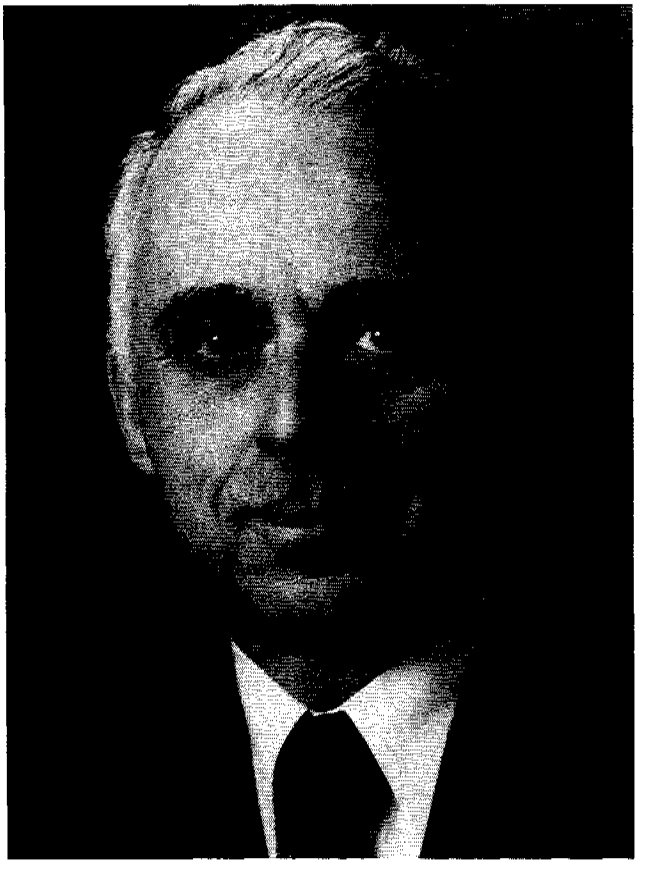

Jack A. Baird

JACK ANTHONY BAIRD

1921–1986

BY IAN M. ROSS

JACK ANTHONY BAIRD, who, during more than ten years of his career at AT&T and Bell Laboratories, guided the planning of engineering for the world's largest computing system—the U.S. telecommunications network—died May 23, 1986, of a coronary occlusion at the age of sixty-four. Far ahead of his time, he implemented the necessary combination of operations research, technical planning, and technology assessment so AT&T and other organizations could cope with the demands of large, complex electronic communications systems serving both civilian and military purposes. Jack Baird brought good judgment and good sense to the practice of systems engineering, thus paving the way for modern-day data networking and the computers it links.

Jack Baird's professional affiliations included being named a fellow of the Institute of Electrical and Electronics Engineers (IEEE) in 1969; he was also named a member of the Newcomen Society in North America in 1970 and a member of the National Society of Professional Engineers' industry advisory group in 1981. He was elected to the National Academy of Engineering in 1971. At the academy, he was an active member of the Committee on Telecommunications from 1974 to 1978 and served as chairman of its study panel involving the U.S. Department of Commerce's Office of Telecommunications.

His service to the U.S. government earned him much respect. During his tenure at Bell Laboratories, Jack served as a member of the Special Panel on Common Carrier/Interconnections for the Computer Science and Engineering Board of the National Research Council. After his retirement from AT&T in 1983, he served actively as the chairman of the National Research Council's National Security Telecommunications Policy Planning Environment Committee (National Communications System) and as a member of the Voice of America's Radio Emergency Advisory Committee.

Jack Baird was born on May 27, 1921, in the small rural town of Omaha, Texas, the population of which was then, as now, less than 1,000. He was the only child of Harry and Allie Baird. His grandfather was the town doctor and served as Jack's role model, inspiring him to work diligently and think pragmatically while solving problems. As a teenager, Jack was a ham radio operator at a time when such activity was considered extraordinary.

