

## III.

NOTICE OF REMAINS OF THE RED DEER (*CERVUS ELAPHUS*, LINN.)  
 FOUND IN THE BED OF AN OLD LOCH NEAR DUNDAS CASTLE,  
 LINLITHGOWSHIRE; WITH NOTES OF REMAINS OF RED DEER  
 FOUND IN DIFFERENT LOCALITIES IN THE SOUTH OF SCOT-  
 LAND. BY JOHN ALEXANDER SMITH, M.D., SEC. S.A. SCOT.

## LINLITHGOWSHIRE.

*Dalmeny*.—In the *Scotsman* newspaper of the 14th August 1880 a letter appeared from Mr Wm. B. Forrest, Sawmills, Kirkliston, which stated that—

“In excavating for concrete walls in connection with the new Dundas Castle estate artificial loch, of which I am the contractor, and which you noticed in your impression of 11th May last, I have found embedded in blue clay, at a depth of 12 feet, a curious collection of bones, some of which evidently are human, others antlers of a species of elk or rein-deer. The strata consists of (1) 5 feet moss enveloping some fine specimens of large and magnificent timber; (2) 3 feet of marl mixed with clay; and (3) 4 feet blue clay, containing the bones above referred to.”

I was then with some friends in Ayrshire, and not being able to visit the locality I wrote at once to the Messrs Curle, writers, Melrose, agents of James Russell of Dundas, Esq., requesting that the bones found might if possible be kept for my examination. Accordingly the bones now exhibited were afterward sent to me by Mr Russell. The most marked among them is a good sized horn of the red deer (*Cervus elaphus*, Linn.), of the right side; it has the brow antler springing close above the burr of the horn, its extremity being broken; it is also somewhat remarkable from the comparatively large size of the bez-antler or second antler, which springs just above the brow antler, and still measures 8 inches long, its extremity being also broken off, it gives thus a broad and flattened character to the lower part of the beam, and probably suggested to the

inexpert examiner the fancied resemblance to an elk or rein-deer horn. The beam measures altogether about 18 inches in length, and shows no appearance of any other antler springing from it; the top or upper part of the horn is also broken off. The horn has part of the skull of the deer still attached to it.

Two smaller portions of the horns of the red deer, both broken at each extremity, were also exhibited. One shows apparently the thin and slight projection frequently present just above the brow antler, or which merely indicates the second antler; it measures 9 inches in length. The other horn is a smaller portion of the broken beam, probably belonging to the upper part of the horn. The bones collected are principally some of the vertebræ and leg bones of the red deer. There is also the small thigh bone of a bird, probably that of the common pheasant. These bones, and apparently others not preserved, were found in the course of cutting a deep trench across the eastern extremity of what had formerly been the bed of an old loch, the "Lily Loch," situated a little to the south of Dundas Castle, and about  $1\frac{1}{2}$  mile north of Kirkliston. This loch had been drained a good many years ago at this its lower extremity by the old proprietor, and the present proprietor, wishing to restore it again, had this trench made, to be filled up with a concrete wall, so as to enable the water to be again collected and the loch restored.

Mr William Stevenson, who visited the place a few days after the discovery of the bones, tells me that various oak, alder, birch, and hazel trees were found in partially clearing the bed of the old loch; they had apparently fallen or been blown down into the loch or moss at different times, as their branches and roots still remained attached. The animals found had probably been drowned in the loch, their bodies drifting toward its outlet, where they sunk into the marl deposit at its bottom, and were found, as he was informed by the foreman, on the old bottom, lying on, but not in, the bed of blue clay, as had been stated in the newspaper account.

Mr Melvin, F.S.A. Scot., Bonnington, Ratho, also informs me that he carefully examined the locality at the time of the discovery, and satisfied

himself that the bones were found in the marl bed, which indeed was evident from the appearance of the bones themselves and the remains of the marl deposit still adhering to them. With regard to human bones and those of the supposed elk or rein-deer referred to by Mr Forrest, Mr Melvin says: I may state that bones corresponding to these in character were not seen by me, and do not appear to have been found, other bones being mistaken for them by persons not familiar with such remains. Indeed, I have often observed that the bones of the red deer, if at all large or in any way unusual in appearance, are supposed by persons not knowing in such matters to be those of the elk or some such rare animal.

While giving my best thanks to James Russell of Dundas, Esq., and to James Curle, Esq., for their politeness in sending for my examination the bones collected, and also to Mr William Stevenson and Mr Melvin for the notes of their visits to the locality, I cannot help feeling a little regret that more search had not been made for other animal remains, though the comparatively restricted character of the excavation perhaps rendered this impossible. It is in the careful examination of the animal remains found in just such localities that we get information as to the former presence of various and sometimes very interesting animals which have long since altogether disappeared from our country.

In former times the red deer was probably abundant all over Scotland; now, however, it may be stated in a general way to be confined to the country lying to the north and west of the Firths of the Forth and of the Clyde, with their canals connecting them together.

I have thought it might be of interest to add a few Notes showing the previous existence of the red deer in the south of Scotland, where it has long since disappeared as a wild animal. In these Notes I shall refer shortly to some instances of the discovery of the remains of red deer in different parts of the south of Scotland, and shall give a fuller description of them, only in a very few instances, where they are of more importance from the great size of their horns, or other peculiarities. They will, in

this way, at least show the kind of red deer which formerly roamed and fed over the richer pasture lands of this part of the country, as compared with their more degenerate descendants which are still permitted to survive under the protection of man in the wilder deer forests of the Highland districts of Scotland.

*Uphall.*—Other remains of deer have been found in the same county of Linlithgow. Part of a deer's horn broken off from an entire head, found underground in the parish of Uphall, was presented to the Museum of the Society in 1781.

#### EDINBURGHSHIRE.

*Duddingstone.*—The first donation to the Museum of the Society was made by Sir Alexander Dick, of Prestonfield, Bart., in January 1781. It consisted of a number of broken portions of leaf-shaped bronze swords and spears, &c., and along with them—“sculls and other human bones, together with the horns of animals of the deer and elk species dragged out of the middle of a bed of shell marl at the bottom of his loch of Duddingstone.”<sup>1</sup> As various good naturalists were at that time Fellows of the Society, and Alexander Smellie was then “Superintendent of Natural History,” an official of the Society long since discontinued, there can be little doubt that these horns were correctly described.

*Edinburgh.*—“The head and horns of a large stag or red deer dug up below the roots of an old tree in one of the parks of the Meadow, near Edinburgh,” was presented to the Museum of the Society by William Cumming, Secretary, 31st July 1781.

