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NOTICES OF A SHORT CIST DISCOVERED IN THE PARISH OF YESTER, EAST LOTHIAN; OF A PREHISTORIC BURIAL AT ALVA, CLACKMANNANSHIRE; AND OF AN EARTH-HOUSE IN SKYE. By J. GRAHAM CALLANDER, F.S.A. Scot., *Secretary*.

A SHORT CIST AT YESTER.

About the end of March of last year (1913) a short cist containing the remains of a human skeleton was discovered in the Pishwanton Wood, in the Parish of Yester, East Lothian, through one of the cover stones breaking under the weight of a traction engine which was passing over it. The exact site is on the rough cart track through the wood about 200 yards north of its junction with the Long Yester and Long Newton road, on the crest of a ridge running almost due north and south.

To Mr A. D. Macdonald, factor on the estates of the Marquis of Tweeddale, I am indebted for bringing the discovery to my notice, and for furnishing me with a description of the grave when it was first exposed. We visited the site on the evening of the 13th May and removed the skeletal remains, which unfortunately had been much

damaged after the opening of the grave, the skull being broken into small fragments.

The cist was formed of four slabs set on edge, being rather broader at the north than at the south, while the ends were parallel. It measured 2 feet 9 inches in length, 2 feet across the northern end, 1 foot 6 inches across the southern end, and 1 foot 5 inches in depth. The side slabs were about 5 inches thick, and the end slabs at the north and south 10 inches and 4 inches respectively. The slab on the west side wanted the lower corner at the southern end, and the vacancy thus caused was filled with a smaller stone inserted about 5 inches back from the inner line of the slab. Two cover stones, which just appeared above the surface of the ground, were placed lengthwise across the mouth of the cist. The stone at the northern end was 2 feet 2 inches by 1 foot 7 inches by 8 inches, and the other 2 feet by 1 foot 10 inches by 10 inches, the latter having a piece of one end broken off. This last slab was of white gannister, and the others of red grit.

There was no soil in the grave when it was first opened, and the bones of the skeleton were seen lying on the gravel at the bottom of the chamber, the skull being nearly complete. A small quantity of charred wood was noted amongst the soil. No relics bearing signs of human workmanship were found, but amongst the bones was a split nodule of clay ironstone, $3\frac{3}{16}$ inches in length by $2\frac{3}{4}$ inches in breadth by $1\frac{5}{16}$ inch in thickness, with a natural cavity on one side, $1\frac{1}{16}$ inches long, by $1\frac{3}{8}$ inches across the wider end, and $\frac{1}{8}$ inch deep, shaped like a flat bronze axe, and simulating a flat axe mould. Its presence in the cist may have been purely fortuitous, but there is a possibility that the peculiar shape of the cavity on the stone may have attracted the attention of a people familiar with the flat bronze axe, who had considered it of sufficient value to make it worthy of being deposited in the grave.

The bones were submitted to Professor Thomas H. Bryce, Glasgow University, who reports as follows :—

“ Bones from Gifford Cist.

“ The skeleton from this cist is in a very much broken and imperfect state. The skull is represented only by the base, the occipital region and part of the vault on the left side, and one half of the mandible. The bones of the brain-case were broken into many fragments, but it has been found possible to restore the greater part of the base and the one side of the vault. No measurements are obtainable, but the form of the restored fragment is such that it may be stated with some confidence that the skull belongs to the brachycephalic type, although the index cannot have been much above 80. The mandible is that of a person of middle life. Three teeth—an upper molar, a lower premolar, and a canine—have been preserved. The crowns show none of the wear, the result of gritty food, so frequently observed in prehistoric teeth. The long bones are so much broken that no exact data regarding stature can be given, but the probability is that it was about 5 feet 5 inches to 5 feet 6 inches. The femora are represented only by their proximal ends; they are stout, heavy bones, and in all probability belonged to a muscular male. There is marked flattening below the trochanters, and a sharp lateral flange; the platymeric index is 71 in the case of the right, and 73 in that of the left bone. The fact that the epiphyses are all fully united indicates that the person was of full adult age; the slight degree of wear of the crowns of the teeth shows that probably he was not far advanced in life.”