He graduated from Omaha High School in 1939 (as the class valedictorian) and entered the Electrical Engineering School of Texas A&M University, from which he graduated with a B.S. in 1943. He then married his childhood sweetheart, Louise Taylor, also of Omaha, and joined the U.S. Navy as a radar maintenance officer. He served from 1943 to 1946, spending almost two years on destroyer escort duty in the Pacific. After his discharge, Jack was hired by Bell Telephone Laboratories, thus fulfilling a boyhood dream.

Working in Whippany, New Jersey, Jack spent several years in the development of military radar and communications systems. As a member of Bell's technical staff, he helped to develop the first radar system for freighters sailing on the Great Lakes. He also developed the first postwar high-altitude bombing system.

At the same time, he pursued graduate work and received his M.S. in electrical engineering in 1950 from Stevens Institute of Technology in Hoboken, New Jersey. He then returned to Texas A&M under the G.I. Bill and was awarded a Ph.D. in electrical engineering in 1952.

On rejoining Bell Laboratories, Dr. Baird resumed military development work with particular emphasis on the application of transistors and other solid-state electronic devices. He advanced rapidly from supervisor to department head to assistant director, until he eventually became director of military systems development in 1958, only six years after returning to Bell Labs.

During this period, Jack's projects included the first application of transistors to digital computers. His pioneering work began with TRADIC (Transistorized Airborne Digital Computer), which evolved into LEPRECHAUN, a radically new computer that was developed for programming and logical-design research on digital computers for military real-time control applications. At the same time, Jack was also responsible for the development of the first transistorized mortar shell proximity fuses.

As a director, Jack was involved in the development of the digital computer for the Nike Zeus anti-ICBM (Intercontinental Ballistic Missile) system, which later was successfully demonstrated at Kwajalein Island in the Pacific Ocean. Jack presided over an enormously demanding cooperative effort that combined the specialized skills of a wide range of AT&T talents plus those of some fourteen major subcontractors and hundreds of other small subcontractors.

In 1961, as director of military switching development, Jack supervised the development of a major circuit and message switching network sponsored by the U.S. Army Signal Corps—Project UNICOM, which was eventually known as the Defense Automatic Integrated Switch (DAIS) system. The development of the system was carried out under the direction of Bell Laboratories with International Telephone and Telegraph Corporation (ITT) and Radio Corporation of America (RCA) as associates. This work resulted in the first demonstration of an electronic time-division switch, the fundamental concept that is now used in multiplexing and switching of digital transmission signals. The foremost contribution of the project was its demonstration of the feasibility of very large, flexible, real-time, stored-program systems

for strategic communications. Many of the system's principal features have since been realized in operational systems.

In 1964 Jack Baird was appointed executive director of switching systems engineering at Bell Laboratories. This new post brought with it the responsibility for all switching systems studies and systems engineering of electronic and electromechanical switching systems in the Bell system. As executive director, Jack initiated significant efforts in long-range planning for the switching of local and long distance signals.

Two years later, he became a vice-president at Bell and assumed responsibility for three systems engineering divisions: transmission, switching, and data. At that point, he was directing long-range planning for the entire Bell system, planning that involved digital transmission, traffic analysis, data and video telephone services, and advanced switching systems. He held that post until 1973 when he became vice-president of engineering at AT&T. At the time of his retirement in 1983, he was vice-president of network planning and design at AT&T, as well as chairman of American Bell International, Inc. In addition, he was a member of the boards of Illinois Bell and Bell Telephone Laboratories.

During his thirty-seven years in the Bell system, Jack Baird's competency in many systems engineering areas was often demonstrated by his assignments involving heavy burdens of technical management. Despite his realization that such duties would limit his individual contributions to his field, he always accepted the challenges and undertook the tasks that his country and his company asked him to perform.

Jack Baird was the antithesis of a flamboyant executive, preferring instead to guide his subordinate colleagues into flourishing careers as they benefited from his counsel. He was a quiet, unassuming, yet incredibly talented engineer whose work continues to serve millions of people around the world. Meanwhile, he never forgot his roots and frequently visited his friends and family in and near Omaha, Texas. He was a devoted and strong husband to his wife Louise and a firm, active father to his two sons, Robert and Glen.