

But his bent lay clearly towards the economic side of geology, and especially towards the important industry of the Scottish Coalfields. Hence, in anticipation of the new editions of the one-inch maps of the Fife Coalfield, he was entrusted with the task of revising parts of these Coalfield areas and obtaining information regarding mining and boring operations since the date of the original survey. His services in this connection were acknowledged by Sir Archibald Geikie in the two official memoirs which he wrote on the Geology of East and Central Fife. Since then he endeavoured to acquire an intimate knowledge of the development of the Fife Coalfield by gaining access to the journals of recent bores. Indeed, he obtained in a remarkable degree the confidence of those specially interested in this industry, in proof of which it may be mentioned that his opinion regarding the sites of new bores and the interpretation of geological horizons was much sought after in recent years. More recently Mr. Wilson re-examined the Carboniferous area of the Lothians and gave a concise description of the geology of the oil-shale fields, since published in a Survey Memoir.

His early chemical training was of service to the Geological Survey, for at intervals he carried out a series of chemical analyses of volcanic and plutonic rocks, of crystalline gneisses and schists, some of which have been published in *Ancient Volcanoes of Great Britain* by Sir Archibald Geikie, and in the recent memoir on "The Geological Structure of the North-West Highlands of Scotland". Since the institution of a chemical laboratory in the new office of the Scottish Survey, he has made a series of analyses of Carboniferous limestones from the midland valley of Scotland.

J. H.

SIR THOMAS WARDLE, J.P., F.G.S., F.C.S.

BORN JANUARY 26, 1831.

DIED JANUARY 3, 1909.

SIR THOMAS WARDLE, who was a silk dyer and calico printer at Leek, and for many years President of the Silk Association of Great Britain and Ireland, was also an active member of the North Staffordshire Field Club, to which he had contributed geological papers. He was best known to geologists as author of *The Geology of the Neighbourhood of Leek, Staffordshire*, 1863. In 1890 he acted as one of the directors on the excursion of the Geologists' Association to North Staffordshire, and conducted the party to the Yoredale Rocks of Butterton Moor, where attention was called to the hard calciferous gritstones, which he regarded as "theoretically the best road-forming rocks" (*Proc. Geol. Assoc.*, vol. xi, p. cxxxii).

HENRY MEYERS BERNARD, M.A., F.L.S., F.Z.S.

BORN NOVEMBER 29, 1853.

DIED JANUARY 4, 1909.

THE death of Henry M. Bernard removes from our midst a friend and fellow-worker who will be greatly missed by a large circle of men of science. Mr. Bernard took mathematical honours at Cambridge as B.A. in 1876, and entered the Church, his last charge being a Chaplaincy at