



Edmund Titus Cranch

November 15, 1922 – February 4, 2015

If one were 17 and had the choice of touring the country in a popular dance band or studying engineering what would you do? This was the choice of former Engineering Dean and Sibley School graduate Professor Edmund Cranch who in February 2015 passed away at the age of 92. He helped create the department of Theoretical and Applied Mechanics (T&AM) and co-authored a pioneering engineering mathematics text used at Cornell for many years. Ed was the principal author of the so-called Cranch Report in 1974 that found the University finances in serious trouble and he went on to become the 12th president of Worcester Polytechnic Institute.

Ed was born in Brooklyn on November 15, 1922 and grew up in Westfield New Jersey. In 1941 he enrolled at Newark College of Engineering for two years and in 1943 enlisted in the Navy V-12 program at Cornell University, earning his BSME in the Sibley School of Mechanical Engineering in 1945. He served as ensign aboard a Navy ship, the USS Providence, that sailed to the Mediterranean Sea. Before returning to Cornell to take up graduate studies, Ed worked briefly at Bell Labs in New York City on electromechanical devices (1947-48). He returned to Cornell and earned his Ph.D. in 1951 in engineering mechanics, mathematics and physics. He was hired as an assistant professor in engineering mechanics. He rose quickly through the faculty ranks to become the first head of Theoretical and Applied Mechanics, a graduate research and undergraduate service department in the College of Engineering from 1956-1968.

Professor Cranch believed in the educational value of teaching mathematics in the context of engineering problems. Beginning in the late 1950's, Ed worked with Professor H. David Block of T&AM and Peter Hilton and Robert Walker of Mathematics to write one of the first engineering math texts to incorporate the digital mathematics of the emerging computer age. This book became a mark of Cornell engineers as they carried the enormous pre-published math text to class for more than a decade. In establishing Theoretical and Applied Mechanics Ed believed in the value of teaching applied mathematics in engineering and hired H. David Block and Geoffrey S.S. Ludford to create a popular sequence of graduate applied mathematics courses in T&AM in the 1960's. He also realized the struggle to strike a balance between theory and practice in engineering. He is quoted as saying "in teaching and research the pure will drive out the applied."

In 1970 Professor Cranch was elected to a five year term on the Cornell Board of Trustees, serving on the executive committee for four years. He also became associate dean of the College. He was asked by President Dale Corson to chair a faculty Advisory Committee on Financial Planning to study University finances in March 1971. At the time there was scant literature on the economics of research universities. Ed served with Cornell economist Fred Kahn. The committee concluded that Cornell's endowment could not sustain Cornell's mission without both increased resources and faculty productivity. The release of this report in 1972 came at the time of a U.S. recession sparked by the end of Vietnam War spending, the end of the Moon missions and an energy crisis. The findings became known as the Cranch Report and was immediately controversial among the faculty. Its findings heralded the increase in undergraduate enrollment by 2000 students in the late seventies and the accelerated growth of contract research grants.

In 1972 Edmund was chosen to become the 6th Dean of the College of Engineering. Under his leadership he brought Geology into the College. He helped convince alumnus Lester B. Knight '29 to establish the Knight Lab that later became the Cornell Nanoscale Facility. He actively supported expansion of the Materials Science Center and the Center for Environmental research and sought increased funding for the Master of Engineering Program. Ed said his leadership philosophy was inspired by earlier Dean Hollister, that is, hiring excellent faculty and letting them create exciting research at Cornell.

In 1978 Professor Cranch was invited to become the 12th President of Worcester Polytechnic Institute (WPI). In an interview in 2012, Ed said he found WPI a strong technical institution with challenges to move into more science-based engineering, bio-engineering and an MBA program which he felt were his major contributions. During his tenure 1978-1986, WPI enrollments increased and the endowment doubled. He helped expand WPI's traditional links to industry as well as supported automated manufacturing and robotics laboratory programs. During Cranch's presidency WPI underwent major renovation and expansion of Washburn Shops and dormitories.

