

# MEMORIAL RESOLUTION

## CEDRIC W. RICHARDS

(1913 -2002)

Cedric W. Richards, Professor Emeritus of Civil Engineering, died on October 22, 2002 at the age of 89 in Portola Valley, a few miles from the Stanford campus. He died peacefully, surrounded by his immediate family, in the house that he personally built fifty years ago and in which he and his wife Mary Helen raised their four children and lived until their deaths.

Cedric joined the Stanford faculty as an Assistant Professor in 1953 and served full-time until his retirement in 1978. He then was recalled to active duty from 1978 to 1981. Throughout that entire period Cedric was an active teacher and researcher in the field of engineering materials. He was particularly concerned with the properties of materials—how to describe them and how to improve them.

Born on March 3, 1913 in Lincoln, Nebraska, Cedric was educated at the University of Nebraska where he received a BS degree in architectural engineering in 1933. After graduation, he worked for a year for the Nebraska State Highway Department (1933–34) and then became Manager of his father's business, the Richards Organ Company, where he learned to tune organs and acquired his life-long love of music. In 1942 he became an Instructor at the University of Nebraska, and in 1944 at age 31 joined the United States Navy. He served as a Lieutenant in the Navy until 1946 and then came to Stanford as a graduate student where he received an MS degree in Civil Engineering in 1948 and a PhD in Engineering Mechanics in 1953.

While working toward his doctoral degree at Stanford, Cedric served as Instructor in Civil Engineering from 1949 to 1952. Then he took a position as Assistant Professor at the University of Massachusetts (1952– 53) but returned to Stanford as an Assistant Professor in 1953. He became an Associate Professor in 1961 and Professor of Civil Engineering in 1969.

Cedric authored a major textbook on engineering materials, published in 1961. Titled *Engineering Materials Science*, this book introduced a new approach to the way the subject was taught to engineering students. The emphasis was on *why* materials behave the way they do, rather than the traditional empirical approach of measuring the properties of particular materials. The book was adopted at many engineering schools and was published in both British and French editions.

Cedric's research on the properties of concrete, with a focus on the absorption of vibrations, led to a better understanding of cements and concretes, and his studies of the engineering properties of polymers helped to bring these materials into more common use for structural purposes. In the case of concrete, his studies included the effects of internal friction, creep, shrinkage, moisture transport, and high temperatures. Numerous doctoral

students worked on these projects, and his research grants came from agencies such as the National Science Foundation and the Bureau of Mines (Department of the Interior).

Within the teaching functions of the Civil Engineering Department, Cedric's role was crucial. His courses ranged from basic mechanics courses in the then undergraduate "common core" to specialized graduate courses in materials. In the area of materials he was the department's indispensable specialist. Cedric was an excellent teacher and engineering students from many fields flocked to his classes in basic mechanics.

Cedric served on committees of the American Society for Testing and Materials (ASTM) and in 1969 was chairman of the Materials Division of the American Society for Engineering Education (ASEE). His memberships also included the American Society of Civil Engineers (ASCE) and the American Concrete Institute (ACI). In 1961–62 he studied in the Netherlands at the Technical University at Eindhoven, and in 1964 he conducted research at the Swedish Concrete Research Institute in Stockholm. At Stanford he brought several foreign engineers and researchers to the campus for extended periods of study and research.

Cedric grew up in Nebraska where he was home-schooled by his parents until about the 6th grade. He showed an early love of mathematics, which carried over into his academic career. He was a builder by nature and was meticulous in cabinetry and home building (besides his own house, he personally built several others, including the current home of his son John).

The Richards family was very close and Cedric took great pleasure in family activities, including hiking and traveling together. During his extended periods of study and research in the Netherlands and Sweden his entire family went with him and absorbed the new cultures, including much travel in neighboring regions. He was a strong supporter of his wife Mary Helen's institute on "Education through Music." This program was conceived by Mary Helen and is still functioning today.

Cedric is survived by his four children, Trudi Espinet of Portola Valley, John Richards of Portola Valley, Suzanne Schrift of Albany, California, and Robin Quinteros of Massachusetts, and seven grandchildren. His wife, Mary Helen, died in 1998. At the time of her death, they had been married for 53 years. A memorial service was held for Cedric at the Ladera Community Church, the family church that he and Mary Helen attended for many years.

Committee:

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