

Report on the excavation of a Neolithic mound at Boghead, Speymouth Forest, Fochabers, Moray, 1972 and 1974

H A W Burl*

with specialist reports by Margaret M Burl,
Audrey S Henshall, Dorothy A Lunt, A C Maclean
& P A Rowley-Conwy, K Manchester, J C C Romans

SUMMARY

A sandy mound in the Speymouth Forest near Fochabers was damaged by a Forestry Commission bulldozer in 1971 and human bones were uncovered. Initial investigations showed these to be prehistoric and in 1972 Miss A S Henshall was asked by the Scottish Development Department to excavate the site. As she was unable to continue in 1973 the excavation was finished by H A W Burl in 1974.

The skeletons on top of the mound were probably Iron Age. Near them an earlier small cist contained a cremation. Long before this burial late Neolithic people, around 1900 bc, deposited beaker sherds in a pit by the mound which was already old. Beneath the mound, which had been constructed at the beginning of the third millennium bc, there were many scattered sherds, cremated bone and flints in a thick black layer. Pollen and soil analyses, combined with C-14 determinations, provided evidence of early Neolithic agricultural activity in northern Scotland by people whose pottery belonged to the Grimston/Lyles Hill tradition.

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* 40 St James Road, Edgbaston, Birmingham

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HISTORY

Sometimes known as the Bellie Grave Mound (*Discovery Excav Scot 1971*, 30) the Boghead mound (NGR NJ 359 592), in Speymouth Forest half a mile N of the A98 and one mile ENE of Fochabers, was once in an open deer park on the estate of Gordon Castle. In the 18th century birches were planted on it and when the land was later acquired by the Forestry Commission pines were added. On 11 May 1971, during the course of laying out a new forestry track a bulldozer removed most of the southern half of the mound. That evening, while taking her dog for a walk in the forest, Miss Elfreda Wappler noticed a human skull lying in the disturbed sand and reported to the Fochabers' police.

Investigations the following day revealed that this and other bones were the remains of skeletons whose antiquity placed them beyond the jurisdiction of any modern police force and the bones were sent to Professor R D Lockhart of the Anthropological Museum, University of Aberdeen, for examination. Professor Lockhart subsequently visited the site with Dr A A Woodham and they recovered further bones of three adults from the wrecked southern face of the mound. These were taken to the Anthropological Museum (appendix 6b, fiche 1: C3). Many sherds, apparently Neolithic in origin, were also found. When the discovery of this prehistoric site was reported to the Scottish Development Department Miss A S Henshall was asked to excavate the mound, and with the kind agreement and co-operation of the Forestry Commission investigations began in 1972.

THE 1972 EXCAVATION

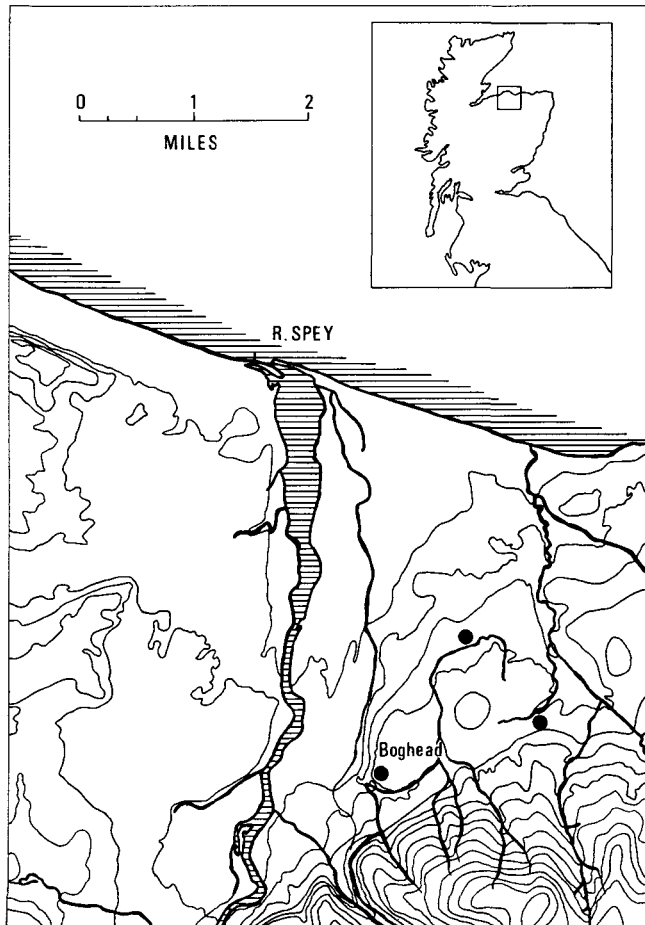
The site, 3½ miles from Spey Bay and the coast (illus 1), occupied a low-lying area of glacial sands and gravels some 64 m above OD. It stood on an undulating terrace about two square miles in extent and at an average level of 76 m OD. The main Spey valley was close to the W and a small valley had been cut into the 76 m terrace by a stream. This valley ran due E-W immediately S of the site. Whiteash Hill (264 m OD) and Thief's Hill (250 m OD) rose a mile or two to the S but the site itself stood on a formerly fertile stretch of low-lying land.

Two main rock types were present in the area: (a) middle Old Red Sandstone rocks approximately 400 million years old and which had been reworked into a glacial till; (b) recent superficial sands and gravels laid down at the end of the last Ice Age. The Old Red Sandstone formed the 'solid' topography, and the glacial outwash sands and gravels formed a thin veneer over them on the terrace.

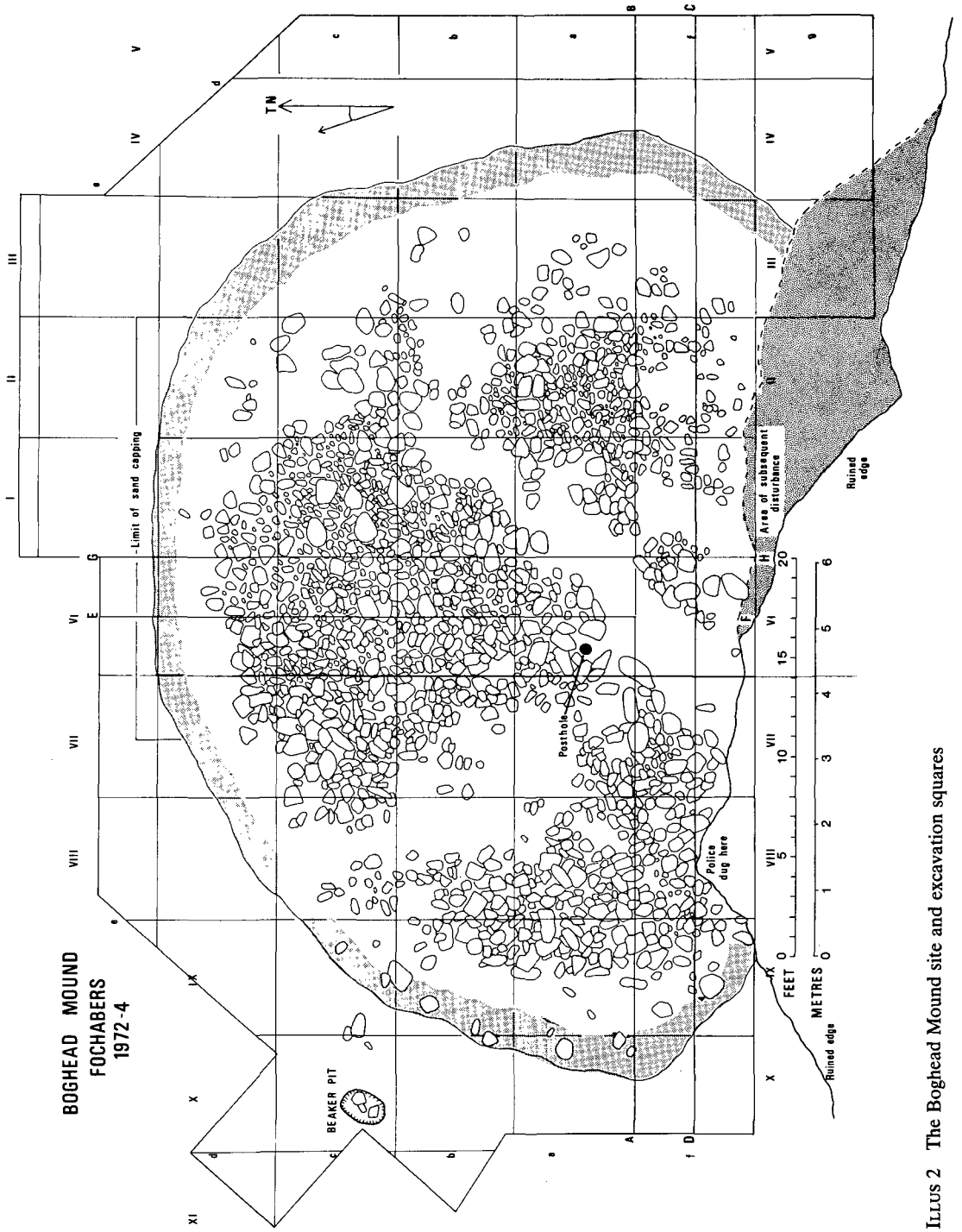
The Old Red Sandstone consisted of horizontally stratified red-brown gravels with a sandy matrix and containing pebbles, mostly quartzite, with a good smattering of igneous and metamorphics. In the glacial outwash yellow sand predominated. The gravels showed a preponderance of quartzite with a very varied assemblage of igneous and metamorphic rocks. Such a mixture was predictable as all the material had been gathered together by the Ice Age as it moved eastwards across Scotland. This would also account for the scatters of quartzite, granite

and gneiss boulders to be found in the stream bed which in 1972 was 35 m below the site but which in Neolithic times may have been much nearer.

The site appeared to have been deliberately selected for its sandy subsoil as exposures on either side showed coarse gravels. The mound itself had been round, nearly 15 m in diameter. In 1972 the NW quadrant consisting of the squares N of the line A-B and W of the line G-H was excavated, gridded in 6 ft (1.83 m) squares (illus 2). The mound consisted of sand covering a core of stones and boulders which were interpreted as remains of a cairn (in the centre of the quadrant was a sand-filled hollow thought to be due to disturbance, but when the whole site had been excavated it was clear that the two heaps of stones had always been separate, parts of small cairns within the mound). The cairn stones were closely packed, especially near the centre where they reached a height of 1 m, and they extended some 6.5 m from the centre of the mound. The only structural feature in the cairn was a posthole near the centre in square VIa running through the full height of the cairn and filled with sand. In the lower part of the posthole the ghost of the post was clearly visible, 23 cm in diameter. In the corner of the cutting, SE of the post, part of a bank of streaky sand, 75 cm high at the maximum, was exposed. In the small portion which could be



ILLUS 1 Map of the Boghead Mound, Moray



ILLUS 2 The Boghead Mound site and excavation squares

observed this appeared to be in two layers, the lower looser in consistency, and the two separated by a thin dark band.

The base of the post had been set on a single layer of small stones, themselves resting on a black layer. Below them, on the sand subsoil and surrounded by the black layer, was 'cobbling', 3 mm thick, probably a flat slab broken up. In the area below and around the post lumps of black clinker-like material were recovered from the black layer. In the sand subsoil near the centre of the cairn were several small but apparently deliberately made hollows containing discoloured sand and pieces of charcoal. Throughout the cairn and the black layer below were sherds of Neolithic pottery and flint chips.

Over the cairn and spreading beyond it was a layer of sand, at a maximum 60 cm thick, containing small pebbles. This sand filled all the interstices of the cairn. Between the cairn and the sand subsoil was the layer of black sand, discoloured by burnt material. At the centre of the mound this was a vivid contrasting layer 38 mm thick but towards the edges it was much more disturbed appearing as a layer of dirty sand varying in colour and thickness, fading away near the edge of the cairn. The burning had been particularly intense along the south section to the W of the centre of the mound turning the underlying sand bright red (illus 6). In the black layer were flecks of burnt bone, sparsely scattered and none larger than 6 mm square. There were many recognizable fragments of carbonized wood, the largest having a diameter of about 20 cm but most appearing to be no more than twigs.

Two short cuttings to the N and W beyond the edge of the mound were designed to check the possible existence of a surrounding ditch. None was found but a small pit was discovered at the WNW (illus 2, square Xc) 2 m from the apparent edge of the mound. The pit measured 70 cm long and was 60 cm deep with flat stones over the mouth and a uniform earth filling containing beaker sherds.

The use of a soil flotation machine enabled the recovery of carbonized vegetable material from the black layer (appendix 4). Several grains of wheat or barley were identified. The charcoal fragments that could be identified produced only four species, oak, hazel, birch and conifer (probably pine). These identifications were kindly made by Dr J H Dickson, Department of Botany, University of Glasgow.

FINDS

Altogether 265 sherds of Neolithic pottery were recovered (appendix 1), 96 of them before excavation. In the excavated quadrant 23 were among the stones of the cairn, 49 at the junction of the cairn and the black layer, 139 in the black layer and one from a pit below the black layer. Few joins were made though in one case a sherd from the cairn was joined to another from the dark layer. About half the sherds showed signs of burning but both burnt and unburnt were recovered from all three levels. In the cairn the sherds were fairly widely scattered though sparse towards the edges and joining sherds were found up to 3 m apart. In the black layer, besides a general scatter, sherds were found in some quantity in two areas, to the NW of the posthole in and around square VIIIa and about 4.5 m W of the central point of the mound. The Neolithic sherds can be regarded as a single group whatever the precise circumstances of their deposition.

Sherds of three beakers came from the pit in square Xc. About half of an undecorated European beaker could be reconstructed. The other sherds represented a small part of an AOC beaker and a single sherd of a curious vessel with a cordon and incised, widely spaced, horizontal chevrons.

Twenty-three flints, of which seven had been burnt, came from the cairn and the black layer. Mostly they were unworked chips, one was a core trimming, two had trimmed edges, two

were poor scrapers and two were pressure flaked. Both the last appeared to be unfinished leaf-shaped arrowheads. A whetstone, a utilized elongated sandstone pebble, was found among the stones packed around the post in the cairn.

Five radiocarbon determinations were obtained from organic material (appendix 5). From the black layer came two assays of 3009 ± 110 bc (SRR-689) and 2948 ± 60 bc (SRR-686). From burnt material lying on the 'cobbling' beneath the post came a third determination of 2174 ± 200 bc (SRR-688), and a fourth of 1917 ± 70 bc (SRR-687) was possible from charcoal in the beaker pit. A fifth assay of 4056 ± 60 bc (SRR-690) was diagnosed from charcoal discovered in the cairn.