These horns are of a very large size. The right horn gives off a brow antler measuring  $14\frac{1}{2}$  inches in length, and a little above it, the second or bez-antler 11 inches long, and near its base a large rough knob projects 1 inch from the front of the beam ; above it there is next the third,

<sup>1</sup> Smellie's Account of Soc. Antiq. Scot.

or royal, 15 inches in length, and it shows a small projection, like the origin of a sub-antler, 6 inches from its terminal point, an unusual circumstance; the top of the beam then terminates in a cup-like expansion or sur-royal, with one small and five large points; the horn measuring, to the extremity of one of these terminal points, 36 inches in total length.

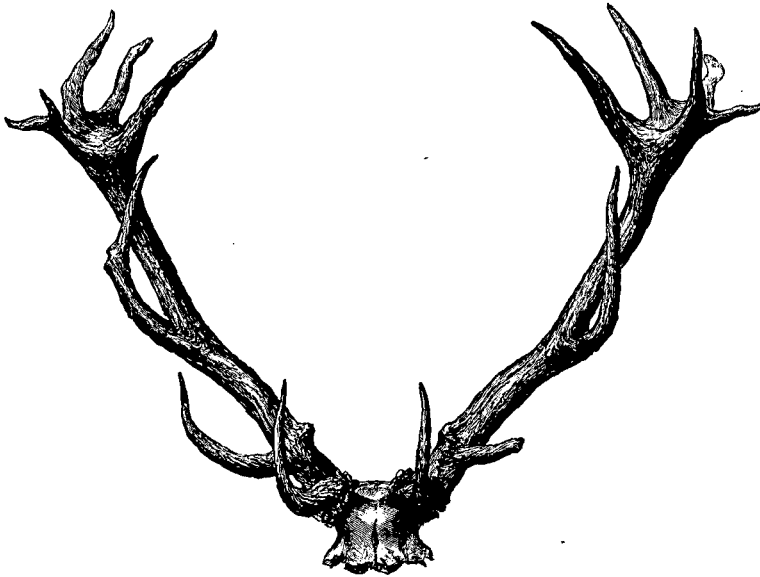


Fig. 1. Found in the Meadows, Edinburgh.

The horn of the left side has also a large brow antler 14 inches long, above it a broken bez-antler, with the rough knob also projecting from the beam at its base; next the royal antler, 13 inches long, and the beam terminates above in a cup-shaped crown, with five large projecting points or "croches." The whole beam or horn measuring to a terminal point 46 inches in length, and its circumference above the bez-antler is  $8\frac{1}{2}$  inches.

From the inside of the cup or crown of one horn to the cup of the

other it measures 35 inches, and 42 across the extreme projecting points of the crowns.

It is therefore a "Great Hart summed of seventeen."

These horns are well shown in the annexed careful drawing by Mr William Frater, draughtsman (fig. 1).

Maitland in his "History of Edinburgh," 1753, notices various lochs round about the city at that date. He tells us that—"The windmill at the southern end of the Potterrow was erected for raising water from the South-loch or Meadow, to supply the Society of Brewers withal."

"A little to the southward, on the western side of the road leading to Newington, lay the Borough-loch, so denominated from its belonging to Edinburgh, and its lying in the Borough-moor. This loch seems to have been of little benefit to the Edinburghers till the 17th century; since I only find it called a loch. But after the beginning of the said century, some considerable advances seem to have been made in draining it, seeing that, in the year 1658, this loch with its marshes were let to John Straton, on a lease of nineteen years, at the yearly rent of one thousand pounds Scottish money. But on the 7th September anno 1722, the said loch was let on lease to Thomas Hope for the term of fifty-seven years at the yearly rent of eight hundred pounds of the aforesaid money. Hope, in consideration of the contract, obliged himself to drain the said loch, and, when accomplished, to make a walk round the same, of the breadth of 24 feet, to be enclosed with a hedge and row of trees on each side, with a walk across the same from north to south, of the breadth of 30 feet, to be fenced on each side with a hedge and two rows of lime trees, with a narrow canal of 9 feet wide on each side. This place being brought to perfection, is denominated Hope's Park, or the Meadow, the former from the leasee or undertaker, and the latter from its grass and verdure. In the beautiful walks of this delightful place the citizens delight themselves in walking; the surrounding walk being in length 2770 yards, shows the whole enclosure to be in circumference one mile and a half and one hundred and thirty-five yards *English measure*," p. 173.

The Borough-loch, to distinguish it from the North-loch, lying to the

north of the castle, was often named the South-loch as well as the Borough-loch. This old name, however, still remains in some of the buildings adjoining the east end of the Meadows,—the Borough-loch, and the Borough-loch Brewery.

The probable history of this large deer seems therefore to have been that, at the time of its death, the meadows here referred to were a loch, with peat mosses surrounding it and beds of marl below. These have been gradually drained and cleared away, until in our own day these meadows have from time to time been all levelled up, and their original character totally changed to the present ornamental state of THE MEADOWS.

*Edinburgh.*—A red deer's horn and portion of skull was found 8 feet below the surface of the farm of Craigercock, near Edinburgh. In the same locality apparently, there was also found "A skeleton of a palmated head with very large horns projecting both before and behind, dug up lately (1781) on the farm of Graycrook near Cramond, occupied by Mr Henry Sawyers, and found buried about 8 feet below the surface, covered with 5 feet of marle, above which was 3 feet of moss"—Smellie's "Account," p. 54.

The horn marked in the Museum Catalogue as the first horn, is a large right horn with the greater part of the skull attached to it, the base of the left horn only being left. It has a brow antler and bez-antler, both broken, and the beam becomes broader above, terminating in three large diverging points, the smallest having been broken.

#### HADDINGTONSHIRE.

*Elphinston.*—A large deer's horn bearing marks of artificial cutting was found along with a quantity of skulls and bones in an ancient barrow in the neighbourhood of Elphinstone Tower. It was presented to the Museum in 1849, by Mr James Vernon, Hillhead.

*Drem.*—A red deer horn with portion of the skull, found in a bog near Drem, was presented to the Museum of the Society.

*Cockenzie.*—A horn of a deer was found at Cockenzie, East Lothian. It is stated to have been found in an ancient stone coffin along with decayed human bones and an iron key, greatly corroded.

The horn numbered in the Catalogue of the Museum as this one, is a long horn of right side of the skull of a red deer, the brow antler and bez-antler are both close together, and are cut off artificially near the beam, there is next a royal antler, and the beam spreads out above into three long terminal antlers, two of them showing also short spurs or points springing from them, about the middle of their length. The horn measures some 39 inches in greatest length, and 6 inches in circumference above the bez-antler.

