



IN MEMORIAM

Sanford Samuel Elberg
Professor of Immunology and Medical Microbiology, Emeritus
Dean of the Graduate Division
UC Berkeley
1913-2011

When we look at sheep and goats in the pasture, little do most of us appreciate the economic losses from animal death and the human lives lost or compromised by the ravages of the disease brucellosis. The Rev-1 vaccine developed by Elberg and colleagues is still the leading vaccine today for global control of brucellosis in sheep and goats and the spread of the disease to humans. Sanford Elberg leaves this scientific legacy to the world and leaves to the University of California, Berkeley, a legacy of administrative excellence in the Graduate Division and the founding of a unique infectious diseases program in the School of Public Health.

Sanford Samuel Elberg was born and raised in San Francisco, where his father was a clerk in the Postal Telegraph Company. "Sandy" graduated from Lowell High School and attended the University of California, Berkeley, for both undergraduate and graduate study. His experience as an undergraduate research assistant for Karl F. Meyer and Albert P. Krueger, professors in the Department of Bacteriology, whetted his appetite for microbiology, and he narrowed his scope to bacteria that caused human disease in order to experience the rewards of research directly applicable to promoting human welfare. He received a Ph.D. in bacteriology in 1938 under the mentorship of Karl F. Meyer.

Immediately following the receipt of his doctoral degree, he was appointed as lecturer in public health laboratory practice in the newly founded Curriculum in Public Health, the forerunner of the current School of Public Health. He then taught at the University of Washington and the City College of San Francisco for brief periods, before returning to Berkeley when he was offered a faculty position in the Department of Bacteriology. "That was the dream of my life," he said in 1990, "to be a member of the faculty at Berkeley, and I couldn't believe it was happening."

His first semester on the faculty ended dramatically with the bombing of Pearl Harbor. The United States entered World War II and Elberg was summoned for military duty and served four and a half years. The Navy was interested in *Brucella* bacteria, largely because of their threat as possible agents in biowarfare. Elberg was commissioned to develop a vaccine against *Brucella* and this remained his primary research focus throughout his career, although he conducted secondary projects on plague and botulism. Brucellosis in humans is a slowly progressing, debilitating disease caused by *Brucella abortus* from cattle and *Brucella melitensis* from sheep and goats. Transmission is from animals to humans through consumption of raw milk or exposure to animal blood. Since no vaccines have been developed for humans, control of human disease is through prevention of animal infection. A seminal publication in 1956 by Elberg and colleagues reported successful results of his Rev-1 vaccine on a small group of goats housed on a site near the present Lawrence Hall of Science. This was followed by another successful project using a larger number of goats in Spain, which had a high incidence of brucellosis in sheep and goats. Spain adopted his vaccine to eradicate the disease from the

country. After still further testing, other European countries quickly followed, and in 1970 the World Health Organization approved Rev-1 as the vaccine of choice for brucellosis in sheep and goats. To this day it is considered the best vaccine available for this purpose. Vaccine- based animal eradication programs in effect for five decades have drastically reduced the incidence of brucellosis in humans.

During the 1960s a rift began to develop among the faculty within the Department of Bacteriology over the sponsorship of the Naval Biosciences Laboratory as an Organized Research Unit (ORU) and support of an applied medical microbiology versus a more basic research oriented curriculum. In 1966 Elberg and four other faculty accepted the invitation from Dean Charles Smith of the School of Public Health to join their faculty. It was here that Elberg and his medical microbiology colleagues shaped the Division of Biomedical Laboratory Sciences, now called the Division of Infectious Diseases and Vaccinology. Under Elberg's guidance the program developed an impressive offering of lecture courses in infectious diseases and both undergraduate and graduate laboratory courses in medical bacteriology, virology, and mycology. Elberg also fostered the School of Public Health's liaison with the Naval Biosciences Laboratory on the Oakland Naval Base, which provided state of the art laboratory facilities for biosafety level-3 research on valley fever (coccidioidomycosis), environmental bacteriology, and virology, and a large cell line repository funded by the National Cancer Institute.

In 1961 Elberg was "thrilled" to accept the invitation of Chancellor Strong to become dean of the Graduate Division, a position he held until 1978. His notable accomplishments in this role were fostering greater transparency in communication with students, including the establishment of the Graduate Student Assembly to give graduate students representation separate from the undergraduate- dominated Associated Students of University of California (ASUC); institution of training for student teaching assistants, the forerunner of the current pedagogy courses for graduate student instructors; establishment of new interdepartmental graduate degree programs including the two- year Health and Medical Sciences Program continuing currently as the Joint Medical Program within the School of Public Health.

Sandy Elberg was deeply loved by friends and family. His son Graeme remarked that he took all [domestic] disasters in stride and was "spot on" with advice. According to a niece, Laura Sardis, "He was the closest our family had to having royalty," and a nephew, Michael Marans, fondly recalled that he "spread pixie dust on every place he went and everyone he met." He was deeply admired by those whose lives he touched professionally. "Sandy Elberg was physically a small man, but in terms of his mind and leadership he was a giant. He had a genuine humility with students and faculty alike," said colleague Errol Mauchlan. Colleague Alan Searcy called him "my role model as a human being and an uncanny administrator"; and Gary Servue, a student advisee, declared, "I paid him back only 1/1000th of what he gave me."

In 1943 Sandy married Sylvia Marans. They were married 47 years until she passed away in 1989. He is survived by his son Graeme, daughter Cassandra, son- in- law Christopher Gibson, grandchildren Riley and Kira, and a niece and nephew.

Gertrude Case Buehring
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