THE 1974 EXCAVATIONS

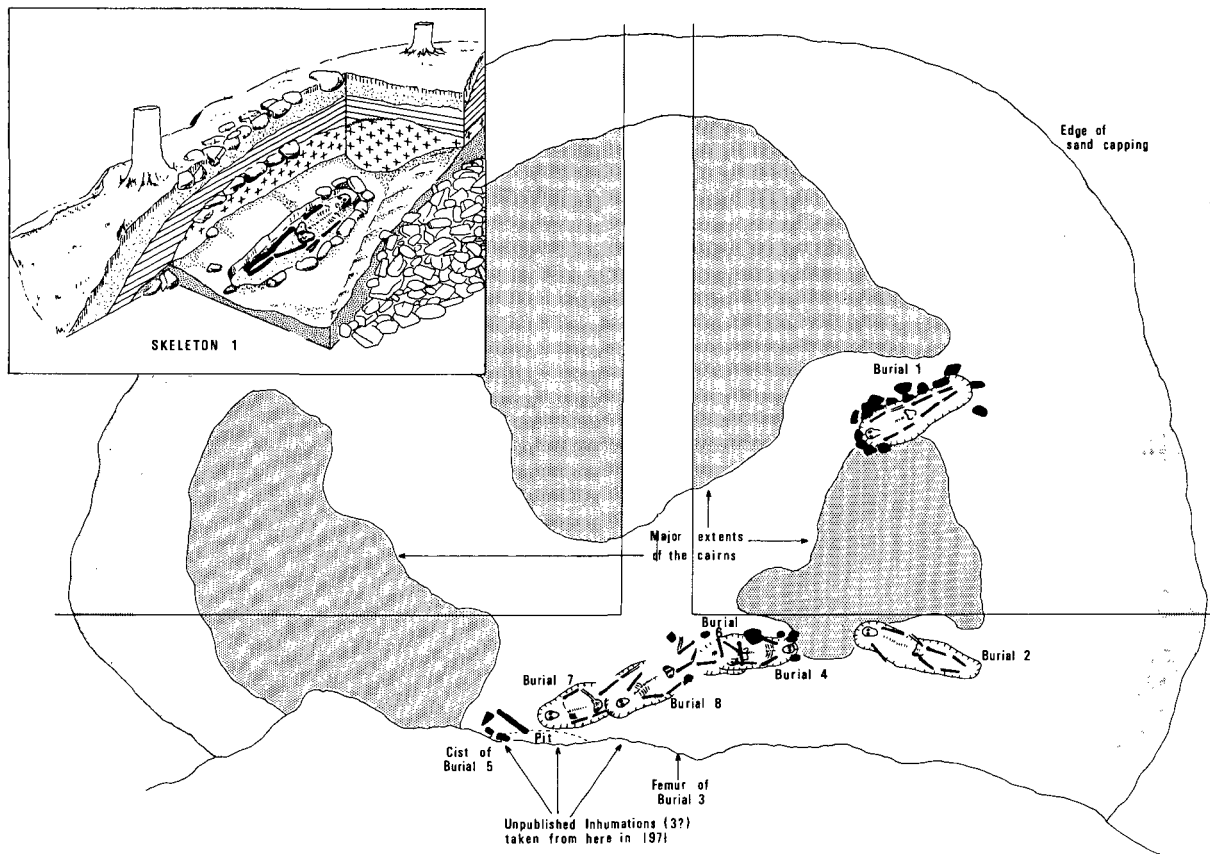
Between June and August in 1974 the remaining NE quadrant was excavated. For a control section a 3 ft (91 cm) baulk was left between it and the NW quadrant. When the NE quadrant was finally removed the baulk was taken down and what was left of the southern half of the mound, an irregular and ravaged strip varying in width from 30 cm to 2 m, was excavated. In compliance with the 1972 plan the NE quadrant was divided into 6 ft squares (all measurements from now on being expressed in metric units), the squares being labelled I–V from W to E from the assumed centre of the mound, and a–e from S to N. The NW quadrant was incorporated by labelling its squares VI–XI from the centre westwards. When, eventually, the wrecked remnant of the southern half of the Boghead mound was excavated two additional rows of squares were added and labelled f and g southwards (illus 2).

In the NE quadrant the section of the mound, which had six birches and a pine tree on it, had an average radius of 7 m and a central height of 1 m. Beneath the turf and topsoil (layer I) was a layer of grey, leached, sandy soil (II) varying in depth from 2 cm at the mound's top to 25 cm at its edges where the layer thinned and was overlain by a dark humic soil (III) which had formed after the construction of the mound. In squares VIa and VIb a modern pit, filled with turf, topsoil and sand, 1 m in diameter and 45 cm deep, was thought to be a result of the investigations conducted by Professor Lockhart and Dr Woodham during their visit in 1971.

Under layer II was a thick band of bright orange sand (IV), sometimes imperceptibly merging with brown earth (VII), which covered two irregular cairns. The East Cairn was contained completely in the NEQ but the North spread under the S–N baulk and into the NWQ. Both cairns were composed of heavy boulders and brown sand (V) which rested on a thick stratum of heavily burnt sand and charcoal (XIII), a counterpart to the black layer found in the NWQ in 1972. Below this were patches of red or white sand (XV and XVI) lying on the old land surface (XIV). All these layers had features of chronological and cultural significance associated with them and, for clarity, these will be described in the order in which they were discovered.

THE SKELETONS

Stretched across the crest of the Boghead mound on a W–E axis, and buried only just below the topsoil, were five skeletons lying in extended positions (nos 2, 4, 6, 7, 8), the remains of a larger group some of whose bones had been disinterred in 1971 (appendices 6a, 6b, fiche 1: A9, C3). With one exception the 1974 skeletons were just to the S of the NE and NW quadrants, a sixth (no 1) being further to the N in the NEQ (illus 3). All the skeletons had a low platymerial index, a flattening from front to back of the upper femur, and were mesocephalic. A detached ilium and a heavy left femur were also discovered (no 3), this time in the disturbed south face of



ILLUS 3 Locations of the skeletons on the mound

the mound in square VI*f*. In a letter to the writer dated 2 October, 1974, Professor Lockhart suggested that these bones 'probably belong to the bones we have in this [Anthropological] museum'.

Skeleton 1, in square II*b*, rested in a narrow grave dug through layer II into IV in a sandfilled gap between the North and East cairns. Heavy stones had been placed over it and around its right side and head. It lay on its back, extended, with head to the NW on the slope of the mound. Bones of the feet, most of the spine, ribs and hands were missing, probably lost through the activity of rodents. The skeleton was that of a young male whose teeth were the worst of the group, seven of the lower jaw lost before death, caries apparent in the front teeth where there were also abscess cavities. There was considerable evidence of periodontal disease and signs of osteoporosis, a decrease in the density of bone tissue. There were no grave-goods.

Skeleton 2, and nos 4, 6, 7 and 8, had been buried across the crest of the mound in a haphazard E-W line. No 2, in II*f*, head to the WNW and facing E, lay extended on its back under a single layer of stones. Its grave-pit was clearly defined, 1.6 m long but only 70 cm wide so that the corpse had to be forced into it, half-twisted on its left side. The pit cut through layer II into VII, the mixture of orange sand and brown earth that corresponded to IV in other parts of the mound. Like no 1, skeleton 2 also was probably male but rather older, perhaps 30 to 35 years of age at the time of death. It had suffered the destruction of many small bones, no metatarsals or phalanges surviving. The right leg appeared rather shorter than the left. There was evidence of periodontal disease and one tooth had been lost in life. Two others had caries. There were very distinct squatting facets at the lower end of each tibia caused by foot-bones being forced against the front of the tibiae. Four small waste flakes were found near the right hip.

In 1974 'skeleton' 3 consisted only of the ilium and femur already mentioned. Other bones once thought to have belonged to it are described in appendix 6*b*. In antiquity pits had been dug in squares VIII*f* and VII*f* some 3 m W of the mound's central point. Four metres W of this point there were several large stones lying near the tops of the pits, perhaps the capping to the original grave of no 3. A water-grooved stone rested in the loosened sand 15 cm above the femur and there were some vertebrae to its W in the area churned up by the bulldozer and the police.

Skeleton 4, in square I*f*, was extended on its back, slightly flexed to its left. Unusually, it had its head to the E facing W. Probably male and in its early twenties its left handbones rested on the skull of no 6. Its grave-pit had been dug through layer II and several large stones had been laid over it, their weight having seemingly fractured the skull. There were no footbones or bones of the right hand. The teeth, good, big and strong, were all present and there was little trace of periodontal disease. Across the femora was a 'foreign' left femur which matched the right femur from skeleton 8. Across the lower legs lay a left tibia which may also have come from no 8.

Skeleton 6, similarly in I*f*, lay partly under no 4 and, like that, had its head to the E. It was not extended but rested on its left side, crouched and facing S. There were a few stones to its N. The skeleton was in poor condition, all the small bones gone and only fragments of the ribs surviving. Half the skull was missing. The skeleton was the remains of a young girl. There was little wear to the teeth, there were four unerupted wisdom teeth, and the epiphyses of the longbones and hipbones had not united. A right tibia lay on the right knee, again possibly having come from skeleton 8.

Farther to the W in VI*f* were skeletons 7 and 8, both in roughly dug pits in the orange sand and brown earth of layer VII. Skeleton 7 was discovered under a spread of stones, extended in a narrow pit with stones around its head which was at the WSW. It was probably that of a male in early manhood and was in good condition with all the handbones, vertebrae and ribs preserved. It was remarkable, therefore, that both femora and the left tibia were not present. Three teeth had

caries, two had abscesses, and in the spine there were six lumbar vertebrae instead of five. The skull had a prominent occipital boss.

The final skeleton to be found, no 8, lay partly over no 7. Like the majority its head was to the WSW and it was extended on its back. Male, perhaps 17–25 years, it was in good condition with all the ribs and vertebrae *in situ*. The left tibia and femur, however, were absent. The teeth had all erupted and had no caries or abscesses. Although six upper and two lower teeth were no longer in their sockets this was thought to have been a post-mortem phenomenon. Like skeleton 7, no 8 had a pronounced occipital boss.

Close to its left elbow were a right femur and left tibia, both at an angle of 45° in the sand and perhaps placed there when the burial took place. They must have been disarticulated at the time of deposition as they were from opposite sides of the body. Quite possibly they had come from skeleton 7 whose grave-pit had been disturbed when no 8 was interred. Examination showed that skeleton 7's missing left femur, which was the same length as the right femur by no 8's elbow, lay reversed on the wrong side of skeleton 7's right tibia, perhaps wrongly replaced when the bones had been accidentally shifted.

THE CIST

A badly damaged cist, 56 by 33 cm in size and aligned WNW–ESE, was found near the skeletons in square VIII_f. It was crudely constructed with one substantial sideslab and ends slab, the WSW long side being composed of two small stones with even smaller stones outside them. The cist was only just below the turf in layer II and the capstone and ESE ends slab had been lost. There was no flooring but near the middle was a flat, lozenge-shaped stone with a deposit of cremated bone on it. Two other, uncisted pockets of burnt bone were found nearby, one in the same layer in VIII_f, the second in VI_f, layer VII (appendix 7, fiche 1: C7).

In layer IUI, scattered about the mound were 46 sherds of Neolithic pottery, mostly weathered, four of them being rims. The greatest number were in squares Id (10) and IId (6), low down on the north side of the North Cairn. A single flint flake was found in this layer.

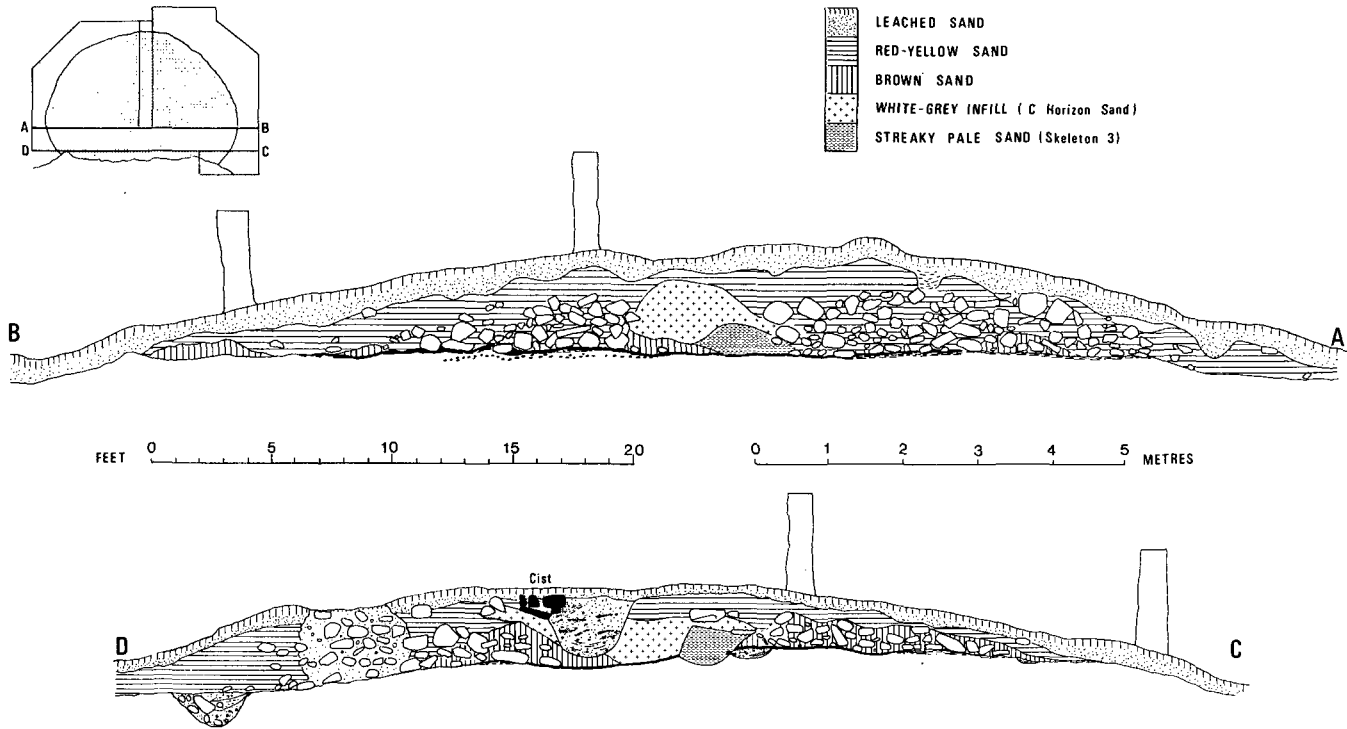
THE CAIRNS

Three cairns, varying considerably in size, were uncovered beneath the Boghead mound, all of them standing on the black layer XIII (illus 4 & 5). Each had been capped with a thick layer of sand (IV & VII) and the asymmetrical central space between them, some 3 m to 4 m across, contained a deep infill of whitish-grey sand flecked with earth (VIII). If there had been a fourth cairn to the S all trace of it had been removed during the bulldozing operation.

