

TRANSACTIONS

OCTOBER, 1965

ADDRESS OF THE PRESIDENT

VICTOR E. HENNINGSEN

DURING this year in which I have been so greatly honored by being the President of the Society of Actuaries, it has been my privilege to meet with eleven different actuarial clubs. At these meetings and at other times during the past year, I have been asked: "What is the most important activity of the Society of Actuaries?"

The Society of course has many purposes. Among them are furthering the development of actuarial science, the co-ordination of intercompany studies, and providing a forum for professional discussion. But, in my own ranking of our objectives, the administration of professional standards is paramount. A profession will be measured by its worth to society, to the employers of its members, and to the public it serves. Our worth will correspond very directly to the individuals attracted to an actuarial career and the education which they will receive, which comes in no small part from the work of our Education and Examination Committee.

And so my response to the query as to the most important activity of the Society has unhesitatingly been: "Its education and examination work."

As recently as two years ago, John Miller referred to the subject in his Presidential Address. Other actuarial bodies have placed this topic equally high in their priorities of interest. For example, the presidents of the Institute of Actuaries in 1962 and again in 1964 covered various aspects of the training, educating, and examining of British actuaries.

For my part, I propose to discuss the means of student education used by our Society; to introduce some questions regarding our educational goals for the future; to highlight the means, new and old, which may have to be employed to realize these objectives; and, then, finally to comment on our professional ethics.

In considering the training and the practice of actuaries, we often regard ourselves comparable with lawyers and accountants. But the day of the individual who "reads law" in an established office and then presents himself for a bar examination is long gone. The university law

school has taken over completely. Accountants, too, look to our colleges and universities for their education.

Though the development of actuarial courses in colleges and universities has progressed in the United States and Canada, none covers the full range of actuarial subjects as completely as some universities on the European Continent and in other non-English-speaking countries. In passing, it is of interest to observe that, of the Fellows listed in our *1965 Year Book*, 36 per cent were graduates of "actuarial schools" as defined by Carl Fisher in 1964. But the fact remains that no one envisions our Society turning over its educational activities to the colleges and universities as might conceivably be possible if our membership were at least several times what it now is with a corresponding increase in our student intake. Hence, there is no alternative to the Society conducting its own educational affairs. In this respect, our Society has a responsibility that is unique.

But this, by no means, should be taken to suggest that the Society cannot continue to educate its students and members to meet high professional standards. What we do envision is that more and more universities and colleges will unquestionably offer courses in probability, statistics, numerical analysis, data processing—all of which will give students better backgrounds on which to build actuarial careers. This in itself should help maintain high standards of competence within the profession. And this of course is our ultimate goal.

Now to introduce some questions regarding our educational goals for the future. Those of us employed by insurance companies work alongside lawyers and accountants. As a matter of fact, in many areas our activities overlap. It is recognized that the actuary generally has to have some competency in, or at least an understanding of, legal and accounting principles.

It is quite possible that problems related to these overlapping activities may become more acute in the consulting field, as has been observed by Carl Tiffany in a paper entitled "Actuarial Science: A Trade or Profession?" presented to the Fraternal Actuarial Association last spring. Indeed, there appear to be instances of accounting firms attempting to extend their activities so that they not only pass on the "reasonableness" of actuarial computations but make those computations themselves.

It would seem appropriate therefore that we as actuaries should raise the question as to whether this is wholly consistent with the "professional competence, ethical standards, and responsibility" of accountants. In other words, we not only have the continuing responsibility of educating our next generation of actuaries; we also have an obligation both to them

and to ourselves to preserve and improve the standing of our profession. This will be accomplished if we make clearer than ever that actuarial science is an independent discipline.

What is the nature of that discipline, and why do we sometimes seem to guard it so jealously? It may be well to reiterate here that the solvency of insurance companies and pension plans, public and private, is a matter that intimately affects the life of nearly every person in our countries. The relationship between those affected and those who manage the companies and the pension plans has come to be, through the expectation of the public, through law and through tradition, of a fiduciary nature. And, we think, rightfully so. In that situation the public can afford professional direction of the highest order of the insurance companies and pension plans and should get no less. While the states and the Congress have sought to guard these benefits through legislation and regulation, their sound management is still dependent in a high degree upon those who manage them.

These persons must include those who are trained and seasoned in the management of risk undertakings. Our experience has convinced us that risk management cannot be conducted by reference to a book of assumptions and formulas. Judgment is necessary, and it comes from intensive and extensive experience combined with a thorough understanding of the subject. This is no less true of the discipline of actuarial science than of any other discipline. This is, then, all the more reason why in the forefront of the objectives of the Society there should be, and is, the provision for the education needed to aid the development of that judgment.

The high degree of personal responsibility which our members have to their chosen profession, in their willingness to conduct a program of education and examination, is in itself both an indication and expression of professional excellence. We now have a total of 138 members, over 10 per cent of our Fellows, serving on the Advisory Committee and on the Education and Examination Committee, which is, for all practical purposes, the volunteer faculty of our Society's postgraduate school. Specifically, there are 9 members on the Advisory Committee, 11 Part Chairmen, 6 Committee Chairmen or Vice-Chairmen, 20 Consultants, and 92 other committee members.

