

the award of the gold medal of the Société Géographique de France. Of minor papers on zoological and palæontological subjects contributed to various scientific journals and the proceedings of different learned societies, he must be credited with upwards of one hundred and fifty, dealing with nearly every group of the animal kingdom.

This busy and useful life was brought to a close after a short illness on 21st April, 1900. Alphonse Milne-Edwards will be as sincerely mourned by us as by his own countrymen, for the man of science belongs to the world.

JAMES THOMSON, F.G.S.

BORN DECEMBER 18, 1823.

DIED MAY 14, 1900.

It is well known that the natural taste or instinct of observing and trying to explain the manifold phenomena of Nature, animate and inanimate, is strongly developed in many individuals; and that, in spite of great and various difficulties, it has produced good results to the scientist in particular and to society in general.

The late Mr. James Thomson, of Glasgow, was a notable example of the energy and persistence in the line of research that he chose to follow, in the long uphill struggle of hard work against penury and family misfortune. Snatching a few hours from early morning sleep, he got a little schooling; and this was all the basis he had for a scanty education. His strong self-reliance helped him much in after-life, but became inseparable from his self-opinionatedness, when advised by the Editors of the Scientific Journals in which the results of his workings on the structure of corals were published. Not fully appreciating grammatical accuracy, and sadly wanting in a knowledge of Latin, which language naturalists use for genera and species, his mistaken obstinacy led to disagreements and disappointments between him and his willing literary helpers in Glasgow and London. For some years he had taken up the study of the fossil corals abounding in the Carboniferous Limestone of Western Scotland; indeed, in his native town he had noticed, when a boy, these fossils in the "Bed of Kilmarnock Water." Ultimately, a goodly set of memoirs were produced (upwards of twenty before 1883, and others since), enriched with illustrations of the peculiar structures of the several kinds of corals described therein. Of these illustrations, very many were delicate outlines produced by a process kept secret by Mr. Thomson, who (like Dr. J. A. R. Hunter-Selkirk, of Braidwood), having a small water-power at hand, applied it to cutting and slicing of thousands of Carboniferous fossils. To the polished surfaces of the corals, Mr. Thomson probably applied such a solvent as removed the matrix, but left the organic tissue of walls and septa sufficiently prominent to serve for impressions and printings, and for transference to copper-plates and lithographs. His last two papers on the Scotch Carboniferous Corals in the Transactions of the Geological Society of Glasgow (vol. xi, pt. 1, 1897) are especially illustrated by this process.

Mr. Thomson had a good general knowledge of geology, and his natural acumen in that research was shown in his account of the

Campbeltown district in Cantire in 1867; in his "Geology of Islay," published in 1877; and in his paper on the Geology of Arran, read in 1875. The last-named, which had to withstand much criticism, was ultimately printed in 1897 (*Trans. Geol. Soc. Glasgow*, vol. xi). His geological knowledge was acquired by assiduous application, and supported by a clear-sighted persistence in his own views, as shown by his paper on Arran. His characteristic intenseness and earnestness of purpose are traceable from an early date.

Born at Kilmarnock, the twelfth child of poor parents, his life of hard work began early. Before he was seven years old he insisted on seeking work in order to help his parents. At last, with some knowledge of carpet-weaving, he got employment in Glasgow. Here, as a youth, his intense earnestness to learn something of geology is stated to have made him listen at a keyhole to a lecture on Coal in very cold weather. In his progress in life he became a commercial traveller; and in this business he continued until over seventy years of age.

Any leisure time that occurred he always devoted to his studies; gathering personal knowledge of natural history and geological facts during his long wanderings over the British Islands, and in some parts of the Continent; collecting fossils and getting them named by experts in museums, and wherever possible. In 1884 he went to Canada with the British Association; and in North America widened his experiences in the mineral and metalliferous districts of Idaho. (*Trans. Geol. Soc. Glasgow*, 1884.)

Mr. Thomson had long known the value of well-arranged collections and of really classified natural-history objects to students; and he had made up his mind that, when he should have got sufficient means to guarantee a small competence, he would hand over his museum to his native town.

He knew the personal pleasure of adding treasure to treasure to a growing collection, if really valued in view of the ultimate recognition and explanation of the endless phenomena in nature, and thus often pointing to facts and notions of either material or philosophical value to his fellow-man. With this view, Mr. Thomson liberally gave his great collection to Kilmarnock; and Mr. James Dick has munificently provided for its proper housing in the Library and Museum Buildings at Elmbank.

Mr. James Thomson was an old member of the Glasgow Geological Society, and was an honorary fellow of societies at Jena and Liège. In 1868 he was elected a fellow of the Geological Society of London. On February 9, 1899, he was presented with the Freedom of the Burgh of Kilmarnock; but not being well in health, he was represented by his son, Dr. Gemmell Thomson, of Ayr.

Thus, another of the fine old stalwart, self-educated, and strong-willed North-men has passed away; rough and hard in some aspects, but good-hearted, and ambitious to be in the front with those that know and help others to know. James Thomson's death leaves a gap among scientists to be filled up by some earnest student in the present generation.

T. R. J.