

In the early days of the Second World War, Megaw, as a member of the staff of the General Electric Company, was, with his colleagues, working on behalf of the Admiralty and was closely associated with the design and development for production of the cavity magnetron, experimental models of which had been produced by Prof. J. T. Randall and Dr. H. A. H. Boot, working at the University of Birmingham. As is well known, the cavity magnetron was widely used on both sides of the Atlantic and it has been described as the biggest single inventive contribution towards the technical superiority which the Allies achieved over their enemies. Later in the War he began to investigate the propagation characteristics of radio waves on wave-lengths from a few metres to 3 cm. over both land and sea; and his active interest in this field of research continued up to the time of his death.

Dr. Megaw was appointed M.B.E. in 1943, and three years later he accepted the post of superintending scientist of the Radar Branch of the Admiralty Signal Establishment. Later he was appointed director of physical research in the Royal Naval Scientific Service; and although this involved him in an increasing amount of administrative work, his active interest in the scientific side of radio research remained.

He was the pioneer investigator in Britain who in 1950 directed attention to the propagation characteristics of very short radio waves by scattering in the troposphere, and the advantages, which are only now being realized, of the use of scattering technique in certain fields of communication. His theoretical and experimental work on this problem were assisted by reviewing the analogous case of the fluctuations of light waves transmitted through a turbulent atmosphere; and he used the subject of "Waves and Fluctuations" in his chairman's address to the Radio Section of the Institution of Electrical Engineers in October 1952.

For several years past, Megaw was an Admiralty representative on the Radio Research Board of the Department of Scientific and Industrial Research, and a member of its Tropospheric Wave Propagation Committee. His expert advice and assistance on these bodies will be greatly missed. But his reputation was by no means limited to Great Britain. He attended several General Assemblies of the International Scientific Radio Union in various European countries; and at these he made important contributions to the sessions concerned with tropospheric wave propagation. On such visits, as on all other occasions, he was a delightful companion with an enviable command of the local language, and a flair for knowing the best, inexpensive places for good food and wine. His interest in art, architecture and stained glass were also evident by the opportunities he seized when visiting foreign capitals. He is survived by his wife and two sons.

R. L. SMITH-ROSE

DR. MEGAW'S outstanding ability was recognized in the Royal Naval Scientific Service by his promotion in one step from senior principal scientific officer to chief scientific officer, and his appointment as director of physical research in 1950. Although his previous researches had been mostly in radio, he soon showed that his skill was in no way limited to that field. He brought a freshness of outlook and keen understanding to a wide variety of problems, and his extraordinary energy enabled him not only to direct

a formidable programme of research and development but also to initiate and play a direct part in one of its most successful projects. Although security considerations prevent any detailed account of this work being given at the present time, his place in the records of naval science is already assured.

Megaw was not only gifted as a scientist. He possessed personal qualities which contributed no less to the successful outcome of his endeavours. His integrity, sincerity, loyalty and friendliness, combined with a high sense of duty, made him an ideal leader. No one who had the fortune to work with him could have failed to gain inspiration and encouragement from his example.

Megaw will be sadly missed. The loss to naval science will be particularly felt at a time when men of his kind are so scarce. My own association with him was of the happiest, and I could not have wished for a truer friend or more loyal colleague.

H. F. WILLIS

Mr. D. J. Matthews

WITH the death at nearly eighty-three years of age of Donald John Matthews, the science of oceanography has suffered the loss of a man of very distinguished standing. He was born at Surbiton in July 1873, was educated at Marlborough and University College, London, and died recently at Camberley. His long life was filled with an astonishing variety of professional activities, and was marked by great skill with wireless, photography and microscopy as hobbies. It was in 1902 that he first took up oceanography when he entered the service of the Marine Biological Association of the United Kingdom, after having been for some years an analytical chemist and research chemist with the British Aluminium Company.

In his University College days, Matthews worked under Sir William Ramsay at the exciting time when the inert gases were being isolated. Letters exist in which Ramsay gives great credit to Matthews for working up the minerals which proved eventually to contain helium, refers to him as a most capable manipulator, and remarks upon his love of studying minute marine animals under the microscope. While at Plymouth, Matthews published some notable papers on the oceanography of the waters off the south-west of the British Isles. In 1913 he was engaged aboard S.S. *Scotia* on studies of the waters around Newfoundland to provide information upon which could be based action designed to lessen shipping risks in those waters. The cause was the *Titanic* disaster and the outcome the International Ice Patrol. After a short time spent working at Rothamsted Experimental Station around 1920, Matthews entered the Scientific Service of the Admiralty in the rank of principal scientific assistant, and was, until 1936, seconded to the Hydrographer of the Navy. It was as occupant of that post that most people will remember him, and it was during that service that he published his well-known "Tables of the Velocity of Sound in Pure and Sea Water for use in Echo Sounding and Sound Ranging". These tables have been an invaluable tool in many hands, and will doubtless be the chief monument of the kindly, quiet personality who was held in great esteem in oceanographical circles far beyond the bounds of his own country. Matthews, who was a widower, is survived by a son and three sisters.

J. N. CARRUTHERS