospects of a consulting actuary in the U.K. Dr Heubeck, on the other

hand, had pointed out that paragraph 38 suggested the glow of a sun setting on a glorious past, immediately before the night of commercialism descended. That need not happen, and he thought the value of the forecast in the paper was the value of all forecasts, namely that the act of forecasting helped to bring about the desired developments.

It had been fascinating to hear Mr Myers' and Mr Dreher's comparison of the role of the actuary in North America with that of his counterpart in the U.K. They and Mr Bassett had reminded them that in North America relationships with the accountants had been, and were, uneasy both in the life office sphere and in the sphere of pension fund financing. They had heard the previous day about Generally Accepted Accounting Principles and the gulf or rather the GAAP that sometimes seemed to separate the life office actuary from the accountant, particularly in North America. Mr Brans had told them that consulting actuaries in Holland had difficulties with accountants. They could all agree with Mr Brans that co-operation rather than competition should be their guiding principle, and they should all recognize that accountants, like actuaries, were seeking to fulfil their responsibilities. The real problem was to determine the dividing line between the responsibilities of the accountant and those of the actuary.

In the U.K. a happier state of affairs could be reported in regard to the dialogue between the two professions. Meetings had taken place with representatives of the Institute of Chartered Accountants, and they had been cordial and co-operative. He had little doubt that accountants and actuaries in the U.K. would continue to work together both individually and at the level of their respective Institutes with due regard for each other's problems and duties. The only difficulty that might get in the way of such co-operation would arise if the Institute reduced its standards of professional conduct to the point where other professions, such as accountants, felt unable to rely on the professional independence and integrity of actuaries. If they were to talk as equals, they had to behave as equals.

Mr Myers had also referred to the view of some in North America that the work of an in-house actuary ought to be verified by an independent consulting actuary. That question had been examined closely by the Hilary Scott Committee which had been set up by the Secretary of State for Trade and Industry two years before and to which reference had been made on the previous day. The Committee's brief had been to consider the protection afforded to holders of equity-linked and property bond policies. In paragraph 82 of their report they had concluded that a general requirement that life companies which had recently been authorized or had undergone a change of control should employ an independent consulting actuary would not be justified. They had reached that conclusion in the belief that an actuary employed by a life office would act as a professional person despite his status as an employed person.

Mr Myers had also drawn attention to the relative absence from the non-life field of actuaries, including consulting actuaries, in the U.K. Change in that area was proceeding slowly, but it did seem likely that, partly as a result of the collapse of the *Vehicle & General*, actuaries would become progressively more involved in the non-life area.

In the U.K. consulting actuaries were very much concerned in the life assurance field with the newer life offices. It was there that the pressures to capitulate to the demands of salesmen and management were greatest. They were fortunate in the U.K. to have the system that Mr Johnston had described of close co-operation between the Government Actuary's Department and members of the profession who advised life offices. The report of the Hilary Scott Committee had attached considerable importance to that system and had expressed the view that with such a system actuaries would resist undue pressures from management.

Mr Myers had also noted that consulting actuaries in the U.K. did not engage in the area of general management or in dealing with the administrative problems of their clients. Mr Parker also felt that they could do more in the management field. The speaker believed that to be true but confessed that those who practised as consulting actuaries in the U.K. were continually searching for answers to the questions posed by their own management problems. That was the consequence of their own rapid growth in recent years. In that connection, the table on page 88 was instructive. The figure of 66% as the proportion of time spent on chargeable work in 1972 by one large firm was exactly matched by the experience of another large firm in the first quarter of 1973. For Mr Hymans' firm, apparently, the percentage of chargeable time was some-

what lower. On the other hand, the 4% of time spent on administration given by the author was exactly doubled in the case of the other large firm to which he had referred. He supposed that all the figures needed to be taken with a pinch of salt, but it did not seem unreasonable that for every 12 partners the equivalent of one partner's time should be expended on administration. He congratulated the author if the firm to which he had referred could deal successfully with its administration problems on the basis that one partner out of 25 looked after them.