*Athelstaneford.*—The Rev. William Ritchie, in his account of this parish in the "New Statistical Account of Scotland," vol. ii., 1845, tells us that when the course of the Peffer (a brook on the north side of the parish) was widened and deepened some years ago, several stags' horns were found about  $2\frac{1}{2}$  feet below the surface; and large oak trees have been oftentimes found imbedded in moss on the banks of that stream.

*Seacliff.*—J. W. Laidlay of Seacliff, Esq., F.S.A. Scot., read a paper before the Society in April 1870<sup>1</sup> on the remains of an ancient building, and kitchen midden, which were discovered on the top of an isolated rock called the "Ghegan" on the sea shore near Seacliff. Various manufactured articles of bone, &c., were found, and some fragments of pottery, &c., and were presented by him to the Museum of the Society. The animal remains found included the bones of the ox, the horse, sheep, goat, hog, and the dog; also the red deer and the roe deer; some few birds and fishes. The top of this rock had therefore apparently been an old inhabited site.

<sup>1</sup> Proc. Soc. Antiq. Scot., vol. viii. p. 372.



## BERWICKSHIRE.

*Kimmerghame*.—A pair of very large and perfect horns of a red deer were exhibited to the Society in April 1828, by Mr Andrew Bonar, and Mr Bonar writes—“In the course of some improvements it was necessary to drain a small morass on the estate of Kimmerghame near the head of that district called the *Merse*, and in doing so a layer of shell marl was discovered varying in thickness from 4 to 8 feet. Different pits were in consequence opened, and in one of these the horns were found at a depth of 7 feet from the surface under a layer of peat moss of that thickness, and embedded in a loose whitish substance which has been observed generally to occur between the peat moss and the bed of marl. It is much to be regretted that the bones by which they were surrounded, although apparently perfect while they remained “*in situ*,” speedily mouldered down on being exposed to the air; and the substance in which they lay was of too soft a nature to retain any impression. A considerable quantity of vegetable remains and fossil wood was discovered at the same time, principally birch and alder, with some oak.” The skulls of two beavers (*Castor fiber*, Linn.), were also found in the same locality at a distance of a few feet. “I need not say that the whole appearance of the place in which they were found seemed to indicate a very long continued state of tranquillity.”<sup>1</sup>

To the courtesy of A. Campbell Swinton, LL.D., F.S.A. Scot., of Kimmerghame, Esq., I am indebted for being able to add some measurements of this very fine head of horns, which he was good enough to send me, along with a sketch of the horns kindly made by Mrs Campbell Swinton. Mr Campbell Swinton tells me the marl moss in which it was found is situated on the farm of Middlestots, which was then the property of Andrew Bonar, Esq., about a mile and a half distant from the mansion-house of Kimmerghame. The horns are large and well developed, dis-

<sup>1</sup> MS. Letter in the Society's Library.

playing 12 points, but the crowns are now not quite perfect. The right horn has a brow antler  $12\frac{1}{4}$  inches in length, the bez-antler which springs close above it is  $14\frac{1}{2}$  inches long, the royal 10 inches; it then expands above into a cup or sur-royal, one terminal point being 13 inches and another  $16\frac{1}{4}$  inches, the rest or third point being broken. The left horn is very similar in character and size, its circumference above the bez-antler being  $5\frac{3}{4}$  inches, and below the sur-royal or crown the horn measured 8 inches across. The entire length of this horn from the burr to the extremity of the largest terminal point being  $42\frac{1}{2}$  inches. The greatest width between the crowns of the horns at their base, inside of beams, is 30 inches, the terminal points spreading out above. Mr Campbell Swinton also refers to the remains of a beaver, skull and bones being found in the same locality, and states that they were sent to the museum of the University, which Mr Bonar also mentions in his letter; this skull has since been transferred, with the Natural History Collections, to the Museum of Science and Art.

*Westruther.*—Rev. Robert Jamieson, in his account of the parish, "New Statistical Account of Scotland," vol. ii., 1845, says "It may be mentioned that the antlers of a deer were found near Whitburn, and several horns have also been dug out of the mosses, said to have been of much greater dimensions than those of any living animal; some of them exceeding a foot in circumference. (?) All these, however, soon crumbled into powder after exposure to the action of the air."

*Coldingham.*—Mr James Hardy, in a paper published in the "History of the Berwickshire Naturalists Club," vol. iv., 1856-62, tells us that a portion of the antler of a stag or red deer was dug up in Coldingham Churchyard in 1858, about 9 feet below the surface of the ground, at the base of one of the cloisters at the back of the priory. It was a basal portion of the horn, 6 inches long,  $8\frac{1}{2}$  inches in circumference at the burr, and the beam above it is  $7\frac{1}{2}$  inches in circumference. "It indicates," Mr Hardy says, "a size of antlers seldom seen in modern Highland forests."

Deer once ran wild in the Lammermoors, as Earl Percy and his men in 1372 found to their consternation.”<sup>1</sup>

*Whitrig Bog.*—This large bog lies at no great distance from the boundary of the county, adjoining Roxburghshire on the west. In the course of gradually removing the peat and marl of the bog to get at a bed of blue clay below it, for tile and brick making, the remains of various animals have been found. I was fortunate enough to be able to record in the “Proceedings” of the Society<sup>2</sup> the discovery of the remains of the true elk (*Cervus alces*) in Whitrig bog, and presented the skull to the Museum of the Society. Remains of the urus (*Bos primigenius*) and of the red deer (*Cervus elaphus*) have also been found. I had the pleasure of examining the skull of a red deer with large and well developed horns, which displayed some fifteen or sixteen points; which was found along with apparently the entire skeleton in Whitrig Bog. It is now preserved at Mertoun House, Berwickshire, the residence of the Right Hon. the Lord Polwarth, the proprietor of the ground.

#### ROXBURGHSHIRE.

*Linton.*—The Rev. James Brotherston gives the following details in his account of the parish in 1845.<sup>3</sup> “Linton Loch is now partially drained, and exhibits the appearance of a verdant morass interspersed with pools of water. It consists of moss under which is excellent marl.”

“A deer’s horns, of an extraordinary size, and supposed to be those of the rein-deer, were found embedded in the marl 14 feet below its surface, —above which there were 10 feet of moss. These are now in the possession of Mr Pringle of Clifton, the proprietor. They measured 3 feet in length and 3 feet 10 inches between each horn. Besides these, several skeletons, amounting to twenty, of animals of different species and of

<sup>1</sup> Buchanan’s “History of Scotland,” vol. ii. p. 40; Redpath’s “Border History,” p. 348.