A PREHISTORIC BURIAL AT ALVA, CLACKMANNANSHIRE.

On the 24th December last, while quarrying stone for road metal in a quarry at the foot of the Ochils, at Alva, James Murdoch uncovered the remains of a human skeleton which had been buried in a natural cavity in the rock. Two days later he was killed at the same spot by the fall of a mass of overhanging rock, a tragic sequel, which not long ago would have been considered a judgment on him for

disturbing the dead. The police authorities were immediately informed of the discovery of the skeletal remains, and P.C. George Donald, who fortunately had some knowledge of prehistoric burials, removed the bones and examined the grave, the remains being handed over to Dr W. L. Cunningham, Alva. These two accompanied me to the site on the 13th January following, and to them I am indebted for particulars of the discovery.

The quarry in which the grave was found is situated at the mouth of Alva Glen, a few yards distant from the right bank of the burn which flows through it. The body had been placed in a cavity or rock shelter in the face of the cliff, about 40 feet from the base, and about 200 feet above sea-level, and a rough, curved wall of dry-stone building, about 1 foot in thickness, had been built across the opening, which faced the east, the ends of the wall being still *in situ* when I visited the site. The space enclosed measured about 4 feet 6 inches from north to south, and about 5 feet from east to west. Subsequent to the burial the whole face of the rock and the walling had been covered, to a thickness of probably some 6 feet, by soil and detritus washed down from the hill face above. The greater part of the floor of the cavity was formed of clean, broken, angular stones, but the space on which the body was placed had been covered with a thin layer of soil preparatory to the burial. No charcoal or charred wood, which is so often seen in prehistoric graves, was found in this deposit. The skull lay in the north end of the grave, on its right side, facing the rock to the west, the vertebræ and ribs followed a line to the south, and the nether limbs were inclined towards the interior of the cavity. The whole face, including all the teeth and the lower jaw, was awaiting. Apparently the body had been placed in a flexed position, half on its side and half on its back. Nothing else was found in the grave but a quantity of snail shells, probably twenty or thirty, which were nearly all broken, the few complete examples being in a very fragile condition. Elsewhere it has been stated that these formed a necklace, but while they

were strewn out in front of the skeleton for a distance of over 3 feet, none of them showed any signs of artificial perforation. The species of *Helix* is probably *hortensis*, the common garden snail.

Professor Bryce states that the skeleton is that of a dwarf of about 4 feet 2 inches in stature. The epiphyses are all fully united, although the line of union is visible on the surface at some points. Growth must therefore have been completed, and the person must have been, if the union of the epiphyses of the long bones had pursued its normal course, over twenty-one years of age. If, however, as there is some reason for believing, the epiphyses had united prematurely, the condition of the long bones gives no indication of the age of the individual. The first piece of the os sacrum is only partially united with the second; and were this taken as a sign of incomplete consolidation of the skeleton, it would be necessary to conclude that the age was under twenty-five. On the other hand, certain characters point to the conclusion that we have here to do with a variation of the os sacrum—in which, although the first bears part of the articular surface for the hip-bone, only four, not five vertebræ, have fused. The sutures of the skull are all open save the temporal part of the coronal. In dolichocephalic skulls this portion of the fronto-parietal suture is the first to show signs of closure between the twentieth and thirtieth years of life; and this fact, taken along with the characters of the mastoid process of the temporal bone, permits the age to be placed in all probability under thirty.

