

Authors

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B.S.E.E., Northwestern University, 1945; M.S.E.E., California Institute of Technology, 1946; Ph.D., Northwestern University, 1949. Joined IBM in 1949 and was in charge of Systems planning and Input-Output Development in Military Products Division at Poughkeepsie; worked on prototype test for AN/FSQ-7; is now Manager of Small Business Systems and Machines Research at the IBM San Jose Research Laboratory. Is member of Tau Beta Pi, Sigma Xi and Eta Kappa Nu. He is a member of AIEE and IRE and is Chairman of the National Joint Computer Committee; was first chairman of IRE Professional Group on Electronic Computers.

Phyllis B. Baxendale

B.A., 1936; M.A., 1947, Modern Languages, University of British Columbia. Fellow of the University of California, 1946-47. Intelligence Officer with the Dominion Government, Ottawa, 1942-45. Assistant Professor of German, Victoria College, 1945-53. Joined staff of IBM Research Laboratory, San Jose, Cal., 1956, to work in field of literary data processing. Is a member of the Modern Language Association.

Edward E. David, Jr.

B.E.E., Georgia Institute of Technology, 1945; Sc.D., Massachusetts Institute of Technology, 1950. During the latter period he was a research assistant at the Massachusetts Institute of Technology Research Laboratory of Electronics, working with microwave vacuum tubes and noise theory. He joined the Bell Telephone Laboratories in 1950 and was concerned with communication acoustics and underwater sound. He is presently Assistant Director of Visual and Acoustics Research, in which capacity he is concerned with the perception and coding of sensory information and with human information processing.

Eric de Grolier

Director of the French Center for Technical Documentation, Milan, Italy. Is author of numerous publications in area of documentation, classification and information retrieval, since 1931. Professor at the National Institute for Documentation Techniques, Conservatoire National

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Peter Elias

B.S., MIT, 1944; Harvard Graduate School, 1946-1950: M.A., 1948; M.Eng.Sci., 1949; Ph.D., 1950; Junior Fellow, Harvard Society of Fellows until 1953. Joined MIT in 1953 as Assistant Professor of Electrical Engineering at Research Laboratories of Electronics. Is now Associate Professor of Electrical Engineering. Is co-editor of *Information and Control*. Chairman of Organizing Committee, 1956 Information Theory Symposium at MIT. Is a member of the Administrative Committee of IRE Professional Group on Information Theory and is Chairman of the IRE Technical Committee on Information Theory and Modulation Systems. Member of Institute of Mathematical Statistics, Sigma Xi, and Eta Kappa Nu. Was visiting lecturer at University of California at Berkeley, February-June, 1958.

Herbert L. Gelernter

B.S. in Physics, summa cum laude with honors in chemistry and physics, Brooklyn College, 1951; Ph.D. in Theoretical Physics, University of Rochester, 1956. Joined IBM in 1956 in the Information Research Department in the Theory of Automata Group at the Poughkeepsie Research Laboratory. Is now engaged in Geometry Theorem-Proving Project at the Yorktown Research Center. Was awarded Predoctoral Fellowship of the National Science Foundation. Is a member of American Physical Society, Phi Beta Kappa, Sigma Xi, Pi Mu Epsilon.

I. J. Good

Ph.D., Cambridge University, 1941. Was Cambridgeshire Chess Champion in 1939; was awarded the Smith's prize in 1940. Was Lecturer in Mathematics at Manchester University, with some responsibility for the electronic computer from 1945-48. Is now Deputy Chief Scientific Officer in the Royal Naval Scientific Service. Is a Fellow in the Institute of Mathematical Statistics. Interests include information theory, artificial intelligence, mathematical analysis, philosophy and psychology.

Hans Peter Luhn

Was graduated from Schweizerische Handels Hochschule, St. Gall, Switzerland in 1921. Joined IBM in 1941 and is presently in charge of information retrieval research at the Yorktown Research Center. Has worked also on decision circuit design logic, binary arithmetic systems and switching devices, a method of optimizing switching circuits, addressing schemes for random-access memories and an electronic searching selector. Member of IRE, ACM, AAAS, ADI, and the Literature Division of the ACS.

