Harold M. Barlow

Harold E. M. Barlow

1899-1989

By Edward C. Jordan

Harold E. M. Barlow, an internationally known figure in radio wave propagation and microwave engineering, died April 20, 1989, at age eighty-nine.

At the time of his death, Dr. Barlow was professor and dean emeritus in the Faculty of Engineering, University College, University of London, where he had served as head of the Department of Electrical and Electronics Engineering for eighteen years.

Harold Barlow was born November 15, 1899, in London, England, and educated at University College, London, receiving a B.Sc. degree in engineering in 1921 and a Ph.D. in science in 1924. He was made a fellow of City and Guilds College, London, and was awarded an honorary doctor of science degree by Heriot Watt University, Edinburgh, and an honorary doctor of engineering degree by Sheffield University, Sheffield.

Dr. Barlow played a leading part in the wartime development of radar. In 1939 he was seconded to work on radar development and worked in the Telecommunications Research Establishment from 1943 to 1945. He then became superintendent of the Radio Department of the Royal Aircraft Establishment in Farnborough until 1950.

He served with distinction on many governmental advisory boards where his broad background in both science and

engineering proved invaluable. As a member of the Advisory Council of the Ministry of Technology British Calibration Service and chairman of its High Frequency Measurements Committee, he played an important role in the establishment of international electrical standards of measurement.

Professor Barlow was a man of broad interests who achieved outstanding success in all of them. As a research engineer he became the foremost microwave authority in the United Kingdom. He developed the theory and application of surface waves and led in their application to a wide range of problems such as high-speed railways.

As a professional engineer he was the inventor of a number of important microwave devices including the Hall-effect microwave watt meter, which has become a standard in many laboratories around the world.

As an educator at University College he developed the leading school of electrical engineering in England. He revitalized the undergraduate course with greater emphasis on fundamentals, introduced a successful M.Sc. course in microwave engineering, and developed and led a strong research school in microwaves.

Dr. Barlow became known internationally through his many publications (more than one hundred) and through his association with URSI, the International Union of Radio Science. In URSI he became chairman of the United Kingdom National Committee and chairman of International Commission VI (Radio Waves and Circuits). He was also chairman of the (international) Electromagnetic Theory Symposium. From URSI he received the coveted Howard Dellinger Gold Medal, the highest award in its field, for "his contributions to the theory and practice of radio wave propagation and particularly the study of guided waves." From the Institute of Electrical and Electronics Engineers he received the 1975 Mervin J. Kelley Award for "outstanding work in the measurement and properties of radio frequency waves, and their application to telecommunications."

Dr. Barlow received many other honors and awards

beginning with the Kelvin Premium of the Institution of Electrical Engineers (London) in 1930 and including the Faraday Medal (1957), a fellowship in the Royal Society of London (1958), and finally the Royal Medal of the Royal Society in 1988. After his retirement from the Pender chair in 1967, he continued his research in the laboratory and his writings on guided microwaves and wave propagation in optical fibers. He served as the McKay Professor of Electrical Engineering at the University of California, Berkeley, in 1957 and was elected a foreign associate of the National Academy of Engineering in 1979.

Professor Barlow had a fine personality and a delightful sense of humor. Despite his success he remained modest and once remarked that he felt so fortunate to be associated with such talented junior colleagues. These men were attracted by his warm personality and his generosity in sharing credit with others. Throughout his career he was supported by his charming wife Janet. International visitors recall with pleasure being entertained in the Barlow home and garden. Mrs. Barlow, three sons, and a daughter survive.