

**TRANSACTIONS OF SOCIETY OF ACTUARIES  
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**ELECTRONIC DATA PROCESSING**

*Relationship of Electronics to the Actuary and the Society*

- A. What types of work are actuaries doing in the E.D.P.M. field?
- B. To what extent should consideration be given to the inclusion of material on E.D.P.M. in the syllabus of the examinations of the Society?
- C. What role should the Society fulfill in connection with E.D.P.M. as compared with that of other bodies, such as the L.O.M.A. and other similar organizations?
- D. What should be the duties and responsibilities of the Society's Committee on New Recording Means and Computing Devices?

MR. MANUEL R. CUETO: In the New York Life, actuaries are engaged in applying electronic equipment to office operations, directing the planning of applying the equipment to new areas of operations, and re-designing procedures to obtain a more efficient operation. Moreover, our actuaries are investigating the feasibility of newly developed equipment, advanced programming languages and techniques, random access devices and possible communication networks linked to a computer system.

Because of the importance of electronic equipment to an actuary's work and the new approach that must be taken to solve computational problems of an actuarial nature on such equipment, it appears to me that it might be well to include E.D.P.M. material in the syllabus.

In my opinion the Society should continue studying the new areas in the E.D.P.M. field, such as: (1) procedures involving the problems of data transmission between widely separated locations and the use of total systems approach that may involve random access equipment, (2) the new techniques of higher-level, problem oriented programming, and (3) problems of standardization and new system design techniques.

MR. MEYER MELNIKOFF: In the Prudential, actuaries have designed major systems, analyzed their feasibility, supervised their programming, testing and installation, and evaluated equipment.

I think it is important to plan the syllabus of the Society's examinations so as to free future actuaries from the old constraints by exposing them early to the fundamentals of electronics and stored program machines, so that their understanding and skill in actuarial mathematics can be more powerful than that of their predecessors.

I do not think that the Society should devote much effort to developing the details of office systems and procedures, but rather spend time in the development of techniques of electronic programming and systems design.

**MR. HUGH G. JOHNSTON:** In nearly every case of Canadian life insurance company E.D.P.M. installations, an actuary has played a big part both in the development of the system and the actual administration of it.

Because of the varied approaches, diverse techniques and essentially practical nature of the subject, it is difficult to see how anything more than a general outline could be included in the Society's already-crammed syllabus.

Both the L.O.M.A. and the I.A.S.A. have formidable automation and electronic committees informing the industry of the progress and development of E.D.P.M. applications and much duplication would result if the Society were to operate on comparable lines. Society members contributing to these bodies are fulfilling an important role.

**MR. DAVID H. HARRIS:** Any material concerning E.D.P. on the examination syllabus should deal with principles rather than with programming or detailed methodology. The role of the Society in the E.D.P. field should be related primarily to the use of computers for actuarial calculations, research and techniques, rather than to their use in connection with administrative matters.

**MR. CHARLES G. GROESCHELL:** I would say that the type of work done by actuaries falls into two classes. The first of these is over-all data processing involving electronics. The younger actuaries in this group are most likely close to programming and systems design and may only be in this area on a rotational basis, while the older actuaries will likely be operations officers and their assignments may be more permanent in nature. The second of these groups is electronics, as a tool for actuarial work. This group consists of younger actuaries and students who design methods and program computers to be used in actuarial research studies.

Since the actuary will probably be concerned with electronics work sometime in his career, I would say that some material on electronics in the syllabus is essential. It need not be extensive, but should, throughout the syllabus, make the student aware of how computers affect their day-to-day tasks.

It seems that organizations that deal with over-all company operations, such as L.O.M.A., should play a more prominent role than the Society in E.D.P.M., but I hope that someone will present an Actuarial Note on some unique use of computers in actuarial work.

The New Recording Means and Computing Devices Committee could be helpful in organizing and editing the experience of companies in the use of computers for actuarial work. Perhaps a library of these programs written in a universal language could be maintained.

MR. J. RAE JAMIESON: The actuarial examinations, as far as I have been able to determine, have always been an attempt to determine a person's knowledge of subjects relating to actuarial work and only incidentally the methods by which the work is carried out. I simply cannot see how anything useful can come of putting material on the syllabus relating specifically to electronic equipment or methods. Any changes should be confined to updating the appropriate areas of the present study notes and textbooks.

MR. JOHN F. B. AMSDEN: I don't feel all companies, especially small ones, would be able to rotate their actuaries and acquaint them with electronic methods; hence some notes or descriptive material on electronic equipment, the fundamental premises on which its use is based, mode of operation, nature of programs, etc., should be included in the syllabus, although the student need not be directly examined on these matters.

I agree that the Society's future effort should be directed at the mainly actuarial spheres—areas where the L.O.M.A., for example, is effectively duplicating our work being left to the latter—but this makes it essential that the actuarial viewpoint be fully represented in the L.O.M.A. and the I.A.S.A.

MR. GARNETT E. CANNON: It seems to me that the actuary has a good background of knowledge that he can apply to the E.D.P.M. problems when faced with them, and we should not burden the students with additional material in the syllabus.