<sup>2</sup> Proc. Soc. Antiq., vol. ix. p. 297.    <sup>3</sup> New Statistical Account, vol. iii., 1845.

various sizes, were discovered in the space of less than an acre. The bones of one of these in magnitude exceeded those of a horse. Some of them were much decayed; and when affected by the air mouldered into dust. The moss also abounded with large and thick oaks."

I am indebted to the politeness of the present proprietor of Clifton, Robert H. Elliot, Esq., for the following notes of the very fine stag's horns which Mr Brotherston, from their unusual size, supposed to be those of a rein-deer:—

"It was found when digging marl in Linton Loch after it was drained, and at a depth of about 14 feet below the surface of the soil, when the workmen came upon quantities of animal remains, amongst which, my late tenant Mr William Purves told me, were found the remains of a beaver. The horns remained in the possession of Mr Purves, who left them by his will to me; he told me the entire skeleton might have been preserved had not the work people broken it up. Another head was found which I am told was sent to Haining. The head is quite perfect, and so are the horns."

Mr Elliot also kindly sent me a sketch of the skull, showing a head of "A Great Hart summed of nineteen," with the various measurements marked on it, from which I am enabled to give the following details:—

The skull measures 20 inches in length along its upper surface, and  $7\frac{1}{2}$  inches across in front of the burrs of the horns.

The right horn has the brow antler  $12\frac{1}{2}$  inches long, the second or bez-antler  $16\frac{1}{2}$  inches, the third or royal 14 inches, it then expands upwards into a large sur-royal or crown with six terminal points. In circumference, this horn measures at the burr 8 inches, between the bez-antler and the royal 6 inches, and between the royal and sur-royal 6 inches. The whole length of this horn measuring 33 inches, and 48 inches to the nasal extremity of the skull; the "croches" or points of the crown measuring 16 inches across.

The left horn has the brow antler  $13\frac{1}{2}$  inches long, the bez-antler  $15\frac{1}{2}$  inches, the royal  $15\frac{3}{4}$  inches, and the sur-royal above divides into various expanding and terminal points, six or seven in number.

The total length of the horn from burr to terminal point in the line of the beam being  $32\frac{3}{4}$  inches, and 49 from the nasal extremity of skull.

The points on the horns Mr Elliot says are nineteen in number, and it has the full complement of twenty-four teeth still remaining in the jaw. The extreme length, across the points of the expanded crowns of the horns, measures 44 inches.

Dr Charles Douglas, Kelso, in his address as President of the Berwickshire Naturalists' Club (Hist., &c., vol. viii. 1876-78), states that a fine pair of red deer's horns, now in the Museum of Kelso, were also got from Linton Loch in 1843, from which many antlers of red deer have been taken. In addition to those now at Clifton Park just described.

The head and horns sent to the Haining, Selkirkshire, I am kindly informed by J. Pringle Pattison, Esq., are smaller in size than that now described, the bones of the face are wanting, and the horns number some fifteen or sixteen points, part of the crowns being broken. The length of the beam of the right and left horns respectively to the longest terminal points are 34 and  $45\frac{1}{2}$  inches; the brow antlers 15 inches; the bez-antlers 9, and  $8\frac{1}{2}$  inches; the third or royal 14, and  $14\frac{1}{2}$  inches; the crown or sur-royal of the right side displays some four or more points, and that of the left five points or more, each being partly broken. Across the crowns the horns measure 48 inches in breadth.

*Eckford.*—The Rev. J. Yair tells us—"In wester moss, nuts, roots, pieces of large oak and other trees have been dug up, also the skull of a bison (probably the urus, *Bos primigenius*, J.A.S.), and the horns of a red deer, very large. These horns are in the possession of Mr Robert Church, farmer, Moss-tower, and have seven branches."<sup>1</sup>

*Maxton.*—Some time ago the Rev. M. H. Graham, Maxton, kindly sent me some portions of the horns of a large round antlered stag (*Cervus elaphus*), which were discovered at a depth of 3 feet or so from the surface, when the surface ground was being tilled or removed from the red sand-

<sup>1</sup> New Statistical Account, vol. iii., 1845.

stone rock at the Broomhouse quarry near the schoolhouse in 1848. From their large size, Mr Graham supposed they might have belonged to an elk, and referred to them, in his "Notes on Maxton," read to the "Berwickshire Naturalists' Club" on the occasion of their visit to this district in 1871.<sup>1</sup>

*Bowden, Holydean.*—My friend, the late Mr Robert Blaikie, Holydean, informed me that many years ago he saw a fine pair of red deer horns which were taken from a marl moss or pool near the wood on Holydean. The wood consists now principally of decaying birch trees in clumps generally of several trunks springing from one root, the root shoots of still older trees that have long since passed away; with a few alders on the sides of the little stream which passes through it. There is believed to have been once a deer park round Holydean, the ancient residence of the Kers, now Duke of Roxburghe. The wood is considered to be a remnant of the skirts of the old Ettrick or Selkirk forest, which formerly spread away to the westward.

*Ashkirk.*—Rev. G. J. Hamilton<sup>2</sup> states that "There are four marl mosses on the estate of Synton, which have all been drained by the present proprietor."

"The skulls of various species of animals not now to be found have been dug up from the marl mosses. The writer of these pages has seen a large and beautiful specimen of the horns of the stag in the possession of John C. Scott, Esq. of Synton, which was found imbedded in a marl moss, the property of the same gentleman."

"Besides the horns of the stag already mentioned, the horns of the urus (*Bos primigenius*) were dug up from the same moss."

I am indebted to the kindness of Sir Robert Christison, Bart., F.S.A. Scot., &c., for informing me of a very fine head of a red deer which was in the possession of the late Rev. David Aitken, D.D., Minto, and was

<sup>1</sup> Proc. Berwick. Nat. Club, vol. vi., and Proc. Soc. Antiq. Scot., vol. ix. p. 299.

<sup>2</sup> New Statistical Account, vol. iii., 1845.

presented at the request of Sir R. Christison by Dr Aitken's representative, the Rev. Dr Ritchie, late of Jedburgh, to the University Geological Museum. Dr Aitken told Sir Robert Christison it was found in a bog in Ashkirk parish, where the remains of other deer have been discovered.

In this skull the bones of the face only are wanting; the bones and horns are of a dark colour as if they had long lain in the peat of a moss.