Regarding economies of scale of the kind implied in the paper, his own experience was that beyond a certain point growth involved a more than proportionate increase in administration costs. That was as true of a large professional practice as it was of a corporate enterprise. That was not to say that he, or any other observer of the North American scene, could view with equanimity the large number of one-man practices there. To whom did the actuary turn for a second opinion when there were no partners? Were there not considerable risks when a client could have recourse to law if he believed the advice given had injured him financially? At the other end of the scale, there were the three largest consulting firms in North America, with over 50 actuaries apiece. The three largest firms in the U.K. had as partners or professional staff between 20 and 30 fully qualified actuaries. There did seem to be a skew distribution of actuaries amongst firms and he wondered why the big got bigger and the small stayed small.

It could be said that the needs of the community for actuarial services were adequately met in the major countries in Europe and North America, but there were many parts of the world where actuaries were few and far between. The dilemma was that as the demand for actuarial work at home expanded it had to be met, and that meant that the needs of the under-developed countries suffered.

Mr Cornwall would argue that although they might be well known in Port of Spain, Trinidad, they were not very well known in Peterborough, England and he would wish them to shed their metropolitan image. He admitted that he was readier to make a trip to darkest Africa than he was to visit darkest England.

It was perhaps more to the point that they were identified in the public's mind, as Mr Myers had said, with Management rather than with the Managed. The image they needed to shed was that of understanding the problems of the employer more readily than those of the employee. There were difficulties in the way because very often in connection with pension funds it was not certain whether the employer or the trustees were their clients. It was becoming more common now to invite representatives of employees to participate in the work of trustees and committees of management in the U.K. That development would help actuaries to speak more directly to employees and to respond more sympathetically to their hopes and fears.

Mr Pingstone had commended the interesting work being done by consulting actuaries in the U.K. on the measurement of investment performance. Mr Dreher from North America, Mr Laurie from South Africa and Mr Lander from the U.K. thought that actuaries' investment services should be extended beyond those contemplated in paragraph 29 of the paper. Mr Pingstone would take heart, he imagined, from the fact that there had recently been established a Royal Commission on civil liability and compensation for personal injury, on which an actuary was serving. From that should come a better appreciation of the value of an actuary's services in that field.

Mr Hymans, Mr Dreher and Mr Arthur, whilst yielding to no one in their claim that actuaries should remain professional, thought that the boundaries of an actuary's work should be drawn more widely than they were at present. As he listened to them, there came into his mind those words that he used to sing when he was very young: 'Wider still and wider shall thy bounds be set'. He would like to remind them, particularly for the benefit of the overseas guests, of the following two lines which went: 'God who made thee mighty, make thee mightier yet.'

Applied to that part of the profession that practices in the consulting field, that might be thought to be an arrogant assertion. Applied to the profession as a whole, particularly on the occasion of their 125th anniversary, it seemed permissible.

Finally, he said he would like to remedy one omission from the author's otherwise comprehensive paper. It was a pleasant custom very often observed when papers were submitted to the

Institute to head the paper with an apposite quotation. The author had denied himself that pleasure, but he felt they should not deny themselves the pleasure of suggesting one. Perhaps they should go to the great Francis Bacon and to his *Treatise on the Advancement of Learning*, Book II, Chapter XXI: 'Men must pursue things which are just in present, and leave the future to the Divine Providence.' He offered that to the author as an epigraph for his excellent paper. Given that spirit, the future development of the consulting actuary's work could surely not be in doubt.

The President (Mr. Geoffrey Heywood) moved a vote of thanks to Mr Gilley, the author of the paper, to Mr Myers for opening and Mr Abbott for closing the discussion.

There were many aspects of the paper on which he would like to speak, but as time was getting on he would only refer to the table on page 88. There was another fairly large firm where he had some access to the figures, and while he did not think they were wildly different from those in the table, the last item 'Work done for professional bodies' was at present considerably greater than 4%!

