

OBITUARIES

Niels Bohr died on November 18 in Copenhagen, the city in which he was born and where he lived and worked for most of his 77 years. He received his doctorate at the University of Copenhagen in 1911, the same year that Ernest Rutherford laid the foundations for modern concepts of atomic structure by advancing a model of the atom with a positively charged nucleus surrounded by orbiting electrons. Two years later, having received an appointment as reader in mathematical physics at the University of Manchester where he was able to work under Rutherford, Bohr suggested that the electrons move in stable, closed orbits at different energy levels. The passage of electrons from one level to another, resulting in the absorption or emission of radiation in the process, he interpreted in the light of quantum theory to be responsible for the production of atomic spectral lines of definite frequency. For his early contributions to the understanding of atomic structure and the mechanism of radiation, which played an important role in the later development of quantum mechanics, Dr. Bohr was awarded the Nobel prize in physics in 1922.

He returned to Denmark in 1916, at the age of 31, to accept a professorship in theoretical physics at the University of Copenhagen. Four years later, the Institute for Theoretical Physics was established by the University and he became its director. In the ensuing years, Bohr's Institute became a mecca for the many physicists who wished to work and study with him, thus making Copenhagen one of the world's foremost centers of theoretical study and research in physics.

The work at Copenhagen was interrupted by World War II and the Nazi invasion of Denmark, and late in 1943 Dr. Bohr was forced to take refuge in Sweden. From there he went to England, and then to the United States, where his services as a scientific adviser were in great demand, particularly in the work of the atomic energy project. His comprehension, in human terms, of the significance of that undertaking led him to become one of the world's earliest and staunchest advocates of an international agreement for the peaceful control of nuclear weapons.

After the war, he returned to Copenhagen, reopened his institute, and again took up his varied activities in research, teaching, and public affairs. He served as chairman of the Danish Atomic Energy Commission and he played a leading role in the creation of CERN, the European Center for Nuclear Research. He was president of the Royal Danish Academy of Sciences, a knight of the Order of the Elephant (the highest order of Danish chivalry), a foreign member of the Royal Society of London, and one of the four honorary members of the American Physical Society.

Hugh Smith Rice, retired astronomer at the Hayden Planetarium, died at his home in New York City on November 14. Born in Nanaimo, B. C., in 1891, he was educated at Columbia University, receiving his bachelor's degree in 1929, his MA in 1938, and his PhD in 1950.

Dr. Rice spent his entire career as an astronomer with the American Museum of Natural History and the Hayden Planetarium, having served as a member of the staff there from 1922 until his retirement in 1959. He was co-author of the *Handbook of the Heavens* and he collaborated in the design of the "Star Explorer", a widely used star-indicator map. He was honored for his services to amateur astronomers by having a small asteroid, 1230 Riceia, named after him.

Dr. Rice was a member of the American Astronomical Society, the New York Academy of Sciences, and the Royal Astronomical Society of Canada.

Richard E. Trees, a theoretical physicist at the National Bureau of Standards, died on October 27. Dr. Trees, who was 41, was a native of Philadelphia. He received his BS degree in naval architecture and marine engineering at the Webb Institute of Naval Architecture in 1943, and went on to study physics at the University of Pennsylvania, where he received his MS in 1949 and his PhD in 1951. He joined the Bureau of Standards in the latter year. In 1955, he was the recipient of a Rockefeller Public Service Award, which enabled him to spend a year in research at Princeton University. Dr. Trees, who was known for his contributions to the quantum theory of complex atomic spectra, received a Meritorious Service Award from the US Department of Commerce in 1958.

He was a fellow of the American Physical Society and a member of the Optical Society of America.

E. W. R. Steacie, president of the National Research Council of Canada, died in Ottawa on August 28 at the age of 61. Born in Westmount, Quebec, he was educated at McGill University, where he graduated in 1923. He received his PhD in physical chemistry from McGill in 1926, and he served as a member of the McGill faculty until 1939, when he joined the National Research Council of Canada as director of the Division of Chemistry. He became vice president (scientific) in 1950 and was elected president of the Council in 1952.

During the Second World War he was instrumental in organizing Canadian chemistry in support of the war effort, and from 1944 to 1946 he was deputy director, under Sir John Cockcroft, of the British-Canadian Atomic Energy Project in Montreal.