

paper dealing with man's internal regulation, followed by one dealing with his behavior pattern. The papers then considered positive feedback in economic systems. A discussion of the same principles evidenced in international and political systems followed. The final paper of the morning was a presentation dealing with feedback as observed in ecological systems.

Continuing with the same theme in the afternoon the first paper presented a discussion of feedback as it was originally conceived and presently used in control technology. Next a paper describing an experimental study of feedback in social systems, complete with the results obtained over two years of running the experiment, was presented. Finally, a panel discussion was held, in which these various applications were reviewed. Another feature was a joint session with the Institute of Electrical and Electronic Engineers, chaired by Lotfi A. Zadeh. In these and several other sessions, the binding influence of general concepts applicable to many fields was brought out. All meetings had good attendance, and enthusiastic discussions continued during the evenings following the sessions. The society held an annual dinner also for the first time, with Ludwig von Bertalanffy as the guest speaker. His speech, as well as the introduction by Anatol Rapoport, reviewed the origin, history, and present status of general systems. MILTON D. RUBIN, *Secretary-Treasurer*

## Engineering (M)

The Section M meeting was an outstanding success in that it coupled this Section M with other sections having common interests. This was exemplified specifically by the symposium of the Section on Social and Economic Sciences (K): The Research Environment, and the symposium, Managing the Innovative Process.

International cooperation was fostered, and the scientific abilities of Canada were demonstrated by the two sessions which it sponsored: Materials—The Foundation of New Technology and Man's Biological and Engineering Systems.

The symposium on Automatic Recognition of Form demonstrated that it is possible to couple engineering tightly with scientific interests.

An innovation to the AAAS annual meeting was the operation of a Section M Engineering Theater. Here again the cross-coupling of interests at the interface between engineering and science was well received.

The common denominator of Section M's sessions was that they were all well attended. But of far more importance was the fact that the audience was totally interested in the subject matter and participated in the discussions long after the nominal closing time of the sessions.

The symposium on materials—the foundation of new technology accomplished two objectives. It displayed and reviewed the capabilities of the Canadian universities and research centers to perform research in the field of new materials. Emphasis was placed on the new tools and techniques to measure the qualities of materials. One paper extended the boundaries of the considerations about materials into the plasma physics area and noted that the effect had been to generate the "space engineer" and to greatly affect the radio engineer and the power engineer.

The symposium on automatic recognition of form provided a significant and stimulating review of the latest theoretical developments in this field. Applications of automatic recognition include the reading of printed characters and script, photogrammetry, photointerpretation, fingerprint classification, examination of microscope slides for medical diagnosis, detection of forged signatures, and the recognition of human faces. The symposium included the first public presentation of a new mathematical approach to the problem of automatic recognition, an outstanding review of present day techniques, a clear exposition of some mathematical aspects of automatic recognition, and an authoritative discussion of pictorial recognition related to photointerpretation. The interdisciplinary symposium attracted an audience from the fields of applied physics, electronic engineering, photogrammetry, mechanical engineering, optics, computers, psychology, physiology, medicine, biology, and researchers in the problems of the blind.

The officers of Section M for 1965 are: chairman, C. F. Savage (General Electric Company) and secretary, Newman A. Hall (Commission on Engineering Education). The Long-Range

Planning Committee consists of: C. F. Savage, Newman A. Hall, C. E. Davies (Engineers Joint Council), C. F. Kayan (Columbia University), H. B. Osborn, Jr. (Ohio Crankshaft Company), W. A. Wildhack (National Bureau of Standards), Henry O'Bryan (Bendix Corporation), and Paul Rosenberg (Paul Rosenberg Associates).

The Long-Range Planning Committee will concern itself primarily with defining the fundamental purpose and objectives of Section M. It will examine ways to: (i) improve communication between science, engineering, and the public (ii) improve communication among engineering societies; and (iii) explore and identify appropriate relationships of Section M with the other sections of AAAS and with the Association as a whole. The committee has already started discussions on next year's annual meeting. Among other subjects discussed, it was determined to continue the Engineering Theater in increased scope and content.

C. F. SAVAGE, *Chairman*

## Medicine (N)

Contemporary interest in developmental biology was indicated by the large and interested audiences that attended Section N's five-session symposium on Biochemical Differentiation (28–30 December). The symposium was arranged by Norman Kretchmer (Stanford) in collaboration with James D. Ebert (Carnegie Institution of Washington, Baltimore) and Oscar Touster (Vanderbilt), and was cosponsored by AAAS Sections on Chemistry, (C), Zoological Sciences (F), Dentistry (Nd), Pharmaceutical Sciences (Np), and by the Canadian Medical Association. Expenses were generously provided by a grant from the U.S. Public Health Service. It was evident from the talks that many capable investigators are being attracted to the field of developmental biology, and that sophisticated biochemical techniques are being applied in a most fruitful manner. Exciting reports should be forthcoming from many laboratories.

The first session, "Protein synthesis: a fundamental problem in embryology and differentiation," constituted one of the five interdisciplinary symposia of the Montreal meeting. Chaired by Norman Kretchmer, this session

# Science

## Engineering (M)

C. F. Savage

*Science* **147** (3660), 927.  
DOI: 10.1126/science.147.3660.927

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