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Cecil Whitfield Davies

Professor Cecil Whitfield Davies, D.Sc., F.R.I.C., one of the most distinguished and influential electrochemists of his time, died on 1 March 1978, at the age of 82.

He was educated at St. Dunstan's College, Catford, and at the University College of Wales, Aberystwyth. After serving with the Army between 1915 and 1919, in France and India, he returned to Aherystwyth in 1920 as Assistant Lecturer. He first did research in organic chemistry and obtained his M.Sc. in 1923, but during this period he realised that his interests lay in physical chemistry. In 1923 he began working with L. J. Hudleston on the electrochemistry of pure HF solutions, and obtained accurate values for the transport numbers of the various species present. This work led Davies to predict the concentration dependence of ionic mobilities, a prediction which preceded the first paper by Debye and Hücke! on this subject.

In 1928 he left for Battersea Polytechnic, and soon built up a flourishing research school which became well known for the very precise measurement of the conductivities of electrolytes in aqueous solutions, and of the solubilities of sparingly soluble salts. Central to these studies was the establishment, on a quantitative basis, of the concept of ion association in 'strong' electrolytes; this was of major importance in all his subsequent work. During this period Davies first formulated his semi-empirical activity coefficient equation, which has since been of great value to electrochemists everywhere.

In 1944 he returned to Aberystwyth to take up the Chair of Chemistry, and once again found himself having to create a research school almost from scratch. During the years up to his retirement in 1960 he established in the department one of the leading schools of electrochemistry in the country. Important contributions were made by Davies and his collaborators in a number of fields, including conductivity, the kinetics of crystal growth, ion-exchange resins, and the significance of ion association in reaction kinetics.

In 1960 he returned once more to Battersea as a Senior Research Fellow, *in* which post he remained until the college, which had become the University of Surrey, moved to its campus in Guildford in 1969.

Davies held many honorary appointments during his career, including membership of the Royal Society Committee on Chemical Symbols, and he became the honorary secretary of the Chemical Society in 1936. As well as many research papers, he published three books. Two of these, *The Conductivity of Solutions* (1930, 1933), and *Jon Association* (1962), have had considerable influence in the development of modern electrochemistry, while the third, *Electrochemistry* (1967), is a very thorough, up-to-date yet concise, account of the principles of electrochemistry, written in the clear and readable style which was characteristic of all Davies's work.

He was a man of great kindness, intelligence, and integrity; he will long be remembered with affection throughout the scientific community, and sadly missed by a wide circle of friends.

D. Irwin Stock