

PANEL DISCUSSION

THE CONTINUING EDUCATION OF THE ACTUARY

1. Are the stated reasons for an aggressive program of continuing education convincing?
2. Does the Society have the resources to carry out successfully the continuing education program recommended by the Committee on Continuing Education?
3. Is the organization of the continuing education effort by actuarial specialty necessary or desirable? Are the suggested specialties areas logical? In which areas are continuing education needs the greatest? What is the order of priority of areas in which continuing education is to be carried out?
4. What are the relative merits of the written vs. the spoken word for continuing education purposes?
5. Can the universities play an important role in continuing education for actuaries?
6. Can the committee structure of the Society evolve to encompass the continuing education effort and still effectively serve other Society purposes?

CHAIRMAN FREDRICK E. RATHGEBER: I would like to make a few preliminary remarks on the subject of education and to tie it into personal obsolescence. We certainly live in a fast changing environment and, concomitant with this, we are living in an age of obsolescence. Equipment in our homes and our offices becomes outmoded very rapidly, and it must be replaced. In a similar way, I guess we could say that men become or can become outmoded quite rapidly, but it is not quite so easy to replace men and it certainly is not desirable. How does this obsolescence occur? The American Management Association recently put out a research study called "Executive Obsolescence" which describes and analyzes a few different types of obsolescence, many of which I think are applicable to us as actuaries. One they call "attitudinal obsolescence," which occurs when a person finishes his formal education and feels that this is the end. He is now prepared; he is educated for the future. This is something which we must guard against when we finish our actuarial examinations. There is another type which they characterize as "abrupt obsolescence"; this is what happens when there is a technological change, such as introduction of computers, or a major organizational change. There is a very abrupt obsolescence for some individuals. But perhaps the most dangerous type is what they call "creeping obsolescence." This comes about as our jobs gradually change; we tend to have hardening

of the arteries or we tend to be slow in keeping up with the times. It is much harder to be aware of what is happening in this type of obsolescence. What we are trying to do in our work on continuing education, therefore, is to avoid all these types of obsolescence, particularly the creeping kind.

All of this is a kind of defensive measure. Before we get into our panel discussion, I would like to put it on a more positive basis. I would like to think of continuing education as a positive means of making us more effective individuals so that we can lead more meaningful and self-satisfying lives. That, I think, is a much better way to regard continuing education. We are very fortunate to have the individuals that we have on this panel. We have the chairman of the original Committee on Continuing Education, Lambert Trowbridge. We also have the chairman of the present Committee on Continuing Education, Jack Bragg, and a very well-qualified onlooker from the LOMA, Lynn Merritt, who is going to give his views from a nonactuarial point of view.

We are going to try to develop this theme historically. I believe that the full report of the Committee on the Future Course of the Society, which was submitted in October, 1967, was given to all our members. It starts off with the following statement:

We think there is no existing program which fully meets the need for continuing education of actuaries and that the Society should meet this need for its members. In the Committee's opinion, the subject matter should at the outset at least, be limited to two areas: (1) The areas in which the Society has members who are unusually well-qualified to provide the necessary continuing education. Topics of this kind might be courses in demography and theory of risk. And (2) areas in which actuaries have more than an average interest by training and education. Specific examples of this would be company long-range planning, operations research and electronics. Overriding any of the above considerations should be the question of whether adequate education is already available through some other existing organization. Where that is the case, the Society should limit itself to pointing out where such education is available. Courses in general management are a specific example of subjects which the Committee does not believe the Society should cover because there is no special expertise in actuaries in the field and because such programs adequate for actuaries are available elsewhere.

I hope that Mr. Merritt will comment on that particular section of the report.

The report then goes into suggested methods of continuing education, which include publication, the E.&E. Committee, meetings of the Society, special seminars, and speakers' panels. The next part of the report

dealt with how the sources of assistance might be provided. It talked about money and the fact that we do not have very much for this purpose. It talked about the assistance that might be obtained from universities and said that we do suffer a little here in comparison with doctors and lawyers, there being ongoing university programs for their assistance, but that perhaps there could be some basis worked out with universities for providing some type of seminar courses.

