

XIV.

NOTE OF THE REMAINS OF THE IRISH ELK (*MEGACEROS HIBERNICUS*), FOUND IN SCOTLAND. By JOHN ALEXANDER SMITH, M.D.

It may be supposed that some of the early instances of the occurrence of the elk, to which I have referred in my paper on the true elk, *Cervus alces*, in Scotland, from the scantiness of the details given of the remains themselves, may possibly have been in reality those of the Irish elk, *Cervus megaceros*, Hart, the *Megaceros Hibernicus*, Owen. I have, therefore, thought it advisable to notice here the very few authentic instances recorded of the occurrence of this stately animal, the Irish elk, in Scotland.

Numerous instances have been put on record of the occurrence of this animal in the Isle of Man, in England, and especially in Ireland, where it was first described and figured as a great American Moose Deer, formerly common in Ireland, by Dr Molyneux, in the Philosophical Transactions, London, 1697.

AYRSHIRE.

Maybole.—The first undoubted example, as far as I am aware, of the occurrence of the Irish elk, *Megaceros Hibernicus*, recorded in Scotland, was published in "The New Statistical Account of Scotland," vol. v., Edinburgh, 1845. It occurs in the account of the parish of Maybole, Ayrshire, by the Rev. George Gray, p. 353, with the date 1837 :—

"Towards the southern boundary of the parish there are a series of hollows between the undulations of the sandstone, some of them still in the state of lochs, and others of marshes. On draining some of them, it has been found, that, after penetrating a bed of soil and moss of about 8 to 10 feet in thickness, great deposits of marl occur, containing an immense number of organic remains. It is to be regretted, that, at the time the marl was excavated, no greater attention than what curiosity prompted was directed towards these interesting relics. Portions of different animals have, however, been preserved; and for the following notice of the heads of the elk and *bos* in the possession of Mr Kennedy of Drummellan, I am indebted to Dr M'Tyer of Redbrae.

"The fossil head of the *Cervus megaceros* differs from the specimen in the Museum of the Royal Society of Dublin, in the head being larger and the horns a little less, probably from the Drummellan animal having been aged. The dimensions of the two specimens are as follows :—

	Dublin specimen.		Drummellan specimen.	
	ft.	in.	ft.	in.
Length of head,	1	8 $\frac{3}{4}$	1	11
Breadth between orbits,	0	10 $\frac{1}{2}$	0	10 $\frac{1}{2}$
Distance between the tips of horns, measured by the skull,	11	10	10	4
Do. in a straight line across,	9	2	7	5
Length of each horn,	5	9		0
Greatest breadth of palm,	2	9	2	7
Circumference of the beam at the root of the brow antler,	1	0 $\frac{3}{4}$	1	1 $\frac{1}{2}$
Diameters of orbit,	0	0	0	2 $\frac{3}{4}$ by 2 $\frac{1}{2}$

"The other head appears to have belonged to a variety of *Bos taurus*, the forehead being concave. It measures 10 inches between the horns, and 13 $\frac{1}{2}$ inches round the hole of the horn. Horns of the *Cervus elaphus* were also found."

This variety of *bos* was evidently the urus, or *Bos primigenius*.

RENFREWSHIRE.

Crofthead.—Sir William Jardine, Bart., kindly informed me of another instance of the occurrence of the Irish elk, and stated that he was not aware of any other place in Scotland where it had been found.

The remains of this *Megaceros Hibernicus* were discovered near Crofthead, in a cutting of the line of railway called the Crofthead and Kilmarnock Extension, in Renfrewshire, the adjoining county to Ayr, in which the first specimen was found. They were, like the Maybole specimens, associated with the *Bos primigenius*, and in addition with remains of the horse. Sir William Jardine did not know what had become of these remains.