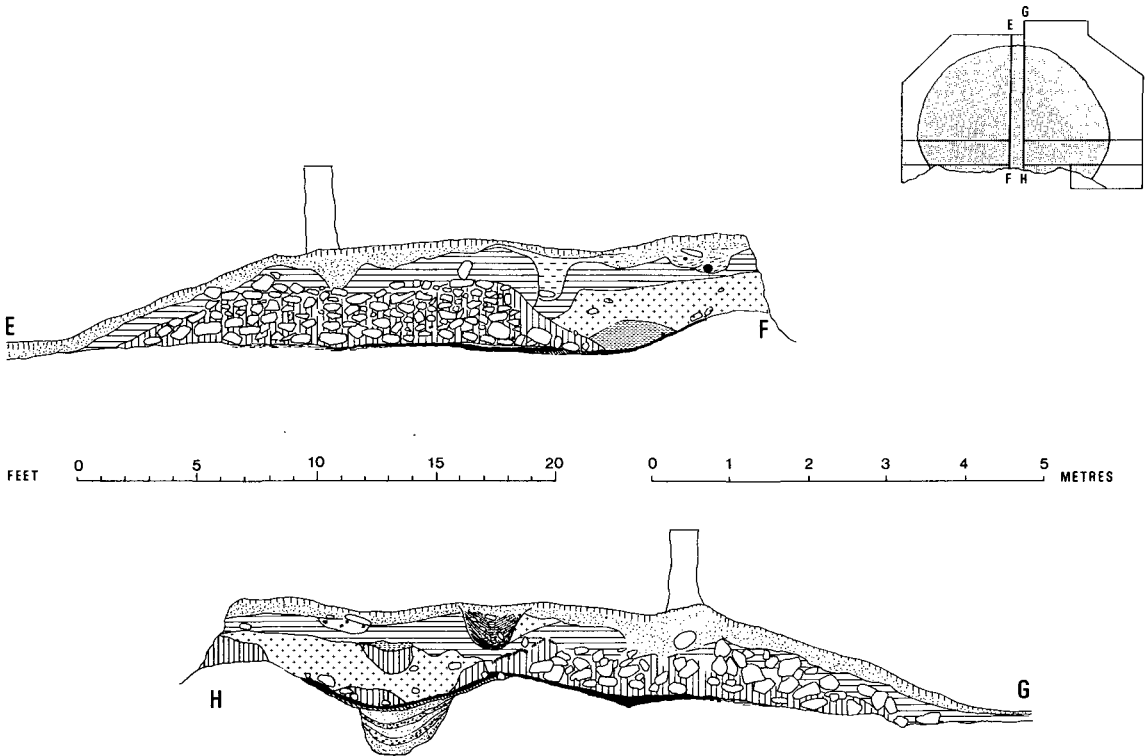
The West Cairn, excavated in 1972, was very roughly L-shaped, measuring 4 m N–S by 4 m E–W at the bottom of the L. It was up to 1 m high. Under the capping of orange-yellow sand (IV) up to 20 cm thick, the spaces between the boulders were filled with brown sand (V).

The North Cairn, by far the biggest, was egg-shaped with the broader end towards the N, its maximum dimensions being 5 m N–S by 5.5 m E–W. As in the West Cairn its rounded boulders, on average 30 cm to 40 cm in diameter, had been piled up not in a regular dome but ramped with the higher steeper side forming a segment of the central space, the cairn sloping gently down from this to the outer edge where it met the old land surface. It too was capped with the orange sand of layer IV and was filled with brown sand (V). Large pieces of charred wood under the SE edge of this cairn in square Ia provided a determination of 2873 ± 60 bc (SRR-684).

The smallest of the cairns, at the E, in plan was a reversed L, 2.4 m N–S by 2.7 m E–W. Its construction was similar to the others. Between all three cairns there were intervals, up to 2 m



ILLUS 4 East-West sections through the mound



ILLUS 5 North-South sections through the mound

wide, giving access to the central space but these were untidy gaps that bore no resemblance to intentional passages.

Finds from the cairn layers were more numerous than in layer II. In the sand cappings of layers IV and VII there were 190 dispersed Neolithic sherds, 34 of them rims. One flint flake lay with them. In the brown sand (V) in between the cairnstones there were a further 94 sherds including 17 rims but no flints. There were notable concentrations of sherds under the ruined south edge of the West Cairn in squares VIIIf and IXf.

Immediately underneath the cairns there were sporadic areas of white and yellow sand (XII) never more than 1 cm thick or 1 m in diameter, spotted with flecks of charcoal. There were also smaller patches of reddish concreted sand (VI) particularly under the south edge of the West Cairn. From these random blotches came more sherds, 46 in layer XII, 12 of them being rims, and 37 in VI, all of them bodysherds. Three nondescript flint flakes were discovered in layer VI.

THE BLACK LAYER, XIII

All the cairns stood partly over a thin, clean-cut layer of blackened sand and charcoal up to 3 cm thick. It was especially noticeable under and around the eastern side of the East Cairn. Between the cairns it weakened into a dirty grey sand with a few charcoal specks (IX). To the S of the East Cairn it thinned into a grey-yellow sand also with tiny spots of black charcoal. C-14 determinations from this layer in 1972 produced dates of 2948 ± 60 bc (SRR-686) and 3009 ± 10 bc (SRR-689).

THE POTTERY (appendix 1, illus 10 & 11)

Given the profusion of Neolithic pottery in layer XIII (298 sherds, 35.4% of the total sherds in NEQ & SEQ) it is appropriate to refer to table 2 (fiche 1: A5) which itemizes the distribution of the sherds from the 1974 excavations. This analysis does not, of course, take into account the relative volumes of the layers but as the black layer was one of the smallest in cubic content the concentration of sherds in it is all the more noteworthy.

It is also to be noticed that 88.1% of the sherds came from the cairns, either in them, their capping or from the layers beneath them (layers IV, VII, V, VI, XII, XIII and XIV). The implications of this will be discussed later. It can, however, be added that it was not possible to reconstruct any pot completely. When sherds could be fitted together they often came not only from different squares but from different levels as table 3 demonstrates (fiche 1: A6-7).

OTHER FINDS FROM LAYER XIII AND ELSEWHERE

Because both burnt bone and flint flakes were found in some profusion in the black layer in a far greater density than anywhere else these finds can also be described here.

The minute pieces of burnt bone discovered in 1972 and 1974 were too small for analysis but their distribution was less dispersed than that of the pottery. Vertically there was little difference but horizontally they occupied a more compact area. In the NEQ the number of these tiny slivers in each layer was: layer II-0; IV and VII-2; V-3; VI and XII-7; XIII-33; VIII-1; XIV-0. With the exception of the absence of bone on the old land surface of XIV the pattern is similar to that of the sherds. Whereas, however, the pottery was spread over most of the mound's area the bone was conspicuously restricted to the close environs of the central space, mainly in the black layer in a curving band around the space which was centred on square If. (For the distribution of burnt bone in the NEQ, see table 4, fiche 1: A8.)

Flintwork discovered consisted in the main of waste flakes and chips, the chief concentration being in the area under and to the E of the East Cairn in squares IIa and IIf. The vertical stratigraphy was dissimilar from that of the burnt bone, several flakes lying on the old land surface, the respective numbers of finds being: Layer II-1; IV and VII-6; V-3; VI and XII-2; XIII-19; VIII-3; XIV-9.

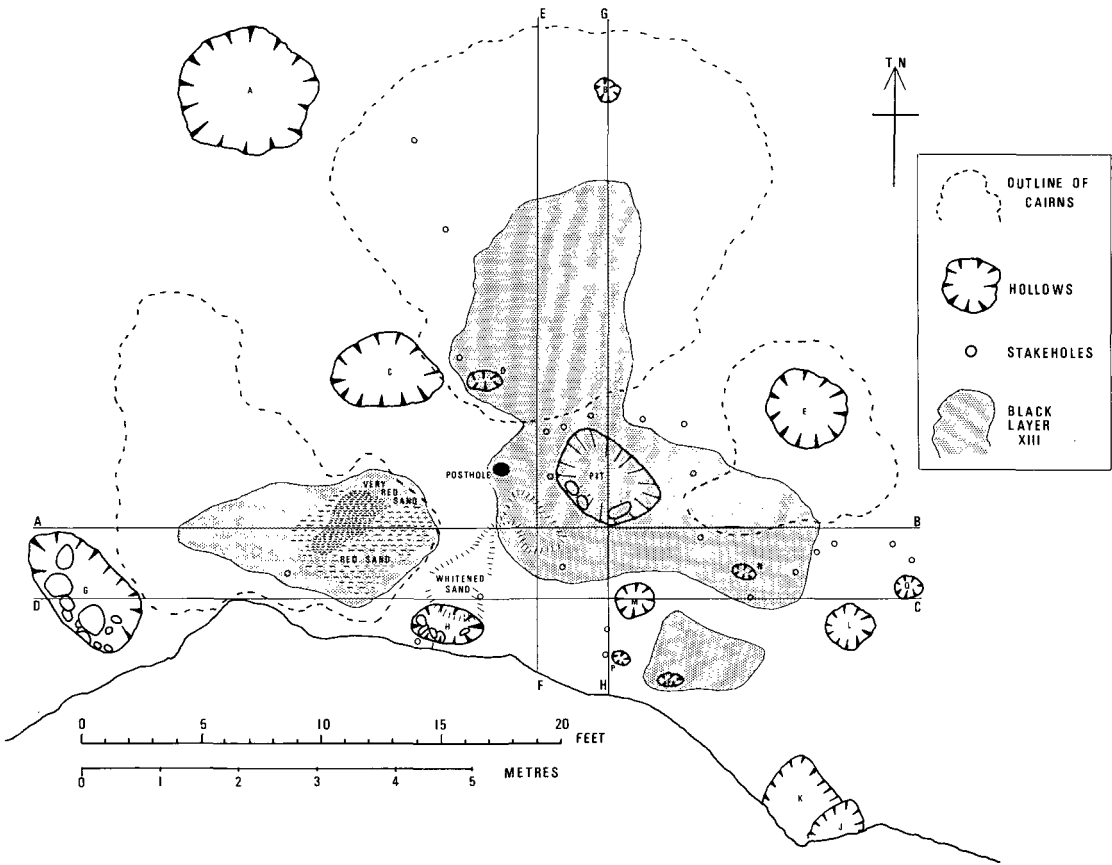
Of the worked pieces a knife of mushroom coloured flint, 3 cm long, was found in IIf, layer VII; two blades, of the same colour but thinner and longer, were found in If (V) and IIIIf (XIII) respectively; and there were three small scrapers in VIa (XIII), If (XIII) and VIIf (XIV). None of the flints was of good quality, even the worked pieces being incompletely flaked and inexpertly chipped.

THE STAKEHOLES

Beneath layer XIII and beyond its limits in both the NWQ and NEQ there were a number of shallow but definite stakeholes which varied in diameter from 7 cm to 14 cm and from 50 mm up to 10 cm in depth in layer XIV (illus 6). None contained any organic material. There appeared to be no clear pattern to them but it was observed that several were close to hollows in the old land surface, particularly around a central pit and Hollows L and Q.

THE CENTRAL SPACE

The area between the three cairns was filled with the whitish-grey sand of layer VIII which lay over the cairn capping of layers IV and VII on either side of it. It stood partly over the black layer XIII and partly on a spread of red, yellow and black sand (XV) which in turn lay around an asymmetrical area of hard white sand (XVI) in VIIf (illus 6).



ILLUS 6 Plan of the features at the base of the mound

In contrast to the layers alongside and underneath it VIII contained relatively few finds, 20 bodysherds, no rims, two flint flakes and a fragment of burnt bone. Layer VIII was consistently whitish, almost the colour and texture of powdery lime and it extended almost from the top of the mound down to XIII. Near the bottom of the layer there were thin, almost horizontal ripples of red sand, sometimes with even thinner brown and red lines above them. Where these existed the sequence downwards was always brown-red-white. The lines reached, interruptedly, all across the central space and had also been observed, in 1972, in the very corner of the NW quadrant.

Beneath VIII and XIII and on top of the old land surface there were areas of reddened and whitened sand with hand-sized patches of black in them that contained little pieces of scattered burnt bone. Under the West Cairn there was a stretch of reddened sand (XV) which became much darker and deeper to its NW in squares VIIa and VIII. To the SE of this, in VIa, was an elongated strip of whitened sand, powdery and ash-white (XVI). Near these areas in Hollow G (square IXf) there were lumps of charcoal, regrettably too small for C-14 analysis when submitted to the Kilbride laboratory. White patches and small areas of burning with charcoal and burnt bone were also observed under the North Cairn near the central space in squares If and IIf.

HOLLOWS

Scooped-out hollows of very different diameters and depths occurred under XIII and beyond it in the old land surface over much of the area covered by the Boghead mound. Labelled A-Q they were as follows:

Hollow A

Roughly circular, in VIIIc and VIII d. Diameter 1.8 m, depth c 3 cm. Fill of yellow-brown sand. No more than a shallow dish. Thought to be the remains of a tree hollow from the 1972 excavations.

Hollow B

Sub-circular bowl at the intersections of squares Ic, Id, VIc, VI d. Diameter 30 cm, depth 16 cm. Fill of dark sand with sporadic charcoal in flecks. Possibly a posthole but no remains of organic material.

Hollow C

Ovoid and bowl-shaped in VIIa and VII b. Diameters, E-W 1.4 m, N-S 90 cm, depth 10 cm. Fill of dirty sand with flecks of charcoal. A stakehole 12 cm in diameter 20 cm to the E.

Hollow D

Ovoid, just E of Hollow C in VIa. A shallow bowl, diameters E-W 46 cm, N-S 22 cm, depth 13 cm. Fill of red and white mixed sand above a bottom layer of dark grey sand.

Hollow E

Sub-circular, shallow bowl with sharply sloping sides, in IIa. Under XIII in East Cairn. Diameter 1.05 m, depth 17 cm.

Hollow F

Ovoid, in Ig. A deep bath-shaped basin. Diameters E-W 32 cm, N-S 14 cm, depth 15 cm. Fill of dark sand with some flecks of charcoal.

Hollow G

Ovoid in IXf, a deep artificial basin. Diameters NW-SE 1.8 m, SW-NE 90 cm, depth 37 cm. Fill of brown sand overlying white powdery sand in the southern half. Fine bits of charcoal lay in the white sand. A reddened patch of sand with charcoal and small stones stretched along the south-western side with charcoal patches near them. A half-circle of heavier stones lined the entire SW side of the hollow like a crude wall, the edge being almost vertical. The stones were not reddened by heat. A bodysherd and a flint flake were recovered.

Hollow H

Ovoid, in VI f and VII f. Diameters E-W 92 cm, N-S 47 cm, depth 27 cm, a deep basin filled with brown sand. Two stakeholes near it, one 10 cm in diameter 20 cm to the N, the other 15 cm in diameter, immediately to the S of the hollow.

Hollow J

Cut by the damaged S edge of the mound. In IIh. Diameters E-W 63 cm, N-S 48 cm, depth 10 cm. Fill of disturbed brown-yellow sand, two bodysherds near the bottom.

Hollow K

Triangular, cut both by the damaged S edge of the mound and by Hollow J. In II f, diameters E-W 1 m, N-S 1.1 m, depth 10 cm. Fill of dark grey sand with charcoal flecks, a fragment of burnt bone, intermixed with fill from Hollow J where the hollows intersected.