At the present time it would seem that the main resource of the Society in continuing education lies in the unusual degree of willingness of its members to take part in the Society's activities. This is a key point that the report makes. Most of the topics appropriate for continuing education would seem to require practicing actuaries on the faculty who should probably receive a fee for their services. And then, finally, there is the specific recommendation that the Committee on Continuing Education be formed by the Society, and the report listed the specific charges to that Committee.

MR. CHARLES L. TROWBRIDGE: The Committee on Continuing Education was organized during the summer of 1968 and had its first meeting that fall. It included fifteen Society members, representing insurance company actuaries, consultants, and academicians; East, West, Midwest, South, and Canada; experienced actuaries and younger actuaries. Six of the fifteen were F.S.A.'s dating from 1960 or later.

The Committee broke into four subcommittees, addressing themselves to the following assignments:

Subcommittee 1

- a) To identify subject areas in which continuing education is particularly needed or desired.
- b) To recommend for each an appropriate technique for making continuing education meaningful.

Subcommittee 2

To investigate the best means of

- a) Accomplishing a literature search in each of the subject areas identified by Subcommittee 1;
- b) Developing an appropriate bibliography or reading list for each subject area;
- c) Identifying places where the literature is weak.

Subcommittee 3

- a) To investigate the best means of developing new literature to fill in the weak places (assuming that weak places can be identified through means recommended by Subcommittee 2).

- b) To make a recommendation as to how we might make available to Society membership the study notes developed by the education side of the E.&E. Committee.

Subcommittee 4

- a) To investigate how other professions, with similar needs, have faced up to the matter of continuing education.
- b) To investigate the possibilities of continuing education through the resources of some educational institution(s).

The areas assigned to each of these subcommittees rather clearly indicate the Committee's early orientation to the continuing education problem.

In the fall of 1969 the Committee submitted a report to the Board of Governors. Copies of this report were distributed to the entire Society membership prior to the earliest of the 1970 Spring Meetings. Since you have all had an opportunity to read the report in its entirety, I will only summarize it here.

First, it defined continuing education as education of the actuary beyond the F.S.A. level. It was made clear that the Committee was not addressing itself to the work of the examination side of the E.&E. Committee. Nor is there any contemplation of any professional designation beyond the F.S.A. Continuing education in the Committee's context is entirely a voluntary matter, in which the actuary participates only because he feels a personal need to develop further his professional skill.

Second, the report spoke to the need for a continuing education program, stated in several ways:

- a) The need of all professionals to keep abreast of a rapidly changing field and to acquire and put to use new knowledge as it emerges.
- b) The need of actuaries to dig deeper into any of several fields of actuarial specialty, as vocational pressures or individual inclination pushes the actuary to shift his emphasis.
- c) The need of actuaries to broaden themselves beyond the areas of knowledge in which they have been especially trained.
- d) The need of the older F.S.A. to keep up with the changing syllabus on which newer members have been trained.
- e) The need of the new F.S.A. to have a channel along which to direct his further professional education.

Third, the report looked into the continuing education aspects of the Society's present program and found that much was already being done, although without any particular continuing education emphasis. It recognized the following facts:

- a) We sponsor a professional journal and a less formal means of professional communication—*The Actuary*.

- b) The education side of the E.&E. Committee has made important contributions to actuarial literature through its development of study material.
- c) The Committee on Review calls the attention of the membership to books and articles pertaining to actuarial interests.
- d) Programs at our regular meetings are highly oriented toward continued education.
- e) The Committee on Research has sponsored successful seminars on university campuses.

Looking at other professions, the Committee came to the conclusion that, one way or another, the actuaries were as far along as most with respect to continuing education—though there is clearly much need for improvement.

