



John A. Hornbeck

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1918-1987

By Morgan Sparks

John A. Hornbeck, retired vice-president of AT&T Bell Laboratories, died of an aneurysm January 30, 1987, in Savannah, Georgia, at age sixty-eight. His father was a college physics professor, and John grew up in Northfield, Minnesota, where he was born November 4, 1918, and Kalamazoo, Michigan—college towns where his father taught. He graduated from Oberlin College in 1939. It was at Oberlin that he met Emily Elizabeth Aldrich. Their marriage and the family of five children—Joan, Deborah, Kirk, Jeff, and Christopher—were an inspiration to John's productive life.

He went to the Massachusetts Institute of Technology (MIT) and received a Ph.D. in physics in 1946. During World War II, he worked on National Defense Research Committee projects at MIT, and when the war ended, he joined Bell Labs as a research physicist. He was a member of a small group that started a program in gaseous electronics. He worked in this field and in semiconductor physics for about six years, resulting in publication of a number of papers. His best known achievement in this period was the discovery and study of the Hornbeck-Molnar effect, an ionization process by which molecular ions are formed in the noble gases helium, neon, and argon.

The transistor had been developed at Bell Labs in 1948,

and a large associated program was mushrooming in the early fifties. John Hornbeck was asked to head a new department in solid state physics in 1953. This changed his orientation toward technical supervision and administration. Promotions and broader responsibilities followed. In 1958 he became executive director of Semiconductor Device and Electron Tube Division.

Two years later Bell Labs launched a major development project—Telstar, the first active communication satellite. John's organization had responsibility for designing and building all of the necessary semiconductor devices, solar cells, and travelling-wave tubes; providing the thermal design; and, with other organizations, handling part of the mechanical design and overall testing of the satellite. Many components had to be developed simultaneously with the systems design. John later recalled this as an audacious but very thrilling period.

This experience was good preparation for John's next job. In 1962 AT&T contracted with the National Aeronautics and Space Administration (NASA) to perform technical assistance for the Apollo program. Three months before the successful Telstar I launch, John went to Washington as president of Bellcomm, Inc., a subsidiary company created for Apollo support. His administrative skills were well matched to this assignment. He was an excellent organizer, a stimulating and effective recruiter of key personnel, and a leader who insisted on clearly stated and well-understood objectives. He established the basic relationships with NASA headquarters management, and determined what was and what was not the role of Bellcomm. The result was good definition of the tasks and subsequent delivery of key documents covering specifications for Apollo hardware and mission-by-mission objectives of the program.

In 1966 John was elected president of Sandia Laboratories, and the family moved again—this time to Albuquerque, New Mexico. Sandia is a large engineering and research

laboratory operated for the government in Albuquerque and Livermore, California, by AT&T on a nonprofit basis. It is part of the nation's nuclear weapons complex and was under the Atomic Energy Commission during John's tenure. This was an entirely new kind of work for John. He responded characteristically, and focused on organizational structure and clarity of technical objectives. He set up an extensive in-house continuing education program and strengthened technical recruiting at the Ph.D. level.

John returned to Bell Labs in 1972 as vice-president of electronic technology. In 1975 he became vice-president of computer technology, design engineering, and information systems. He retired in 1979 and settled with his wife on St. Simons Island off the Georgia coast. They continued, as they had for many years, to spend summers at a family vacation cottage in Michigan.

John Hornbeck had a full, interesting, and varied career. In his own words, "As important as technological developments are, the greatest thing is the people you interact with along the way. I've really enjoyed working with people at Bell Labs and in the government—and sometimes being the contact between them." Speaking about John at the time of his retirement, Bell Labs Chairman William O. Baker said, "John Hornbeck has been intimately involved in the epochal evolutions of solid state electronics, space exploration, nuclear technology, and digital computers. He has helped to organize talented work in each of those activities."

In addition to his membership in the National Academy of Engineering, John was a fellow of the American Physical Society and the Institute of Electrical and Electronics Engineers, and a member of the American Association for the Advancement of Science. He served on the Naval Studies Board of the National Research Council and NASA's Aerospace Safety Advisory Panel. He was chairman of the National Academy of Science's Evaluation Panel for the Institute for Basic Standards, technical adviser for the National Bureau

of Standards, and chairman of the New Mexico Governor's Committee on Technical Excellence. He was also active in community affairs, having served as president of the Somerset Hills (New Jersey) Community Chest, president of the Albuquerque United Community Fund, and director of the Albuquerque Presbyterian Hospital Foundation.

