OBITUARIES

Sir Kariamanikkam Srinivasa Krishnan, one of India's foremost physicists and collaborator with Sir C. V. Raman on the work that led to the discovery of the Raman effect, died in New Delhi of a heart attack on June 14.

Born in Watrap, South India, in 1898, Dr. Krishnan was educated at the American College at Madura, Christian College at Madras, and the College of Science at the University of Calcutta. In the years immediately after receiving his doctorate, he served successively as demonstrator in chemistry at Madras College, research associate with the Indian Association for the Cultivation of Science, and reader in physics at the University of Dacca. In 1933, he was named Mahendralal Sircar Research Professor of Theoretical Physics at the Indian Association for the Cultivation of Science where he remained until his appointment in 1942 as head of the department of physics at the University of Allahabad. From 1947 until his death he was director of the Indian National Physical Laboratory at New Delhi.

In addition to his administrative and teaching duties, Dr. Krishnan served on the committee of many governmental and professional bodies. At the time of his death he was a member of the Indian Atomic Energy Commission, the Scientific Advisory Committee to India's cabinet, and chairman of the Board of Research in Nuclear Science and the Indian National Committee for the International Geophysical year. He had also been president of several scientific organizations in India, including the Indian Science Congress, National Academy of Sciences, National Institute of Sciences, Society of Theoretical and Applied Mechanics, and Institute of Metals.

Dr. Krishnan was a prominent figure in a number of international societies. From 1951 to 1957, he was vice-president of the International Union of Pure and Applied Physics, and in 1955 was named vice-president of the International Council of Scientific Unions and chairman of the Scientific Advisory Committee to the United Nations Educational, Scientific, and Cultural Organization. Last year he chaired the UNESCO Educational Committee on Modern Research Trends in the Natural Sciences.

Knighted in 1946, Dr. Krishnan held honorary doctorates from half-a-dozen Indian Universities and was awarded the Liége University Medal, the Krishnarajendra Jubilee Gold Medal, and the Bhatnagar Memorial Award. He was a fellow of the British Royal Society, Royal Society of Arts, Institute of Physics and Physical Society, and Institution of Metallurgists; and a member of the American Physical Society. A foreign associate of the American National Academy of Sciences, he was its guest of honor in 1955.

Morton Scharff, one of Denmark's outstanding young physicists, died on April 15, at the age of 34. To all friends of the Copenhagen Institute for Theoretical Physics, and to those who knew him from meetings and conferences as a man of vigor, charm, and originality, his death will come as a great personal loss. In the colloquia on Blegdamsvej, one always looked to him for his colorful and thought-provoking comments, stated with the warmth and subtle humor so characteristic of the atmosphere in Niels Bohr's institute. Initially, Scharff swayed between physics and music, and although he chose the former as his profession, music and art remained an essential part of his life. In 1950 he received his doctoral degree from the University of Copenhagen, where he was trained as a theoretician, and his subsequent work in physics included substantial contributions to the theory of the penetration of charged particles through matter. His interests in experimental physics led him to the study of elementary particles by nuclear emulsion, and for his contributions in this field he was awarded the Gold Medal of the University of Copenhagen. Most recently, while under treatment for the early symptoms of the illness which finally proved fatal, he devoted his energy to a reorganization of the undergraduate curriculum in physics at Denmark's universities. He is survived by his wife and three small sons.

Werner Brandt
New York University

E. Allan Williams, professor of physics at the University of California, Santa Barbara, died on July 11 in the crash of an airliner at Denver, Colo. Dr. Williams, who was 53, had been a member of the Santa Barbara faculty for 20 years.

Born in Des Moines, Iowa, Dr. Williams did his graduate work at the University of Washington in Seattle, where he also held several teaching fellowships. He taught physics and mathematics at a number of high schools and junior colleges on the west coast, and, after receiving his PhD in 1941, became a physics instructor on the faculty of Santa Barbara College. He was named a full professor in 1954, and for a time headed the physical science department. During World War II, as a Naval Reserve commander, he served as a radar instructor and training officer at the Naval Training School at the Massachusetts Institute of Technology. At the war's end he accompanied a technical mission to Japan to evaluate Japanese scientific efforts.

Dr. Williams' research interests were varied, ranging from the refraction of ocean waves to solid-state problems. He was a member of the American Physical Society and a past-president of the South California Section of the American Association of Physics Teachers.