Fourth, it examined continuing education via the written word and then re-examined it in relation to the spoken word. Both avenues are needed in the Committee's opinion, and neither should be emphasized at the expense of the other.

Fifth, the Committee reached the conclusion, rather reluctantly perhaps, that any aggressive continuing education effort would need to be along specialty lines. Clear-cut subdivisions of actuarial interests have not really developed, and there are actuaries with wide general interests who might prefer not to fragment the field of actuarial knowledge. Nonetheless, the Committee came to the conclusion that specialization within the actuarial field has already happened to quite a degree and that a further trend toward specialization is inevitable. Having reached this conclusion, the Committee recommended to the Board that the Committee on Continuing Education be restructured from a planning to an implementation stage and that the restructured Committee be clearly organized along specialty lines.

Finally, the report tackled the problem that had plagued the Committee all along, the problem of specialty identification. For this purpose it developed some criteria as to what would constitute a good specialty for continuing education purposes—and, having set these criteria, it attempted to define the specialties themselves. The most tentative part of the 1969 report was its list of specialty areas, which included some alternate possibilities in addition to the particular arrangement suggested.

I believe that it is fair to state that the 1969 report of the Committee was favorably received by the Board, subject only to the request that the Committee be a little more concrete on its recommendations in two areas—first, with respect to the troublesome specialty identification problem and, second, with respect to co-ordination between the restructured Committee on Continuing Education and the already existing committees engaged in one way or another in the continuing education effort. In

compliance with the Board's wishes the Committee submitted a supplementary and presumably final report to the Board in April. Its final list of specialties differs in one important way from its original recommendation, and it has tried to give some guidance to the new Committee as to other committee co-ordination.

The ball is now clearly in the lap of the new Committee, being organized under Jack Bragg's leadership along specialty lines. For each specialty the charge—from the old Committee to the new—is summed up in the enumeration of responsibilities:

- a) To review the existing literature within the defined field, both within the actuarial journals and outside.
- b) To develop reading lists, bibliographies, and possibly abstracts or summaries of that portion of the literature that they consider meaningful.
- c) To identify places where the literature is weak.
- d) To arrange for new material in areas where needed.
- e) To arrange for oral presentation or discussion at actuarial meetings on topics of interest to the specialty.
- f) If appropriate, to arrange more elaborate seminars, short courses, and so forth, as the need develops.

MR. LYNN G. MERRITT:* As the surge of knowledge increases in all professional fields, maintaining competency and avoiding obsolescence become more difficult. As a matter of fact, it is easier to get educated today than to stay educated, unless one joins some type of long-term learning league. Most of us find ourselves in a race between obsolescence and retirement, and the very best we can hope for is a photo finish. If we accept these statements, then developing a continuing education experience becomes a very important objective of this or any other organization.

As an outsider, I would like to describe for you some of my observations on what is happening in organizations. I would rather describe for you what I think is going on than prescribe what should be done, because any questions I may raise, and any challenges they may present, will have to be left in the hands of Jack and his committee to consider.

I have observed that the attainment of the F.S.A., in a great many cases, is the beginning of a career in management and not necessarily of a career in actuarial science or practice. The F.S.A. advances rapidly because of the contribution he can make to the organization with his technical knowledge. He may move to the middle-management positions, to the upper-level-management positions, and, in many cases, to the office of the chief executive officer. As advancements are made, he may be faced

* Mr. Merritt is Vice-President of the Education and Training Division of the Life Office Management Association.

with a new and challenging experience—that of managing people of various backgrounds and training, often unlike his own. He may be managing several related, or often times unrelated, departments. I am certain that, if I were to ask most of you in this room to describe your supervisory or management responsibilities, they would be wide and varied and would cover almost all aspects of company operations. Unfortunately, there is no mathematical formula which we can use that will give us the answer to effective management, and perhaps, in some ways, being a good manager is much more difficult than acquiring the technical background that you already have. You are dealing with people, their feelings, emotions, values, and attitudes, within the framework of an organization's objectives—to provide a service and to survive—and you cannot always predict the result from the input. The definition of management itself probably comes the closest to giving an answer. It is defined as “working with or through individuals or groups to accomplish organizational goals.”