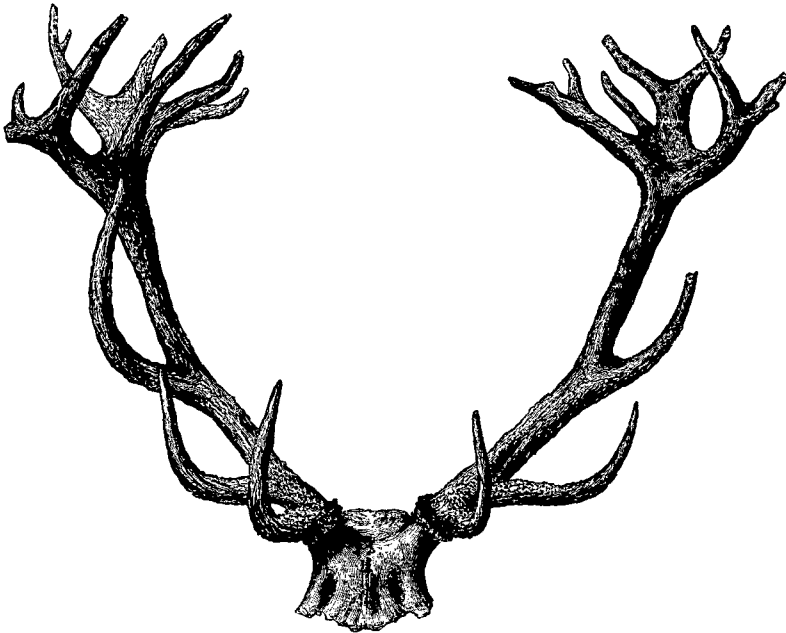


Fig. 2.—Found in a moss, Ashkirk.

The right horn has a brow antler  $15\frac{1}{2}$  inches long, and springing close above it a bez antler 14 inches long; the royal antler is  $18\frac{1}{2}$  inches, and above this the horn rises and expands into a crown of two spreading branches, from the inner margins of which various terminal points spring; these are nine in number, the longest of them measuring 11 inches in length. The total length of this right horn is 38 inches along the line of .

the beam. The beam is  $6\frac{1}{2}$  inches in circumference above the bez-antler, and there is no projecting knob at this part of the horn.

The horn of the left side has a brow antler 13 inches long, the bez-antler 13 inches, the royal is broken off at 11 inches from the beam, and the horn then expands above to a cup with eight points, a small additional one projecting slightly from the side of one of these points. The beam also measures  $6\frac{1}{2}$  inches in circumference above the bez-antler, and in total length 38 inches from the burr to the extremity of a terminal point in the general line of the horn or beam. This head of horns weighed with a steelyard, is as nearly as possible, 16 lbs. avoirdupois.

From the occipital crest at the top of the skull to the ridge crossing between the horns the length is 4 inches. Across the top of both the horns, from centre to centre of the cuplike cavities they measure 35 inches, and 46 inches to the extremity of the projecting points or "croches." The deer is therefore a "Great Hart of twenty-four." Annexed is a careful drawing of the horns by Mr William Frater, draughtsman (fig. 3).

*Roberton.*—Rev. Alexander Nivison, in the "New Statistical Account of Scotland," vol. iii., 1845, states that—There are many mosses in the parish, in some of which are found excellent shell marl and peat. Decayed trees are often found imbedded in these mosses, as also horns of the deer species and of other animals, which, from the size of the bones, seem to have been of a species distinct from any of those of the present day.

*Jedburgh.*—Mr William Hope, bird-stuffer, &c., George Street, tells me that about thirty years ago, he then a lad, was standing looking at workmen digging a deep cutting for a drain down the middle of the High Street of Jedburgh, when they threw out, just at his feet, a very fine deer's horn with part of the skull attached, which he carefully examined at the time. It had five points still remaining, and the top of the horn was broken, or it would have displayed more. An older lad beside him took away the horn. At another part of the cutting there were broken portions of a smaller red deer's horn dug up, and a con-



siderable number of portions of red deer's horns were afterward discovered, also a great many bones; but whether they were those of the red deer or not, he cannot say. Mr Hope tells me he remembers the whole circumstances now detailed as if it were but yesterday.

*Southdean, Wolfelee.*—Sir Walter Elliot informs me that he has in his own possession a very fine head of a red deer, which was found in the Mackside moss, on his own property, or at Doorpool hard by, when he was in India. The skull of the elk (*Alces malchis*), which I have described in my paper on "The Remains of the Elk found in Scotland,"<sup>1</sup> was found in Williestruther moss, also on Sir Walter's property of Wolfelee, in Rule water.

#### SELKIRKSHIRE.

In a description of Selkirkshire by William Laidlaw, published in the "Edinburgh Encyclopædia," 1830, it is stated that in the marl mosses of that county, skulls of the urus (*Bos primigenius*) had been found, along with those of the stag (*Cervus elaphus*) and an extinct species of deer with palmated antlers, supposed to have been about the size of a blood horse (probably the elk (*Alces malchis*), J.A.S.).

Mr James Hardy, in a notice of the discovery of the horn of a red deer in Coldingham Churchyard, states that King Robert Bruce, in a charter,<sup>2</sup> given at Newbottle, 26th December 1328, conferred on the monks an annual donation of five harts at the feast of St Cuthbert's Translation, the 4th September.<sup>3</sup> These were to be taken from his forest of Selkirk.<sup>4</sup> David II. renewed the liberal grant of his father in 1344. The gift is thrice recorded in the "Annual Account Rolls of the Priory" (pp. vi., vii., and cvii.). This shows the abundance of deer in Selkirk forest at these dates.

<sup>1</sup> Proc. Soc. Antiq. Scot., vol. v.

<sup>2</sup> Chalmer's "Caledonia," vol. ii. p. 982.

<sup>3</sup> Hist. Berwick. Nat. Club, vol. iv., 1858-62.

<sup>4</sup> Carr's "Hist. of Coldingham," p. 267, 325.

*Selkirk, The Haining.*—John Pringle Pattison, Esq., of the Haining, kindly informs me that several horns of the red deer have been got in the borders of the Haining Loch. Two of these have portions of the skull attached—one single horn measures 30 inches in length of beam, and has some six or seven points, the crown being partially broken; the brow antler is  $10\frac{1}{2}$  inches long, the bez-antler  $6\frac{1}{2}$ , and the royal 12 inches. The largest remaining point of the crown is 7 inches in length. Another horn measures 29 inches in length to the broken crown; it displays a brow antler 9 inches long; a broken bez-antler, and a royal, the sur-royal or crown being also partially broken. Skulls of the Urus (*Bos primigenius*) have been found in the same locality, one preserved at the Haining measures 9 inches across the forehead between the horn cores, and 10 inches between the orbits; the right horn core is now 24 inches in length along its outer margin, its point being broken off, and the left is more broken.