I was fortunate in writing to Mr John Young, of the Hunterian Museum, Glasgow, asking for information about the *Cervus alces* in the Museum, to learn from him that this specimen of the Irish elk was now preserved in the Hunterian Museum, and that a detailed account of its discovery, and the deposits in which it was found, had been brought by him before the Glasgow Geological Society on the 11th November 1869, and was published in vol. iv. of their Transactions, Glasgow, 1871. An abstract of his paper is also published in the Geological Magazine, vol. vii. p. 137, London, 1870, from which I quote various details. Mr Young stated that Professor Young, M.D., and himself had examined the bones, and found that two were portions of the horns of the *Megaceros Hibernicus*, consisting of the left beam or lower portion of a shed horn of average size, and the brow snag of, possibly, the other horn of the same deer, and ten belonged to the horse, the latter being about one-third smaller than the average size, but probably of the common species, *Equus caballus*, and were discovered in a lower series of the deposit, some 25 feet below that in which the remains of the *Bos primigenius* and *Megaceros* were found.

“These remains (of the *Megaceros*) were found in the upper portion of a thick bed of laminated clay, which, at this part of the valley, is mixed up with so much vegetable matter that it presents quite a peaty character. They lay on the same horizon, and near to the same spot where the skull of the *Bos primigenius* was found some time ago. The depth at which they occurred below the old surface of the valley is nearly 20 feet, but recent cuttings seem to show that

part of the overlying bed is the result of slips of earth and boulder clay from the hillside, over deposits formed in the bottom of an old lake. This appears to be the second instance in which the 'Irish deer' has been found in Scotland. Mr Young also stated that this seems to be the first recorded instance in which the remains of the horse have been found associated with the large extinct mammals that roamed in the valleys of Scotland in Post-Pliocene times."

In the Geological Magazine, London, for September, 1868, vol. v. p. 393, Mr James Geikie, of H.M. Geological Survey, described the discovery of the *Bos primigenius* (in the valley of the Cowden Burn, near the farmstead of Millthird), referred to in Mr Young's paper just quoted; he, however, considered it was obtained from interglacial beds in the true till or lower boulder clay.

Mr Geikie describes the specimen, which was imperfect, but enough remained, including one of the horn cores, to leave no doubt of its being the *Bos primigenius*. The fossil was imbedded some feet deep in a soft clay or mud, interlaminated with lines and beds of sand, and occasional layers of fine gravel. In some of the layers of clay he detected a little vegetable matter, but in such a state of decay that he could not be certain as to the plant.¹ These beds occupy a basin-shaped depression, and rest partly on boulder clay, and partly on rock. The strata are overlaid by the boulder clay in such a way, Mr Geikie says, as to leave no doubt on the mind that they form an intercalated series. Mr Geikie was particularly careful to ascertain whether a slip from the hill-side might not explain their interstratified position; but, after a minute examination, he was satisfied that no such landslip had taken place, but that, as he had shown (in the sketch sections which illustrate his paper), the laminated clay and sand are distinctly interbedded with the till. I must, however, refer for more minute information on the subject to Mr Geikie's papers. Mr Geikie's views were controverted by another geologist, Mr Robert Craig, at page 486 of the same vol. v. of the Geological Magazine; he appears to hold the same views as those since advocated by Mr Young, and Mr Geikie replies to him at page 535, referring to other geologists of note who take his own views as correct.

¹ See "On the Organic Remains found in Clay near Crofthead, Renfrewshire." By James A. Mahony, Esq. (*Geological Magazine*, p. 390, vol. vi. No. 9, Sept. 1869. London.) Mr. M. considers the beds date *at least* from the close of the Glacial period.

Since this date, however, Mr Young, in his paper above referred to, describes a great slip of the boulder clay from the hillside during the railway operations; which slip slid down over and under the laminated clay beds, displacing them by the movement to a considerable extent. From this he contends that the other intercalated tongue-like patches of boulder clay, and the contortions observed in parts of the section in the lower laminated beds—the upper being horizontal and undisturbed—are clearly explained by former landslips, and that the whole of the physical or geological evidence does not warrant us in assuming that these stratified deposits are older than those found in similar dried up lakes over the country, in which the same species of mammalia are entombed.