The managerial functions have been identified and laid out for examination. The functions of planning, organizing, directing, motivating, and controlling are considered central for discussion by most authorities. Just one illustration: Research has shown that if motivation is low an employee's performance will suffer as much as if the employee's ability were low.

It is generally agreed that there are at least three areas of skill necessary to carry out this management process—a *technical skill*, a *human skill*, and a *conceptual skill*. The appropriate mix of these skills varies as an individual advances in management from a supervisory managing position to a top managing position. For example, at the lower levels of management the manager is spending most of his time in the technical area. As he advances, the amount of technical time decreases, the amount spent on human problems stays about the same, but the amount of conceptual time increases. At a top level, a manager spends little of his time in the technical area, about the same time in the human area, but a much greater part in the conceptual area. The common denominator that appears at all levels is the time spent on human problems.

Our companies are changing, and certainly we are all aware that our society is changing very rapidly. We are hiring different kinds of people, with different kinds of aspirations, and we are finding that there is no one way to manage. A manager must be flexible, and he must pick and choose his managerial style to fit the situation. Perhaps an understanding of some of the major influences on our managerial style might be helpful.

One of the chief influences is the contribution of the behavioral scien-

tists, such as Abraham Maslow and his hierarchy of human needs; Elton Mayo and the Hawthorne experiments; Douglas MacGregor and his presentation of Theory X and Theory Y; and Frederick Herzberg, who is a proponent of the motivation hygiene theory. All have made significant contributions to understanding organizational effectiveness.

To be a flexible manager means keeping one's self informed and aware of new trends in management. The question then arises, "How do we keep up with this new knowledge in the field of management?" There are, of course, many ways. One is to participate in educational programs, such as the six- and twelve-week programs conducted by many universities. There is the three-week program conducted by LOMA, and we have had the privilege of working with over forty F.S.A.'s in the program both in the United States and Australia. Another way is to set up for ourselves a program of regular exposure to the business journals. I know from personal experience the difficulties of such a program. Several hundred periodicals come across my desk in the course of a year, and I know I cannot possibly read them all. The only answer is a program of selective reading. Among the periodicals dealing with management that I consider valuable are the *Harvard Business Review*, the *California Management Review*, and Indiana University's *Business Horizons*. In addition to the business journals, I would recommend reading the work of author Peter Drucker. His thesis is simple: To be effective in business, the executive must get the right things done. Mr. Drucker calls executives "Knowledge Workers" who are expected, by virtue of their profession, to make decisions in the course of their work that have significance in the performance and the results of the entire organization.

Today and tomorrow, if you are in a managerial or administrative position, you must try to use creative individuals intelligently. Those who are in managerial roles must provide the climate and the ways and means to enable creative individuals to use their creative processes. We see a great many young people with tremendous knowledge and information coming into the work force. Younger people today seem to want to get involved. They want responsibility. They want to be a part of the decision-making process. An important contribution to his company will be made by the manager who can provide this opportunity.

Research tells us that man was not made to work alone. We see evidence of this in the increasing number of books published as a collaborative effort by two or more authors. As we move into the last third of this century, we will find a move toward a creative organizational climate in a nonlinear type of organization with people working in groups according to what they can contribute toward the job that has to be done. The

space industry is a prime example of such creative organizational groups. And, as we move into a future based on the co-operative effort of such groups, tomorrow's manager must make ready for it.

MR. JOHN M. BRAGG: I felt very highly honored when Mr. Moorhead asked me to take on the chairmanship of the Society's new effort in the area of continuing education. Speaking both for myself and the seven subcommittee chairmen that have been appointed, however, I can safely say that we feel almost overwhelmed by the huge task ahead. But we plan to do our best with the job assigned.