Perhaps the most vital subject which had been discussed was that of accountants and actuaries. If the accountants should get the upper hand then the future for consulting practice would not be as great as he hoped. There was a somewhat unhappy situation in the U.S. and there was a danger that that might spread across the Atlantic. However, what they could do, and what they were doing, was to try to keep in closest touch with the accountants. It seemed to him not a very difficult problem. Accountants had a duty to perform, as did actuaries, and if they clearly recognized what their respective roles were then they should be able to solve their problems. He had made it his business to get to know the President of the Institute of Chartered Accountants well with a view to making it easier to reach a solution.

In replying to the vote of thanks, the author said that one thing which the sense of the discussion had impressed upon his mind was that the price of liberty was eternal vigilance. If they wanted to be left alone to do their own job in future in the way in which they could best serve people, they had always got to make sure that their own house was in order. The cornerstone of everything they tried to do was their personal integrity. However, it had been made abundantly clear in the discussion that personal integrity necessitated a willingness to take up issues which were presented. The most apparent one perhaps at that time was the accountants' involvement in actuarial affairs.

WRITTEN CONTRIBUTION

Mr A. N. Guertin: My discussion is developed against the same background as that described in my discussion of Mr Skerman's paper the previous day. That included the ownership of all the major stock life insurance companies in the U.S. either by conglomerates or holding companies formed for the purpose of permitting diversification in operations, accounting needs as a result of actions by the American Institute of Certified Public Accountants, the development of variable life insurance policies and the strengthening of regulations by State and Federal governments in the light of recent events. Mutual companies are also involved in the trend toward diversification through the formation of downstream holding companies. These permit acquisition of stock life and casualty insurance companies, broker dealers in securities, corporations operating in the real estate field and companies active in other non-insurance fields. Some subsidiaries so formed are engaging in actuarial consulting and providing general pension services.

Generally speaking, there are very few actuaries in the U.S. involved in the investment field. If they are, it is generally because of a specialty in that area and not as a result of their actuarial training. Recent trends will make necessary a greater understanding of corporate finance and will become a much more important element in the education and training of the actuary than in the past.

The formation of holding companies, the techniques required in connexion with the determination of earnings according to 'generally accepted accounting principles', the decision of the Securities Exchange Commission that a variable life insurance policy is a security, the forthcoming requirements that companies whose shares are traded on the stock exchanges must report according to 'generally accepted accounting principles', the decision of the insurance commissioners of the several States to extend regulation into some of the operations of holding companies, as well as other developments, have extended the need for formal opinions and certifications by actuaries very substantially. Such opinions and certifications are usually sought from independent actuarial consultants.

These developments place before consulting actuaries a much broader field than the traditional areas of activity such as the preparation of policy forms, the calculation of rates and the making of valuations, matters which have formed the backbone of the work of the consulting actuary over the years.

As in the case of the company actuary in the previous day's discussion, the education and training of the actuary of the future must be much broader than the study of actuarial mathematics. He must be well versed in the areas of corporate finance and management, he must be familiar with regulatory requirements, he must be prepared to take on very heavy responsibilities which involve the interests of general corporations, insurance companies, policyholders and shareholders in a much broader way than has been characteristic of his activities in the past. This means a large increase in personal responsibility.

That mutual life insurance companies are tending to acquire stock casualty companies, holding companies usually own both life and casualty companies and conglomerates nearly always own both life and non-life companies, means that not only the actuaries employed by those organizations become versed in all types of insurance; their consultants must also be familiar with the activities of companies doing all lines of insurance. Consulting actuaries, as well as their company counterparts, will need to have a much broader training. It is very likely that the actuary of the future will no longer be a life actuary or a casualty actuary. He will be an actuary!

He will be an actuary first. This could well mean the consolidation of the education of actuaries as a profession as such, and even the consolidation of educational and professional facilities in the future. In other words, not only could this trend be anticipated because of the needs of the in-house actuary, but also on account of the needs of the consulting actuary in the field.