Hollow L

Sub-circular in If. Diameter 60 cm, depth 17 cm, a bowl-shaped hollow filled with dark sand. Four stakeholes in a WSW-ENE line 1.3 m long ran past the pit 70 cm to its NW.

Hollow M

Sub-circular, in If. Diameter 50 cm, depth only 3 cm. Fill of lightish sand and some small stones. Burnt sand beneath this thin layer gave a determination of 3081 ± 100 bc (SRR-685).

Hollow N

Ovoid, in If, a shallow basin. Diameters E-W 28 cm, N-S 13 cm, depth 4 cm. Fill of dark grey sand.

Hollow P

Ovoid, in If. A bowl, diameters E-W 22 cm, N-S 13 cm, depth 11 cm. Fill of dark sand. Two stakeholes immediately to the W 30 cm apart.

Hollow Q

Sub-circular, in IIIf. Bowl-shaped, diameters E-W 35 cm, N-S 28 cm, depth 8 cm. Fill of dark sand and small stones. Two stakeholes 30 cm apart lay SE-NW 16 cm to the N. They may be part of the group described with Hollow L.

THE CENTRAL PIT

Almost in the middle of the L-shaped area of layer XIII and fairly centrally placed between the steeper inner sides of the cairns a pit had been dug at the intersection of squares VIa and Ia. It was covered by the black layer, XIII which lay over a band of yellow sand nearly 10 cm thick over the top of the pit which measured 1.32 m SE-NW by 98 cm SW-NE. It was 66 cm deep on its



ILLUS 7 The central pit

SW side. Here it was almost vertically sided and had five stones revetting it, two side by side at the bottom, two alongside each other above them and a fifth, smaller stone resting on them at the pit's rim (illus 7). The average size of these stones was 36 cm by 22 cm by 15 cm thick, their flatter sides facing the interior of the pit. The infill of the pit, apparently from the unprotected E side, consisted first of a layer of dirty sand with some pebbles (XIX), then a band of black sand with minute brown patches and yellow sand (XXa), and finally another layer of XIX with more XXb under it at the bottom. None of these layers was more than 15 cm thick down the central datum of the pit.

Several sherds were discovered. In XXa there were four bodysherds, an undecorated rim, a struck piece of quartz, and a finely made burnished rim of Western Neolithic type. In XXb there was some burnt bone, four bodysherds, two rims and a worked flint which lay very close to an animal burrow near the pit's base. A sample of charcoal taken from XXb provided a determination of 2996 ± 175 bc (SRR-683), not significantly different from the charcoal sample which, taken from near the N edge of the pit in square 1a under the North Cairn, gave a determination of 2873 ± 60 bc.

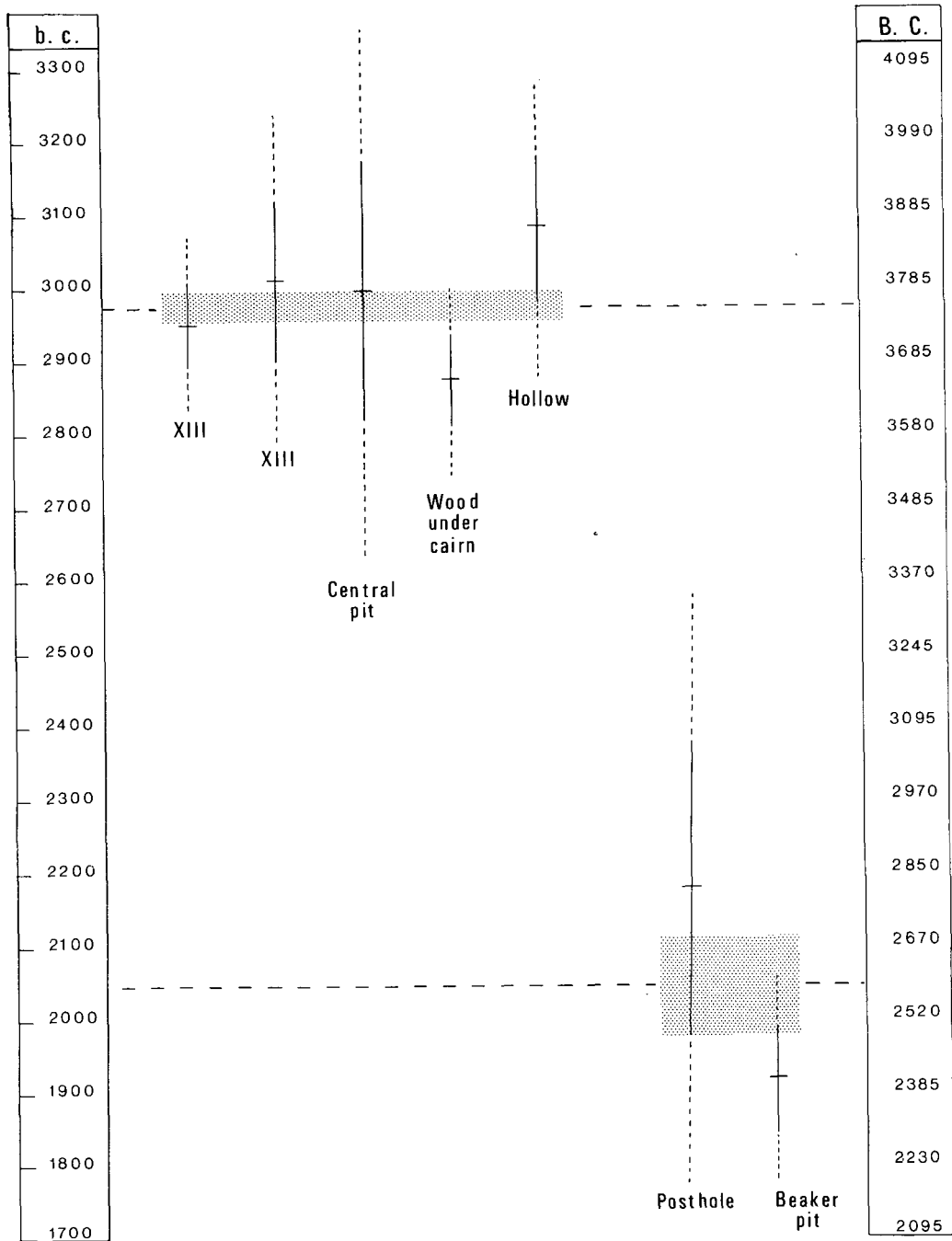
DISCUSSION

Although there were certainly three and most probably four distinct phases of prehistoric human activity at the Boghead mound the sequence is not a complicated one and can, through the evidence of stratification and C-14 determinations, be separated into its parts quite easily. The chronology is not as clearcut and it is only the two earlier phases that can be dated (illus 8). These, belonging to the early and late Neolithic periods respectively, antedated the cisted cremation and the inhumations but it is only by inference that the latter can be placed in the centuries of later prehistoric Scotland.

Lying as they did along the top of the mound, their graves cut into the turf-covered sand capping, it is the burials that comprised the last of the phases. The manner in which some had been disturbed showed that the mound had been used as a cemetery over several years. The independent positions of Skeletons 1 and 2 prevented their being allotted a precise place in the sequence of burials although it might be surmized that the situation of Skeleton 1, isolated from the others, indicated that its burial was late in the series. The relationship of the other skeletons to each other could be deduced.

The first inhumation, near the mound's crest, was probably that of Skeleton 7 which, from the anatomically correct positions of most of its bones, must have been interred as a corpse. Some time after, long enough for no 7's disarticulation to have ensued, no 8 was buried a little to the E, close enough for the head to rest between the fleshless legs of no 7 whose right femur and left tibia were disturbed and replaced alongside no 8, the left femur being put back by the side of its own right leg. Skeleton 6 was buried to the E, just over the legs of no 8 whose right tibia was laid on the knee of no 6. Then Skeleton 4 was buried, lying over no 6 with the left femur and tibia from no 8 being placed over its legs. The fact that the left hand of no 4 rested on the skull of no 6 suggests that they may have been buried at the same time.

Although the degree of decomposition of the ligaments and cartilage that had occurred between the occasions of the burials showed that several years, maybe as much as a century, elapsed between the first and the last of these interments no infants or children were found. Nor did it seem that more than two females were represented amongst the 10 individuals identified. The remains, therefore, could not be representative of their community. The youngest of the skeletons, no 6, was an adolescent, the probable oldest, no 2, no more than 40 years of age. All



ILLUS 8 Diagram of the C-14 determinations (see appendix 5)

the skeletons except for no 6 had poor teeth but were muscular, the hip bones in particular showing strong muscle pulls. In the burials there were no signs of violence or definite injuries.

The lack of grave-goods made any precise dating of the group impossible but the extended burials indicate a time in later prehistory. Extrapolations from one group of skeletal material to another can lead to palaeo-pathological quicksands yet the similarities in stature, in the mesocephalic skulls, the state of the teeth and general health between the Boghead skeletons and those from the Iron Age cist at Lochend, Dunbar (Brothwell & Powers 1966) may give strength to the conjecture that the burials at Boghead were also Iron Age in date although the people had, on average, died younger than those from Lochend.

Less certain still is the period to which the cist belonged. Even though only 30 cm from the skull of Skeleton 7 to its E it was not possible, stratigraphically, to relate it to the adjacent pit-graves. Nor was there anything to link it with the position of the standing post 2.2 m to the NNE. Such short cists, however, containing cremated remains are likely to belong to the centuries of the Bronze rather than the Iron Age (Close-Brooks 1974, 281). The poorly-fired bones were those of a young female and an infant and are yet another example of a Bronze Age 'multiple-cremation-deposit' (Petersen *et al* 1974, 50) of which, although 102 other sites have been recognized, none has previously been recorded for the counties of Inverness, Moray or Nairn (*ibid*, 58–60; Shepherd & Cowie 1977, 122).

Like the majority of short cists the one at Boghead had been constructed on a mound but its WNW–ESE orientation is very unusual (Marshall 1978, 63), fewer than 5% of the 209 cists being so aligned. It may not be coincidental, however, that two others, one containing an N2 beaker (Clarke 1970, 540) were discovered at Easter Gollachy, Banff, near Buckie and only five miles NE of Boghead (Mitchell 1936, 357; Walker 1966, 106, nos 31, 32). Although the users of N2 beakers had a preference for an approximate E–W orientation in their burials (Clarke 1970, 169) the complete absence of cremations with them makes any connection between such pots and the makers of the Boghead cist very doubtful.

Presumably prior to the cist the mound had been visited by a beaker-using group at a time in calibrated years around 2600 BC. Sherds of their pottery were discovered in a pit alongside the western edge of the mound. The pit had been dug into the old land surface and was filled with clean sandy earth in which there were three large stones. Charcoal from it was dated to 1917±70 bc, a date early but not improbable for the AOC sherds in the same context.

Being only 70 cm long and about 50 cm wide the pit could not have been a grave but was possibly ritual in nature. Some of its sherds had come from a tall, undecorated European beaker once 25 cm high of which only half was present in the pit. There were also AOC sherds and one sherd with a cordon just below the supposed rim and with horizontal incisions in spaced herringbone patterns below it. Clarke (1970, 57) has pointed to 'the consistent association of undecorated bell beakers' with domestic AOC material (*ibid*, 292, figs 97–9; 309, fig 226), with which there could also be cordoned pots and massive storage vessels (*ibid*, 59–60). Such associations suggest that the Boghead sherds were neither funerary nor ritual but came from day-to-day pots deposited by the mound by an itinerant group which had settled there for a while.

Walker (1966, 87) remarked on the coastal distribution of beakers along the Moray Firth although these were of later styles than the Boghead assemblage (Clarke 1970, 514–5 (Banff); 519 (Moray); 519–20 (Nairn)) with short-necked varieties predominating, and he commented on the strange paucity of such beakers on the broad and fertile soils of the Spey Valley itself. He also noted, pertinently, that it appeared that the major approach to this part of Scotland in early prehistoric times had been from the SW along the Great Glen. The discovery of pottery, possibly Irish in origin, and Group IX stone axes supported this. He considered that during the late

Neolithic and early Bronze Ages 'the Great Glen was used by settlers from Ireland or the Irish Sea route working their way to NE Scotland before, during and after this period: pottery in the Lyles Hill tradition and Tievebulliagh porcellanite stone axes show that the route was used in Neolithic times' (Walker 1966, 92). By the same argument it could be deduced that the presence of Clava-type chambered tombs not only at the uncertain site of Invergarry on Loch Oich halfway up the glen (Henshall 1963, 17) but at the little site of Carmahome on Arran (Mann 1925; Henshall 1972, 207) are also indicative of contacts between SW and NE Scotland in the Neolithic period. Such considerations must be taken into account when discussing the background to the earliest phase of human activity at Boghead.

With a combination of five determinations from the black layer (XIII) and the old land surface (XIV) averaging 2981 bc (c 3750 BC) and indicating the time when the cairns were heaped up it is arguable that the first settlement of the site took place not many years before then. There was no trace of prolonged occupation or of permanent structures and it is possible that only a handful of people squatted there, perhaps seasonally, for a few years before abandoning the area. The dates, however, are such that Boghead is one of the earliest known agricultural sites in Scotland.

The evidence from the soil and pollen analyses (appendix 3) points to the choice of a low, well-drained sandy hummock in a region of acid brown soils supporting a scrub-oak forest. With its easily worked earths, plentiful timber and, immediately to the S, a stream at the bottom of the slope the site must have been an attractive one for people intending to grow crops. The nearby forest was patchily cleared by burning. Not only under the subsequent mound but in several places outside it the soil contained identifiable pieces of oak charcoal. The terrace on which the Boghead mound was later raised had a local area of some 850 m², 'just about large enough' (appendix 3) 'to form a large "garden-patch" or very small field'. Examples of 'slash and burn' and of clearance of light forest by fire are known from other Neolithic contexts in the British Isles (Bradley 1978, 11–13; Piggott 1982, 28), and it may have been in such an opened space that the Boghead settlers grew their mixed crop of 6-row barley and emmer wheat.

The various hollows in and around the low knoll seem best construed as working areas and the greater density of waste flints where the East Cairn was later to stand adds substance to this. Patches of burnt sand were noticed in several parts of the excavation but none resembled a hearth and they could well have been the relics of the initial clearance of scrub rather than evidence of fires lit for warmth.

The stakeholes, some of them quite substantial, may have provided the framework for windbreaks just as the biggish stones in hollows such as G could have acted as weights to hold hides or skins in place. The only indication of anything heavier came with Hollow B underneath the North Cairn. This, 30 cm across and 16 cm deep, could possibly have been a posthole but no carbonized wood – or anything else – was found in it except for dark sand and flecks of charcoal.

From the fractured and incomplete nature of the pottery it is probable that somewhere in the vicinity there had been one or more middens. The distribution of artefacts and other remains in this pre-cairn phase is interesting. On the old land surface and from the hollows and central pit came 110 sherds, 13% of the whole; 11 flints, 25%, a proportion high enough to suggest that knapping had taken place there; and one piece of quartz. But of the numerous tiny bits of burnt bone none came from these layers and all of them must have been deposited after the formation of the black layer.