He was further challenged by an offer from An Wang the head of Wang Laboratories to establish a graduate institution centered on software engineering. As first president of Wang Institute of Graduate Studies in 1986, Cranch hired a number of faculty and established a curriculum and classes that attracted several hundred part-time students. After two years however, financial conditions changed and Wang Institute was closed in 1988. Disappointed but not disheartened he became the Granite State Professor at University of New Hampshire and worked on the emerging field of long distant education.

Edmund Cranch was a man of his time. His tenure as department head, dean and university president from 1956 - 1986 coincided with the rise of applied science and mathematics in engineering education spurred by the Cold War and the 'Space Race.' Since that era, the emergence of digital technology, global economic competition from Asia and low wage economies have re-focused U.S. engineering education toward design, manufacturing and innovation, some of these initiatives Cranch helped establish at WPI in the 1980's.

In 1985 Edmund Cranch was elected national president of the American Society of Engineering Education. He was an NSF Fellow and a member of President Reagan's Advisory Council on Private Sector Initiatives. He was also a Fellow of the American Society of Mechanical Engineers and as a student was elected a member of the engineering honor society, Tau Beta Pi and president of Cornell chapter of Sigma Xi. Ed was awarded honorary doctorates from Villanova University (1982), WPI (1985) and Milwaukee School of Engineering (1993).

Ed's wife of seventy years, Virginia Harrison was a graduate of Russell Sage College. She was a nurse at Cornell's Infirmary during the time Ed was a student at Cornell. They married in March 8, 1945. Virginia and Ed had three children; Virginia (b. 1946), Edmund (b. 1948), and Timothy (b. 1942). As of 2015, they had five grandchildren and three great grandchildren. Virginia Cranch lives in Bonita Springs, Florida. According to his family obituary, he had a "scientist's appreciation of the threat of mutual thermonuclear destruction and studied the teachings of Mahatma Gandhi." In Ithaca, Ed and Virginia were members of the Society of Friends (Quakers). While a Navy student at Cornell, Ed played hockey on Beebe Lake. This love of hockey continued as Ed and Virginia were season ticket holders at Cornell's Lynah Rink. Today those season tickets were handed down to the co-author of this memorial, Professor Joseph Burns and his wife Judy. Ed had hired Joe in T&AM in 1968.

From this brief outline of Edmund Cranch's career, it is clear that from the time he came to Cornell he was on a path to become an academic and administrative leader in engineering education accepting the challenge of change and transition. His colleagues in Carpenter Hall found him open and accessible and truly interested in people and solving problems. Former Director of Development in the College Don Berth wrote, "As dean he showed an uncanny skill at ranking priorities—he had an underlying courage and toughness. Still, he respected the opinions of others." Ed and Virginia always shared a love and loyalty to Cornell, returning in later years to spend their summer months in Ithaca, and sometimes going to lunch with colleagues in Theoretical and Applied Mechanics.

In a web interview with one of Ed's hires, Professor Emeritus Francis Moon, Cranch revealed that in the late 1930's as a teenager he was an up and coming jazz cornet player. He often went to NYC to hear the Duke Ellington band and Louis Armstrong. He already played in bands on the Jersey Shore when his amateur jazz band entered a contest at the NY World's Fair of 1939 and won a chance to tour the United States. Tempted but not having the temperament for a life on the road in a band bus, he decided to study engineering and the rest is history.

Francis C. Moon, chair and Joseph A. Burns

This summary of Edmund Cranch's life and career was written with input from the 2012 conversation between Ed Cranch and Frank Moon on the Cornell oral history website, the Ithaca Journal Obituary, the Cornell Chronicle Obituary, the 1972 Chronicle Summary of the Cranch Report, the Engineering Quarterly article of 1986 summarizing Edmund Cranch's term as dean by Don Berth, as well as personal memories of the authors.