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THE ACTUARIAL PROFESSION

- A. To what extent are the number of actuarial students currently employed by the companies sufficient to provide foreseeable future needs?
- B. What methods are now being found successful in recruiting actuarial students?
- C. What further steps might be taken to bring the possibilities of an actuarial career to the attention of high school graduates and college students?
- D. What contacts should the profession maintain with the universities?
- E. To what extent should the Society of Actuaries, Actuaries' Clubs or individual companies encourage more colleges to develop courses in actuarial science?

MR. E. B. WHITTAKER stated that the job of recruiting actuarial personnel is purely a sales job. Any company, particularly one in the group business, will need actuarial talent with salesmanship and administrative ability and this type of talent can be attracted only by a competent and sales-minded recruiter. The business of hiring actuarial students is one of the most important functions of the actuary in building for the future, and it should be handled by one of the more important officers. Prudential is in the course of decentralizing at the present and the administrative head of each of the branch home offices is an actuary. The actuarial profession will take an increasingly larger part in the administrative and sales sides of the insurance industry.

He maintained that the first step in recruiting is the formation of close contacts with the professors. Preliminary screening by the faculty is essential to locate and interest the desirable students. The specialist in pure mathematics is not what is needed; the best prospect is an able young man with administrative and executive potential and with a sufficiently good mathematical background. He strongly favored the liberal arts colleges, especially the smaller ones, as the best field for prospecting, and felt that one should try to locate colleges not already covered by other companies.

He discussed the scholarship program that his company has developed since the war. A number of scholarships of \$500 are offered each year to promising students who are interested in actuarial work. The students are also put through a three months training course during the summer. Fifty-five scholarships have been given with excellent results, both in securing and retaining actuarial talent and in speeding up the completion of examinations. The fifty-five scholarships were given to 42 people. Ten

are still in college, 12 did not enter the Prudential and 17 of the 20 who were hired are now active students.

MR. K. M. DAVIES stated that he felt it desirable to consider methods of attracting the more promising high school students to the field of mathematics. If these students were acquainted with the opportunities in the actuarial profession before they entered college, or early in their freshman year, it might be that more would major in mathematics. He had discussed this problem with a professional educator and counselor who advanced the following suggestions for getting publicity about the actuarial profession to the high school and early college levels:

1. The submission of articles on the profession to publications which are subscribed to by high school mathematics teachers. Two such publications are *Mathematics Teacher* published in Washington, D.C. and *School Science and Mathematics* published in Menasha, Wisconsin.
2. The submission of similar articles to general teachers' magazines such as *Clearing House* and *School and Society*.
3. The use of publications designed for the vocational guidance counselors, both at the high school and early college levels. One of these is *Occupations* published by the National Vocational Guidance Association in Washington, D.C.
4. The discussion of the actuarial profession by actuaries with the local school board staff members who supervise high school mathematics teachers, and the visiting of local high schools to talk with teachers and seniors who are interested in opportunities in mathematics.
5. The distribution of a descriptive pamphlet to high school libraries and to mathematics teachers and vocational guidance counselors in high schools.

He reported on his recruiting experiences, commenting particularly on the great monetary competition for mathematics students in the last few years. He described the Equitable's program of employing college undergraduates during the summer. Under this program students can obtain some notion of the nature of actuarial work while the company has an opportunity to appraise the students. An attempt is made to present interesting work to the summer students in an attempt to interest them in the profession. While some good permanent students have been obtained from the program, it has not been as successful as hoped, and a reduction in the number of summer students is contemplated for the future.

He closed with the observation that he had encountered several cases where there has been a direct conflict between the Society's Preliminary Examination and college final examinations or where there has been an indirect conflict with the students' preparation for the examinations. He

advanced the idea of scheduling the Preliminary Examinations at an earlier date, such as around the first of May, to eliminate these conflicts.

MR. G. G. MYER reported on the summer program of the Confederation Life. The typical procedure would be to hire a promising undergraduate completing his first year for about three months in each of the next three summers. He would be rotated throughout the Actuarial Department in the different years and would be encouraged to write the Preliminary Examinations. Part of his fees for enrollment in the various student courses of the Canadian Association of Actuaries would be met by the company. This program is, of course, designed to eliminate the potentially unsatisfactory men before they are enrolled on the regular staff. The summer wages must be competitive and a scale is furnished with increases for each year of summer employment. Additional salary is paid to those successful in passing actuarial examinations. They have found in practice greater success in retaining those students whose homes are in Toronto.

He felt that while personal contact with the teaching staff of the university is important, even better results can be obtained by working primarily with the Director of Placement in those universities which have such an officer. It is helpful if the company contact man is a graduate of the particular university with which he is dealing and for this reason various members of the actuarial staff are used. A regular continuous contact produces far better results than sporadic unplanned visits, and an attempt is made to visit certain universities each year at a definite pre-arranged time speaking to interested groups of undergraduates as well as making individual interviews.

MR. J. S. HILL reported the activities of the regional sections of the Mathematical Association of America. He stated that in Minnesota they rather invite actuaries to become members. Membership leads to the giving of papers, papers lead to the giving of addresses and oftentimes these lead to membership on the boards of the regional sections. There are two actuaries on the board of the Minnesota section. Such activity definitely helps in the long range program of working more closely with the college professors and mathematics departments.