For how long the sandy rise was occupied by these early farmers cannot be determined but at some time a fierce fire was lit near its summit creating such intense heat that the sand was burnt a deep red, even white, over an irregular area about 4 m by 3 m in size. So discoloured was

the sand that it is possible that the turf had been stripped before the fire was kindled (Coles 1979, 232).

This burning was so marked in the NW quadrant, excavated in 1972, that the authors of the interim report observed,

'These circumstances suggest that a funeral pyre had been lit on the OLS, from which the cremated bone had been carefully gathered, and that the cairn had been constructed immediately on the remains of the pyre, starting near the centre and increasingly disturbing the burnt material towards the edges where it would in any case have been less in quantity' (Henshall & Wallace 1972, 2).

With this interpretation the evidence from the 1974 investigations agreed completely.

Midden debris may also have been burned, explaining the presence of some burnt sherds and flints, but if it was human bone that lay in the levelled, blackened remains of the pyre these were not calcined lumps but highly comminuted particles, all of them so small that it may not have been a corpse but disarticulated dry bones that had been cremated. Wells (1960, 34) pointed out that with a corpse uneven calcination will occur and even though the remains may have been collected from the ashes at Boghead it is unlikely that every piece would have been recovered. Had it been skeletal material that was burned the combustion would have been much more thorough.

It is just possible therefore, though unprovable, that the central pit had been a grave from which a skeleton had been disinterred. The focal position of the pit, its proximity to the fire, greater depth than the many hollows around it, may be significant. Certainly it cannot have been open during the incineration. Only a few flecks of charcoal were found in it even though it was right against the burning wood and bone. Nor can it have been left open for long before the fire or the stones piled on each other against its sandy W edge would have tumbled when exposed to the weather. Its fill did not look like the results of silting but of deliberate backfilling as did the fresh yellow sand resting across its top. The stakeholes discovered around it, three in a line at the N, several down the E side, two others to the W, formed a very rough rectangle 2.1 m by 1.8 m and may have been part of a shelter or stockade around it.

The black layer, deepest near the fire and sometimes overlying the highly reddened and whitened sand, consisted of the raked-out charcoal, ashes and clinker from the fire and of midden material of burnt wood, broken pottery and flints which were dumped over the hollows and working surfaces of the low knoll. It was noticeable that where sherds could be joined together they almost invariably lay under the same cairn, suggesting that the rubbish had been carried to the spot in basketloads, tipped out and levelled fairly casually where the carrier was standing.

On this amorphous spread of refuse, charcoal and burnt sand three and probably four cairns were heaped. The stones, on average weighing 11 kg (25 lb) although the heaviest were up to 45 kg (100 lb), had come from the stream bed 150 m away and 35 m below the terrace. No suitable stones were available on the terrace itself but boulders of quartzite, granite, gneisses with occasional schists and gabbro, exactly the mixture that comprised the cairns, were discovered around the stream. The effort of lifting them up a slope varying from 22° to 50° in inclination was considerable but ten active people could have transported the 2000 or so stones, 30 a day, in less than a week. No particular care was taken over the construction of these cairns which were somewhat higher at their inner edges except that gaps were left between them, perhaps to allow access to the central area.

Over each of them a thick covering of sand (IV and VII) was heaped. From the contents of sherds and flints this capping may have been gathered from the places where the middens had

stood. On this interpretation the cairns had no function other than to provide a support for an impressive mound much as the 'spine' of sarsen boulders did for the long chambered barrow of West Kennet (Piggott 1962, 11).

Probably it was at this stage that the post was erected, 60 cm to the W of the central pit. In 1972 it existed only as a sandfilled 'ghost' through the full height of the mound. Near its base it was 23 cm thick and had been held upright by heavy stones stacked around it. Amongst them was a smoothed whetstone. The post had stood on a setting of little pebbles which themselves rested on the 4 cm thick black layer. Underneath it broken pieces of flat stone had been laid on the old land surface in a rough patch some 40 cm across and surrounded by the black layer. A piece of charcoal above this 'cobbling' but underneath the black layer and the post yielded a problematical determination of 2174 ± 200 bc (SRR-688).

On face value this would suggest that the post was contemporary with the beaker pit but there are reasons for doubting this. There was no sign that a hole had been cut down through the mound to receive the post which was too thick to have been pile-driven through the sand. Instead the sand was piled up against it in an unbroken layer showing that it had been put up at the same time as the cairns. Nor were there traces anywhere in the space between the cairns of a turfline over the sand cappings to encourage the belief that the space had been left open for more than a short while. In such circumstances the reliability of the radiocarbon assay must be questioned.

It came from a charcoal sample below layer XIII which itself was more firmly dated by samples SRR-686 and SRR-689, of 2948 ± 60 bc and 3009 ± 110 bc respectively (illus 8). Despite the contradiction of SRR-688 the material underneath this unbroken layer must predate it as does the determination from the central pit, covered by XIII, of 2996 ± 175 bc (SRR-683). If, moreover, the post had been set in place when the cairns were being built then a fourth date of 2873 ± 60 bc (SRR-684) taken from charred wood under the North Cairn is relevant to this chronological dilemma. With four determinations averaging 2957 bc the fifth, from a closely related stratigraphical context, appears to be anomalously young just as another sample, SRR-690, from charcoal beneath the West Cairn in 1972 produced a 'date' of 4056 ± 60 bc, seemingly incompatible with the others.

For these reasons it is arguable that the post belonged to the first and not the second of the phases at the Boghead mound. It could have functioned simply as a territorial marker but its incorporation in the mound and its juxtaposition with the central pit provides an alternative explanation. Piggott (1954, 49–50) lists several instances of posts being erected against Neolithic burials, one at Crichel Down, Dorset, another of a child interred in a pit at Whitehawk, Sussex, with a post erected over its body. A bowl barrow with Neolithic affinities at Tarrant Launceston in Dorset contained a crouched inhumation with its feet against a post which had rotted and had probably been replaced (Grinsell 1959, 84).

Much nearer to Boghead the Neolithic round cairn at Pitnacree near Aberfeldy had a stone put up on its top standing over an unaccompanied female cremation (Coles & Simpson 1965, 38). Burnt material from its pit gave a date of 2270 ± 90 bc (GaK-602). At Kintraw in Argyll a post supported by basal stones had stood at the centre of a cairn with cremations in it (Simpson 1967, 56). This post had been only 13 cm in diameter and was thought to have been used as a focal point for laying out the circle of kerbstones surrounding the cairn, a purpose quite impossible for the Boghead post.

The partial excavations of barrows in the past and the difficulty of discerning the silhouette of a single slender and decomposed timber unless luckily coming upon it in a chance section must have led to the unnoticed destruction of many other examples of this prehistoric practice of raising a post alongside a burial. Yet there are sites that in some respects resemble Boghead.

One, a round barrow, Durrington 65, in Wiltshire, with a post rising through its mound, was excavated by *Cunnington and Hoare* in 1809 (*Grinsell 1957, 172*). On the land surface the diggers discovered a circular pit 'like a little well but it contained no interment; from this well-like cist, a tunnel, like a chimney, ascended nearly to the top' (*Hoare 1812, 170*). A comparable situation may have obtained at Boghead.

The final Neolithic operation was the filling in of the space between the sandcapped cairns. It is thought that the white-grey sand, VIII, used for this was the 'C' horizon of the area where the midden(s) had been, a soil too deep for many sherds or flints to have sifted down into it, explaining their comparative scarcity in this infill, only 2% of the sherds being found in the layer. The whole mound was then covered with a uniform capping of brown sand (II) and abandoned.

The origins of the Neolithic occupants of Boghead are obscure. Discussion of this problem has concentrated largely on the origin of the distinctive pottery. Over 1000 sherds were recovered in the excavations at Boghead although, given the nature of the deposition, it is understandable that from them not a single vessel could be completely restored. There were the remains of carinated bowls, some with lugs, the fluted decoration on the fine burnished ware constituting some of 'the best early Neolithic pottery from Scotland' (appendix 1). Amongst this fine ware were uncarinated vessels, some of coarser texture. With such profusion it might seem perplexing that there should be uncertainty about the primary sources and insular distribution of this ceramic tradition. The problem is to find analogous sites that would indicate whether the ultimate source of the Boghead material was Yorkshire or Ulster.

Large mounds in the neighbourhood of Boghead such as Black Hillock (NJ 368 616) 1½ miles to the NNE, may contain similar material but are as yet uninvestigated and their construction is unknown. The strange site of Easterton of Roseisle, only 15 miles W of Boghead, dug into by *Young* between 1894 and 1897 and reported by him in a series of 'masterpieces of diffuse, at times incoherent, writing' (*Walker 1968, 95*), consisted of a mixture of lakeside hearths, pits which may have been the scooped floors of huts, hollows, cists, with stone axes, flint arrowheads and scrapers and finely made sherds of the same style as that at Boghead. These vessels, with their finger-tipped fluting, carinations and burnished walls, belonged to the Grimston/Lyles Hill tradition, the name deriving from a cremation long barrow in Yorkshire and a low cairn in Co Antrim both of which contained similar but not identical sherds of this ware.

Unfortunately, although the Roseisle pottery was clearly of the same genre as that from Boghead and presumably made by people sharing something of a common cultural background it is no more possible to identify the origins of the Roseisle community than it is for the Boghead population. One is forced back, therefore, into a consideration of the pottery alone. Its distribution in the British Isles has been mapped by *Smith (1974, fig 14, 109)* but the routes by which its makers travelled remain in dispute. *Piggott (1954, 117, 272)* tended to the belief that the style, both in northern Ireland and in Scotland, originated in Yorkshire and has recently reaffirmed this (*1982, 28*). *Atkinson (1962, 16)*, instead, suggested that the sherds 'at Easterton of Roseisle . . . can plainly be interpreted as the result of the movement up the Great Glen' from Ireland. *McInnes (1969, 29)* tentatively agreed with this. *J G Scott (1977; 1978)* and *Henshall (1983)* have subsequently discussed the data further. *Walker*, in his assessment of the Easterton of Roseisle evidence, inclined towards an Irish source, the tradition introduced into Scotland along the Great Glen and then along the waters of the Moray Firth by 'coastal voyagers taking the lee side of the Burghead-Covesea island and finding a sunny southern exposure to grow their corn' (*Walker 1968, 105*). *Bradley (1984, 49-59)* has remarked on the interconnections between Ireland, Yorkshire and NE Scotland.

So alike are the rims, decoration and shapes of this ware in Yorkshire, Ireland and Scotland

that, given the varying skills of individual potters and textures of clays, it may never be possible to disentangle a chronological taxonomy from the pots themselves. Considerations of its associations, such as structures, may be more productive. Grimston ware has been found in the 'flue-cremation' long barrows of Yorkshire. 'The close association of Grimston Ware with cremation at once suggests that this practice should also be present in the other areas of Grimston Ware distribution which stretches along the whole of the eastern sea coasts of Great Britain' (Manby 1970, 21), the writer drawing attention to the site of Pitnacree in Tayside where cognate pottery was found. Here, and also at Lochhill in Kirkcudbrightshire (Masters 1973), the sherds were found in the ruins of deliberately burned-down mortuary structures. As both the date from Pitnacree of 2860 ± 90 bc (GaK-601), from charcoal on the old land surface, and from Lochhill of 3120 ± 105 bc (I-6409), from burnt wood, are akin to those from the earliest phase at Boghead it appeared possible that an analogous construction might have stood there. (It should, however, be added, that this would not greatly clarify the Yorkshire/Ulster debate because even earlier dates of 3200 ± 90 bc (UB-2030) and 2990 ± 50 bc (UB-2029) came from primary material in Doey's Cairn at Ballymacaldrack in Co Antrim (Collins 1976), a court-cairn built over another burned-down timber construction, two of the post-pits having sherds of Lyles Hill ware in them.)

Great posts standing in deep pits within long barrows are thought to have been the framework for either ridge- or flat-roofed mortuary enclosures or even scaffolds at these 'Grimston' sites. There could be two or three of them (Masters 1981, 166-8). As Pitnacree and Lochhill had Grimston ware similar to the Boghead sherds it seemed possible that the Boghead mound might also have been built over the remains of a destroyed mortuary structure like theirs, the posts having stood in the central pit and Hollow H. Comparisons were made with the dimensions and compass-bearings of other sites with suspected mortuary houses:

Site	Length	Bearing	No of Posts	Reference
Boghead	3.5 m	NE	2?	—
Dalladies	6.1 m	NNW	3	Piggott 1972, fig 8
Doey's Cairn	4.1 m	SW	3	Evans 1938, 61
Fussell's Lodge	7.7 m	ENE	3	Ashbee 1966, 13
Lochhill	7.0 m	NE	3	Masters 1973, 98
Pitnacree	3.8 m	ESE	2	Coles & Simpson 1965, 39
Slewcairn	9.0 m	N	2	Masters 1981, 168
Wayland's Smithy	6.0 m	SSE	2	Atkinson 1965, 128

The variations in these dimensions and bearings gave no unequivocal support to the supposition that there had been a mortuary structure of this type at the centre of Boghead. Nor did the contents of the central pit and Hollow H offer encouragement, their diameters and depths, moreover, being very different from each other. None of the stones in either showed any signs of having been exposed to fire, and where the sand of the old land surface was especially reddened by heat it was in an area to the NW of and not where the hypothetical structure would have stood. Whatever had occurred at Boghead it was not likely to have taken place in a deliberately fired mortuary structure such as those postulated in some Yorkshire long barrows like Kilham and Willerby Wold (Manby 1976, 148). This does not, of course, disprove a connection between Boghead and traditions emanating from north-eastern England but, equally, it leaves the Boghead pottery in a ceramic vacuum.

If, however, the links between Boghead and Yorkshire are tenuous this is not true of north-eastern Ireland. There is an impressive resemblance between both the pottery and structures at Boghead and those discovered at the typesite of Lyles Hill (J 248 829) in Co Antrim

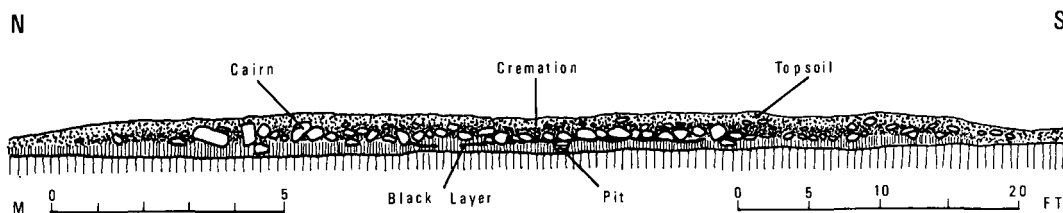
8 miles NW of Belfast (Evans 1953). What differences there are are far outdone by the similarities. Nor is there any geographical reason to prefer a Yorkshire to an Irish connection for the origins of the Boghead group. From NE England to the Moray Firth is a direct distance of over 300 miles to be travelled either along the even longer coastline of the North Sea or over the hills of the Cheviots and then either north through the edges of the Grampians or more easily along the devious littorals of Strathmore, Buchan and westwards towards the Spey Valley. It is not suggested that any one prehistoric group undertook such an odyssey, merely that the route was not an obvious or easy one.

