WILLIAM HARRISON CORCORAN

1920–1982

BY CORNELIUS J. PINGS

WILLIAM H. CORCORAN, Institute Professor of Chemical Engineering, California Institute of Technology (Caltech), died on August 21, 1982, while vacationing in Hawaii with his wife, Martha. A scientist and engineer of extraordinary talent and achievements, he departed in the midst of a brilliantly productive career.

Dr. Corcoran attained great distinction as a research expert, educator, educational administrator and fund raiser, industrial consultant, and as the author or coauthor of more than ninety scientific papers and three books.

At Caltech he demonstrated his research virtuosity in a range of studies in biomedical engineering, chemical engineering kinetics, engineering design, process development of pharmaceuticals, rocketry, and transport processes.

Particular attention came to him from the international scientific community for his laboratory studies of the fluid mechanics of artificial heart valves. In these studies Dr. Corcoran and his research colleagues applied laser-Doppler anemometry (using laser beams to measure accurately the flow of fluid through the heart valves). He contributed significantly toward the development of improved artificial valve designs.

It was "in recognition of his outstanding scientific accomplishments and his great contributions of the past 27 years" that Caltech bestowed upon him the title of Institute Professor. Institute professorships are prestigious faculty positions and Caltech's highest honor.
for members of the faculty. When Dr. Corcoran was appointed to this position in 1979, he became the third person so honored in the history of the Institute.

As an Institute Professor, he took the leadership responsibility for developing a Caltech energy program to make a unique contribution to the Nation's energy needs.

As highly versatile as he was capable, Dr. Corcoran possessed fund-raising skills that had a tremendously beneficial impact upon the California Institute of Technology. In the decade 1969 through 1979, as First Vice-President for Institute Relations, he was responsible for all Caltech's fund-raising activity, including a $71-million campaign and a $130-million campaign, both completed with total success.

Dr. Corcoran was a most dedicated educator whose bright record clearly testifies to his total devotion to the cause of higher learning and especially to science and engineering. Dr. Harold Brown, Caltech President from 1969 to 1977 and later Secretary of Defense, said the following of Dr. Corcoran:

Bill Corcoran displayed devotion to the institution and to chemical engineering as a professorial discipline. He was an outstanding researcher, and remarkably talented at raising money as Vice-President for Development. But what impressed me most of all about Bill and Martha was how much they cared about Caltech students, undergraduate and graduate—not only as a group, but as individuals. Bill regarded his own research students as members of his family. He cared about their development as citizens, as caring people, as mature adults—as well as professional scientists and engineers. No wonder they, and all of us who knew him, miss him so much.

Born in Los Angeles on March 11, 1920, this long-time resident of San Gabriel, California, earned three degrees from Caltech: B.S. in applied chemistry, 1941; M.S. in chemical engineering, 1942; and Ph.D. in chemical engineering, 1948. He was one of the first two people to receive this doctorate from Caltech. In the course of his undergraduate years, he played four years of intercollegiate baseball.

His graduate work stopped temporarily for World War II, but in 1942 he was still on campus, at this point as a Research Supervisor
and Development Engineer for the National Defense Research Committee for the Office of Scientific Research Development. His work focused on the interior ballistics and processing of propellant for artillery rockets and on the firing mechanism of the atomic bomb.

In 1948 he joined the Cutter Laboratories in Berkeley as Director of Technical Development. Caltech persuaded him to return to campus in 1952 as an Associate Professor, and five years later he was awarded a full professorship.

Many professional educational organizations were proud to claim Dr. Corcoran as one of their leaders. Among these were the American Institute of Chemical Engineers (which he served as President in 1979), American Chemical Society, American Institute of Chemists, American Society of Mechanical Engineers, American Society for Engineering Education, American Ordnance Association, Catalysis Society of California, American Association for the Advancement of Science, American Institute of Aeronautics and Astronautics, and National Society of Professional Engineers.

His scholarship and research contributions earned him an array of honors, including the Engineer of the Year Award from the Institute for the Advancement of Engineering in 1980, the same year he was elected to the National Academy of Engineering. Among his other honors were the Lamme Award of the American Society for Engineering Education for excellence in his profession, the Western Electric Fund Award for excellence in teaching, the Founders Award from the American Institute of Chemical Engineers for impact on his profession, and the Educational Achievement Award from the California Society of Professional Engineers. Dr. Lee A. DuBridge, President of Caltech from 1946 to 1969 and later Science Advisor to the President of the United States, reflected as follows:

The characteristic which made Bill Corcoran such a highly valued member of the Caltech faculty was his versatility-his very broad range of interests and talents. He was a first-class chemical engineer, a superb teacher, a fine administrator and a valued friend and counsellor to both students and faculty. He was always an asset to each of the many Institute activities in which he engaged-academic, athletic, social or administrative. Above all, he was a man of high ideals, sterling character and a fine husband and father.
To win the enthusiastic accolades and discerning admiration of one's colleagues and contemporaries is a most meaningful triumph for a rigorous scholar and educator. Such was the recognition accorded William Corcoran in the many realms of higher learning that he inhabited and enriched.

His example is to be admired, certainly, emulated if possible, and looked to as a source of inspiration always.