

# **Frederick Seward Erdman**

*October 27, 1901 — September 22, 1968*

Frederick Seward Erdman, professor emeritus of mechanical engineering, died suddenly on September 22, 1968.

Professor Erdman was born in Sidon, Lebanon (formerly Syria), where his parents, Paul Erdman and Amanda Cleveland Jessup, were missionaries. He completed three years of high school at the American Community School in Beirut, Lebanon, before his family moved back to the United States. His fourth year of high school was spent at Mercersburg Academy, Mercersburg, Pennsylvania, and after graduation he was admitted to Princeton University.

He had four busy years studying at Princeton where he was a member of the crew and also a member of the glee club.

After graduating from Princeton in 1924 with a B.S. degree, Professor Erdman went back to Lebanon where he taught physics and general sciences for a year at the American University of Beirut.

In 1925 he returned to the United States and entered Massachusetts Institute of Technology. He completed his studies for the engineering degree in 1927 and was awarded the B.S. in mechanical engineering. From 1927 to 1928 he worked for the Worthington Pump and Machinery Corporation at Cincinnati, Ohio, mainly to get practical engineering experience in research and design. In 1928 he accepted an assistant professorship at Robert College in Constantinople, Turkey. The crossing of the Atlantic was also a honeymoon voyage, as Professor Erdman was married to Mary W. Nicol just before leaving. He taught various engineering subjects to college juniors and seniors for the next eight years. The teaching experience instilled in him the desire for more advanced study; therefore, in the fall of 1936 he came to Cornell University on the Sibley Fellowship and began working for his Master's degree by conducting research on hydraulic or jet propulsion of ships. His findings here revealed that previous attempts to put this theory into practice failed because of inadequate pumping mechanisms. This fact led directly to his investigation of propeller pumps for his Ph.D. thesis. He was awarded a Master's degree in 1937 and the Ph.D. degree in June 1941.

In July 1941 he was appointed assistant professor of mechanical engineering at Cornell University. He was promoted to associate professor in 1944 and professor in 1949.

During his membership on the faculty he taught required and elective courses and also performed studies for the frozen food industry with special reference to engineering features.

In 1948 he was a visiting engineer at the Brookhaven National Laboratory and for the next three years was retained as a consultant on a liquid-metal pump project.

His 1955-56 sabbatic leave was devoted to helping the Cleveland Electric Illuminating Company solve their turbogenerator problems.

He published several papers in the areas of fluid dynamics, refrigeration and instrumentation. He was the coauthor of a classic book entitled *Principles of Food Freezing*.

In February 1961 Professor Erdman was appointed associate dean of the Graduate School and he held this position until his retirement in June 1967.

Professor Erdman was highly respected by his students as an excellent teacher and a strict, but very fair person. He was especially known for his precise definitions of technical terms and clear explanations of some very difficult technical topics.

Besides his scholastic activities, Professor Erdman was frequently a consultant to several engineering companies involved in fluid dynamic problems, and he was also several times an expert witness in gas explosion trials.

Professor Erdman was a deacon, elder, and chairman of the Session executive committee of the First Presbyterian Church in Ithaca; secretary-treasurer of the Board of Trustees of Beebe Chapel; and chairman of the Board of the Catherine Street Missionary Apartments.

He was president of the Cornell chapter of the American Association of University Professors; member of the American Society for Engineering Education and former member of the regional executive committee; member of the American Society of Mechanical Engineers; and member of the American Society of Heating, Refrigerating, and Air Conditioning Engineers.

His main recreation was sailing, and he maintained a sailboat on Cayuga Lake for many years.

Professor Erdman is survived by his widow, Mrs. Mary Nicol Erdman of Ithaca; four daughters, Mrs. David Blais of Omaha, Nebraska, Mrs. Douglas Merkle of Colorado Springs, Colorado, Mrs. Horace Mann of Montgomery, Alabama, and Miss Constance Erdman of Ithaca; a son, Frederick Seward Erdman, Jr., of Rochester; and ten grandchildren.

All those who knew him intimately will remember him as a righteous person and a loyal Cornellian.

*W. Donald Cooke, Howard N. Fairchild, David Dropkin*