Conversely, the distance between Lyles Hill and the Spey Valley is 250 miles or less, first by sea through the Sound of Jura and Loch Linnhe and then overland into the Great Glen which led undeviatingly north-eastwards to the fertile sandy soils of the Moray Firth. This was a more straightforward journey and one apparently well-known to prehistoric peoples (Scott 1951, 34-5). It is one reason for believing that the Boghead settlers had links with Ireland. The mound on Lyles Hill offers even stronger evidence that this was so.

Excavated in 1937-8, with further investigations after the war, the hilltop, 230 m OD, was encircled by an apparently defensive earthwork within which was a mound 21 m in diameter but like Boghead, low and inconspicuous, no more than 60 cm high. Unlike Boghead it was partly kerbed with a blind entrance at the ENE where a flat slab with faint incised chevrons carved on it had been set with its decorated side facing inwards against the mound.

The mound was capped with a thickish layer of topsoil and small stones. Below it was a fairly regular cairn 11.6 m across composed of heavy basalt boulders up to 30 cm in diameter. There was little more than a single layer of these which rested, just as at Boghead, on a black layer which extended beyond the mound's kerbs at the SE and SW but which was thickest just SW of the cairn's centre (illus 9). Here it covered an area about 4.4 m by 3.4 m in extent. Thousands of sherds and flints were discovered in it. 'Almost every square yard yielded scores of worked flints and sherds' (Evans 1953, 12). Under this layer, near the middle of the mound, 'the upper two inches of the thin subsoil were reddened by heat', a discolouring which the excavators thought to be the results of a pyre having flamed there. From this they deduced that the sherds and flints had been picked out from rubbish dumps, carried in baskets up to the pyre 'and selected handfuls thrown into it'. The pottery, much of it fine, burnished sherds, from which not one pot could be reconstructed, had been made from local clays (McCorry 1977).

Also like Boghead, there were shallow backfilled hollows under and around the mound, eight of them, varying greatly in size and sealed by the black layer (Evans 1953, 13-14). Most contained a nondescript dark fill with a few sherds and flints in it, but Pit 7, 1.8 m by 76 cm and 23 cm deep, was different having been closed after the fire had died down and with burnt stones and sherds in its fill. A parallel could be made between this and Hollow G at Boghead, well away



ILLUS 9 Lyles Hill Mound: N-S section

from the fire, larger than most of the other hollows and with patches of red and white sand containing charcoal along its SW side.

Like Boghead, there was a central space to the Lyles Hill cairn, but here only 1.5 m across. In it, on the old land surface, was a circular paved cist 1 m in inner diameter and lined with small uprights, some of which had been removed (*ibid*, 8). In it, under the topsoil, there was a layer of dark stony soil containing not only sherds and flints but the thoroughly cremated remains of 'a young person, say 12 to 16 years of age'. Other burnt bone was found in the body of the cairn and in the black layer but once again, as at Boghead, it was 'regrettable that most of them are too small to be recognizable' (*ibid*, 70).

The pottery from Lyles Hill is unquestionably early Neolithic despite the excavator's description of it as late Neolithic in date. There is no need to postulate a later date for the mound because of the decorated stone whose chevrons have passage-grave affinities (O'Kelly 1973, 372-3). It might be thought that the stone had been taken from a chambered tomb and that Lyles Hill must post-date the period when such monuments were in vogue but, to the contrary, such a stone is likely to pre-date them. Evidence from Brittany of carved menhirs being pulled down and reused in megalithic tombs such as Mané Rutuel, Le Table des Marchands, Gavr'inis and others (l'Helgouach 1983) demonstrates that single decorated standing stones may have been erected in the fifth millennium only to be taken down and incorporated in passage-graves as capstones or orthostats centuries later. From the British Isles Simpson and Thawley (1972, 84) have suggested that carved stones in some cists may once have stood elsewhere and been broken to be reused as sideslabs. The same practice has been proposed for decorated slabs in the circle at Balbirnie, Fife (Ritchie 1974, 11). Some of the Clava cairns in Inverness-shire contained cupmarked kerbs that appear to have been introduced into the newly built passage-grave (Henshall 1963, 32).

There are many reasons for believing that the settlers at Boghead may have had an Irish rather than a Yorkshire origin, however remote in generations it may have been. The pottery is similar. The sequence of events at both Lyles and Boghead is similar and the structure of the mound, the cairn, the central space are all like each other. Perhaps most striking of all are the comparable black layers with their abundance of sherds and flints and flecks of cremated bone.

In the absence of better parallels the comparison between the two sites seems convincing. That Boghead was more crudely done may be an indication that it was later or that it was constructed by a smaller group, or both. The Lyles Hill analogy provides a feasible explanation for the central pit at Boghead, and the Boghead radiocarbon dates may offer Lyles Hill a firmer chronological position in Irish prehistory (Herity & Eogan 1977, 46). More important still, the excavations at Boghead may add something to our understanding of the contacts between the north-eastern regions of Scotland, England and Ireland in the early centuries of the British Neolithic.

APPENDIX 1

THE POTTERY FROM BOGHEAD, FOCHABERS, MORAY

Audrey S Henshall

Discussion

The Neolithic sherds from the capping of the mound and below the mound, regarded as a single assemblage (illus 10 & 11)

The considerable quantity of pottery recovered from the excavation, weighing about 19 lbs, is mainly in small pieces. It is evident that some of the pots were rather irregular in profile and in wall

thickness, and many have been scorched so altering the surface colour or sometimes the whole texture. Thus there are considerable difficulties in assessing the composition of the assemblage. Only about half of the most complete pot survives, and most pots are represented by no more than a few, or even a single, recognizable sherds. The decorated and fluted sherds can be assigned to individual pots with reasonable confidence, but the difficulties increase with undecorated sherds and particularly with the uncarinated bowls. The 37 pots listed in the catalogue are certainly an under-estimate of the total present, and inevitably the bias is towards under-estimating the number of undecorated bowls of simple form. No attempt has been made to allocate featureless wall sherds.

Two basic forms are present. There are at least 12 carinated bowls (*1-6, 10, 12, 15-18*) and it is likely that at least 10 more were of this form judging by their characteristic fluted decoration or the profile of the neck (*7-9, 13-14, 19-23*). The number of simple uncarinated bowls appears to be less with five certain examples (*25-29*) and five probable examples (*31-33, 36, 38*). There is also a bowl with a curious inturned rim giving it a shouldered appearance (*24*).

The best of the carinated bowls have an elegant open form, a hard fabric with fine burnished surface, generally fluted inside and outside the neck and on the upper surface of the outward curving rim. They are, in fact, good examples of the best early Neolithic pottery from Scotland. The rims are simple, sometimes slightly thickened to a rounded lip. The carination is crisp but not exaggerated. Sometimes the wall of the neck tends to thin just above the angle, a feature exaggerated on sherd *4* where there is an internal groove at the carination, and the wall below is remarkably thin.

Other carinated bowls are less carefully made, of coarser fabric, and the necks tend to be straight rather than concave in profile, as *16* and *17*. Sometimes the carination is less distinct, as on *3* and *16*, and sometimes the rim is bevelled. Bowl *17* might be described as having a false carination, the walls continuing almost straight from the rim but interrupted on the outside by a narrow ledge. The rim sizes range from about 330 to 130 mm but mainly between 320 and 250 mm.

Lugs are present on bowl *16*, two surviving but their spacing not known. Sherd *11* is a small lug from the carination, possibly from one of the fluted bowls listed. A third lug, *40*, may be from either a carinated or uncarinated bowl. The little shouldered bowl *24* has a pseudo-lug pressed up from inside to make a slight swelling at the junction of rim and body.

Decoration by fluting occurs on the fine burnished carinated bowls, outside and inside the necks and across the rims. It is usually in more or less straight lines, but is sometimes more irregular with intersecting lines which may be termed *rippling*. The width of the wall fluting is generally about 8 mm but may be as much as 15 mm. Sometimes it is faint, especially inside the necks. On bowl *12* the fluting has been emphasized by a light vertical stroke in each hollow, and on *6* shallow scored grooves imitate fluting outside the neck with normal fluting inside. Only in the case of the small sherd *11* does there appear to be fluting below the carination. All but one of the bowls with neck fluting are decorated on the rim, usually with one or two rows of short flutes which appear as shallow oval hollows, or with long narrow flutes as on *7*. On sherd *8* the rim was decorated when half dried resulting in two rows of rough dimples. Bowl *14*, not otherwise decorated, has a row of oval impressions made by a fingertip or spatula spaced along the rim.

Undecorated carinated bowls include the unusually small and carefully finished *15*, bowls *18-22* comparable in quality and size with the fluted bowls, and such coarse examples as *16* and *17*.

The most complete of the uncarinated bowls are *25* and *29*. The former is small and of unusually thin fabric. The latter has a tendency towards the carinated form with the hint of an angle in places at the lower edge of the decoration. Bowl *26* is of a more open form. The rims of the uncarinated bowls are rounded or bevelled, but none is everted. Only one uncarinated bowl is decorated: bowl *29* is roughly scored, sometimes rather faintly, in two rows of vertical lines below the rim.

Sherd *30*, from a small bowl of uncertain form, has a row of little impressions inside the rim which have pushed down the clay to give a scalloped lower edge. One small wall sherd, *42*, bears a line of impressions from a toothed stamp: this sherd may be intrusive though its fabric does not differ from the fabrics of some of the coarser pots.

The fabric of the assemblage is notably homogeneous, hard, tempered with quartz grits, including sparse amounts of mica in the clay, generally dark brown in colour varying to dark grey or dull buff. Bowls *1-5* (the last badly scorched) and some of the small sherds such as *8, 11, 12, 19*, are of high quality with a fine burnished slip outside and a similar but less well finished surface inside. Bowl *6* and other sherds such as *7, 13, 15*, are of the same quality but lack the burnished surface. Some of the heavier bowls, eg *14, 16, 17, 26*, are of a coarser fabric tempered with more and larger grits which show

through the surface. Horizontal tool-marks may remain especially inside, on bowl *16* leaving deep ridges. Some of the coarser bowls have a thin slip and are semi-burnished. The small bowls *15* and *25* are of notably thin fabric, the somewhat uneven surface of the latter burnished.

The carinated bowls frequently break along or just above the carination, the point of weakness where the two main parts of the bowl were joined. Otherwise building joints are not obvious, though they can be detected in the horizontal fractures on the necks of *16*, *23*, *26* and *29*.

Several pots have been perforated, either before or after firing. Pot *5* bears one complete post-firing perforation, and three partly ground perforations.

The Boghead pottery provides only the second considerable collection of early Neolithic pottery from the north-east of the country, and compares well with that from Easterton of Roseisle, only 14 miles away (Henshall 1983, 19–24, 34–7). The similarities of the two collections, both in general and in certain details, is striking, and the minor differences should not be emphasized. About 34 pots can be recognized in the Roseisle collection, of which 20 and probably more are carinated. There are no certain examples of uncarinated bowls though a small number are probably present. It seems likely that the proportion of carinated to uncarinated is similar at both sites. There are sherds of about 13 fluted bowls in each collection, and these are very similar in form, decorative treatment and fabric. The differences at Roseisle are the fluting often continuing below the carination, the two or three heavier out-turned rims, and some more sharply defined carinations. At both sites there are one or two pots with light vertical strokes on the neck or a row of oval depressions on the rim, in imitation of fluting. Among the undecorated carinated bowls the notably well-made delicate bowl Boghead *15* can be paralleled by a similar somewhat larger bowl at Roseisle, and the lugged bowl *16* is balanced by evidence of a lugged carinated bowl at Roseisle. The occasional thinning of the walls of bowls at the carination, commented on at Boghead, is seen more often and sometimes exaggeratedly at Roseisle. On the other hand some of the fabrics at this site are coarser or more friable than any from Boghead. A couple of rather curious pots at Roseisle find no precise parallel at Boghead, nor do the Boghead shouldered bowl *24* or the decorated uncarinated bowl *29* find parallels at Roseisle.

The unusual bowl Boghead *24* finds its best parallel in the much larger bowl from Logie Durno, Aberdeenshire (a site also recorded as Easterton, Chapel of Garioch, Henshall 1983, 41, fig 6); otherwise no close parallels are known to the writer.

The Boghead and Roseisle pottery belongs to the Grimston/Lyles Hill Series as defined and mapped by Smith (1974, 106–9). Sherds of this pottery tradition have been found singly or in small numbers at about a dozen other locations in north-east Scotland, the number depending on the precise definition of the local pottery style (sherds from Moray, Banffshire and Aberdeenshire listed in Henshall 1983, 37–43; from Caithness in Henshall 1972, 310, 556–7, 551; and those from the recent excavations at Camster Long cairn in Henshall forthcoming). Of these sites, Tulloch of Assery B and Camster Long, both in Caithness, have produced closed groups of sherds. Unfortunately the sherds are fragmentary and the number of pots represented is small, but with the exception of one or two pots at each site they repeat the forms and surface treatment seen in the two Moray collections, though at Camster there are no bowls of the elegant open form.

On the basis of the material from these four sites a north-east pottery style can be perceived, though admittedly the quantity of material may seem inadequate and the chronological relationship of these collections has not been established. The obvious features are the frequent and extensive use of fluting, the simplicity of the rims and carinations, the preference for relatively shallow forms with everted or sometimes vertical necks. Decoration other than fluting is rare and very restrained, lugs occur occasionally on carinations, and simple uncarinated bowls are present. Besides the fine burnished fabrics characteristic of the Grimston/Lyles Hill Series, there are coarser fabrics for both carinated and uncarinated pots. It is uncertain whether uncarinated lugged bowls should be included.

The pottery from Boghead, Roseisle, Tulloch of Assery and Camster appears to be domestic rubbish, but at the time of writing Boghead alone provides radiocarbon dating, to the early third millennium. The pottery at Tulloch of Assery and Camster was found below chambered cairns, and at Roseisle it was in pits. In the north-east there are other instances of this style of pottery coming from cairns but with little information as to either their internal structure or the relationship between them and the sherds, except in the case of Midtown of Pitglassie where the recent excavations showed that the sherds belonged to the first phase which comprised cremation deposits beneath a circular stone and turf bank (personal communication; Shepherd, A N forthcoming). Elsewhere in Scotland sherds of this general tradition and dated fairly close to those from Fochabers have been found beneath the cairn at

Pitnacree, Perthshire (2860±90 bc, Coles & Simpson 1965, 40), and at the long cairn at Lochhill, Kirkcudbrightshire (3120±105 bc, Masters 1973, but the pottery awaiting publication in the excavation report).

