



John A. Throner

JOHN A. HRONES

1912–2000

Elected in 1975

“For contributions as a teacher and administrator; pioneer in the field of automatic control and leader in engineering education.”

BY THOMAS P. KICHER AND JOHN C. ANGUS

JOHAN ANTHONY HRONES was born on September 28, 1912, and raised in the Boston area. He received his primary and secondary education at the Longfellow School, Washington Irving Junior High School, and Mechanics Arts High School, and attended the Massachusetts Institute of Technology (MIT), where he received three degrees in mechanical engineering: BS (1934), MS (1936), and DSc (1942).

After a short stint in industry as the factory manager at Coldwell Lawnmower Company, he returned to MIT to begin a long and successful career as an educator and administrator in higher education. His career is best described in two separate stages, first as a faculty member and administrator at MIT, and second as the vice president of academic affairs at Case Institute of Technology and provost of science and technology at Case Western Reserve University.

At MIT, John taught in the Department of Mechanical Engineering for more than 19 years, promoted from instructor (1936) to professor (1948). He also served as the head of the Machine Design Division and director of the Dynamic Analysis and Control Laboratory. His most notable publication was an encyclopedic collection of solutions to the “four bar mechanism,” the simplest of all kinematic mechanisms, often used as the foundation for design synthesis studies.

He generated solutions for various selections of linkage dimensions and plotted the complete trace of their possible positions for a full rotation of the input link. The effort was completed before the advent of the digital computer and was published in an oversized text that required special handling by most scientific libraries. The work is still cited as the definitive authority in mechanism design synthesis and is used as a benchmark to test modern computer method results. John also made major contributions to machine control theory, which was a popular topic of the day.

John came to Cleveland in the fall of 1957 to be the educational leader of Case Institute of Technology under President T. Keith Glennan. John was the ideal candidate to follow in the footsteps of William E. Wickenden, the fourth president of Case and a nationally recognized engineering educator. Dr. Wickenden had conducted an exhaustive study of engineering education in America and Europe in 1929 and had defined the guidelines for educating the next generation of engineering students. John had been a member of the "Grinter Committee," which had prepared recommendations for the education of engineers based on "the lessons learned from World War II." Case had used the findings of the Grinter Committee to initiate a pilot experimental program in engineering science.

Shortly after John's arrival, Dr. Glennan was appointed by President Eisenhower to reorganize the National Advisory Committee for Aeronautics into the National Aeronautics and Space Administration. Undeterred, John launched a complete reorganization of the Case engineering curriculum and administration to support the new educational initiative. The pilot Engineering Science Program became the basis for a core collection of mathematics, science, and engineering courses common to all curricular programs in engineering. The Carnegie Foundation supported an effort to reorganize separate departments of engineering into a single Division of Engineering. New degree programs were defined and graduate programs in research developed. As a direct result of these efforts, Case was one of the earliest, if not the first, to offer ABET-accredited undergraduate programs in computer

engineering, biomedical engineering, polymer engineering, systems engineering, and fluid and thermal engineering science. In addition, proposals were prepared and funds secured from the Ford Foundation for the establishment of two unique graduate research centers, the Engineering Design Center and the Systems Research Center.

In parallel with the remaking of the engineering program, the humanities and social science courses were expanded and strengthened and new faculty hired. The engineering curriculum featured an extensive component of arts, humanities, and social and behavioral sciences that accounted for approximately 25 percent of the academic requirements. This part of the program was supported with a new building, including a library and music lounge with a lending library of thousands of LP recordings. John also fostered an effort to develop a unique program in the history of technology that had been initiated by the faculty.

Early in the 1960s, it became obvious that industries could use a direct infusion of basic research to bolster their competitiveness. John led an effort to directly connect local industries with Case via a "research park," adjacent to the campus, where students could participate in applied research for industry. Case was one of several universities attempting to connect with their local industries, an effort that required new educational and business norms. One of these activities led to the Chi Corporation, a state-of-the-art computing facility, available to both the campus community and local industries as a "utility." This concept is still popular today, with many universities around the country serving as the central hub of local computer activities.

John worked with a variety of industries as an engineering consultant, notably Chrysler, DuPont, and Corning. He also advised several foundations and educational institutions and was a founder and life trustee of the Asian Institute of Technology in Bangkok, Thailand, where the John A. Hrones Prize is awarded annually to a graduating student for outstanding academic performance in the graduate program in the management of technology. John was a member of the

American Society of Engineering Education, the American Society of Mechanical Engineers, Tau Beta Pi, Sigma Xi, and Pi Tau Sigma. He was elected to membership in the American Academy of Arts and Sciences (1952) and the National Academy of Engineering (1975). In 1992 he received the Bronze Beaver Award from the MIT Alumni Association for his distinguished service to the institution.

His son Steve remembers that his father was a sports enthusiast. He played hockey in high school and as an undergraduate at MIT he was captain of the hockey team, but later he took up free-style skating. He also enjoyed tennis and after retirement he swam almost every day.

His daughter Janet wrote that

His family was very important to him. He was a wonderful father and had outstanding relationships with his seven grandchildren. He took his wife and four children to Europe for six months in 1956 while on sabbatical. During his busy life as a professor at MIT, he found time to be president of the School Board in Wellesley, Massachusetts, for many years.

She added that he loved MIT and that, in his retirement years, he was president of the MIT Club in southwest Florida.

John was married to Margaret Baylis for 53 years before her death in 1991. They raised two daughters, Janet Roach of Waldron Island, Washington, and Mary Parsons of Ann Arbor, Michigan, and two sons, Stephen of Concord, Massachusetts, and John A. Jr. of Needham, Massachusetts. John maintained his fondness for the New England area, dividing his time in retirement between Jaffrey, New Hampshire, and Sarasota, Florida. When John died in 2000, memorial services were held in Jaffrey, which coincidentally is the final resting place of William E. Wickenden, his predecessor at Case.

At Case, John was most effective in working with faculty and administrators through private conversations and negotiations. Those who were mentored by John, as either students or staff, express a deep appreciation for the opportunity and credit John with having had a major influence on their careers. He was the prime mover for many successful

programs at Case that were emulated elsewhere, and was recognized for his educational leadership by his election to the National Academy of Engineering.

Personal papers and university documents provided by CWRU Archives.