#### DUMFRIESSHIRE.

*Shaw.*—The late Sir William Jardine informed me that in a moss on the property of Shaw, belonging to George Graham, Esq., various remains of animals were found in the course of removing the peat and marl. There were found at the bottom of the moss, and lying on the marl, bones of the red deer, the roe deer, the urus (*Bos primigenius*), also a horn he considered to be that of the rein-deer (*Cervus tarandus*), and a skull and bones of the black bear (*Ursus arctos*), all of which he examined. I have already brought these two last named animals before the Society in my papers on the "Rein-deer," and the "Bear in Scotland."<sup>1</sup>

#### WIGTOWNSHIRE.

*River Cree.*—The horns, with portion of skull of a large red deer, showing 12 points or antlers, total length of right horn 33 inches, of left horn 32 inches, were found in the moss or bed of the river Cree, Wigtownshire. They were presented to the Museum of the Society by Dr Arthur

<sup>1</sup> Proc. Soc. Antiq., vol. viii., and Proc. Soc. Antiq., New Series, vol. i.

Mitchell, Sec. S.A. Scot., who tells us remains of other red deer have been found in the neighbourhood, and also of the urus.<sup>1</sup>

*Rowenstone.*—The large horns of a stag were recently sent to the Museum, to be presented to the Society, by the Right Honourable the Earl of Stair, F.S.A. Scot., and to his courtesy I am indebted for the information, that they were discovered in a marl moss in the neighbourhood of Rowenstone, now the property of Lord Borthwick, Wigtownshire; they

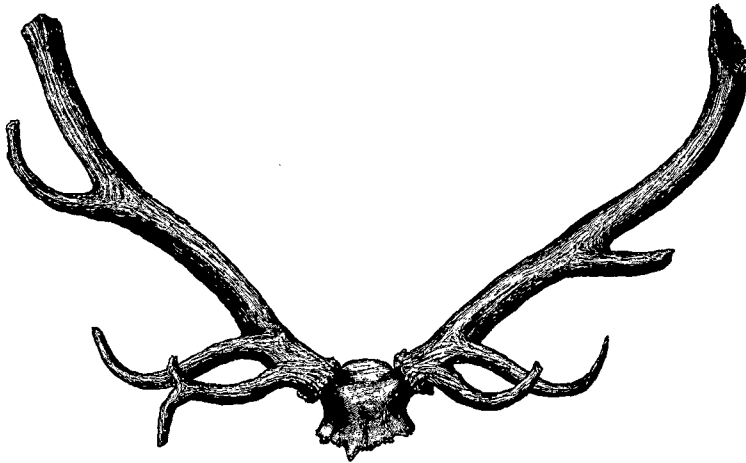


Fig. 3. Found in a moss, Rowenstone.

were given to him some thirty years ago, shortly after they were found. The upper portion of the skull has been preserved with the horns.

The horn of the right side gives off just above the burr a large and long brow antler which has the curious peculiarity of being rather flattened and forked, a small sub-antler being given off at 12 inches distance from the beam. This brow antler terminates; therefore, in a small sub-antler measuring about an inch in diameter where it springs from the antler, and rising upwards for  $1\frac{1}{2}$  inches, where it has been unfortunately broken; and

<sup>1</sup> "Notes on Forest of Cree," Proc., vol. v. p. 20.

the larger part or terminal antler, which curves downwards and forwards, and from the fork, measures 5 inches in length to its broken extremity. The whole length of the brow antler being 17 inches. The bez-antler rises just above the brow antler at about 3 inches from the burr, and measures 14 inches in length, and there is a rough projection or knob on the beam at its base, then at the distance of 14 inches from the burr of the horn, there springs the royal or next antler, 11 inches long. The whole of the beam, from the burr to its broken extremity, measures 2 feet in length, it is 10 inches in circumference immediately above the burr, and  $7\frac{3}{4}$  above the origin of the bez-antler.

The left horn has a general resemblance to the right; the brow and bez-antler being nearly close together—the brow antler 13 inches in length, the bez-antler 15 inches, and the same rough projection is present as is noticed on the other horn rising up from the beam, at its base. The third or royal antler is large, and measures 6 inches to its broken extremity. The main horn or beam measures  $9\frac{1}{2}$  inches in circumference just above the burr, and  $7\frac{1}{2}$  inches in circumference above the bez-antler, and is 2 feet 5 inches in length from the burr to its extremity, which is also broken on each side of the horn, thus showing that it probably terminated in a cup with several projecting points or “croches.” The size and bulk of these horns call for attention, and especially the brow antler of the right side, which gives off this additional sub-antler, a peculiarity I have not before noticed in the red deer. Had this antler been discovered separated from the skull, and the rest of the horn been broken off, it might have somewhat puzzled a naturalist to make out the species of deer to which it belonged. (See the annexed careful drawing, fig. 3.)

#### KIRKCUDBRIGHTSHIRE.

*Borgue, Borness.*—A series of valuable papers were brought before the Society in 1874<sup>1</sup> by Messrs A. J. Corrie, W. B. Clarke, A. R. Hunt, and R. J. Johnson, giving the details of the thorough exploration of a cave on the sea coast, on the farm of Borness, the various objects of

<sup>1</sup> Proc. Soc. Antiq. Scot., vol. x. and vol. xii.

interest found having since been added to our Museum. The remains of numerous animals were discovered, along with objects of human workmanship; including the horse, ox, sheep, red deer, roe deer, and pig, &c., &c. The portions of red deer horns preserved are of a very considerable size, "and indicate fine and largely developed individuals, equal almost in size to the oxen" (p. 489), also other animal and bird bones, &c.," many of them being probably the remains of the food, &c., of the old occupants of the cave.

#### AYRSHIRE.

*Maybole.*—Rev. George Gray, in the "New Statistical Account," vol. v., 1845, says:—"Towards the southern boundary of the parish there are a series of small lochs and marshes, and on draining some of them, after the soil, the moss was found to be 8 or 10 feet thick, with great deposits of marle below it. Some of these mosses contained an immense number of organic remains." It was here that a fine specimen of the *Cervus megaceros* or Irish elk was found, to which I have referred in my paper on the "Irish Elk."<sup>1</sup> Remains of the *Bos primigenius* or urus, and horns of the red deer (*Cervus elaphus*) were also found.

