

## TRANSACTIONS

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### ADDRESS OF THE PRESIDENT, RICHARD S. ROBERTSON

#### THE SAD STATE OF ACTUARIAL EDUCATION IN THE UNITED STATES

It is traditional for the President of the Society of Actuaries to speak on an issue that he or she perceives as important to the long-term future of the profession but which is not receiving adequate attention. Those of you who are looking for such a speech from me will not be disappointed. The topic I have chosen is the sad state of actuarial education in the United States universities.

Many of you are aware of the reductions or losses in actuarial staff at such traditional actuarial schools as Michigan, Nebraska, and Texas. Some may think we contributed to the problem by hiring Mr. Warren Luckner from the University of Nebraska to be Director of Education for the Society. Actually, Mr. Luckner had determined he was leaving Nebraska before we contacted him. We hope the staffing problems at these schools are temporary, but until they are remedied, this continues to be a symptom of the more general problem.

Dean James Hickman of the University of Wisconsin went through the 1986 Yearbook listing and was able to identify only nine Fellows of the Society engaged in full-time actuarial education and research representing eight United States educational institutions. In comparison, there are eight Fellows alone at the University of Waterloo in Canada.

It is true that there is a larger number of Associates teaching academic actuarial programs and that there are several good programs managed by Associates. But the Society has always taken the position that Fellowship is the measure of a fully qualified actuary. To the extent that the teaching of actuarial science is dominated by Associates, we are not contributing much strength to the academic effort. And we are not demonstrating to students and faculties our standard of a professional actuary.

The fact that our academic efforts are scattered among many schools with only one Fellow at each is a major weakness. To be most effective, academics need company—to trade ideas with, to encourage and support each other, and to help critique each other. Students need the opportunity to learn from the different approaches, philosophies, and backgrounds of their teachers. One person cannot cover the range of subjects a solid actuarial education needs. There are also operational economies that flow from larger programs.

Assuming that you agree that the actuarial programs in United States universities are generally weak, it is legitimate to ask whether this is a serious problem. After all, I did not receive any actuarial education in college. My father did not. Neither Mr. Harold Ingraham nor Mr. Preston Bassett, my successor and predecessor, respectively, as President of the Society, even knew what an actuary was until after they graduated. Probably 80 percent of practicing actuaries in the United States received no formal actuarial education while in school. The Society has a very strong and effective educational program outside the academic world. It is clear that academic actuarial education is not necessary for one to become an effective and professional actuary.

But that is not the whole answer. There are a number of substantial reasons a strong actuarial program in academic institutions is critical to the long-term strength of the profession.

While many of us have done very well with an educational program that is primarily self-taught, for most people, with most subjects, a directed program in an academic environment will provide a better education. We need to provide the most effective educational program we can for prospective actuaries.

A major criticism of our existing education program is that it is necessarily focused on the examination process. Too many students learn what is necessary to pass an examination rather than mastering the subject. Unfortunately, with the system we have imposed on the actuarial programs of universities, their programs tend to be judged by their students' success in passing the examinations. Ideally, a university program could provide a broader base.

More generally, our education program suffers because it was developed and administered primarily by people who are working full time in other capacities with little or no contact with the academic community. Yet, the actuaries in the academic world represent a valuable resource of people whose profession is education. Strengthening and using the academic branch of the profession inevitably would improve our education system.

In addition to our education system, the body of actuarial knowledge itself needs the nutrition that the academic world can supply. Academics look at problems differently than those of us in the practical world, and that difference in perspective can supplement, in a healthy way, the growth and evolution of the basic subject. In addition to the diversification in approach, the academic world gives us a bridge to other fields of knowledge that can contribute to actuarial development. The actuarial knowledge base cannot stand isolated from other academic subjects.

There is also a public relations aspect to this matter. One problem the actuarial profession faces in trying to influence public issues is the frequent difficulty of supporting our positions with substantial academic credentials. Congressmen and regulators have a high degree of respect for academic credentials. Even though the academician may be testifying on a matter on which he has little knowledge, we are handicapped if we cannot counter that testimony with knowledgeable academic actuaries. Employees of insurance companies or consultants to insurance companies or pension plans are frequently perceived as being motivated by self-interest. A stronger cadre of academic personnel to support actuarial issues would allow us to present our case much more forcefully than we are able to now.