Skull.—The whole face is absent, and the right half of the base and the lower portion of the right lateral wall are broken away. The calvaria shows the general characters of a female skull, but it cannot be stated definitely that the individual was a woman, because the cranial characters are such as might have been present in a dwarf of the male sex. The calvaria is of moderate size, and is well formed. The horizontal circumference measures about 525 mm. The sagittal arc extends to 382 mm., made up of 130 mm. for the frontal, 135 mm.

for the parietal, and 117 mm. for the occipital arc. The maximum length is 185 mm., the maximum breadth 135 mm., the basi-bregmatic height 130 mm. The breadth thus bears a ratio of 73·5 to the length, and the skull falls well into the dolichocephalic class. The height index is 70·2.

The limb bones are remarkably short and slight, but are well formed, and the muscular impressions are in general well marked.

The humerus measures about 240 mm., the left radius 172 mm.—figures which are much below the average. The distal end of the radius is curved forwards and towards the ulna to a greater degree than usual. The right femur measures only 347 mm. It has a remarkable degree of torsion in its upper third, so that the axis of the neck forms an angle of as much as 32° with the axis of the distal extremity. The angle in modern bones is usually about 12°. The left femur is broken at its proximal end. The stature calculated from the femur, according to Pearson's formula (*Phil. Trans.*, A. 192, p. 100), lies between 49·8 and 50·8 inches. There is distinct antero-posterior flattening below the trochanters, and the platymeric index is 78·3.

Both tibiæ are broken, the proximal end of one and the distal end of the other being preserved, so that it is not possible to calculate the length of this bone. The proximal extremity is slightly retroverted, and there is a distinct degree of lateral flattening in the proximal third of the shaft; the platynemic index is 72. The distal extremity of the tibia shows on its anterior border a distinct facet for articulation with the neck of the talus. The talus is very remarkable for the sharp angle at which the neck is set to the body of the bone. The angle approximates to that which characterises the bone at birth, so that the bone resembles much more closely an infantile than an adult talus. There is, further, a distinct facet for the anterior border of the tibia on the upper surface of the neck in front of the trochlea tali. The presence of this facet and the sharp medial incurving of the medial border of the trochlea indicate that a more acute degree of flexion at

the ankle, associated with greater degree of inversion of the foot, was possible or habitual than in an adult of the present day. In short, the inverted and acutely flexed position of the foot seen in a child at birth had been to a considerable degree retained in this dwarf. The greater forward inclination of the neck of the femur may also be looked upon as a persistence of an infantile condition; and this fact, associated with the outward torsion of the upper part of the shaft of the thigh-bone, may indicate that the hip-joints were frequently or habitually placed in a position of acute flexion. The evidences of persistence of infantile characters afford some grounds for believing that the dwarfish stature was due to premature union of the epiphyses associated with an arrest of these adaptations of the lower extremities to the erect posture, which ordinarily take place in childhood. The separate condition of the first sacral vertebra may have a similar explanation. Unfortunately the lumbar vertebræ have not been preserved; otherwise it might have been possible to form conclusions regarding the character of the spinal curves. It should be noted that the bones show no evidence of the disease known as rickets.

The general conclusions to which a careful examination of the skeleton leads, is that we have here to do, not with a representative of a dwarfish race, but with an individual who from premature union of the epiphyses was to a remarkable degree stunted in growth. The condition is a well-known one, and the class of dwarfs, in which this individual must be included, is well recognised.

The skull is of the dolichocephalic type, and therefore differs from most of the skulls found in short cists associated with urns of the "beaker" type.

EARTH-HOUSE AT CAIRN-NA-BHODACHD, SKYE.

About eight miles north of Portree, and nearly a mile beyond the Old Man of Storr, impinging on the west side of the new road under construction between Portree and Staffin, is a rough ridge slanting

down in an easterly direction from the rocky mound known as the Cairn-na-Bhodachd (the old man's cairn), lying at the foot of the line of precipitous craigs which run north and south of the Storr Rock. To the east the land, covered with a fine growth of grass on the top of peat and clay, falls away in an undulating slope for a distance of about 400 yards, when it suddenly drops 550 feet or so to the seashore. The rocky face behind the rough mound is known as the Craig Cairn-na-Bhodachd, and the ridge on which the earth-house is situated bears the name of Sron Cairn-na-Bhodachd, "sron" meaning "nose." A section through the "sron" or sloping ridge shows several feet of tough blue clay lying in pockets on a bed of compressed shells, 2 feet thick, under which is red rotten rock.

