

OBITUARIES

Arnold N. Lowan, professor of physics at Yeshiva University in New York City, died on May 26 after a long illness. He was 63 years old.

Dr. Lowan was born in Romania and graduated from the Polytechnic Institute of Bucharest in 1924. He was awarded an MS by New York University in 1929, and received his PhD in physics from Columbia University in 1934. During the period of his graduate studies, he served as a research physicist with Combustion Utilities Corporation and, in 1933-34, was a fellow at the Institute for Advanced Study at Princeton. He was a member of the faculty of Yeshiva from 1934 until the time of his death.

In addition to his teaching duties at Yeshiva, Dr. Lowan served as a lecturer at Brooklyn College from 1935 to 1940 and as director of the computation laboratory of the National Bureau of Standards from 1938 to 1949. An authority on problems involving numerical analysis, he also served at various times as a consultant to the Bureau, the Ballistic Research Laboratories, and the Naval Research and Naval Ordnance Laboratories. In recognition of his contributions to the preparation of a series of mathematical tables and the development of specialized computation techniques, he was named to receive the Naval Ordnance Development Award and the Certificate of the Office of Scientific Research and Development. Dr. Lowan was a member of the American Physical Society.

Thomas B. Brown, former chairman of the Physics Department at George Washington University and, during the past four years, visiting professor of physics at Harvey Mudd College, died on June 21 in Tracy, Calif. He was 70 years old.

A native of Bath, N. Y., Prof. Brown received his AB degree in 1912 and his PhD in 1916 from Cornell University, where he also served as an instructor in physics. In 1917 he joined the faculty of George Washington University as an assistant professor. He was appointed professor and head of the Physics Department in 1920, and remained at George Washington in that capacity until his retirement four years ago. During World War II, Prof. Brown served as a physicist with the Naval Ordnance Laboratory, where he worked on demagnetization. This work was recognized in 1945 when the Department of the Navy gave him the Meritorious Civilian Service Award.

In 1958, Prof. Brown accepted an appointment as visiting professor of physics at Harvey Mudd College, a newly established institution in Claremont, Calif. He was a fellow of the American Physical Society and a member of the American Association of Physics Teachers. In February, 1961, he was awarded the Association's Distinguished Service Citation in recognition of

his distinguished career in teaching and for his service to the AAPT as editor-in-chief of the *Taylor Memorial Laboratory Manual*.

Auguste Piccard, the Swiss physicist whose work led him to make spectacular ascents into the stratosphere in the early 1930's and equally spectacular descents into the ocean depths in later years, died in Lausanne of a heart attack on March 24. He was 78 years old.

Prof. Piccard was born in Basle in 1884, and received his doctorate from the Swiss Federal Institute of Technology in Zurich where he taught for several years. He left Zurich as a professor of physics in 1922 to accept a professorship at the University of Brussels, where he remained until his retirement in 1954. While at the University of Brussels, he devoted much of his time to the study of aeronautics that led to the design and construction of the aluminum gondola in which he and an assistant made a balloon ascent in 1931 to a record altitude of 51 775 feet. During his many balloon flights he carried out cosmic-ray experiments and studies involving a variety of atmospheric phenomena.

After the end of the second world war, Prof. Piccard collaborated with his son, Jacques, in designing a vehicle for the exploration of the ocean depths. In 1953, their "bathyscaphe", in a dive off the west coast of Italy, took them to a depth of 10 330 feet. In recent years, he did deep-sea studies for the US Navy, which bought an improved model of the bathyscaphe in 1958. The craft reached a record depth of 37 800 feet in 1960 in the Marianas Trench off Guam, with Jacques Piccard and a US Naval officer aboard.

Thomas J. J. See, mathematician, astronomer, and retired naval captain, died in California on July 4. Born in Montgomery City, Mo., in 1866, he received his AB degree from the University of Missouri in 1889 and his PhD from the University of Berlin in 1892. The next year he helped establish the University of Chicago's Yerkes Observatory at Williams Bay, Wisc., and served as instructor in charge of the University's astronomy department until 1896.

After two years as an astronomer at the Lowell Observatory, he was appointed to the navy and spent two more years as professor of mathematics at the US Naval Academy. In 1902, he went to California with an assignment as officer in charge of the Mare Island chronometer and time station. He retired in 1930. Captain See was at one time a member of the American Astronomical Society and the American Physical Society. He was a fellow of the Royal Astronomical Society.