

**Henry Moubray Cadell, LL.D., F.S.A.Scot., M.Inst.M.E.**

THE sudden death of Dr H. M. Cadell on April 10, 1934, removed an outstanding figure in the scientific life of Scotland. Born in 1860, he came of a family which had long and close associations with West Lothian. His great-grandfather William Cadell (1737–1819) was one of the founders of the Carron Co. in 1759 and a pioneer in the industrial development of the Bo'ness district. From his father Henry Cadell he inherited a bent for geology and mining, subjects to which he was to devote the greater part of his long life. After graduating in science at the University of Edinburgh in 1882 he proceeded to Germany to continue his studies at the Clausthal Royal Mining Academy. In 1883 he joined the staff of the Geological Survey, taking part in the survey of the North-West Highlands and carrying out between 1884 and 1887 the first detailed examination of the oil-shale fields of the Lothians. On the death of his father in 1888 he was called to the management of the family estates, and from this time onwards was prominently identified with administrative and public work of all kinds in his native county. Among the many posts which he held were those of Deputy Lieutenant, Justice of the Peace, and County Councillor.

His activities as land-owner and colliery proprietor and the manifold public duties which he undertook did not prevent him from pursuing his geological researches with characteristic energy. A vigorous and vivid writer and an expert draughtsman, he was the author of a large number of important publications dealing with many different aspects of Scottish geology. His earliest paper, "Notes on the Volcanic Rocks of the Borrowstounness Coalfield," appeared in the *Transactions of the Edinburgh Geological Society* (vol. iii, part iii, pp. 304–325) as long ago as 1880, and the long series of papers which followed testify to the wide range of his interests. Among these may be noted the valuable and suggestive paper on "The Dumbartonshire Highlands," in the *Scottish Geographical Magazine* for 1886, where he advanced the view that certain of the through-valleys of the Western Highlands are relics of a very early and now disrupted drainage-system, and the classic paper on "Experimental Researches in Mountain Building," presented to this Society in 1888 (*Transactions*, vol. xxxv, part i, 1889, pp. 337–357), in which he showed that it was possible to reproduce experimentally many of the structural phenomena associated with the post-Cambrian thrust-

movements in the North-West Highlands. In 1886 appeared his "Geology of Sutherland" (*Sutherland Association Papers*), an enlarged and revised edition of which was published in 1896 under the title of *Geology and Scenery of Sutherland*. He contributed in 1901 an important paper on the oil-shale fields of the Lothians to the *Transactions of the Edinburgh Geological Society* (vol. viii, part i, pp. 134-163) and collaborated with the late J. S. Grant Wilson in preparing the first edition of the *Geological Survey Memoir* on the "Oil-Shales of the Lothians," which appeared in 1906. In *The Story of the Forth* (1913) and in *The Rocks of West Lothian* (1925) he gathered together the results of his long study of West Lothian geology, and these two volumes, dealing with subjects of which he had an unrivalled knowledge, must for long remain storehouses of information on the geological history and industrial development of this part of Scotland. He pursued many lines of research, but his main bent lay towards the study of physiographic and glacial problems, and his contributions to our knowledge of the development of the river-systems of the Midland Valley of Scotland are perhaps his most outstanding scientific achievement.

Dr Cadell was keenly interested in land-reclamation questions. As long ago as 1889 he began experiments with a view to reclaiming part of the foreshore to the east of Bridgeness, and was successful in converting a considerable area into a site for industrial works. As a member of the Forth Conservancy Board (instituted in 1921) he also took a prominent share in the scheme for reclaiming portions of the foreshore to the west of Bo'ness. A full account of these operations is given in his papers on "Land Reclamation in the Forth Valley," contributed to the *Scottish Geographical Magazine* in 1929 (vol. xlv, pp. 7-22, and 81-100).

Dr Cadell was an original member of the Royal Scottish Geographical Society and served at different times as Member of Council, as Chairman of Council, and as Vice-President. He was elected a Fellow of the Edinburgh Geological Society in 1880 and of the Royal Society of Edinburgh in 1887, serving on its Council from 1919 to 1922. For the former society he acted as Secretary from 1888 to 1897, and twice occupied the Presidential chair (1898-99 and 1927-28). In 1932 his old university conferred on him the honorary degree of LL.D.

It would be impossible to conclude this brief account of his career without paying tribute to his striking personal qualities, his high sense of duty, and his humane outlook. A man of broad culture, sincere and thorough in all he undertook, sympathetic and generous in his dealings with others, he will be long remembered by a wide circle of friends.

M. M.