About the 30th July last (1913), while workmen were digging into the ridge for gravel for the new road, they encountered a stone structure near the northern side of the ridge, which they took to be a drain, though why there should have been such a thing here is not quite obvious. This seems to have been the entrance passage into the earth-house, and, judging from information received from one of the men who assisted at its destruction, it must have been at least 30 feet in length. The whole of the stonework of this part of the structure had been removed, when a large lintel stone resting on well-built walls was noticed; at the same time the floor was seen to slant down with a drop of about 3 feet in a distance of 10 feet. Some animal bones were observed here, and a most disagreeable smell, probably imaginary, was felt, when the character of the structure was for the first time recognised.

Five days later Mr John Mackenzie, Road Surveyor, entered and examined the structure, and two days after Mr George M. Fraser, Solicitor, from the Portree office of Lord Macdonald's estates, penetrated to the inner end of the gallery, recovering a few bones and several small potsherds from the surface of the floor. Returning a week later accompanied by Mr J. J. Maclean, Procurator-Fiscal,

Portree, Mr Mackenzie, Dr Fletcher, and others, a careful examination of the house was made, and the covering of blue clay, which lay on the floor to a depth of several inches to within 9 feet of the inner end, was carefully sifted by hand, when other relics were recovered. A considerable quantity of charred wood was seen where the narrow entrance passage joined the main structure, and for 9 feet at the inner end of the house the floor was covered with red clay.

Notice of the discovery having been sent to the Ancient Monuments Commission, and the building being in danger of demolition, I proceeded to Portree to obtain a complete record of the structure, the workmen being warned to stop further excavation. When I arrived at the site, accompanied by Mr Fraser and Mr J. A. H. Mackenzie, Architect, Portree, it was found that the men had demolished about other 5 or 6 feet of the gallery, and had undermined it for a considerable distance, with the result that the mouth was closed on our arrival. We had it opened again, when a further fall immediately took place, closing up the chamber once more. This fallen material was removed, but it was followed by a creeping of the soil and the splitting of what was then the second lintel from the outside. The structure being in danger of utter collapse it was unsafe to enter, but I was able to make a number of measurements and get full details of the discovery first-hand.

The earth-house runs almost parallel to the road, from which it lies 59 feet to the west, Craig Cairn-na-Bhodachd rising about 200 yards behind it. It is built of dry-stone building; the stones are undressed, some of them being almost square and others elongated, the largest of them being rather over 12 inches across, with the majority much smaller. The lintel stones measure up to 4 feet 6 inches in length, and are about 18 inches in breadth, all being at least 6 inches thick, and some considerably more. The gallery, which runs almost due north and south, is nearly straight till near the inner end, where it curves slightly to the south-west. When measured by Mr Fraser on

the 7th August, before it had been disturbed, the main chamber measured 36 feet in length, giving with the entrance tunnel a total length of at least 70 feet. For the greater part the chamber measured from 5 feet 5 inches to 4 feet 4 inches or so in height, and about 3 feet 6 inches in width. About 15 feet from the inner end the wall on the west side had bulged in considerably, some of the stones being quite loose, and beyond that for about the last 9 feet it contracted to a width and height of about 2 feet, the end being blocked by a round stone with a flat stone above it. Whether the latter had fallen from the roof, or whether there was another entrance at this end, it is impossible to say without excavation. About 12 feet from this end there was a well-built recess or aumry in the eastern wall, about 15 inches from the floor level, measuring some 10 inches in height, 15 inches in width, and 12 inches in depth. Nothing but a few broken stones was found in this recess.

