

Charles Tweedie, M.A., B.Sc.

THE death of Charles Tweedie has removed one of the best-known names from the intimate circle of Scottish Mathematics, and has broken a mathematical link with the days of the late Professor Chrystal.

Charles Tweedie was born in Swinton, Berwickshire, in 1868, and was educated at George Watson's College, Edinburgh. In October 1885 he entered Edinburgh University as Sibbald bursar. He studied Mathematics and Natural Philosophy under Professors Chrystal and Tait. At this time Professor Chrystal was busy with the proof sheets of the second volume of his Algebra, and used to give them to his students. Tweedie's brilliant solutions of the exercises first brought him to the front. He took first place in Adv. Hons. Maths. and Adv. Hons. Nat. Phil. (equal), and in 1890 graduated M.A. with First Class Honours in these subjects. He obtained the Bruce of Grangehill and Falkland Scholarship, which was awarded to the most distinguished mathematical graduate of the year. In the same summer he graduated B.Sc.

In 1891 Mr Tweedie went to Göttingen University, where he studied higher mathematics under Professors Klein and Schwartz. Next year he continued these higher studies at the University of Berlin, under Professors Fuchs, Schlesinger, and Hettner. He then returned to Scotland, and in October 1892 was appointed Mathematical Assistant in the University of Edinburgh. Shortly afterwards, when Mr Allardyce was translated to a Chair of Mathematics in California, Mr Tweedie succeeded him, and became the Lecturer in Pure Mathematics. This appointment he held for over twenty years, and he became Professor Chrystal's right-hand man in the Department of Mathematics.

During his tenure of office Mr Tweedie had a broad experience of the Departmental work of a Scottish University. He never spared himself, and felt nothing a labour which was for the good of the Department. He won the lifelong esteem of Professor Chrystal. He was in sole charge of the mathematical classes in the old days of the "Summer Session." When the post of Official Adviser in Arts was instituted in the University Mr Tweedie was one of the two first holders of the title.

Mr Tweedie's preference was for Analysis, but his academic work lay chiefly in the branches of Higher Geometry. His lectures covered a wide field, and were highly appreciated. He was an ideal teacher, and devoted

extraordinary care to the presentation of his subjects. He was greatly interested, too, in the school teaching of mathematics, and was associated with Mr Pressland in the production of a well-known Trigonometry. He was for many years a University Inspector of Schools under the Scottish Education Department. As such he did his best to promote a close intimacy between the Schools and the University, so that the school staff should be in touch with the requirements of the University, and that the transition for the pupil should not be too abrupt. On the mathematical side of the preliminary and bursary examinations his influence was marked.

Mr Tweedie was a man of extensive reading. He was a good classic, and an accomplished linguist. He was well read in the works of the Geometers of Britain, France, and Germany. In the happy days before 1914 he travelled extensively on the Continent. During his middle years at the University he devoted himself to Italian, and studied deeply the geometrical writings of the Italian school, for which he had a great admiration. With so catholic a taste in languages and books he became a keen bibliophile and specialised in the works of the Scottish mathematicians.

From 1907 to 1910 he was a Member of Council of the Royal Society of Edinburgh. He was also a contributor to its pages. Needless to say he was a Past-President of the Edinburgh Mathematical Society, of which he was one of the first and most active members. Fourteen of his papers, excluding notes, appear in its *Proceedings*. Some of his papers are printed in the *Mathematical Gazette*, and two or more in French in *L'Enseignement Mathématique*. For many years he was a member of the Circolo Matematico di Palermo, to which he contributed.

Mr Tweedie had always cherished the desire to write on the early Scottish mathematicians. After he had been compelled by illness to retire from his active duties in the University, he received a Carnegie Scholarship which encouraged him in spite of his rapidly failing health to undertake this work. In 1915 he published in the *Proceedings of the Royal Society of Edinburgh* an admirable survey of the *Geometria Organica* of Colin Maclaurin, Newton's great Scottish disciple. In this paper Mr Tweedie translated, abridged, and modernised this important work for the present-day reader. At the same time he produced in the *Mathematical Gazette* "A Study of the Life and Writings of Colin Maclaurin," in which he treats of the whole scope of Maclaurin's work.

Mr Tweedie then turned his attention to James Stirling—another great name, though known chiefly to the mathematical elect—politically a

Jacobite, mathematically an amazing computer, and later, commercially, for a living, a successful mining engineer. In 1920 Mr Tweedie published a "Life of James Stirling the Venetian," in the *Mathematical Gazette*. Two years later, after much research among Stirling's correspondence, he published a volume in the Clarendon Press, which dealt fully with the life, published works, and correspondence of Stirling. Here, again, as in the case of Maclaurin, he translated and displayed the works of Stirling in a suitable form for modern readers. Mr Tweedie has succeeded in getting some of Stirling's letters printed for the first time.

By this time his strength was almost spent. He was too ill to begin upon the Gregories, as he had hoped, so had to content himself with a briefer theme in Gray the arithmetician, the Scottish Cocker. This last paper appeared, as was fitting, in the *Proceedings of the Edinburgh Mathematical Society*. Mr Tweedie died on 14th September 1925 at the age of fifty-seven, and was unmarried.

E. M. H.