STANFORD UNIVERSITY
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MEMORIAL RESOLUTION
ROBERT F. MOZLEY
(1917-1999)

Robert F. Mozley, best known for his contributions to high-energy particle physics and his work on problems of arms control, died on May 24, 1999 at Stanford University Hospital. His death was caused by complications following abdominal surgery.

Robert Mozley was born in Boston in 1917 and was educated at the Springfield, Massachusetts public schools, Exeter Academy, and Harvard University (B.A. 1938). In 1940 and 1942, following a stint teaching high school in Hawaii, he traveled extensively in Asia, including Japan and Japanese-occupied Korea and China. In a letter home from Japan in late 1940 he wrote: "One of the most noticeable things now is that every foreigner is considered a spy, and every ten-cent store and village police station is considered a military secret." He left Japan shortly before the bombing of Pearl Harbor. During WWII he worked at the Sperry Gyroscope Company, where he was responsible for the design of the automatic range-tracking unit for the tail-gun radar of the B-29 bomber. From 1945 to 1950 he was a graduate student in physics at the University of California, Berkeley, where he earned his Ph.D. in 1950. At Berkeley he worked under the direction of Luis Alvarez and W.K.H. Panofsky on the construction of the first proton linear accelerator and he did experiments on the life-time of the neutron and on high energy photo-production of mesons.

Robert Mozley moved to Stanford University in 1953 as an Associate Professor at the Stanford Linear Accelerator Center (SLAC) and became a Full Professor in 1962. He greatly improved the design and performance of the control system of the MARK III GeV linear accelerator, which he used to carry out numerous experiments. He supervised the Ph.D. thesis of several students, including that of one of the signers of this Resolution (R. E. T.) He then participated with his colleagues in the preliminary design of the SLAC electron linear accelerator, which led to the 1957 construction proposal for SLAC. He continued work at SLAC until his retirement in 1987.

While at SLAC, Mozley led a group that developed a two-meter-long streamer chambers, which was completed in 1967. The installation was used in a series of photoproduction experiments, which, among others, discovered the ρ' meson resonance. The experiments on the streamer chamber included work with kaon beams on hydrogen targets, and measurements of the form factor of the K_{long} decays and of deep inelastic muon scattering.

Starting in 1979, Mozley's group led a five-university collaboration to build the third (MARK III) large solid single spectrometer at the Stanford Positron Electron Accelerator Ring (SPEAR). Experiments on that detector produced a number of important measurements in the spectroscopy of charmed mesons, radiative J/ψ decays, and refined the precision of parameters in tau physics.

Mozley's work on the MARK III experiment led to the construction of a similar detector at the Beijing Electron-Positron Collider, which, in some sense, is the heritage of his work at SPEAR. His work at Stanford resulted in the publication of more than 50 papers on elementary particle physics. These appeared in such journals as *Physical Review, Physical Review Letters, Nuclear Physics,* and *Physics Letters.*

After his retirement, Professor Mozley worked on arms control studies. From 1987 to 1989 he was the staff physicist for the Federation of American Scientists (FAS) in Washington, D.C. During this period he worked on a cooperative research project on arms reduction involving the FAS and the Committee of Soviet Scientists for Peace and Against the Nuclear Threat. This collaboration resulted in a series of publications in *Science and Global Security* and in a book, *Reversing the Arms Race.* Starting in 1989 he worked primarily on problems of nuclear proliferation. This work benefited from his association with the staff and fellows of the Center of International Security at Stanford, which published his working paper *Uranium Enrichment Technology and Other Technical Problems Relating to Nuclear Weapons Proliferation.* During a residency in 1994 at the Rockefeller Foundation's Study Center at the Villa Serbelloni in Bellagio, Italy, he began work on *The Politics and Technology of Nuclear Proliferation,* which was published in 1998 by the University of Washington Press.

Mozley was a quiet, but exceedingly effective leader in high-energy particle physics. As an experimental physicist, he was inventive, hardworking, and resourceful. Throughout his career, he tackled important problems that challenged human ingenuity. Always deeply and genuinely concerned for everyone, he was respected by coworkers and colleagues for his fair and honest approach to problems.

His contributions to science, his gracious personality, and his friendly cooperation will be long remembered by everyone who knew him.

Committee:
Wolfgang K. H. Panofsky
Richard E. Taylor
Charles Prescott

Presented to the Senate of the Academic Council January 11,2001.

Susan Schofield
Academic Secretary to the University

John Hennessy
President of the University