As one might expect, the Examination Committee members are very largely recent Fellows, with 27 per cent of the new Fellows of the last five years now serving in this important area, with its heavy demands on time. In addition, there are also Society members not associated with the Committee who are assisting students by individual tutoring and by conducting classes sponsored by actuarial clubs.

Ours is certainly a unique organization when such a large proportion of our Fellows is engaged in voluntary efforts to educate and examine the next generation of actuaries. The history of our organization has indeed been that of a group which, having benefited from the services of its elders, repays that debt by assisting oncoming students. But this fine record of service is characteristic of Fellows of the Society.

It is gratifying to refer to the very sizable number of students now writing our examinations. In 1964 there were approximately 7,000 candidates compared with about 2,500 in 1954. The examination hours in 1964 totaled over 23,000 compared to almost 8,900 in 1954. This is an increase of about 176 per cent in number of students and 161 per cent in examination hours. This is the extent to which our student body has grown under our volunteer faculty.

In highlighting the means which may have to be employed to realize these objectives which have been mentioned, there are questions as to our curriculum and the make-up of our examinations. Have the examinations been reasonable? In 1963 for an outside appraisal we went to the Educational Testing Service of Princeton, New Jersey, for an exhaustive review of all our examination procedures. This organization is perhaps best known for its administration of the examinations for the College Entrance Examination Board but has also assisted many other organizations in this function and has aided us for some years in the preparation and grading of what is now covered by the first two Society examinations. ETS was most complimentary concerning our past practices as evidenced by the following excerpt from their report:

"The Society of Actuaries has developed a sound examination program, both in the substance of the examinations themselves and in the mechanics of their preparation and grading. This clearly reflects the ability and conscientiousness of the many actuaries who have served on examination committees over the year."

The report of ETS also made some specific suggestions with respect to changes in the type of questions employed and in the grading mechanics. These have been acted upon to the advantage of both the students and the members of the Education and Examination Committee.

The dramatic increase in education and examination activities points up the problem as to how long the Society can continue with, essentially, a volunteer faculty. As John Miller observed two years ago: "The Society is conducting a professional graduate school approximating in size the typical school of law and medicine." When we think of the faculties behind such professional schools, we may better appreciate the extent and signifi-

cance of the contribution of our Education and Examination Committee.

We should recognize that in the years ahead we will, in all likelihood, need to augment substantially our full-time staff to assist and co-ordinate the work of the members who will continue to be needed in our education and examination activities. This will present new problems for the Society, both as to the availability of qualified personnel and also as to the dues and fee structure to support them.

We are assured that the substance of our syllabus is excellent. But a characteristic of our times has been the great speed-up in the rate of accumulation of knowledge. For example, A. C. Monteith, of the Westinghouse Corporation, has described the consequence of the growth of new information for engineers in a dramatic statement: "A graduate engineer now has a half-life of about ten years—that is, about half of what he has learned will be obsolete in a decade." He goes on to add the foreboding thought that half of what the same engineer will need to know ten years from now is not available to him today.

Alfred North Whitehead stated the same problem in these terms: "The fixed person for the fixed duties who in older societies was such a godsend, in the future will be a public danger." What does this portend for the actuary of the future? What are the new fields of knowledge for the actuary? Will the educational efforts of the Society produce that actuary?

The new fields of actuarial knowledge are revealed by the modern development of the insurance product, marked especially by new thinking in the group area which has been well covered by papers and discussions in the *Transactions*. But the subject which particularly comes to mind is that of electronics. Actuaries led the way in the early days of EDP in pointing up the areas in which this equipment could be utilized to advantage and the general procedures to be followed. This was directed especially toward large-scale repetitious operations. With these in effect, the challenge is before us to extend EDP applications. In his Presidential Address in 1956, William Anderson, referring to the "Actuary and Operations Research," stated: "My review of the development of this new science has led me to the conclusion that we, as actuaries, should be giving it active and continuing attention."

What has occurred in the intervening years? The subject has been before the Society on several occasions. But have actuaries given operations research "active and continuing attention"? With all due respect to our Society Committee on Research, and those individuals who have presented papers or discussions, it seems fair to state that our members have not taken hold of this new tool to the extent that might have been expected. What can the Society do about this? Panel presentations, such

as will occur at this meeting, are helpful in broadening interest in the subject. But greater depth is called for. To this end, the Society might well sponsor a seminar or seminars on operations research much as it once did in meetings devoted wholly to the feasibility of EDP for life insurance companies.

Not all actuaries will become experts in operations research any more than all have been experts in graduation. But, without question, more actuaries should be working in this field. Does this suggest that operations research should be included in our required course of study? To me, that would be a distinct possibility and certainly not many years off. This, in turn, would call for other changes in our syllabus, such as substituting modern numerical analysis for finite differences and broadening the material on risk theory. All these are under consideration by our forward-looking Education and Examination Committee and our Advisory Committee, both working closely with our Committee on Research. We should not yield this very natural field of activity to others by default.

