



Jan Poytkin

Jan A. Rajchman

1911–1989

By William C. Hittinger

Jan A. Rajchman, retired staff vice-president, RCA Laboratories, died on April 1, 1989, after a long career as an innovator, technical leader, and consultant. During his forty years with RCA, he made significant contributions in the fields of electron devices and computers and was a prolific inventor and publisher.

Born on August 10, 1911, in London, England, he moved at the age of seven with his parents to their native Poland and three years later to Geneva, Switzerland. He graduated from the College de Geneve in 1930 and was awarded the M.S. in electrical engineering from the Swiss Federal Institute of Technology in Zurich in 1935 and the D.Sc. in 1938.

Jan Rajchman had a strong desire to do research in America and arrived as an immigrant in the spring of 1935. He sought employment at RCA because of its early work in electronics, but found that there were no openings because of the great depression. He therefore attended the Massachusetts Institute of Technology summer session and in August was offered a job by RCA in an engineering testing laboratory where variable condensers for radio receivers were calibrated against standards by bending the condenser plates by hand. By January 1936 he was assigned to an electronics laboratory directed by Vladimir Zworykin, which began an association lasting for many years.

Jan's first work was in electron multipliers. He developed an electronically focused device that was much simpler than the

existing magnetically focused types. In a study that became the basis of his doctoral thesis, he found ways to eliminate the main causes of dark current, thereby extending the sensitivity of phototubes at low light levels. His designs are still the mainstay of present-day vacuum multipliers.

In 1939 he became deeply interested in the possibility of electronic calculations and began a long involvement in computer concepts and structures. He conceived, patented, and published concepts of many basic logic circuits, including a resistive matrix that served as the first true read-only memory. This effort emerged from a government-sponsored program during World War II to develop an electronic computer at the University of Pennsylvania. Jan joined the project and his memory device was used in the first electronic computer, the ENIAC.

He continued his computer research after the war and conceived in 1949 the magnetic core memory, for which he is perhaps best known. He developed the memory system, including aspects of the tiny ferrite cores strung on wires, that were widely used in commercial computers for many years. The transfluxor, one of his inventions, used a multiaperture core to perform many analog storage and logic functions in a number of applications, including subway control systems and assembly line motor controls.

In 1959 Jan Rajchman became director of research at the RCA Laboratories and led efforts in many emerging fields, including magnetic and semiconductor memory and logic devices, electronic displays, and computer software. He also directed the technical efforts of RCA's overseas research laboratories in Zurich and Tokyo from 1971 until his retirement in 1976.

These many exploratory efforts led to the issuance of 118 U.S. patents and 50 technical papers. He was much sought after as a speaker and organizer of technical conferences. He held membership in some ten professional societies, was elected to NAE membership in 1966, and was highly honored for his services to his profession. His awards include the Morris N. Liebmann Memorial Award and the Edison Medal of the Institute of Electrical and Electronics Engineers, the Harold Pender Award by the University of Pennsylvania, the NASA Certificate of Rec

ognition, the Franklin Institute Louis E. Levy Medal, and four RCA Laboratory Achievement Awards.

Jan Rajchman served as a consultant to government and industry, particularly after his retirement from RCA. His efforts included working for the Defense Advanced Research Projects Agency in computer studies; as a consultant to AMP, Inc.; and as Visiting McKay Professor at the University of California, Berkeley.

His family had a strong tradition of learning. His father was a doctor; his wife, Ruth, a practicing lawyer; and his two children, Alice R. Hammond and John A. Rajchman, both doctoral graduates. Jan was a beloved colleague of many friends and associates, relationships developed during his highly productive technical career. His calm, witty manner and his vision of the future, coupled with broad cultural interests, made him unusually effective as a counselor to many young scientists, a legacy that will endure for years.