On campus, the weakness of our academic programs leads many academics to question the strength of our profession. They do not see or understand the strength of our educational program. Consequently, they do not give our profession the respect it deserves. This hurts our ability to recruit attractive students into our program.

In summary, our actuarial system requires a solid academic foundation to effectively function as a true science. It is part of the difference between a profession and a trade. We have that foundation now. But, our lack of attention to the foundation is eroding it.

There is little that can be done to change the situation in a short period of time. But, here are some things that can be done to start us moving in the right direction.

The primary thing to do is to build an awareness that this is a problem and needs attention. The purpose of this speech is to help that process along. I am not the first to express concern, and I am sure I will not be the last. I do believe that if we can build a consensus that we need to devote greater resources to the academic aspects of actuarial science, we will have taken a major step to solving the problem.

We need to significantly increase the communication with actuaries in the academic world. Let me cite a few examples.

We are in the middle of a major restructuring of our education and examination program. Many people have worked very hard developing what we have. This program has had some input from actuaries in the academic world, but not much. We should have been more aggressive seeking academic help.

Communication is a two-way street. Professor Robert W. Batten of Georgia State University recently gave a speech at the Southeastern Actuaries' Club highly critical of the changes in the system. I am not going to comment on the merits of his criticism, but his timing is regrettable. To the extent his concerns have validity, many have been expressed too late for us to do anything about them. This project has been under way for over two years and has been widely publicized. In addition to several membership mailings, several of us have been speaking on the subject at local actuarial clubs. I, myself, was at the Atlanta Club several months ago. It would have been useful to have discussed the issue with Professor Batten much earlier in the process. Academic actuaries are going to have to take some initiative and involve themselves more greatly in Society activities.

During my term as president, I have accepted practically all the speaking invitations I received. I spoke on three university campuses, and found those experiences among the most rewarding of my term in office. If I had to do it over again, I would offer to go to more universities. We need to increase the number of actuaries on campus as another way of improving our academic communications.

One element of the educational changes under consideration would be to provide a limited program of credit for academic course work. To my thinking, the primary advantage of this part of the proposal is the benefit to be derived by the academic institution, not the benefit derived by the student. Properly designed, a program of academic credit could significantly strengthen actuarial education in the universities.

To accomplish this, we need to be very selective as to the type of programs that receive credit. If we are to give credit for anything past Part 1 or perhaps Part 2, we should limit the credit to programs that meet a very strict set of standards. Programs should be administered by, and probably taught by, Fellows of the Society of Actuaries working full time in teaching and research. Course content should meet prescribed standards, and we should have exacting requirements to determine who qualifies for a grade high enough to be credited under our program. Not only would this improve communications between the Society and the universities, but it would give us a much stronger influence in helping universities develop the kind of program we think is necessary to serve the profession.

A critical element in strengthening academic actuarial programs is financing. Here, there is a limited amount the Society can do directly. We do have some funds available through the Actuarial Education and Research Fund, through the minority recruiting program, and through other endowments the Society administers. It would also be possible to use some of our other programs to direct funds to universities. For example, we use paid lecturers in our continuing education program. Greater use of academic staffs would be a way of supplementing incomes of professors. We could also make greater use of financial grants to develop educational materials and, perhaps, fund certain kinds of research projects. We should reimburse routinely expenses for actuaries on staffs of educational institutions who are contributing to Society committees and other professional affairs. The American Academy of Actuaries should make greater use of academic actuaries as expert witnesses and should pay them for their efforts.

By necessity, most of the funding for actuarial programs will have to come from other sources. We can encourage our members to support academic programs, and we can encourage employers of actuaries to do so. Perhaps, we should consider a limited program of matching grants to increase the effectiveness of individual contributions.

Whatever we do, our resources are limited. We must focus our efforts, concentrating our resources so as to have the greatest effect. This means we must define our objectives and target our efforts so as to best progress towards those objectives. A scattergun approach, providing limited support to a large number of actuarial programs, will not work. We need to determine the kinds of actuarial programs that are most useful to the profession and to support those people who are trying to build such programs.

As a starting point, we need to get more people working on the problem. I suggest organizing a task force to examine the problem from all perspectives, to establish objectives for our support of actuarial academics, and to develop an action plan for providing the support.

The consequences to the profession of ignoring the problem are not attractive. It will take time to make meaningful progress. But, over the long term, a sustained effort to support actuarial programs in universities will strengthen the profession in a major way.

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