MR. ARTHUR PEDOE made the suggestion that some of the companies in their national advertising might feature the actuary and his work. In this manner the work of the actuary could be publicized to millions of people who could not be reached in any other way.

MR. HARRY GERSHENSON expressed the opinion that the students and professors, in his student days, had the feeling that the Actuarial Society required an impossibly high standard on an examination based

on an inconceivably complicated syllabus in exchange for a deplorably low salary, a feeling which would certainly deter students from entering the field. He observed that many alterations in the examinations have occurred since that date but that the same feeling still seems to prevail, with the modification that now Parts 1 and 2 are easy enough to attract and trap a great many students who then have the feeling they ought to go on but find that they cannot make the grade. He suggested the consolidation of Parts 1 and 2 into a single examination on a somewhat higher level than it now is. Part 3 might be adjusted upward in difficulty, but not to an unreasonable standard, so as to grade in more with the level of Part 4.

He complimented the Society's textbook on *Life Contingencies* by C. W. Jordan, Jr. and suggested its use as an illustration to professors of the actuaries' aim in the field of mathematical achievement. He recommended further textbooks on all of the advanced parts and felt the unified action of the actuarial profession was essential in selling itself to the educational system of the United States.

MR. H. E. DOW suggested that the problem in recruiting actuarial students from colleges should not be the responsibility of individual companies alone or of the Society alone. He asked that the companies and the Society work together on the problem with the companies doing intensive work in the local area.

MR. J. G. BEATTY reported the formation of a mathematical scholarship fund at Toronto University. The mathematics graduates of Toronto are becoming concerned with the declining proportion of mathematicians including actuaries. Plans are not definite as yet but a Board of Trustees has been set up and \$25,000 subscribed to the fund, with a goal of \$100,000 or more. They are enlisting the advice and cooperation of the mathematical teachers in the collegiates and high schools in the project of interesting the promising students early in their academic career.

PROFESSOR C. H. FISCHER, speaking on subsection E, pointed out that there were a group of colleges, notably Michigan, Iowa, Texas, Drake and Wisconsin, which have developed comprehensive programs in actuarial science, but that a number of insurance companies draw their recruits from other sources and train them through a sort of apprenticeship arrangement. He felt this to be an antiquated and wasteful procedure and proposed a four-point program for improving actuarial training.

First, more schools of actuarial science should be established, but only to the extent of the need.

Second, attention should be paid to the geographical distribution of

schools from the point of view of convenience of the students and the companies.

Third, they should be rigidly inspected and accredited by the Society of Actuaries, both initially and periodically thereafter.

Fourth, in such an accredited school, the passing of a course which is covered in the syllabus, with an appropriate grade (probably set higher than the minimum passing grade in the university), should give credit for that part of the actuarial examinations.

He felt that such a program would automatically provide many of the things that the Society is looking for. It would give increased publicity; it would increase the supply of graduates who had knowledge of and aptitude for the profession; it would provide the companies with persons further along in their careers; and it would be attractive to students in that it would shorten the time required to attain the fellowship.

PROFESSOR GEOFFREY CROFTS stated that the demand for students by the Canadian companies seems to be reasonably met at the University of Manitoba and other Canadian institutions. The demand from United States companies, while quite strong, cannot be met from Canada since, due to the military situation, Canadian graduates prefer to remain in Canada.

The University of Manitoba is graduating about six students a year with a Bachelor of Commerce degree majoring in actuarial science. In addition there are about six additional special students per year who are graduates of other Universities and come to take their specialized courses in actuarial mathematics. Over its entire history, the University has about 140 graduates in the actuarial profession. Manitoba students seem to be strongly influenced by the opportunities available. In the years following World War II the starting salaries in the actuarial fields were considerably higher than those for graduates in regular Commerce and the best students majored in actuarial science. In recent years starting salaries for regular Commerce students have approached those in the actuarial field, to the detriment of the latter.

The University is preparing a booklet describing the actuarial profession and the program at the University for distribution to the high schools in Western Canada in an attempt to draw the better students from a larger area. He suggested that attention to the high school level is most important and that possibly substantial scholarships to high school students should be arranged. In addition he suggested the encouragement of actuarial courses in more colleges. Such encouragement should be directed only to those centers where a reasonable percentage of students would

warrant such a course and might require direct financial assistance from the Society of Actuaries and individual companies.

MR. C. A. SPOERL, as Chairman of the Education and Examination Committee, reviewed the work of that committee in publicizing the actuarial field. About 300 letters are sent each Fall to the mathematics department heads of different colleges explaining the actuarial program. Bulletin board posters are also sent out to alert the students, as well as a supply of booklets describing the profession and the examinations. Notices are published in the *American Mathematical Monthly*, the *Annals of Mathematical Statistics* and the *Bulletin of the Educational Testing Service*, which is the successor to the *College Board Review*. In addition to these efforts, prizes are offered for the best marks of an undergraduate on Part 2, the algebra and calculus examination. Additional prizes are offered by the Canadian Life Insurance Officers Association.

He wondered what further steps might be taken by the Society. Consideration might well be given to the suggestion of publicizing the profession at the high school level. He was sympathetic to Professor Fischer's program, but he felt that the actuarial field was too small to enter into a program of accrediting schools.