

MEMORIAL RESOLUTION
CARLTON E. SCHWERDT
(1917-1995)

Carlton E. Schwerdt, Professor Emeritus of Microbiology and Immunology, died on March 25, 1995, at age 78, of leukemia.

Almost all of Professor Schwerdt's academic life was spent at Stanford, from which he received the Bachelor's, Master's and Doctoral degrees. As an undergraduate student he was elected to membership in Phi Beta Kappa.

During his tenure as a graduate student in the chemistry department at Stanford, and subsequently as a junior research scientist at the Virus Laboratory at the University of California, Dr. Schwerdt was a principal participant in studies which were seminal with respect to the ultimate development of effective vaccines against poliomyelitis, a disease which at the time caused death and disability in thousands of children and young adults.

When Professor Schwerdt began his studies of the polio virus in the laboratory of Professor Loring in the Chemistry department, the physical, chemical and biological properties of viruses causing disease in animals were poorly understood and the tools for studying such viruses were primitive. As a consequence, it was necessary to process volumes of infectious material which were, by current standards, enormous. Using the technology available, the goal was to isolate the virus in such a state of purity that each virus particle visible in the electron microscope could be shown to be capable of causing infection in either a cell or an animal, and to have such virus particles free of irrelevant contaminating material. Within about a decade Professor Schwerdt, with Professor Loring, and subsequently with colleagues at Johns Hopkins and at the Virus Laboratory at the University of California, achieved the goal. The pinnacle of success was achieved with the crystallization of first one, and then all three types of the poliovirus. Such crystals are aggregates of completely pure particles.

During this time studies of vaccination were undertaken using various models of poliovirus disease in laboratory animals. The conditions necessary to inactivate the disease-causing properties of the viruses were carefully studied, including the methodology which was ultimately adopted in the Salk vaccine. One cannot overestimate the value of this body of work to the ultimately successful conquest of poliomyelitis.

Professor Schwerdt went to Johns Hopkins University as Assistant Professor Biochemistry in 1947, and then to the University of Berkeley as Assistant and then Associate Research Biochemist. He returned to Stanford in 1956 as Associate Professor Medical Microbiology, promoted to the rank of Professor in 1961. He retired in 1982 but continued to serve as advisor to undergraduate students for some eight years thereafter.

At Stanford he taught general and animal virology to many classes of medical, graduate, and undergraduate students. His research included one of the first studies characterizing the virus involved in the relatively uncommon disease, progressive multifocal leukoencephalopathy, as well as a number of other studies of the growth characteristics of medically important viruses. Of particular interest was a very carefully done study of the effect of vitamin C on the growth characteristics of a virus which causes the common cold, showing that the role the vitamin might play was very limited.

Professor Schwerdt's wife Patsy worked with him as laboratory assistant until her death, in 1975. They had three children, Christopher, of Catonsville MD, Elizabeth Tilles, of Del Mar, CA, and Karen Janssen, of Corvallis OR, and six grandchildren. He is survived by Lorrie Barnes-Schwerdt of Palo Alto, whom he married in 1982.

Born in New York City, and raised in New Jersey, he lost his father while still in high school. His mother drove him and his younger brother, who predeceased him, to Southern California where he completed high school studies and commenced study at the local junior college. He was admitted to Stanford in 1935, and he supported himself by hashing as well as doing chemical analyses in a local food processing plant. The family means were modest; his mother had worked her way through nursing school as he was attending college. As a graduate student his work was supported by fellowships. Later research funding came from the March of Dimes, as well as from grants the National Science Foundation and the National Institutes of Health.

Environmental causes were high among his interests. He spent as much time as he could at Fallen Leaf Lake, where he was constructing a family cabin which was almost completed at the time of this death. For many years he taught himself to be an effective mushroom hunter, a skill which facilitated a number of gourmet snacks in The Department of Medical Microbiology based on finds made on campus at sites which must remain secret.

Professor Schwerdt spent much of his life in academia. It is worth noting, perhaps because it is exceptional, that he was liked and respected by everyone with whom he interacted. He truly had an imperturbable disposition. He never

got visibly angry, and he was totally devoid of hostility. Those who worked for him or with him, those who taught with him and learned from him, all loved him for being the gentle and wise and kind person he was.

Leon T. Rosenberg, Chair
Sidney Raffel
John P. Steward