

the published details of his experiments leave others free to draw their own conclusions from them. Kroustchoff's interesting synthetic production of hornblende and other minerals do not seem to throw any new light on the problems in hand.

ALFRED HARKER.

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OBITUARY.

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DANIEL MACKINTOSH, F.G.S.

BORN 1815. DIED 19 JULY, 1891.

WE regret to announce the death of Mr. Daniel Mackintosh, F.G.S., who was born in the memorable year 1815, at Blairgowrie, in Perthshire, where his father had a mill worked by water-power. Imbued with an early love of Natural Science, he left Scotland when about 30 years of age. For many years he was a lecturer on Scientific subjects and well known in the south of England, where he lectured at various public institutions and schools on Astronomy, Geology, Physical Geology and Ethnology with considerable success. His manner as a lecturer was clear and spirited, and aroused an interest in the subjects of which he treated.

Mr. Mackintosh was elected a Fellow of the Geological Society in 1861, and contributed his first paper on "Terminal Curvature" in 1867, and afterwards numerous papers to the Society on Surface Sculpture, Denudation, Drift Deposits and the Dispersion of Erratic Blocks. Many of his papers are in the "Reports of the British Association," and the "Proceedings" of Societies of which he was a member. He was a frequent contributor to the *GEOLOGICAL MAGAZINE*, and other scientific publications.

In 1869 Mr. Mackintosh produced his work on "The Scenery of England and Wales," in which he favoured the action of the sea as the greatest denuding agent, and it is illustrated by 86 sketches of geological interest. He received four successive grants in aid of Original Scientific Research, from the Government Grant of the Royal Society. In 1881, he was presented with the Kingsley Memorial Medal of the Chester Society of Natural Science, and in 1886 was awarded the proceeds of the balance of the Lyell Fund by the Geological Society, in recognition of his studies of the Glacial and other Superficial Deposits of the north-west of England.

About 20 years ago Mr. Mackintosh went to reside at Chester, but a few years after he settled in Birkenhead, and was president of the Liverpool Geological Society during 1881-3. In recent years he devoted much time to the examination of the Drift Deposits and Boulders of North Wales, and during his last exploration ascended Cader Idris when nearly 70 years of age. Soon after he began to fail in both mind and body, and died on the 19th of July last, and his remains now rest in Flaybrick Cemetery, Birkenhead, close to the glaciated areas he so frequently visited and described. His papers on the Glacial Deposits will hold a permanent place in geological literature, and he will be remembered for his kind and gentle disposition by all who came in contact with him.—G. H. M.