When Mr. Moorhead asked me to take the chairmanship, he made it clear that "Gradualism is the order of the day." There is no intention to fly out overnight with a full-blown, massive program encompassing every aspect of continuing education. We do intend to start on a sound basis, proceed with all deliberate speed, and produce a worthwhile program. We are building on a solid foundation, thanks to the work of the E.&E. Committee, the Committee on Review, the Research Committee, the Fields of Activity Committee, and others. It has been said that 75 per cent of the continuing education effort is already being done. I think that figure is much too high, but I am grateful for the head start already accomplished.

There is an episode in *Alice in Wonderland* in which the king is asked the question, "Where shall I begin please, your Majesty?" The king answers gravely, "Begin at the beginning, and go on till you come to the end: then stop." I wish I could take the king's advice here today, but I cannot. I can only begin at the beginning and *then* stop.

What has been done so far by the new Committee on Continuing Education? What has been planned for the immediate future? What does the more distant future look like?

Seven subcommittee chairmen have been appointed, to be in charge of the seven specialty areas identified in the Trowbridge reports. I will announce the names of these men and in the process will be able to refresh your memories on the nature of the specialty areas:

Area 1: Life Insurance and Annuities—Mr. Walter N. Miller.

Area 2: Health Insurance (Private and Public)—Mr. Charles E. Rohm.

Area 3: Retirement Plans—Mr. William A. Dreher.

Area 4: Computer Science—Mr. Malcolm D. MacKinnon.

Area 5: Research—Mr. Dwight K. Bartlett. Dwight is our liaison man with the existing Committee on Research, which has done such an outstanding job under Mr. Lew's leadership. The Committee on Research is our older and wiser cousin, and we proudly lay claim to kinship.

Area 6: Economics and Finance—Mr. Leroy B. Parks.

Area 7: Life and Health Corporate Affairs—Dean Geoffrey B. Crofts.

The subcommittee heads met last week in New York, together with Barry Watson and me. Various plans were made.

The subcommittee chairmen, with the exception of Dwight Bartlett, whose Research Committee is already in existence, are in the process of lining up members. Many names have been discussed. You may be interested in the things we are looking for in these men. First of all, we are looking for the usual distributional balance between Canadians and Americans, by geographical regions within the United States, between consultants and company men, and so forth. We are trying to get a very good representation from the academic men among our ranks. And we are trying to concentrate on the young. But, more than anything else, we are seeking good men who will do the job—especially good men who have the back-up assistance which they may need; these considerations are so important that we are prepared to allow them to overcome the distributional considerations, if necessary.

It is my intention that the subcommittees will have free reign to operate as independently as they wish. My instructions are that they are to seize the ball and run with it.

This might be a good time to comment on the "order of priority" mentioned in the Trowbridge report. All of us have read that report, and we will be guided by it as much as possible. There was, however, some dissent at the other Spring Meetings about this "order of priority." Also, I do not see why I should hold back enthusiastic young men, operating independently of other groups and anxious to get on with the work of their own subcommittees. So, I am planning to give fairly free reign to the subcommittees, allowing them to operate at their own speed.

Now, what will the subcommittees actually do? The answer is in the first Trowbridge report. Simplified to the bare bones, it is (1) a literature search and revelation, (2) the development of needed new literature, and (3) discussions and courses. Our subcommittees plan to attack these things—and probably in this order.

As a miscellaneous point, I should mention that there are a great number of courses and seminars already being sponsored by other organizations, having a direct bearing on our seven specialty areas. These other organizations include universities, actuarial consulting firms, and business associations. I have asked the subcommittees to include these matters in their "search and revelation" activities.

It is hoped that the *Actuary* will prove an ideal vehicle, incidentally, for the publication of the "revelation" aspects of the committee's work.

We plan to distribute a questionnaire to members of the Society, probably in September. The questionnaire will identify interests and help in several ways with the work of the committee. It is being developed at the present time.

