In 1917 Dr Macpherson married Miss Catherine Anne Chisholm and there were two sons and two daughters of the marriage. To his elder son, Hector, I· am indebted for many of the above details.

Dr Macpherson was elected F.R.S.E. in 1917 and a Fellow of our Society in 1911.

M. A. ELLISON.

EDMUND TAYLOR WHITTAKER was born at Southport, Lancashire, on 1873 October 24, and died in Edinburgh on 1956 March 24. The family to which he belonged, the Whittakers of Grindleton near Clitheroe on the Ribble, had produced men of distinction in public life during the latter part of the nineteenth century. After an education at the Manchester Grammar School, Whittaker went up to Trinity College, Cambridge, in 1891 with an entrance scholarship. He was Second Wrangler in the Tripos of 1895, was elected to a Fellowship at Trinity in 1896 and was First Smith's Prizeman in 1897. Elected to Fellowship of the Royal Society in 1905, at the early age of 31, he was appointed Royal Astronomer of Ireland and Professor of Astronomy in the University of Dublin the following year. He had become a Fellow of the Royal Astronomical Society in 1898 and served as Secretary from 1901 to 1907. In January 1912, Whittaker succeeded Chrystal as Professor of Mathematics at Edinburgh, a Chair he occupied until his retirement in 1946. He was knighted in 1945 and during his long and distinguished carreer had received a multitude of honorary fellowships, doctorates, memberships of foreign academies, the Sylvester and Copley medals of the Royal Society, the De Morgan medal of the London Mathematical Society and, in 1935, an honour that he greatly prized, the Cross *Pro Ecclesia et Pontifice* conferred on him by H.H. Pope Pius XI.

Whittaker revealed early his peculiar genius for presenting to his contemporaries complete accounts of branches of pure or of applied mathematics illuminated by a new point of view and infused with the results of his own researches. By the age of 30 he had discovered the general solution of Laplace's equation, had introduced the hypergeometric function and, in 1902, published his first book, *Modern Analysis*. In its later editions, written after 1915 in collaboration with G. N. Watson, this book became, and for long remained, the standard text on the complex variable. It also had the character of a small encyclopaedia on special functions and their differential equations. In 1904 came the *Analytical Dynamics* which revolutionized the teaching of advanced dynamics in Britain and, as successive editions were issued, came to contain his own researches, such as the theorem on the existence and position of periodic orbits and the theory of the adelphic integral of a Hamiltonian system. During his years in Edinburgh, Whittaker not only founded and developed what was probably the first school of numerical analysis in Britain, but also himself contributed to the theory of interpolation. These questions were brought to his attention through his friendship with the actuaries of the Life Assurance companies, many of which have their head offices in Edinburgh. He introduced the concept of the cardinal function of a set of cotabular functions and also wrote on the theory of graduation. Once again the whole subject was brought together in the *Calculus of Observations*, published in 1924 in collaboration with G. Robinson. And simultaneously with these larger works there came from his pen throughout his life a stream of research papers on a bewildering variety

of topics : automorphic functions, algebra, special functions, interpolation, the general theory of orbits, relativity, quantum theory and even two short observational papers on the variable stars RW Cassiopeiae and SS Cygni, published in *M.N.*, **71**, 511 and 686, 1910*.

His greatest work, the *History of the Theories of Aether and Electricity, from the age of Descartes to the close of the Nineteenth Century*, was originally published in Dublin in 1910, with a revised and amplified edition in 1951 that was followed in 1953 by a second volume bringing the history down to 1926. It reveals not only his exceptional understanding of the work of his predecessors and contemporaries, but, more significantly, his capacity for reacting to it in an original way. For example, his study of the literature led him to attribute the basic ideas of special relativity to Poincaré and Lorentz rather than to Einstein. That the *History* could be written at all was due to a rare quality of his mind : most men as they pass through their twenties gradually lose the ability possessed in youth of learning and digesting new material quickly. With Whittaker the opposite appears to have been the case ; new knowledge on a wide variety of topics was rapidly assimilated and incorporated into the previously existing corpus. His students well remember the advanced lectures he gave each term to his staff and research students. In one term he would be lecturing on the latest developments in the theory of automorphic functions ; in the next, there would be a brilliant account of a just-published unified field theory of gravitation and electromagnetism. He once said to the present writer : " The 1951 and 1953 volumes of the *History* could not have been written had I not, all my life, read widely and kept notes about what I had read." This was an unduly modest estimate ; without passing through the crucible of his lively mind, such an encyclopaedic knowledge might have resulted in the dullest of catalogues. Instead there is an exposition, with some of the compulsive character of a detective story, which leads the reader on to the present-day solutions of the problems of gravitation, electromagnetism and the quantum theory of the atom.

Another aspect of Whittaker's character, perhaps uncommon in men who devote themselves to the cold abstractions of mathematics, was his lively interest in, and sympathetic understanding of, the human problems of those about him. While he was always ready with counsel to those who came to him for advice his innate courtesy forbad intrusion into what he regarded as the privacy of others. A deeply religious man, well versed in the theological and philosophical problems of religion, who had joined the Roman Catholic Church in 1930, he yet never thrust his religious views on those who might not share them. The generous impulse that always led him to give help where help was wanted is exemplified by his undertaking to edit and publish the posthumous manuscript of Eddington's *Fundamental Theory*. And here again he added his own elucidation and interpretation of this difficult book in *From Euclid to Eddington* (1949).

He is survived by Lady Whittaker, daughter of the Rev. Thomas Boyd, whom he married in 1901, and by their three sons and two daughters.

<div align="right">G. C. MCVITTIE.</div>

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* A complete bibliography will be found in *Biogr. Mem. Roy. Soc. Lond.*, **2**, 229–325, 1956.