The only other considerable closed group of Grimston/Lyles Hill Series pottery from Scotland yet published is from the occupation site at Auchategan, Argyll. The group is internally coherent and differs in several respects from the assemblages in the north-east, and has a single radiocarbon date of 2300±110 bc (Scott 1978). There is a preference for heavier out-turned and rolled rims, fluting is rare, and the forms include bowls with slack S-profiles and deep proportions. Scott sees the affiliations of this pottery, and some of that from the sandhills at Luce Bay, Wigtownshire (McInnes 1964, 42–7), as eastern English. In his wider study of Scottish Neolithic pottery he denies any connection, at least in Scotland, between the Grimston style of eastern England and the Lyles Hill style of northern Ireland (Scott 1977, 27). This has led to his recommendation to drop the generic term Grimston/Lyles Hill Series (Scott 1977, 36–7; 1978, 58). But as far as the north-eastern pottery is concerned the writer remains impressed by the similarity in general appearance with the Irish Ballymarlagh and Lyles Hill styles as described by Case (1961, 176–80), whilst not denying the differences especially of the rim forms. Scott himself remarked on the difficulty in distinguishing between the Grimston style and the earliest of Case's Irish styles (1978, 58–9). It therefore seems too early to abandon what is intended as a flexible generic term to comprehend pottery styles which appear to share a common tradition, found widespread in Britain and Ireland and in quantity in eastern England and northern Ireland, and which have a long chronological range from at least the mid fourth millennium bc in both countries into the later third millennium (Smith 1974, 107; Green 1976, 22). In attempting to define styles and derivative groups the differences are emphasized; in Scotland the limitations imposed by the sparsity of material and above all the dearth of closed groups and dated groups should be recognized.

Beaker sherds found in a small pit beyond the edge of the mound, with a radiocarbon date of 1917±70bc (illus 11)

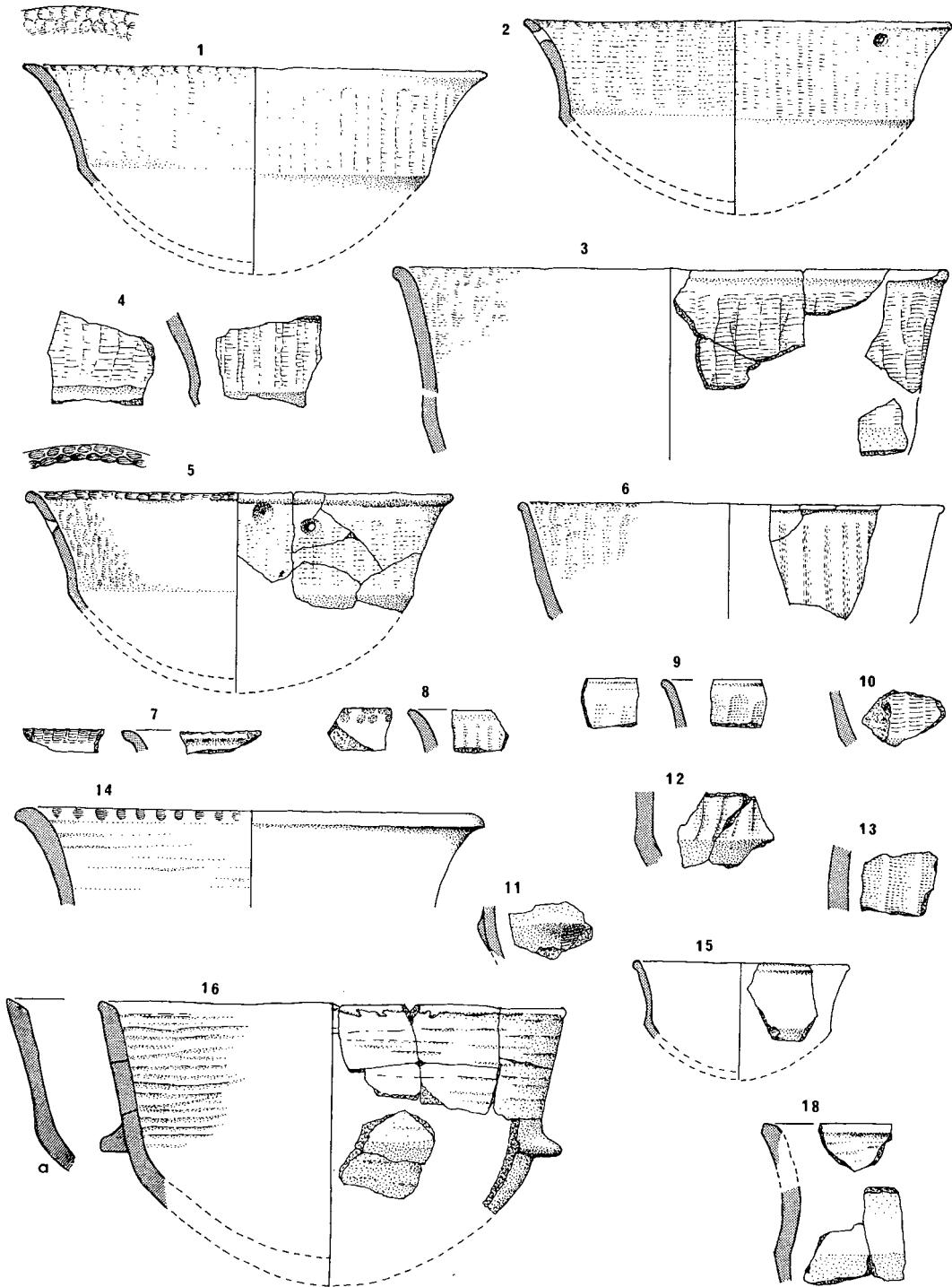
These sherds represent the major part of a large undecorated vessel 250 mm high, and fragments of two other vessels. In form the undecorated vessel is typical of the Bell Beaker series in Britain having a long curved neck and carinated shoulder. The less usual features are its size and lack of decoration, indicating that its function may have been domestic rather than funerary. The group of cord-impressed sherds come from a vessel of similar shape, for part of a fairly sharply defined shoulder survives. The cord used is fine, but the decoration is smudged. The pot seems to have been a normal cord-zoned beaker. Some surprisingly large grits are included in the fabric.

The single sherd from a third vessel is of similar fabric to the last, except that there are no large grits. The occurrence of a cordon, presumably from just below the rim, is also taken to indicate a pot for domestic use. However, the decoration of short incised lines forming horizontal rows of spaced herringbone is unusual.

Catalogue of Sherds (in the National Museum of Antiquities of Scotland)

1–23 Carinated bowls

- 1 Many sherds from a bowl of which about half the upper part survives in four detached pieces. Regular fluting on the neck outside not reaching the rim, two rows of fluting on the curved upper and inner surface of the rim, faint wide fluting inside the neck. Very good quality fabric, hard with sparse mica, mainly dark brown but shading to pinky-buff, burnished outside and less thoroughly inside.
- 2 Four sherds of a similar bowl but only one row of fluting on the inner edge of the rim, the fabric reddish-brown probably due to scorching. A perforation made after firing.
- 3 Four sherds from a bowl less carefully finished though of as good fabric as 1 and 2. Two sherds comprise about a quarter of the neck but its depth is not known. Wide and rather irregular fluting outside, marks of the burnishing tool inside tending to form faint rippling. Reddish-brown fabric, partly scorched.
- 4 Sherd from the neck and carination of a bowl, having alternate wide and narrow flutes outside, and irregular fluting inside with a groove inside the carination angle where the wall is very thin. Fabric similar to 1; internal diameter at the carination about 200 mm.

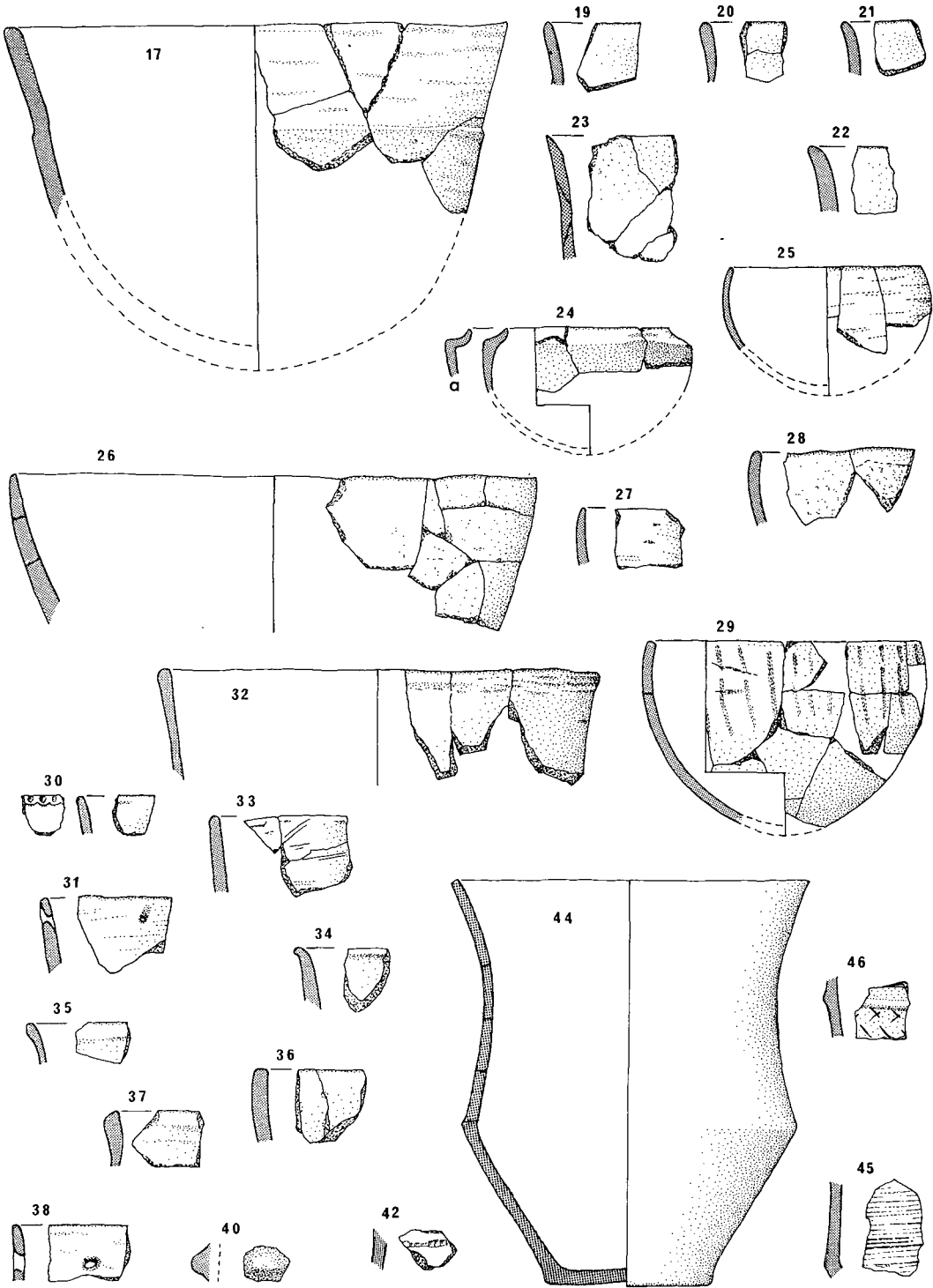


ILLUS 10 Boghead: pottery (scale 1:4)

- 5 Joining sherds comprising nearly quarter of the neck of a rather irregular bowl. Two rows of depressions on the rim edge, rather wide faint fluting on the neck outside, faint irregular rippling inside. Fabric similar to 1 and 2 but the outer surface damaged by scorching. One perforation made after firing and two partial perforations beside it; also a perforation in a detached sherd probably from this pot.
- 6 Seven sherds probably from one bowl with a rather variable profile, one rimsherd just retaining the carination angle; shallow grooving imitating fluting on the neck outside, faint fluting inside and across the rim edge. Hard dark brown fabric but two sherds scorched pink, the surface semi-burnished; one sherd with a perforation, another with half a perforation.
- 7 Three small rimsherds and a carinated sherd presumably from the same bowl; straight fluting over the rim, the dimples under the lip made whilst forming the rim; fabric similar to 6.
- 8 Rimsherd presumably from a carinated bowl; narrow fluting outside, two rows of dimples inside the rim breaking the fine burnished surface; hard reddish-brown fabric.
- 9 Three sherds from the rim, neck and carination angle, probably from the same bowl; wide fluting outside; gritty fabric, fine surfaces partly damaged, the neck sherd perforated.
- 10 Wall sherd with fragment of carination angle; fluted outside; dull brown semi-burnished fabric, grey inside.
- 11 Sherd with low lug on a gentle carination angle; apparently fluted below the carination; burnished dull brown fabric, inside grey not burnished.
- 12 Sherd from the carination angle; vertical lightly incised lines and fluting on the neck; burnished grey fabric.
- 13 Wall sherd, presumably from a large carinated bowl; very wide fluting outside, faint rippling inside; fine reddish fabric.
- 14 Large sherd from the rim and neck of a bowl which was probably carinated; a row of elongated fingertip depressions along the inner edge of the rim. The hard fabric contains a considerable amount of quartz temper, the surfaces not burnished, the buff colour probably due to scorching.
- 15 a Rimsherd from a small fine carinated bowl without fluting or decoration; the fabric containing sizeable flecks of mica has a fine slip, pink-brown outside, grey inside.
b Two small rimsherds and a sherd from the carination, perhaps from a but probably from a second bowl as the fabric contains sparse mica and larger grits.
- 16 Sherds comprising nearly half the upper part of a crudely made bowl with at least two lugs on the carination (the section through the lugs is distorted, a typical section drawn at a); also body sherds. The hard fabric is coarse and rather gritty, the surfaces bearing many horizontal tool-marks, traces of fine slip scorched pink-buff outside, left very rough grey to buff inside.
- 17 Sherds from a similar irregular bowl but without lugs and less rough inside; the fabric grey, pink-buff in places outside.
- 18 Many small sherds probably from one bowl, the rim diameter at least 280mm, the depth of the collar not known; buff-grey fabric with considerable quartz temper, slipped surface.
- 19 Five rimsherds possibly from the same bowl, probably carinated as the lowest point of the largest sherd is slightly everted; hard brown-pink fabric with traces of highly burnished surface.
- 20 Rimsherd, becoming very thin at the lower edge where it has probably joined the carination; fine fabric with mica, semi-burnished outside.
- 21 Three rimsherds similar to 19 but slightly thicker, probably from a carinated bowl; scorched but with traces of burnished surface, rather sandy fabric.
- 22 Similar rimsherd but thicker, burnished inside but outer surface damaged (no evidence for carinated form but included due to similarity to 19 and 21).
- 23 Rimsherd, the slightly concave section and arrangement of the building rings suggesting it is from a carinated bowl, possibly similar to 17; dark grey-brown gritty fabric including relatively large pieces of quartz, burnt red in places, worn surface.

24 *Shouldered bowl*

- 24 About a third of the rim and shoulder of a rather irregular bowl; in one place the shoulder has been expanded slightly but deliberately into a pseudo-lug by internal pressure which has left a short deep groove inside (section drawn at a). The fabric is buff-grey partly scorched orange, the inside roughly finished with many tool marks remaining, the outside slipped.



