

*At a meeting of the Faculty of Arts and Sciences on February 13, 2001, the following Minute was placed upon the records.*

## **KARL STRAUCH**

Born: October 4, 1922

Died: January 3, 2000

Karl Strauch, a leading high energy physicist and Professor Emeritus of Physics at Harvard University, died at Beth Israel Medical Center in Boston on January 3, 2000. He was 77 years old and lived in Lexington, Mass. His death ended a 15 year struggle with Parkinson's disease.

Karl was an experimental physicist whose research focused on the fundamental structure of matter in an attempt to discover the basic building blocks of nature. In order to do this he studied the collisions of subatomic particles using beams from giant accelerators, first using fixed targets and later with colliding beams. His early work at Harvard's Cyclotron was on proton-nucleus scattering. Later at Brookhaven's Cosmotron in 1964, he and his collaborators discovered the decay of the eta particle into two photons. In the early sixties at the Cambridge Electron Accelerator (CEA), which was a joint Harvard-MIT project, he and his collaborators were the first to study the interaction of high energy photons with protons. After Karl became the Director of the CEA, he led an experiment using colliding electron-positron beams which produced tantalizing evidence for the existence of additional heavier quarks. During one of his CEA experiments a film, "People and Particles," was made for the Harvard Project Physics high school curriculum. It dramatically tells the story of a high energy physics experiment from start to finish - at its climax Karl leads his colleagues in a champagne toast as the first events are observed.

During the past quarter century his research was carried out at several major colliding beam facilities. An experiment located at CERN's Intersecting Storage Rings in Geneva looked for muon pair production in proton-proton scattering. The Crystal Ball experiment studied final states with photons in electron-positron collisions at both the Stanford Linear Accelerator Center (SLAC) and the German Electron Synchrotron (DESY) in Hamburg. Finally the L3 experiment investigated very high energy electron-positron interactions at CERN's LEP storage ring, which has a circumference of 27 kilometers and straddles the Swiss-French border! Over the course of his career he co-authored more than 145 scientific papers published in professional journals.

In addition to serving from 1967 to 1974 as the Director of the Cambridge Electron Accelerator, Karl was also a member of various national and international committees, and commissions including the Commission on Particles and Fields of

the International Union of Pure and Applied Physics. He was a highly influential member of the US-USSR Joint Coordinating Committee on Fundamental Properties of Matter which was the chief conduit between the American and Soviet scientific communities during the height of the Cold War.

Karl was born on October 4, 1922 in Giessen, Germany. His mother was Carola Boch, the daughter of Alfred Boch, a well-known German writer. His father, Lutheran minister Georg Strauch, died of an infection only weeks after Karl was born. His mother later married Hans Lachmann-Mosse, the publisher of the Berliner Tagenblatt, a prominent liberal daily newspaper which advocated democratic principles in the pre-Nazi German Republic. The family was exiled from Germany in the mid-thirties and took residence in Paris where Karl earned his Baccalaureate. In 1939 the family immigrated to Lafayette, California. Following the award of an A.B. in Chemistry from the University of California, Berkeley, in 1943, and the election to Phi Beta Kappa, he served in the United States Navy from 1944 to 1946.

His favorite story about his Navy duty involved a technical test which he had to take when he first joined. He was marked correct on all questions but one: "Which way do electrons flow in the wires of a simple direct current circuit?" Karl had answered (correctly): "From the negative to the positive terminals of the battery." He asked the instructor why this was marked wrong since all physicists knew electrons flow from negative to positive. The instructor answered: "Well, that may be so son, but in the US Navy they flow from positive to negative!"

Karl earned a Ph.D. in Physics from the University of California, Berkeley, in 1950. In the same year he was elected to Harvard's Society of Fellows, and was appointed to the Harvard Faculty as Assistant Professor three years later. He rose through the ranks to become the George Vasmer Leverett Professor of Physics in 1975, and served as Chairman of the Harvard Physics Department from 1978-1982. His warm and enthusiastic teaching style endeared him to generations of undergraduates, and he firmly guided over twenty graduate students as they began their physics careers. For many years he taught the introductory electricity and magnetism course for physics concentrators. A highlight of the course, from the student's point of view, was his custom of inviting small groups of them to his home or office for informal discussions of physics - discussions which were inevitably accompanied by the serving of a delicious "Mozart" cake.

Karl chaired two committees that significantly impacted the policies and culture of Harvard. In 1975 the Strauch Committee recommended the merger of Harvard and Radcliffe's admissions offices and the institution of an admissions policy of equal access for women. This recommendation was approved and instituted beginning

with the Class of 1980. He also chaired the committee effort to build and establish the Science Center, the first multi-disciplinary science building in the College, and continued as the chair of the Faculty Executive Committee that oversaw the operation of the Science Center from its opening in 1972 until 1975. In this capacity he was instrumental in setting the positive tone of the facility which has continued until this day.

Karl is survived by his wife of 49 years, Maria Strauch, his sons Roger and Hans, and five grandchildren. His colleagues and students will always remember the warmth of his friendly smile and the enthusiasm and deep insights he brought to the study of physics.

Respectfully submitted,

Nicolaas Bloembergen  
George W. Brandenburg  
Margaret Law  
Norman F. Ramsey  
Richard Wilson  
Isaac F. Silvera, Chair