

ARTHUR E. KENNELLY

Doctor Arthur Edwin Kennelly, Professor Emeritus of Electrical Engineering, Harvard University and the Massachusetts Institute of Technology, was born near Bombay, India, December 17, 1861, and received his early education in private schools in England, Scotland, France, and Belgium, and at the University College School in London. He was awarded the honorary degree of Doctor of Science by the University of Pittsburgh in 1895, and by the University of Toulouse, France, in 1923, and received the honorary degree of Master of Arts from Harvard University in 1906.

In 1875 he became assistant secretary of the Institution of Electrical Engineers, and in the following year entered the Eastern Telegraph Company as an operator. He was appointed assistant electrician in Malta in 1878, chief electrician of a cable repairing steamer in 1881, and senior ship electrician on submarine cables in 1886. Coming to the United States in 1887, he was engaged as principal electrical assistant to Thomas A. Edison until 1894, when he became associated with Edwin J. Houston in the firm Houston and Kennelly.

In 1893, he was consulting electrician to the Edison General Electric Company and to the General Electric Company of New York.

He had charge, in 1902, of the laying of the Vera Cruz - Frontera - Compeche cables for the Mexican Government.

He was appointed Professor of Electrical Engineering at Harvard University in 1902, and continued in that position until the close of the academic year 1929-30, when he retired from active service.

In addition to his duties at Harvard, he served as Professor of Electrical Engineering at the Massachusetts Institute of Technology 1913-24, and was for some years director of electrical engineering research and chairman of the faculty.

During the year 1921-22, he represented seven cooperating American universities as first exchange professor in engineering and applied science at several French universities.

Dr. Kennelly has published about twenty-eight books of which he is sole author of ten, included in which are: "Theoretical Elements of Electro-Dynamic Machinery", "Wireless Telegraphy", "Electrical Vibration Instruments", "Electric Lines and Nets", and several on hyperbolic and other complex functions.

MEMBER IN PERMANENT RECORD FOLDER

He is the author of more than 300 papers, many of which were presented before leading technical and scientific organizations in the United States and abroad, and have been widely distributed in technical publications.

One of his chief contributions to applied science is a paper on "Impedance" presented in 1893 before the American Institute of Electrical Engineers, containing the first use of complex numbers as applied to Ohm's Law in alternating-current engineering. He has also presented numerous other papers on the same general subject, many of which contain the first applications of complex and hyperbolic angles to the problems of power and communication engineering and to artificial networks.

Dr. Kennelly, in 1902, expounded a theory on the Influence of Solar Ionization in the Atmosphere on Long-Distance Radio Transmission which has since been verified experimentally and has resulted in the naming of the so-called ionized layer of reflection, the Kennelly-Heaviside layer.

Dr. Kennelly is a member of the following organizations: Fellow and Past President, American Institute of Electrical Engineers (1898-99-1900); Past President, Illuminating Engineering Society; Past President, Institute of Radio Engineers; Past President, American Metric Society; Honorary Member, Institution of Electrical Engineers, London, of National Electric Light Association, of the Societe Francaise des Electriciens, Paris; and, American Electrotherapeutic Association; Corresponding Member, British Association for the Advancement of Science; Fellow, Royal Astronomical Society, London; Member, National Academy of Sciences, American Philosophical Society, American Mathematical Society, American Physical Society, American Association for the Advancement of Science, Past Chairman of its Engineering Section; Fellow of the American Academy of Arts and Sciences; and many others.

He served as a United States delegate to the international electrical congresses in Paris (1900) and St. Louis (1904) (General Secretary), and the international radio conferences in Paris (1921) and Washington (1927). He was a juror at the international expositions in Philadelphia, 1898, Buffalo 1901, and St. Louis, 1904.

Dr. Kennelly has received the following medals and awards: Institution Premium in 1887 and the Fahie Premium in 1889 from the Institution of Electrical Engineers, London; Longstreth silver medal in 1916 and Howard Potts gold medal in 1917 from the Franklin Institute, and the Cross of a Chevalier of the Legion of Honor of France.

In 1918, he was a civilian liaison officer in the U.S.A. Signal Corps, A.E.F.

Dr. Kennelly has served upon many committees of scientific and technical organizations, both national and international.

He joined the Institute in 1888 and was transferred to the grade of Member in 1899 and to that of Fellow in 1913. In addition to serving two years as President, as stated above, he has been a member of many of the most important committees and an Institute representative in many other organizations.

During the present year, Dr. Kennelly is continuing as Chairman of the sectional committee organized under the American Standards Association procedure, in 1929, to prepare a complete glossary of definitions of technical terms used in electrical engineering, a project for which the A.I.E.E. was granted sponsorship. He is also a member of the Committee on Research, and a representative of the Institute upon the Radio Advisory Committee of the Bureau of Standards, the U.S. National Committee of the International Commission on Illumination, and the U.S. National Committee of the International Electrotechnical Commission.

His marked scientific ability, great versatility in the application of complex theory to practical purposes, continuous contributions to the development of definitions and standards in electrical engineering, and his charming personality have given him an outstanding international reputation.

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