



In Memoriam

## William W. Michael

1885-1977

A Tribute by Paul C. Jennings

William W. Michael was born on July 13, 1885, in Palatine Bridge, New York. He received the BS in civil engineering from Tufts College in 1909 and was then employed for nine years by the J. G. White Engineering Corporation, where he worked on numerous hydroelectric construction projects. Joining the civil engineering staff of the California Institute of Technology in 1918, when it was still Throop Polytechnic Institute, he served on the faculty for 38 years and retired as profes-

sor emeritus in 1956. He died on July 2, 1977, just 11 days short of his 92nd birthday.

Professor Michael was a life member of the American Society of Civil Engineers, and a member of the American Road Builders Association, Sigma Xi, and Theta Delta Chi. He was also a Rotarian and a Mason, and he served as president of the board of trustees of the Throop Memorial Church for several years.

At Caltech he taught many of the undergraduate courses in civil engineering, teaching several thousand students during his career. He is remembered as a patient and gifted teacher with a fine sense of humor, and a student adviser par excellence. His particular specialty was precise surveying, and his expertise in this area led to frequent requests to serve as consultant on engineering projects. He was consultant to the Lands Division of the Department of Justice in the handling of cases involving the relocation of highways that were closed to accommodate federal facilities. He was associated with many of the mapping projects and surveys made in the early development of southern California, including the Palos Verdes area, and he made the topographic surveys of Palomar Mountain required for the construction of the 200-inch telescope at Palomar Observatory. He also served as consultant to the Los Angeles County Flood Control District.

To many members of the Caltech community Bill Michael was best known for his skill as a fisherman. At the age of 10 years he was coached by a favorite uncle in fishing in the Catskills, and this led to a lifelong study of fishing from the scientific point of view. He wrote an authoritative and popular book, *Dry-Fly Trout Fishing*, published by McGraw-Hill Book Company in 1956. He also wrote articles on fishing for such magazines as *Outdoor Life*, *Colliers*, and *Hunting and Fishing*. He was recognized as one of the top trout

fly-fishermen in America.

His favorite waters were in Idaho, where he went fishing every summer or fall until he was well into his 80's. He had a fund of fishing stories, many from the days before southern California was so populated: of driving to Hot Creek near Mammoth when the road from Mojave was unpaved; of steelhead trout running in the San Gabriel River; of catching brown trout in Bouquet Canyon; and of many successful trips for brown and rainbow trout to the San Gabriel River before the great flood of 1938.

His greatest fishing tragedy was the failure to land the largest trout he ever hooked. He describes the incident in his book. The brown trout, a monster nearly a yard long, was lost because of a bungling attempt at netting the fish by an inexperienced fishing companion. It is characteristic of Michael that he did not identify the angler who failed him at such a crucial time. In later years he would identify the stream capable of growing such a giant fish, but the unfortunate net handler was never named. At the age of 90, Michael's advice to his young friends was, "Get in all the fishing you can, while you can."

Professor Michael is survived by a son, William D. Michael, who is professor of psychology at the University of Southern California.

Bill Michael led a full and active life, pursuing, with excellence, both his vocation and his avocation. He will be missed and remembered by those who had the privilege of knowing him.

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*Paul Jennings is professor of applied mechanics and civil engineering and executive officer for both of these options at Caltech. He is also, like Michael, a devotee of fly fishing.*

## Don M. Yost

1893 - 1977

A Tribute by Terry Cole

With the passing of Don Yost, professor emeritus of inorganic chemistry, on March 27, the Institute lost one of the few remaining links with its beginnings. Don served Caltech, chemistry, his country, and the cause of scholarship for over 50 years. He is survived by his widow, Marguerite; children, Max Caley Yost and Helen Marguerite Yost; and two foster children, William Neal Yost and Bettie Yost Long. As Don's last graduate student, I am honored to commemorate his career.

It has always seemed to me that Don's pioneer youth had a profound influence on his character and unique approach to science. He was born in the village of Tedrow in northwestern Ohio. By 1899 economic conditions forced his father to give up farming there and move, first to the lumbering camps of northern Wisconsin, and finally, in 1902, to a ranch in the Boise Basin of southwestern Idaho.

Don's often-interrupted education continued at a frontier school near the ranch. Its enrollment consisted of about ten children and a half dozen wintering cowboys. He once remarked that the lessons were far from memorable, but the exhibitions of fancy horsemanship by the cowboys at noon recess were always exciting. During high school Don acquired his enduring fascination with mathematics and languages so familiar to later generations of his students. Although no science courses were offered in those days, he taught himself enough electrical theory to build a crystal radio set using galena crystals he found in the surrounding mountains.

In the summer of 1914, his accep-

tance in hand and the \$10 out-of-state tuition paid, Don arrived, via rail and steamship, in San Francisco to begin his college education at UC Berkeley. His freshman year was decisive; by the summer recess he had found his calling through the inspired teaching of his chemistry professor, Joel Hildebrand, and a young lab instructor, Richard Tolman.

During his second year Don met, and in the following year married, Susan Marguerite Sims, later affectionately known to his students as Mamacita. A month after their marriage the United States entered World War I, and Don enlisted in the Navy, where he served for three years. He graduated from Berkeley in 1923.

At the urging of Professor Walter Bonner of the University of Utah, where Don spent his first year as a graduate student, he applied for graduate work with Arthur A. Noyes at the fledgling Institute. His career at Caltech was brilliant and wide ranging. Upon receiving his PhD (magna cum laude) in 1926, he was appointed instructor in inorganic chemistry and began the application of the most modern physicochemical techniques to the elucidation of the chemistry of the rarer elements. A Rockefeller Fellowship in 1928 took him to study X rays with Manne Siegbahn at Uppsala and the newly discovered Raman effect with Peter Pringsheim, at the University of Berlin. Upon his return he began pioneering applications of Raman spectroscopy to the determination of molecular structure and the thermodynamic properties of inorganic halides. His work on the volatile fluorides brought him international recognition.

In collaboration with Louis Ridenour and Edwin McMillan he helped to found the chemistry of artificially radioactive elements. During the 1930s Don published over 50 papers contributing to chemical kinetics, gas equilibria, the chemical effects of X rays, electrochemistry, the chem-