*West Kilbride.*—Mr John Young of the Hunterian Museum, University, Glasgow, informs me that there is in the Museum the nearly complete skeleton of a large red deer (*Cervus elaphus*) which was discovered some twelve years ago in the course of draining a bog or old loch deposit at Springside, West Kilbride. The men who dug it up unfortunately broke the horns a good deal, but Mr Young has managed to put them together again. The left horn is complete, with no fewer than fourteen tines or points, and the right horn has now ten tines, one or two points of the top of the sur-royal or cup-shaped crown being broken off. I annex some of the measurements of this large deer, through the kindness of Mr Young. The length of the perfect left horn in a straight line from the burr to the extremity of the longest terminal point is  $40\frac{1}{2}$  inches; length

<sup>1</sup> Proc. Soc. Antiq., vol. ix. p. 346.

of the brow antler along its outer curve  $14\frac{1}{2}$ , that of the right horn being  $15\frac{1}{2}$  inches, the second or bez-antler  $10\frac{3}{4}$  inches long, the third or royal  $18\frac{1}{4}$  inches. The beam then expands upwards and terminates in a sur-royal or cup of eight long points or branches and three shorter ones, eleven in all. The length from the bottom of the cup inside to the tip of the longest terminal point is  $19\frac{1}{2}$  inches. There are thus no fewer than fourteen points on this single horn.

The circumference of the beam between the burr and the brow antler is  $8\frac{1}{2}$  inches, above the bez-antler  $7\frac{3}{4}$  inches. The circumference of the beam above, just below the crown, is 12 inches. The width between the outside of the burrs across the base of both horns is  $7\frac{1}{2}$  inches, and inside between the burrs  $2\frac{1}{2}$  inches. The bones of the face are wanting. The lower jaw, measured from a perpendicular line dropped from the condyle to the line of its lower surface and thence to the symphysis,  $12\frac{1}{2}$  inches, and along the bone from condyle  $18\frac{1}{2}$  inches. The femur is  $13\frac{1}{2}$  inches long, its circumference at the middle of the shaft  $4\frac{1}{2}$  inches; the tibia  $15\frac{3}{4}$  inches long; the united radius and ulna 15 inches; metatarsus  $12\frac{1}{4}$  inches; pelvis  $15\frac{1}{4}$  in depth. These measurements are interesting for comparison with the recent red deer.

If these horns had the same number of points on each side, it would have shown a Great Hart of no less than 28 points.

I add a few measurements from the skeleton of a recent red deer, unfortunately of rather small size, in the Museum of Science and Art :— Length of skull along its upper surface  $13\frac{1}{2}$  inches; length of lower jaw along its base from angle to symphysis 10 inches. Fore leg—scapula  $8\frac{1}{2}$  inches; humerus  $9\frac{1}{2}$  inches; radius and ulna 12 inches; metacarpal bone 7 inches. Hind leg—pelvis, greatest length, 12 inches; femur  $9\frac{3}{4}$  inches; tibia 12 inches; metatarsus 10 inches.

*Tarbolton.*—In a memoir on the excavation of a crannog at Lochlee, by Robert Munro M.D., published in the New Series of our "Proceedings," vol. i., full details are given by Professor Rolleston of Oxford University, of the remains of horns and bones of the red deer found in this ancient

dwelling place along with those of the ox, sheep, pig, the horse, the roe deer, and he conjectures also the rein-deer.

*Kilmours, Buiston*.—The remains of a crannog or ancient lake dwelling have been recently discovered here by Mr M'Naught, and in the course of the excavations numerous manufactured articles of bone, bronze, &c., have been found, including also a spiral-shaped finger ring of gold. Bones of the following animals have also been discovered; including the ox, sheep, goat, &c., and horns of the red deer and the roe deer. An account of it will be published by Dr Monro in the "Collections of the Ayr and Wigtown Archæological Association."

#### RENFREWSHIRE.

*Paisley*.—In the "Transactions of the Geological Society of Glasgow," vol. vi. 1879. There is a paper by David Robertson, F.L.S., &c., "On the Post Tertiary Fossiliferous Bed, at the New Gas Tank, Paisley." He says, "the find that attracted most attention was that of a horn of the red deer (*Cervus elaphus*), 36 inches in height, with seven tines." It was in good condition and was found 14 or 15 feet below the present surface of the ground. It lay on a bed of soft black glairy mud which contained abundance of *Ostracoda* and *Foraminifera*. Mr Robertson says he is not quite satisfied that the horn dates back to the deposition of the marine clays. "Portions of red deer remains have been brought up in the Clyde near Bowling by the dredging machine, but I am not aware of them having been obtained from older deposits." Mr Robertson gives a figure of the horn, which seems to have belonged to the right side of skull with the following measurements:—(only he takes part of his measurements in a straight line from the beam to the point of each antler, and not along the curve of each). The point of the brow antler in this way is 14 inches from the beam; the bez-antler  $12\frac{3}{4}$  inches; the royal  $9\frac{3}{4}$  inches. The beam then divides above into a sur-royal of two branches, each terminating in two points or "croches." The horn has been presented to the Museum of Paisley.

## THE GEOLOGICAL AGE AND RANGE OF THE RED DEER IN SCOTLAND.

Professor Owen in his "History of British Fossil Mammals, London, 1846," tells us—"The oldest stratum in Britain yielding evidence of a *Cervus* the size of the red deer is the Red Crag at Newbourne. More conclusive evidence of the specific character of this sized deer is afforded by antlers as well as teeth and bones, and these attest the existence of the *Cervus elaphus*, through intermediate formations, as the newer fresh-water pliocene, and the mammoth silt of ossiferous caves, up to the growth of existing turbaries and peat bogs."

In Scotland the remains of mammals are exceedingly rare in any of the glacial or older deposits, and it is not until we come to about the age of the peat bogs with their underlying beds of marl, and to the clay and silt of river beds, that the remains of the red deer have as yet been found. In these situations, most commonly at the bottom of peat bogs and lying on, or in, the marl bed, we find bones of the Stag (*Cervus elaphus*), associated in many cases, as I have already detailed; with the remains of the Urus (*Bos primigenius*), as in the counties of Berwick, Roxburgh, Dumfries, &c.; and occasionally also with those of the Elk (*Alces malchis*) in Berwick and Roxburghshires, &c.; still more rarely with those of the Irish Elk (*Megaceros hibernicus*) in Ayrshire; the Beaver (*Castor fiber*) in Berwick and Roxburghshires; and the Roebuck (*Cervus capreolus*), and also the Rein Deer (*Cervus tarandus*) and the Brown Bear (*Ursus arctos*), in Dumfriesshire. Such associations as these all show the comparatively lengthened period during which the red deer has flourished in the south of Scotland. Discoveries of this kind have been but rarely made of late years, since the economic use of both peat and shell marl have in a great measure been given up in Scotland. Remains of red deer have also been discovered in old inhabited sites, along with the roe, horse, ox, sheep, and the pig, as in the cave at Borness, Kirkcudbrightshire, and in the Ayrshire Crannogs; also, as Professor Rolleston conjectures, with the Rein Deer at Lochlee, Tarbolton; and in addition the goat and dog in the old rock site of the Ghegan, Haddingtonshire.



