

pointed an assistant director of laser and optical research at the Western Electric Engineering Research Center, Princeton, N. J.

The University of South Carolina has promoted **Joseph E. Johnson** and **Edwin R. Jones Jr** to associate professors.

Donald E. Osterbrock, chairman of the department of astronomy at the University of Wisconsin, has been appointed director of the University of California's Lick Observatory.

W. Farrell Edwards has resigned as head of the physics department at Utah State University to become the coordi-

nator of general education there. He has been replaced as chairman by **Eastman N. Hatch**, a professor of physics at Utah. Other promotions include **William R. Pendleton**, **Robert E. McAdams** and **O. Harry Otteson** to associate professors.

Promoted to chairman of the physics department at Harvey Mudd College was **Graydon D. Bell**. The department has also promoted **Eldred F. Tubbs** to professor.

George C. White has been promoted to deputy director of Frankford Arsenal's Pitman-Dunn Laboratory.

obituary

Frederick V. Hunt

Frederick V. Hunt, recently retired Gordon McKay Professor of Applied Physics and Rumford Professor of Physics at Harvard University, died on 20 April of a heart attack while attending the 83rd meeting of the Acoustical Society of America in Buffalo, New York. He was 67 years old.

Hunt had attended all but one meeting of the ASA since its birth in 1929. His sudden death especially affected those who had been exposed once again at the Buffalo meeting to his personal warmth, his extraordinary energy and enthusiasm, his continuing encouragement of others and his varied and substantial intellectual and creative contributions. The acoustics community as a whole has lost one of its strongest advocates, a remarkable teacher, a fertile mind and an articulate and influential leader of men.

He was broadly recognized as a pioneer in the field of underwater acoustics. The term "sonar" is attributed to Hunt by many familiar with underwater-sound work in the early days of World War II. In 1941, at the age of 36 and as an associate professor at Harvard, he organized the Harvard Underwater Sound Laboratory and then directed this activity until the end of the war. Under his guidance the laboratory evolved the concepts of scanning sonar and the acoustic homing torpedo, which were to have a striking effect upon the direction and success of the antisubmarine warfare effort. For this work Hunt received the Presidential Medal for Merit in 1947.

In 1950 he became the first to propose the possibility of long-range ocean surveillance by active acoustic means.

An ambitious and farsighted research program in underwater surveillance was subsequently undertaken by the US Navy. It was no accident that the code name assigned to this project was ARTEMIS, after the Roman goddess of the hunt.

He served continuously and with distinction on the Committee on Under-



HUNT

sea Warfare of the National Academy of Sciences from the formation of this Committee in 1946 until his death. In 1965 he received the ASA's Pioneers in Underwater Acoustics Award and in 1970 the US Navy gave him its highest civilian award, the Distinguished Public Service Medal.

In the early 1930's Hunt inherited

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the Harvard acoustics program from George W. Pierce. From that period until his retirement in 1971, except for the wartime interruption, there was a continuing flow of graduate students through his laboratory. Hunt maintained a seemingly inexhaustible list of research topics, which he would parade before potential PhD candidates (and postdoctoral research fellows). The cumulative output of his students represents a major and distinguished chapter in contemporary acoustics research. In all, 38 students obtained PhD degrees, and 17, AM degrees, under his guidance. In addition, eight who had received their PhD's elsewhere did postdoctoral research in his laboratory.

Hunt enjoyed a long and productive association with the "phonograph problem." His early fundamental studies of phonograph-record reproduction together with his subsequent contributions and those of his students shaped the course of this industry. For his contributions in electroacoustics he received the Emil Berliner Award of the Audio Engineering Society in 1954, and the highest award of this society, the John H. Potts Memorial Award, in 1965.

Frederick Hunt received BA and BEE degrees in 1924 and 1925 from Ohio State University and AM and PhD degrees in 1928 and 1934 from Harvard University. Later he received honorary degrees from both institutions.

He was an honorary member of the Audio Engineering Society and a fellow of ASA, the American Physical Society, the Institute of Electrical and Electronic Engineers, the American Academy of Arts and Sciences and the American Association for the Advancement of Science. In addition to various roles on numerous committees, he served as president of both the Acoustical Society of America and the Audio Engineering Society. He also was a member of the governing board of the American Institute of Physics.

In 1970, anticipating his retirement, he moved from Belmont, Massachusetts to La Jolla, California. He quickly established a productive relationship with the Marine Physical Laboratory of the Scripps Institution of Oceanography of the University of California at San Diego. Coincident with his death his manuscript on a favorite project, "Sic Transit Sonitus," appeared in the ASA Journal. This major publication on a novel method of acoustic signal processing had occupied his attention over the last several years.

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