Mr Young informs me that Mr David Robertson, F.G.S., Glasgow, carefully examined the *Ostracoda* of the Crofthead beds, and finds that they are all of species common to the recent freshwater lake deposits of the west of Scotland. Mr Robertson considered that, had they been of interglacial age, he would have expected that they would have shown some evidence of such antiquity, either in their state of preservation, or of slight variations in some of the forms, as is seen amongst the marine organisms of the glacial beds of the Clyde; but such do not occur. Mr Young adds, neither does it appear that the plant-remains, diatoms, and other organisms found in the peaty layers differ from those observed in similar recent lake deposits still in process of formation in that same district, to the westwards.

In vols. vi. p. 73, and in vii. (Geological Magazine, January 1870), p. 53, Mr Geikie has other papers—the latter on the age of these stratified beds at Crofthead, with illustrative sections, to support his previous views, and he states that—“The underlying laminated clays, &c., are in places highly crumpled and contorted, and the foldings are so arranged as to show that the force which squeezed and puckered them must have acted in a direction *down* and not *across* the valley. Moreover, it is a fact that the similar intercalated beds of clay, sand, and silt, so commonly met with in the lower boulder-clay of Scotland, almost invariably show contortions in the same manner as here.” “An examination of the slope of the ground above the spot where the mammalian remains were found, certainly does not favour the idea of a landslip having taken place.” At the close of his paper, however, he tells us that “quite recently the

railway operations were interrupted by a landslip ;" but he considers this has not been caused "by the sliding forward of the boulder-clay upon the stratified deposits, but by the undermining, displacement, and actual abstraction of the soft foundations on which the boulder-clay rests."

Into these disputed matters I cannot at present enter ; further discoveries are perhaps still needed to prove beyond all manner of doubt, —that the Irish elk, which lived in pre-glacial times, as shown by its remains found in the forest-bed of Cromer,¹ in Norfolk (the oldest of the Post-Pliocene sub-division, of the Post-Tertiary Formation of Sir C. Lyell), the great urus (*Bos primigenius*), with which it appears in this instance to have been associated, and also the horse,—at least the *Equus fossilis*, both of which also belong to the pre-glacial series of animals, as their remains have been found in the Cromer forest-bed,²—have all existed during our Scottish glacial epoch ; as well as belong to post-glacial times, and to a much later period, when beds of marl, and of peat, were forming at the bottom of the lakes and bogs, and, according to some naturalists, down even to the times of man.³

My object, however, is accomplished, when I simply show how very few undoubted instances of the occurrence of the Irish elk, *Megaceros Hibernicus*, have as yet, as far as I am aware, been recorded as discovered in Scotland.

Dr John Alexander Smith presented to the Museum of the Society the skull of the elk (*Cervus alces*), found at Whitrig bog, Berwickshire, in 1870.

The Society then adjourned to St Andrew's Day, the commencement of next Session.

¹ See "Notes on some of the Fossil Mammals of Great Britain." By Rev. W. S. Symonds, F.G.S., &c. (*Geological Magazine*. London, vol. v. p. 413. 1868.)

² See "On the Distribution of the British Post-Glacial Mammals." By W. Boyd Dawkins, Esq., M.A., &c. (*Quarterly Journal Geological Society of London*, vol. xxv. p. 192. 1869)

³ See "On the Claims of the Gigantic Irish Deer to be considered as Contemporary with Man." By Mr H. Denny. (*Proc. Geological and Polytechnic Society of West Riding of Yorkshire*. Leeds, 1855, vol. iii. p. 400.) Also "Catalogue of Irish Fossil Mammals." (*Journal Geological Society, Dublin*, vol. x. pt. 2, p. 143. 1864.)