Allen Newell

Behavioral scientist, interested in information processing, learning and decision making, and problem solving in human organizations. B.S. in Physics, Stanford, 1949; mathematics graduate study, Princeton, 1949-50; Ph.D. in Industrial Administration, Graduate School of Industrial Administration, Carnegie Institute of Technology, 1957. He is a mathematician and psychologist with the RAND Corporation (1950 to present), and has also been associated part-time with Carnegie Tech since 1950. Has worked also on large-scale laboratory studies of human organizations: the RAND Systems Research Laboratory.

Nathaniel Rochester

B.S.E.E., MIT, 1941. Staff Member of MIT Radiation Laboratory, 1941-1943. From 1943 to 1948 at Sylvania Electric Products Inc., Electronics Division, was Manager of Equipment Engineering. Joined IBM in 1948 in the Poughkeepsie Engineering Department to work on the IBM 604 and its successors. Worked on the logical design of the Tape Processing Machine, the forerunner of the IBM 700 series. Jointly with J. A. Haddad was in charge of the IBM 701 Engineering and later in charge of EDPM Engineering. In 1955, organized the Information Research Department. During the summer of 1956, was a co-sponsor of the Dartmouth Summer Study on Artificial Intelligence. Has been appointed Visiting Professor of Communication Sciences in the Electrical Engineering Department of M.I.T., where he will spend the 1958-59 academic year. Research fields: machine organization, programming, and artificial intelligence. Member of ACM, AAAA, and Tau Beta Pi. Associate Member of Sigma Xi. Fellow of the IRE and served a year as chairman of the IRE Technical Committee on Computers.

Claude E. Shannon

B.S., University of Michigan, 1936; Bolles Fellow, Massachusetts Institute of Technology, 1939-40; M.S., 1940; Ph.D. in Mathematics, 1940; research assistant, engineering and mathematics, Massachusetts Institute of Technology, 1936-39; National Research Fellow, Prince-

ton, 1940; research mathematician, National Defense Research Committee, 1940-41. Is a member of the National Academy of Sciences, American Academy of Arts and Sciences, AMS, Fellow of the IRE, member of Sigma Xi, Tau Beta Pi, Eta Kappa Nu. Was awarded the AIEE Nobel Prize in 1939, the IRE Liebman prize in 1949, Ballantine Medal of the Franklin Institute 1955, Research Corporation Award 1956. Member of technical staff, Bell Telephone Laboratories, 1941-1957, consultant 1957-. Fellow, Center for Advanced Study in the Behavioral Sciences, 1957-58. Presently professor of communications sciences and mathematics, Massachusetts Institute of Technology. His field of work has included communication theory, Boolean algebra and switching circuits, computing machines and mathematical cryptography.

J. C. Shaw

Programmer, whose current work and interests are in the area of exploring the potentialities of high-speed digital computers, particularly through the development of programming languages for coding complex problems. B.S. in Mathematics, UCLA, 1949. After two years of actuarial experience, he joined the Numerical Analysis Department of the RAND Corporation in 1950.

Herbert A. Simon

Behavioral scientist, interested in human organizations and cognitive processes, Ph.D. in Political Science, University of Chicago, 1943. He has been associated with International City Managers' Association (1936-39), Bureau of Public Administration, University of California (1939-42), Illinois Institute of Technology (1942-49). Has been Professor of Administration in Graduate School of Industrial Administration, Carnegie Institute of Technology, since 1949. His research has been concerned primarily with the empirical study of behavior in organizations and with mathematical models for individual and social behavior.

Jerome B. Wiesner

B.S., University of Michigan, 1947; M.S., 1948; Ph.D., 1950. Is now Professor of Communication Engineering, Massachusetts Institute of Technology and Director, Research Laboratory of Electronics; also a member of Lincoln Laboratory staff. Formerly Chief Engineer of the Library of Congress; staff member of the MIT Radiation Laboratory and the University of California Los Alamos Laboratory. Fellow of the Institute of Radio Engineers; Fellow of The American Academy of Arts and Sciences; member of the Acoustical Society of America. Consultant, Department of Defense; member, Scientific Advisory Committee to the Secretary of Defense; member, Army Scientific Advisory Panel; member, President's Science Advisory Committee.