

MEMORIAL RESOLUTION

JOSEPH MAYO PETTIT (1916 – 1986)

Joseph Mayo Pettit, Professor of Electrical Engineering, and President of the Georgia Institute of Technology, died on September 15, 1986 in Atlanta, Georgia after an eleven-month battle with cancer. Pettit was dean of the Stanford School of Engineering from 1958 to 1972, and went to Georgia Tech as president in the latter year.

Born in Rochester, Minnesota on July 15, 1916, Joe was the son of Joseph Asahel and Florence (Anderson) Pettit. His father, a surgeon at the Mayo Clinic, wanted his son to follow in his footsteps, but Joe displayed engineering talent at a very early age. He received his Bachelor of Science degree in 1938 at the University of California at Berkeley. Transferring to Stanford in that year, he obtained the degree of Electrical Engineer in 1940 and the doctorate in 1942. He was married to Florence Rowell West in 1940, and is survived by her; by a son, Joseph B. of Santa Barbara, California; two daughters, Mrs. Marjorie Wilbur and Mrs. Marilyn Backlund, both of Palo Alto, and three grandchildren.

From 1942 to 1945, Pettit served with the National Defense Research Committee's Radio Research Laboratory at Harvard University. The staff of this laboratory, which was devoted to radar counter-measures, eventually numbered in the order of 1000; Pettit became the assistant executive engineer. In 1944, he was a technical observer with the USAF, serving in Indo-China. For this he received the Presidential Certificate of Merit. In 1945, he served as associate technical director of a branch laboratory in Malvern, England.

From 1945 to 1947, he was a supervising engineer at the Airborne Instruments Laboratory in New York City. In the latter year he returned to Stanford as an Associate Professor of Electrical Engineering, receiving his full professorship in 1954. He was author or co-author of three engineering textbooks published by McGraw-Hill, and was a major contributor to a two-volume compendium -- the results of the Harvard laboratory's wartime research.

In 1958, after a year as Associate Dean under Fred Terman, Joe succeeded Fred as Dean of Engineering. This was at the beginning of the "Sputnik" era and Joe was quick to see the opportunities for growth, and an opportunity to lead a good but provincial engineering school into national prominence. Under Terman's leadership the Electrical Engineering Department had already made that move, but the remainder of the School had a long way to go.

The next thirteen years were indeed an extraordinary period. The University itself, with Fred Terman taking charge as Provost during the first eight years, became a national force, and the School of Engineering under Pettit led the way. The departmental structure was expanded from five departments to ten. The departments of Material Science and Engineering, Applied Mechanics, Operations Research, Chemical Engineering and Engineering Economic Systems were added. Funds for expansion became available and Joe was able to get major grants from both the National Science Foundation and the Ford Foundation to make this expansion possible.

Major new buildings, including the McCullough Building for Electrical Engineering and the newly formed Center for Materials Research, the Durand Building for the Aeronautics and Astronautics Department and the Space Sciences program, and the Skilling classroom building, were all built during this period.

At the same time, the sponsored research program expanded several fold, and although the program in Electrical Engineering continued to be the largest, all of the departments participated in an unprecedented expansion. This period saw the School of Engineering emerge as one of the major graduate engineering schools in the country, while the undergraduate program continued as a more uniquely liberal education experience than at most other engineering schools.

How far the School had come under Pettit's leadership became evident in 1965 when the results of the first national survey of graduate engineering programs were published (The Carter Report). Every department had become one of the leaders in the country.

By the end of the '60s Stanford was the leading producer of PhDs in Engineering in this country.

All of this expansion required a much larger faculty, and as Dean, Joe Pettit played a very major role in recruiting the faculty that was really the key to all the subsequent success of the School. Whole new areas of research were initiated by appointments of people with established reputations while more rigorous criteria were enforced in the appointment of junior faculty.

Pettit was elected an early member of the newly formed National Academy of Engineering, and by the end of his tenure Stanford was exceeded only by MIT in the number of National Academy of Engineering members on its faculty.

Educational innovation was of great interest to Joe, and he was undoubtedly the foremost national pioneer in the development of televised instruction as an adjunct to the graduate program. He introduced a radically flexible undergraduate academic program, and the use of student ratings of instructors, though not a new idea, was nevertheless introduced and developed by Joe.

His interest in education led him to be very active in the American Society for Engineering Education, culminating in his being elected president of that institution. From that point on he was universally recognized as one of the two or three national leaders in engineering education.

By 1971 he was ready for a change, and the call came from Georgia Tech. The move to Georgia Tech brought a succession of challenges which Pettit met with enthusiasm. His basic ideas were firm, and largely enunciated in his inaugural address -- recruiting and retaining outstanding faculty, strengthening the graduate program, upgrading of facilities, and always with quality as the goal.

His colleagues have remarked upon his overriding insistence on quality. Their consistent support was enlisted by his ready acknowledgment of the achievements of individuals and

groups, by his leadership, and steady availability for consultation and advice. The success which attended his planning also was no doubt contagious.

During Joe's 14-year tenure as president, both undergraduate and graduate enrollment increased by 40%. (The female student enrollment increased five-fold, to over 2,300 by 1986). The link between an effective graduate program and suitable research opportunities had been firmly established in the Stanford experience. With his strong encouragement, research expenditures increased over 800%, to more than \$100,000,000 in 1985-86. The additions and improvements in facilities ranged from new student residences and academic buildings to the bookstore and athletic areas. They included a research building on the Tech campus designed to facilitate interactions with Atlanta's plans for expansion as a major technology center, and into the State as a whole in accord with a long-standing Institution mission.

Looking to the 1986 Centennial Year observance, Pettit initiated a five-year \$100 million Centennial Campaign in 1983. It was to be completed in 1988. The goal was in fact met in June 1986, prompting him to remark, "What we have set out to do we have accomplished, like good Georgia Tech engineers -- within budget and ahead of schedule."

It is perhaps illustrative of the full range of Joe's interests, and administration, that the Institute in its Centennial Year observance established in his honor an endowed chair, a graduate fellowship program, and an athletic scholarship.

While he felt secure in his plans and actions in the academic domain, his background was not always as complete for dealing with some other matters coming before a president. He was apt to remark, not always humorously, about his involvements with the State Government, or about the problems of finding a football coach acceptable to all constituencies.

The Pettits spoke at times of a hope to return to the Stanford community, possibly upon his retirement in 1987. It is fortunate for a great many that the Georgia Tech years, the crowning period in a remarkable career, have left a visible wealth of accomplishments whose values will be favorably felt for years to come.

William M. Kays, Chair
William R. Rambo
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