I would like to comment on two very important potential outgrowths of the work of the Committee on Continuing Education.

The first is the effect on the meetings of the Society. The committee will undoubtedly make recommendations for the holding of workshops, concurrent sessions, and general sessions. And, if I know anything about people who recommend anything, they end up running those sessions. The committee may even go so far as to recommend that one or more of the Spring Meetings be given over to a specialty area, such as retirement plans, life insurance, or health insurance. In other words, the Spring Meetings would become seminars, if you like, devoted to specialty subjects. If you would like me to express my own personal opinion, the present Spring Meeting format is getting pretty jaded. (This particular Spring Meeting is an exception to that rule, hopefully, of course!)

If we think of a Spring Meeting devoted to a specialty area, I would like to compare it to the seminars held by our Research Committee. I have had the pleasure of attending two of the four seminars that have been held, and I have been most impressed. I have attended as a dilettante, but I have gotten much out of attending, just the same. There is a certain feeling of *esprit de corps*; there is a dedication to the topic; there is a feeling that one is participating in the development of new knowledge. If we eventually have Spring Meetings devoted to specialty topics, I hope that we can develop these same feelings.

The second important outgrowth of the work of the committee will be the development of new literature. I do not mean to imply that the members of the committee will write this literature. They will act as catalysts to bring it into existence. The Society has not had any formal mechanism to encourage the writing of papers, books, and the like; our committee hopes to fill that gap. Liaison with the E.&E. Committee will be essential, and we intend to bring that liaison about. There is no need for two bodies to engage independently in the development of literature; they should co-operate.

True greatness arises through the creation of worthwhile ideas, and their propagation *in writing*. Does this not describe the greatness of such figures as Newton, Shakespeare, Einstein, and, yes, Churchill? None of us can aspire to this kind of greatness, but we can realize of what it consists.

What can we do to encourage our future authors? There has been talk of royalties, prizes, and the like. In the main, though, *recognition* is what

is needed. I hope that we can do something, as a Society, to give greater recognition to our future authors.

Our member at the University of Michigan, Professor Cecil J. Nesbitt, made a statement not long ago which, I believe, should be a guideline for the Committee on Continuing Education. I would like to borrow that statement and quote it to you: "While achievement of professional competence is a primary goal, there should be some nurture of the scientific spirit or attitude, including a critical approach to knowledge and the foundations thereof." I hope that our committee can be guided by this philosophy.

Our continuing education effort is, in the main, a postgraduate undertaking—a post-Fellowship undertaking, if you will. As such, it is inevitably a *voluntary* effort—voluntary on the part of the committee; voluntary on the part of the authors; and, *with special emphasis*, voluntary on the part of the participants. It will take the help of all of you if the continuing education program is to succeed.

MR. MERRITT: In listening to Jack, I seemed to feel that he was laying it on the line in a very straightforward manner, and I look upon it as a challenge to you as individual members of this professional organization. How do I feel about what Jack is saying? One of the things that came to my mind as he was talking was that I would suspect that the source of the information needed by your Society, for its growth and development in this educational area, is you yourselves. Since you are the people who are doing this and you are the ones who are knowledgeable in these areas, you are going to have to put this material together, present it, and make it palatable to your associates.

Let me warn you that this is no easy job. It is a very difficult job. In a way, you rather lay your soul on the line when you produce anything in writing, and you must have a very tough skin to do it. Sometimes you write something that you think is simply great, but there is a good chance that your associates may say, "Well, you know that's not quite as good as I think it should be." But, if you can approach it with the right viewpoint, knowing the difficulties involved, I see that as the real contribution that each of you can make.

I might add, for the new Associates and the new Members, that this organization impresses me as really held together by the strength of its membership—with no staff and its business conducted entirely by the members themselves. And it seems to me that therein lie not only its strength but its challenge. Jack is saying to all of you, "Come on ahead and give us your ideas, give us your assistance, and help us in this problem of continuing education."