Coming down to much later times, we find the red deer taking a place of importance and protection in the consideration of the rulers of our country, and made the subject of royal gifts to favoured followers.

Thus in a paper published by Mr James Hardy in the "History of the Berwickshire Naturalists' Club," vol. viii., 1876-1878, entitled "Deer Forests of Scotland, 1291-1296," various gifts of deer and timber, made by Edward I., are detailed, copied from the "Rotuli Scotiae," vol. i. I shall only extract those referring especially to the south of Scotland:—

"By a writ dated Newminster, 18th August 1291, to Alan (St Edmunds), Bishop of Caithness Chancellor of Scotland, Simon Fresel (Frazer), Keeper of the forest of Selkirk, is enjoined to bestow upon the venerable fathers, William (Frazer), Bishop of St Andrews, 30 stags; Robert (Wishart), Bishop of Glasgow, 20 stags and 60 oak trees; and the Bishop of Caithness for himself, 10 stags; James the Steward of Scotland, 20 stags; Patrick de Dunbar Earl of March, 10 stags; William de St Clair, 6 stags; and brother Brian (de Jaye), preceptor of the Templar Knights in Scotland, 4 stags and 4 oak trees."

"Consequent on the decease of Simon Fraser, the custody of the forests of 'Troquer' and Selkirk was committed to William the son of John Comyn, 15th January 1291-2 (p. 7). William Comyn, Provost of St Andrews, acquires by letters, dated Berwick 16th June 1292, 6 stags from the forest of Plater (p. 8); and on the 6th July by a similar order from Berwick, William Comyn, Keeper of the forest of Selkirk, was to deliver 6 stags as a royal gift to the Abbot of Geddewrth (Jedburgh); Thomas Randolf, from the same forest, was also to obtain 6 deers. Master Adam de Botindon, the Vice-Chancellor of Scotland, received 4 stags from the forest of Selkirk, 10th July. In 1296, when in consequence of Balliol's deposition, the personal authority of Edward was again established in Scotland; Berwick, September 15, 1296, James, the Steward of Scotland, was to have 10 stags as a kingly gift from the royal forest of Jeddeworth. By a brief from Berwick, September 15, the Keeper of the king's forest of Selkirk is to present Reginald de Crauford with 6 stags (p. 34). He was made Sheriff of Air by Edward at Roxburgh, 14th May 1296. This

is the uncle of Wallace the patriot, the same who was afterwards treacherously murdered by the English governor of Air. Finally, King Edward issued a mandate from Durham, 5th October 1296, to John de Warenne, Earl of Surrey, Keeper of his realm of Scotland, to bestow on Walter de Agmodesham (Keith calls him Agmundesham), the Scottish Chancellor, 8 deers from the forest of Selkirk" (p. 36).

Then, as referred to in the preface to the "*Liber Sancte Marie de Melros*," we find that—"when the Abbey of Melrose acquired that wide territory in Eskdale which was the gift of King David I. to the family of Avenel, the game was carefully preserved by the successive granters in such express terms, that even the names of the valued animals are specified. The Lords of Avenel reserved hart and hind, boar and roe, the aeries of falcons and tercel, and their right to the penalties of trespasses within the forest, and the amercements of those convicted of theft. The monks were expressly excluded from hunting with hounds or nets, from setting traps, except only for wolves, and from taking the aeries of hawks, &c.

"The early grants to Melros of their great territories in Ayrshire by the successive Stewards, expressed the same reservation in fewer terms. But notwithstanding this reservation, grounded on the rigid rule of the Cistercians, we find the monks soon after in full possession of the rights of game and the forest, in the territory of Machlyn, which their munificent benefactors had at first withheld; and a few generations later, the family of Graham, who inherited the possessions of Avenel, gave up in like manner to Melros the whole privileges of hunting, fishing, and hawking in Eskdale, which had been originally so jealously guarded."

These various documents may give us some idea of the abundance of red deer at these different periods in the south of Scotland.

Lastly.—Cosmo Innes in his "*Scotland in the Middle Ages*, Edinburgh, 1860," tells us something of the final destruction of the deer in the south of Scotland:—"An Act of Parliament so early as 1551, sets forth that,—‘deer, roe, and wild beasts and wild fowl are clean exiled and banished by shooting with half-hag, culvering, and pistolat.’ But the confusions of the following century undoubtedly much increased the evil, and, at the

end of that period, deer were to be found only in the great central forests of Perthshire, stretching from Aberdeenshire to Argyll, and in the wilds of the Sutherland peninsula."

In the appendix to the "Natural History of Deeside and Braemar," by the late William Macgillivray, LL.D., 1855, printed for private circulation by command of Her Majesty the Queen, we find an interesting memoir by Edwin Lankester, who edited the volume, entitled "Notes on the Deer of Scotland." He states that,—“At the present day the oldest stags in Scotland seldom present more than 10 or 12 points. At the same time many living sportsmen have killed stags with 13, 14, 15, and 16 points. Mr Peter Robertson, forrester to the Marquis of Breadalbane, states that he had seen a stag killed with 18 points. The three great heads of Gordon Castle, Innis House, and Cromarty, of which the first two, killed in Glen Fidich and Innis, bear 17 points; and the last killed (in 1844) in the forest of the Earl of Cromarty, in Ross, and recently in the possession of the present Cromarty, has 22, the greatest number known on any modern head in Scotland.”<sup>1</sup>

“In other parts of Europe stags have been killed with a very much larger number of points than any recorded in Scotland. There is a head still preserved at Mauritzberg, which presents the enormous number of 66 points; it was killed by the first king of Prussia, and presented by that monarch to Augustus, Elector of Saxony and King of Poland. In the collection at the Château of Wohrad, the hunting residence of the Lordship of Frauenberg, there are 109 stag's heads, of which only 17 are under 14 points.”

I regret not having been able to get a more detailed description of the Mauritzberg great stag, so as to learn how the greatly increased number of points are arranged and displayed.

<sup>1</sup> “Lays of the Deer Forest,” vol. ii., p. 113. Sir Philip Egerton refers to the last head mentioned in this quotation as presented to Lord Londonderry by Mr Hay Mackenzie, and says that it possesses twenty-five points; but he adds that the animal in this case appears to have been diseased.