The trench which had been dug preparatory to building the house must have been of considerable depth. Where the entrance passage joined the chamber there were $3\frac{1}{2}$ feet of soil above the roof, and 10 feet further south there must have been about 6 feet of soil, making the depth of the original cutting at this part nearly 12 feet. So far as could be seen, this cut had been carried down to the rotten rock. Pieces of charred wood were noted in the soil, which had been packed in at the back of the building, no doubt the remains of the wood fires of the builders.

The relics found consist of a quantity of bones of the horse, ox, pig, and red-deer; a segment of a horn of the red-deer, $3\frac{1}{2}$ inches in length and $1\frac{1}{2}$ inches thick, cut across the ends; a number of limpet shells; a flat oval pebble slightly abraded at the ends, which may have been a hammer-stone; many fragments of coarse hand-made pottery with everted rims, and one piece showing some ornamentation in the form of a thin raised wavy line; and half of an iron hinge attached to a small piece of wood.

Many of the lintels were covered on the under side with a thin stalactitic limy deposit, mostly less than $\frac{1}{16}$ inch thick, while there were a number of small stalactites about an inch long and $\frac{1}{8}$ inch in diameter. On one of the lintels, about 15 feet from the end, Mr Fraser noted on his first visit, and later pointed out to the other gentlemen already mentioned, a small Latin cross about 2 inches in length, painted in red on the surface of the deposit. Beside it were other two markings of indeterminate character in the same colour.

There is a considerable quantity of potsherds from quite a number of vessels, but it has been found impossible to restore as much of any single pot as would give an idea of its dimensions. The vessels have all been hand-made, the walls varying from $\frac{3}{16}$ to $\frac{3}{8}$ inch in thickness. Some are hard and well-fired, and others show a softer and more friable ware, the former being usually dark in colour and the latter red or buff. Only one ornamented vessel is represented, and it seems to have been a bucket or barrel-shaped pot resembling one of the varieties of the Bronze Age cinerary urn. The decoration takes the form of a thin wavy line in slight relief encircling the vessel. Small portions of the lips of other five vessels are included, and these in one or two cases show a sharply recurved rim projecting about $\frac{3}{4}$ inch from the inside of the lip; the diameter of these vessels at the mouth seems to have been about 8 inches. One vessel of the harder quality, stone-coloured on the exterior, had the lip turned outwards in the slightest manner possible. The vessels with the everted rim seem to have been of globular shape with a flattened base, something like the Hebridean craggan, but differing from it in the quality and colour of the ware, and in the shape of the lip. The earth-house pottery bears a slight resemblance to some of the pottery from the brochs, preserved in the Museum, but the latter shows a rather better outer surface, a finer quality of clay, and a rim not so sharply recurved.

Professor Bryce reports that the animal bones recovered during excavation of this site include :—

1. The scapula, humerus, radius, and ulna, some carpal bones, the metacarpal or cannon-bone, the first phalanx and the terminal phalanx or coffin-bone of a small horse. All the bones are of the same side; but as the cannon-bone is defective and the second and third phalanges are broken, it is not possible to estimate accurately the length of the limb as a whole. The humerus is 26·6 cm., or 10·5 inches in length. The radius measures 32·2 cm., or 12·7 inches, and the first phalanx 7·8 cm., or 3·1 inches.

2. The skull, much broken, and the lower jaw of an ox. Owing to the fragmentary state of the bones and absence of horn cores, the variety of ox cannot be determined. There is also a portion of the axis vertebra and fragments of ribs, probably those of the ox.

3. Portion of the humerus of a pig.

4. Fragment of the cannon-bone of red-deer.

The shells are *Patella vulgata* or common limpet.

Among the bones is a long stalactite, presumably from the roof of the dwelling.

The curious feature of the collection is the occurrence of the nearly complete skeleton of the fore limb of a small horse, without any bones from other parts of the body. It does not follow that these bones are coeval with the occupation of the site. There is nothing, so far as the bones are concerned, to prove their antiquity. They might well belong to a pony such as reared in the islands at the present day.

The relics have been presented by the discoverers to the Hunterian Museum in Glasgow University.