CHAIRMAN RATHGEBER: What part should the Society library play in the continuing education of the actuary? How can we help to make the library more effective?

MR. BRAGG: As I pointed out, the subcommittees are going to be engaged in a literature search; surely the library will be a tremendous help. I think it has almost 40,000 volumes in it. I should also point out that the committee will be publishing bibliography lists; we will hope that the library will contain or purchase all those books.

On the general subject of how to make the library more effective, let me say that you cannot force people to take books out of that library. You can only encourage them. One way in which you can encourage them is to publish lists of the books that are in the library, or at least lists of the new books going into the library.

CHAIRMAN RATHGEBER: How do we communicate our interests in pursuing one or more subjects? Will there be over-all limits, like one or two per person? Should we be trying to help individuals along one specialty, or should we be trying to get everybody better educated in everything?

MR. BRAGG: Many people will be interested in more than one of these specialty areas; we will try to arrange things so that there will be no time conflict if a person wishes to engage in the activities of more than one specialty area.

MR. TROWBRIDGE: My feeling has always been that the typical actuary, of course, is interested in all these subjects up to a certain point. He eventually becomes more or less specialized in these interests. I would guess that the average person, after he has achieved F.S.A., would find himself attracted to, say, two or three of these areas but not so much to the other four. Others will be particularly attracted to one particular area in which they really are specializing. Certainly, if the person is really a specialist in one of these areas, he has no particular conflict. If he is really rather equally interested in two areas, he could have a conflict if scheduling becomes a problem. But remember that much of this effort is going to be to the written word, and anybody who wants to study two areas in the written word has *no conflict except in his own time*. The only problem is whether at our meetings it will be possible to concentrate on everything said about two areas. That might be a little more difficult. I have a feeling, however, that there is no essential problem here. Anybody who has the time and energy to undertake one or more of these specialties will have every opportunity to do so. I cannot believe that is the problem. I think the problem is more a matter of a man's own time and energy.

CHAIRMAN RATHGEBER: Mr. Merritt talks in terms of management training, and Mr. Bragg talks in terms of more technical subjects. Are there plans for merging these two aspects of continued growth?

MR. BRAGG: One of our seven specialty areas has to do with life and health corporate affairs. I believe that this should include management science. The things that Mr. Merritt has discussed about management science will be a subject for consideration by us. If I interpret him correctly, Mr. Merritt's remarks are not far apart from Professor Nesbitt's remarks about "fundamental inquiry." Managers do devote themselves to fundamental inquiry, I believe. I think that what Mr. Merritt has said is generally applicable to all our specialty areas.

CHAIRMAN RATHGEBER: Has consideration been given to developing session outlines and/or resource speakers for use by actuarial clubs? Should we use the actuarial clubs as a means of continuing education?

MR. BRAGG: I personally hope that we can use the actuarial clubs for this purpose and other purposes. I hope that we can integrate the Society with the actuarial clubs in many ways. Actually, there is a committee of the Society looking into this, is there not? It might be quite appropriate for us to encourage the clubs to engage in some aspects of continuing education. It might even work the other way around, too.

CHAIRMAN RATHGEBER: How will the expertise of persons in other actuarial bodies be utilized and co-ordinated with our activities? Should continuing education be a function of or at least co-ordinated by the Academy of Actuaries and its Canadian counterpart?

MR. BRAGG: This might be a good point at which to mention that we expect to have a member of the Conference of Actuaries in Public Practice on our retirement plan subcommittee as a liaison representative. We may try to encourage other actuarial organizations to be part of this effort. The Research Committee already carries on its activities in co-operation with its counterpart in the Casualty Actuarial Society. Since this is a continent-wide operation, it seems to me that our continent-wide organization, the Society, should be in charge of it. Furthermore, we all know that the Society has long been engaged in massive educational efforts; this is not true of the two national bodies.