

## OBITUARY.

THOMAS FRANCIS JAMIESON, LL.D., F.G.S.

BORN APRIL 26, 1829.

DIED MAY 24, 1913.

WE regret to record the death of T. F. Jamieson, of Ellon, Aberdeenshire, distinguished for his researches on the glacial geology of Scotland. The results of his earliest geological work and of all his more important subsequent observations were communicated to the Geological Society of London, introduced in the first instance by Murchison in 1858. Four years later Jamieson was elected a Fellow of the Society, and in 1898 he was awarded the Murchison Medal by the Council. On that occasion, although unable to be present, he wrote expressing his gratification and his "recollection of the warm-hearted Sir Roderick", from whom he had received much kind attention and help many years ago when a young man.

Jamieson was born at Aberdeen, and educated at Marischal College during the years 1843-6, but he did not graduate. His energies were now devoted to rural economy. For many years he was Factor on the Ellon estate, and subsequently took the farm of Mains of Waterton, and became widely known and respected as an expert in agricultural matters. In 1862 he was appointed Fordyce Lecturer on Agricultural Research in the University of Aberdeen, his services being recognized in 1884 by the conferment of the honorary degree of LL.D.<sup>1</sup> Meanwhile his leisure time was occupied with studies of the various Drift deposits and the effects of glacial action. In his first paper, on the "Pleistocene Deposits of Aberdeenshire" (read in 1858), he described various mounds and ridges of gravel and the shells from the drifts, which in his opinion were accumulated at a time when the land was 450 feet lower. Subsequently it stood higher than it does now.

In another paper (1860) on the "Drift and Rolled Gravel of the North of Scotland", he dealt more fully with the Pleistocene phenomena, and for the first time brought forward detailed evidence relating to the land-glaciation of Scotland, to the fluting, grooving, and scratching of the rocks, the dispersion of boulders, etc. Interesting observations were also recorded on the positions assumed by pebbles in streams.

In the same year he drew attention to the occurrence of characteristic Crag shells in the Drift of Aberdeenshire, and regarded the evidence as indicating a patch of Crag preserved in situ. In 1882, in a further account, he gave reasons for believing that the shells were derived.

In 1862, in a paper on the "Ice-worn Rocks of Scotland", he pointed out the great erosion by ice-action, and the presence of boulders far above their parent rocks. He illustrated his remarks on land-ice by reference to phenomena in Greenland and on the Antarctic continent, and gave a sketch-map of Scotland showing the direction of the glacial markings.

<sup>1</sup> For these particulars we are indebted to the *Aberdeen Free Press*, May 26, 1913.

In 1863 his great paper on the "Parallel Roads of Glen Roy" was published, and therein he showed that they are beaches of freshwater lakes, which originated from glaciers damming the mouths of valleys and reversing their drainage. The date of the lakes he regarded as posterior to the great land-glaciation of Scotland.

As remarked by Lyell (*Antiquity of Man*, 4th ed., p. 305), Mr. Jamieson "observed many facts highly confirmatory of the theory of glacier-lakes", which had been previously suggested by Agassiz and Buckland, and "showed that this theory affords a complete explanation of all the most striking peculiarities".<sup>1</sup>

In 1891 he published "Supplementary Remarks on Glen Roy", dealing with subsequent explanations and further supporting his original views.

In 1865 he read an important paper on the "History of the Last Geological Changes in Scotland". In this he referred to evidence of the Mammoth having inhabited Scotland before the Glacial period. He noted the enormous thickness of the land-ice, Schiehallion (3,500 feet high) being glaciated near to the top as well as on its flanks. He considered that the ice was developed as a thick cake and flowed off "not so much on account of the inclination of the bed on which it rested", but "in the way that a heap of grain flows off when poured down on the floor of a granary . . . given a floor of infinite extension, and a pile of grain of sufficient amount, the mass would move outward to any distance". He concluded that "the want of much inclination in the surface of a country, and the absence of great Alpine heights, are therefore objections of no moment to the movement of land-ice, *provided we have snow enough*".

He further noted how the Boulder-clay varies in colour and character according to the rocks from which it was derived, and he expressed his opinion that certain kaims (or kames) may have been formed by the ridging-up of gravel in front of a glacier.

Finally, he discussed the introduction of the plants and animals into the British Isles since the Glacial period, admitting that "ice might have formed a bridge to some, but not to the greater part". This paper contains a long list of Glacial shells.

In 1866 he described the "Glacial Phenomena of Caithness", and in 1874 he dealt with the "Last Stage of the Glacial Period in North Britain", discussing the formation of kaims and eskers, and advocating the development of a second ice-sheet, but not so thick nor so extensive as that in the earlier glaciation. In 1882 he read a paper on the "Red Clay of Aberdeenshire", considering that it was laid down before the last advance of the glaciers.

We need only further mention that Mr. Jamieson on two occasions entered other geological fields, writing in 1861 on the "Structure of the South-West Highlands of Scotland (parts of Bute, Cowal, and Jura)", and in 1871 on the "Older Metamorphic Rocks and Granite of Banffshire", when he advocated the metamorphic origin of the granite, and was supported by Ramsay.<sup>2</sup> H. B. W.

<sup>1</sup> See also E. B. Bailey, *Proc. Geol. Assoc.*, xxii, 203, 1911.

<sup>2</sup> Seventeen papers, from 1865 to 1908, are credited to Mr. T. F. Jamieson in the *GEOLOGICAL MAGAZINE*.—ED.