A negative response to the challenge of these new techniques will prove damaging to the position and potential of our profession. But, more to the point, there is the detriment to our employers and clients of encouraging the inefficient practice of setting narrowly trained specialists to work looking for problems that their tools are useful in solving. It would be better to have informed generalists seeking the best means for solving the most urgent problems.

Again, the Society, through our Education and Examination Committee, might well publish references on specific topics for our members as they continue their growth, for our own education is a continuing process. A recommended reading list for our Fellows would be both a convenience and a helpful stimulant. Among the topics might be the technique of executive control, presentation of ideas to others, modern trends in economics—to mention a few. Knowledge is a book which never closes.

How will actuaries of the future differ from those of the present and the past with respect to education and training? Certainly, as in the past, a strong background in the humanities will be needed. Communication skills will be more essential than ever. A stronger background of economics, accounting, and the fundamentals of law will be desirable. The mathematical background will place more emphasis on statistics and the mathematics involved in operations research. A thorough knowledge of the techniques of electronic data processing will be most important so that the actuary can take full advantage of the flexibility, speed, and breadth of computers in product planning. To obtain this degree of formal educa-

tion before the practical application begins, more students will undoubtedly acquire one or two years of graduate study before employment than is now the case.

Actuaries must continue to be the informed generalists they have been, seeking the best tools to solve problems which in all certainty will become more varied and complex than we know them today. Our educational efforts do have some limitations. We cannot, for example, guarantee that a Fellow will be an outstanding administrative officer of an insurance company. The qualities of leadership and decision-making ability are not determined solely by the training we offer. But we can guarantee that, as a minimum, a Fellow will have the background and the grasp of actuarial subject matter to perform staff, research, and advisory services in a most competent manner. Our professional standards must demand no less.

This brings me to my next topic, which is professional ethics.

Ten years ago in his Presidential Address, Walter Klem raised the question as to whether or not the Society should adopt a code of ethics. The outcome was the adoption in 1957 of a set of "Guides to Professional Conduct," which has since been printed in each edition of our *Year Book*. Also, the Society has since that time had a regular standing Committee on Professional Conduct.

This Committee, in light of six years' experience, recommended certain additions and changes to these Guides which were adopted by the Board of Governors. This new set of Guides was sent out several months ago by the President to each Fellow and Associate with a letter urging a careful reading of these Guides.

The revised preamble emphasizes that the enumerated Guides do not spell out the ordinary rules of ethical conduct that apply to all professional people alike. In these fast-moving days, highlighted by intense competition and natural desires for growth, it might not be amiss to look behind the principles and precepts which are the basis of these Guides. A book entitled *An Approach to Ethics* by Ethelbert Lovett, D.D.S., distributed by the Campus Book Store of the University of Maryland, is an example of what one professional school tells its students. Although this very readable text is directed specifically toward dentists, so much of it applies to actuaries as well that we would all benefit from a reading of this book.

Dr. Lovett brings out, among other points, that "judgment is the keynote of ethics." This is indeed the case in actuarial practice. Judgment comes with experience. The rightness or wrongness of some decisions which we make today will not be known for years. In some instances, this appraisal cannot be made within our own individual working years. Con-

sidering their significance from both time and financial effect, our decisions must be made from a cautious point of view, but at the same time we must be mindful that overcaution can become an excuse for lack of innovation.

The actuary most certainly has a responsibility and indeed an opportunity to play a strong positive role for the benefit of the life insurance business, or industrial pensions if he is a consulting actuary. Moreover, the actuary needs to have a healthy viewpoint as to what his company's objectives really should be. Are they simply to be solvent and grow rapidly? Or are they to provide the best quality of life insurance protection and to distribute it so vigorously that growth is a natural consequence?

We must in this light ask ourselves whether in the exercise of our judgment all our decisions measure up to high professional standards. For example, have we developed coverages that are superficially attractive and hence salable but fail to do the best job for the insuring public? Again, we know full well that the abuse of financed insurance led to a change in the federal income tax law. What have been our individual roles in making this law effective to prevent any further measure which would prove detrimental to the legitimate use of policy loans in situations for which they were intended and have served so well? Schemes for circumventing the intent of the present law, when viewed in light of tax history, seemingly invite more restrictive legislation.

How is our professional responsibility being discharged as we witness some of the rate-raiding going on when an existing carrier asks for a necessary rate increase? These practices, as very well pointed out in our own *Transactions*, reflect on the entire business of insurance.

All our activities call for personal judgment on the part of each member of the Society so that the professional conduct of each will redound to the credit of himself as well as all other members.

John Ruskin provided the Society with its motto. Perhaps he also summed up in one sentence what I have been seeking to say at some length about education and ethics, when he observed: "The entire object of true education is to make people not merely do the right thing, but enjoy the right things; not merely industrious, but to love industry; not merely learned, but to love knowledge; not merely pure, but to love purity; not merely just, but to hunger and thirst after justice."