ILLUS 11 Boghead: pottery (scale 1:4)

25–29 Bowls certainly or probably not carinated

- 25 Several sherds from a bowl of hard and exceptionally thin fabric, dull brown but scorched red-brown, remains of burnishing both inside and outside over the striated surface.
- 26 Piece of the rim and upper body of a large bowl; rather rough outer surface, horizontal striations inside, quartz temper, scorched red-brown. Also other rimsherds probably from this bowl.
- 27 Four rimsherds of very hard fabric, dull brown, smooth outer surface.
- 28 Sherds from the rim of a bowl very irregular in form and thickness, dull brown scorched red-brown. Also sherds from this or a similar bowl.
- 29 Sherds comprising about a quarter of a bowl, some sherds with a tendency to be angled at the base of the decoration. Decorated with rough vertical scoring in two lines but one almost exactly below the other, also a few short horizontal lines probably not intentional. Harsh and hard dull brown fabric with horizontal striations inside.

30–39 Rimsherds from pots of uncertain form

- 30 Small sherd; a row of small depressions inside the rim; fine hard dark brown fabric, semi-burnished outside; rim diameter about 150 mm.
- 31 Two sherds, one with a perforation made before firing; hard harsh red-brown fabric. Also three small sherds possibly of the same pot.
- 32 Joining sherds comprising about one sixth of the rim of a bowl very irregular in form and fabric thickness, also joining sherds comprising a similar segment of rim possibly of the same bowl and a number of detached rimsherds; the hard fabric is dark brown to pink, the uneven outer surface with traces of burnishing, the inner surface rough.
- 33 Four sherds, smooth surface bearing brushmarks inside and outside; diameter about 230 mm; one sherd with a perforation made before firing, 10 mm below the rim.
- 34 Three small sherds similar to *16* but with finer surface.
- 35 Scorched red-brown, hard rather gritty fabric.
- 36 Three sherds, gritty dull brown fabric, fine surface outside, rough inside, dull brown; diameter about 280 mm.
- 37 Similar to *36* but very rough surfaces.
- 38 Similar to *31* but surface uneven, very hard buff-grey fabric, perforation made before firing; diameter about 260 mm.
- 39 Eighteen small rimsherds not assignable to any of the foregoing pots, but not sufficiently distinctive to be sure they represent other vessels (not illustrated).

40–43 Miscellaneous

- 40 Small detached lug, gritty fabric scorched and damaged.
- 41 Six small fluted wall sherds, apparently from four or five pots other than those listed *1–13* (not illustrated).
- 42 Small wall sherd with the faint impression of a coarse toothed stamp, gritty brown fabric.
- 43 A large quantity of featureless wall sherds, weighing 8 lb, presumably mainly from the pots listed above (not illustrated).

44–46 Beaker pottery

- 44 About half of a large undecorated beaker, fine hard reddish-buff surface with a semi-burnished slip, dark core, scorched in places.
- 45 Six sherds, and some crumbs, from a cord-zoned beaker, similar fabric but including some quite large grits.
- 46 Sherd bearing a cordon (so presumably from just below the rim), and decorated with paired nicks forming lines of spaced herringbone; similar fabric.

APPENDIX 2

A NOTE ON THE FLINT AND QUARTZ FROM THE BOGHEAD MOUND, 1972 AND 1974

H A W Burl

In contrast to the profusion of over 1000 sherds recovered during these excavations only 68 pieces of flint and four of quartz were found. Of the flint, grey, mushroom or yellow in colour, 48 were chips or flakes lying mainly on the E and S sides of the mound near the East Cairn in layers XIII and XIV. Some showed signs of burning. Amongst the recognizable implements there were five scrapers about the size of thumbnails. These were the most accomplished of the tools, the worked edges neatly trimmed with occasional retouch. There was also a knife, two blades and a number of crudely worked pieces none of which had been well finished. Most had been struck but two had been pressure-flaked and resembled attempts at fashioning leaf-shaped arrowheads.

Four pieces of quartz also were discovered, two in layer XIII and one in Hollow G. These also showed signs of working, the one in Hollow G being bladelike in appearance, 45 mm long by 10 mm thick with signs of pressure flaking on its convex side.

Similar collections of waste flakes and roughly trimmed implements have been found at Easterton of Roseisle (NJ 139 649), 13½ miles W of Boghead, although the 19th-century descriptions of them are inadequate (Walker 1968, 103). Even closer were the concentrations of flints at Meft, centred on NJ 270 630, 5½ miles W of Boghead, and at Kenny's Hillock (NJ 305 609), only 3½ miles W of the mound. The 'great bulk are chips, some of them very minute, others pretty large and passing into flakes' (Morrison 1872, 253). There were thousands of fragments as well as cores, none more than 5 cm long. It is possible that these, like those at Boghead, had been gathered from the shore a few miles to the N (Wickham-Jones & Collins 1978, 7), flint pebbles being known from the Lossiemouth district (*ibid.*, 12, no 27). Local beach pebbles seem a more likely source than the Buchan flint gravels 40 miles to the E (Gemmill & Kesel 1979, 66-7).

APPENDIX 3

REPORT ON THE SOILS FROM THE NEOLITHIC MOUND AT BOGHEAD, FOCHABERS

J C C Romans

The Boghead mound consists of sandy material which was piled up to form a roughly circular mound rising to rather more than 1 m above the level of the original ground surface. It covered irregular piles of large stones and boulders which had been heaped above human skeletal remains. There was a buried soil profile below the mound, developed on fluvio-glacial sand.

The soil profile visible in the section cut into the Boghead mound in 1972 was a humus podzol similar in all macromorphological respects to that seen in nearby gravel pits and road sections. The principal feature of the buried soil below the mound was a dark surface layer several centimetres thick containing variable amounts of fragmentary charcoal, underlain by a strong brown (7.5YR 5/6) B horizon about 40 cm thick which gradually faded into undisturbed stratified sand. This was probably an acid brown soil, and the profile was somewhat similar to that subsequently seen below one of the larger standing stones forming the Raigmore stone circle recently excavated on the sandy high beach level near Inverness, and to the soil recently described from the barrow at Dalladies near Edzell (Piggott 1972).

Thin sections were cut from sets of undisturbed samples taken from both profiles and also from four samples representing either particular patches in the mound debris or extra samples of the A₀ (surface) horizon of the buried soil.

In the sections from the post-Neolithic humus profile the mineral constituents of the fabric showed clear signs of disturbance throughout and occasional scattered fragments of charcoal were present from c 65 mm below the present day surface of the mound right down to the buried soil horizon below the mound. Identifiable fragments of oak charcoal were recorded between 75 and 570 mm.

The characteristic feature of the buried soil, both as seen in the field and in the subsequently prepared thin sections, was the very dark grey brown (10YR 3/2) and very dark brown (10YR 2/2)

surface layer several centimetres thick which contained a quite large number of black charcoal fragments. Among these fragments were several well defined pieces of oak charcoal, together with a good deal of heavily charred organic material that was not identifiable. This dark layer was variable laterally over the extent of the exposed quadrant and may have been locally absent. This may have been partially due to variability in the original thickness of the layer and perhaps partially due to contemporaneous erosion (the patchily eroded A_0 horizon of the buried soil surface below the forecourt deposit at Monamore cairn, Arran, recalls itself to mind).

Occasional pores within the charred layer were infilled with oriented clay which had not been stained or weathered by colloidal organic matter; further traces are present below the dark layer to about 10 cm below the presumed buried surface. Similar traces of oriented clay associated with the dark buried surface were found in slides Misc 1 and Misc 3 which represented samples taken from the first roadside exposure of the dark layer. The most extensive development of oriented clay was found in slide Misc 2 which was an extra sample taken at 660–735 mm below the mound surface on the 'stony face' of the excavated quadrant. A small patch of charred dark A horizon material several centimetres long was distinguishable from the general mound constructional debris in this section, and in addition to blackened charred organic matter the patch contained a small (c 1 mm) blackened mammalian tooth and a fairly plentiful distribution of clear unstained oriented clay in the pores, and attached to the blackened tooth. A small patch of oriented clay was also found attached to an isolated sand grain about 65 cm below the mound surface. Individual layering within the oriented clay pore infilling was not easy to distinguish, but it is thought there might have been seven or eight layers in some of the larger pores.

Individual annual rings in the oak charcoal fragments ranged in width from 1.0 to 1.3 mm, which are comparable with the ring width range found in oak charcoal from the barrow at Dalladies near Edzell. The annual ring width in charcoal prepared from close ringed oak taken from an old piece of furniture varied from 3 mm to 4 mm.

This evidence suggests that on and close to the actual site of the Boghead Mound there was formerly a scrub-oak forest which was burned some years prior to the piling up of the burial cairns and the construction of a mound above the cairn.

In the buried profile A_2 small aggregates of fine sand silt clay and organic matter, which probably represent rewelded faecal pellets, were present to about 18–19 cm below the presumed buried surface, and scattered fragments of charcoal were present to 20–21 cm. Below this depth very few aggregates and no charcoal were encountered, and the fabric merged gradually into unmodified coarse sand.

In the modern profile developed on the mound small distinct pellets c 0.1 mm in diameter were present near the surface and were clumped into firm aggregates c 10 cm below the surface; they were rewelded into aggregates in which the original pellet form was not distinguishable at c 20 cm. Below this depth traces of rewelded aggregate material were present right to the base of the profile but it was impracticable to distinguish pre- and post-Neolithic aggregate material; except where dark patches of fossil A horizon material containing distinct pellets and pellet aggregates were seen occasionally. Fragments of charcoal were present throughout the mound.

The mound had been built on a patch of deep fluvio-glacial sand, with gravel lying immediately to the N and E. Just W of the mound there is a small patch of birch trees probably underlain by sand. Across the road and further W along a narrow indistinct terrace forming the N bank of the stream gully bounding the S edge of the site, gravel again comes close to the surface, with 15–30 cm of sand or stony sand forming a surface veneer.

It therefore seems likely that the mound was constructed by scraping up the soil from a shallow excavation not more than 20–30 cm deep in the stream bank section just S of the mound.

As the ground appears to have been burned and left lying 'fallow' for a short period of years before the construction of the mound, the question must arise as to whether or not this was a site of Neolithic 'slash and burn' cultivation, as has been tentatively suggested at the analogous Dalladies barrow site near Edzell. As indicated, the mound lay at one end of a small local terrace feature lying along the N bank of a deep stream gully. This area was just about large enough to form a large 'garden patch' or very small 'field', and had at least a predominantly sandy surface soil.

Near the stream bank edge a profile dug by Forestry Commission soil surveyors during a recent soil survey was located and sampled and a few small charcoal fragments were picked out from the exposed face of the pit up to 20 cm below the surface. The two largest fragments have subsequently been identified as oak charcoal.

APPENDIX 4

THE CARBONIZED MATERIAL FROM BOGHEAD, FOCHABERS

A C Maclean & P A Rowley-Conwy

Early Neolithic settlers in the main chose light, easily tillable soils for their primary settlements. In the light of this it is no surprise to find evidence of cereal cultivation at Boghead, closely adjacent to the fertile Spey valley.

The sample under discussion, however, is of considerable interest, being as yet the earliest systematically collected sample from Britain. During the summer of 1972, one of the authors of this paper (ACM) processed some 1000 litres of soil with the help of a froth flotation unit, the recovery efficiency of which has been proved on sites in Europe and the Near East (Jarman *et al* 1972). The sandy nature of the soil produced good results, and we can confidently state that the sample reproduces faithfully the relative proportions of carbonized fruits at the site.

The bulk of the material consists of *Cerealia* (see table 1). What is surprising is the relatively tiny proportion of weeds of cultivation in the sample; had the sample represented merely the debris of an old field surface under 'slash and burn' cultivation one would have reasonably expected a stronger and more varied representation of weeds in the sample. We therefore postulate that the seeds were introduced to the site through the agency of man, and thus represent a faithful picture of the economy of the mound's builders.

TABLE 1

The botanical material from Boghead

Plant	Number	% Cereals
Emmer <i>Triticum dicoccum</i>	38	11
Barley, naked 6-row <i>Hordeum hexastichum</i>	305	88
<i>Cerealia</i> indet	68	
Persicaria <i>Polygonum persicaria</i>	31	
Black bindweed <i>P convolvulus</i>	5	
Fat hen <i>Chenopodium cf album</i>	66	
Dock of sorrel <i>Rumex sp</i>	5	
Thistle <i>Cirsium sp</i>	5	
Weeds, unidentified	7	
Hazel <i>Corylus avellana</i>	14 fragments of shell	

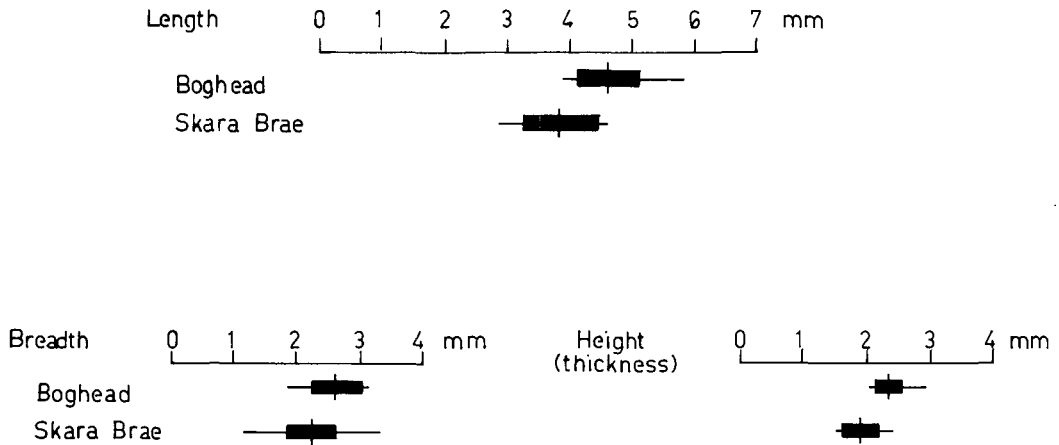
Despite the ritual function of the site, the mixed nature of the grain suggests that no selection for a particular species was made, if indeed such selection was at all possible. If, as is probable, wheat and barley were grown as a single mixed crop, sieving techniques could not have separated the two types due to their close correspondence in size (table 5, fiche 1: C9). For further discussion of the problems associated with sieving see Hubbard (1976).

Despite occasional references to hulled barley in the Neolithic of Britain (Jessen & Helbaek 1944), none was found at Boghead. The presence of numerous assymetrical grains indicates that the 6-row form is the one represented here, but the absence of rachis fragments (itself further evidence that this is a cleaned crop and not field surface debris) makes it impossible to determine whether it is of lax- or dense-eared type.

Despite a record of club wheat, *Triticum compactum* (now regarded as indistinguishable from bread wheat and termed *Triticum aestivo compactum* (Van Zeist 1968) at the nearby site of Culbin Sands (Jessen & Helbaek 1944) of Bronze Age date, the wheat recovered from the site is exclusively of the emmer form, *Triticum dicoccum*.

Measurements were taken of all the complete emmer grains and of a representative sample of the barley (see table 5, fiche 1: C9). The measurements of length, breadth and height (or thickness) are in accordance with those quoted by other authorities.

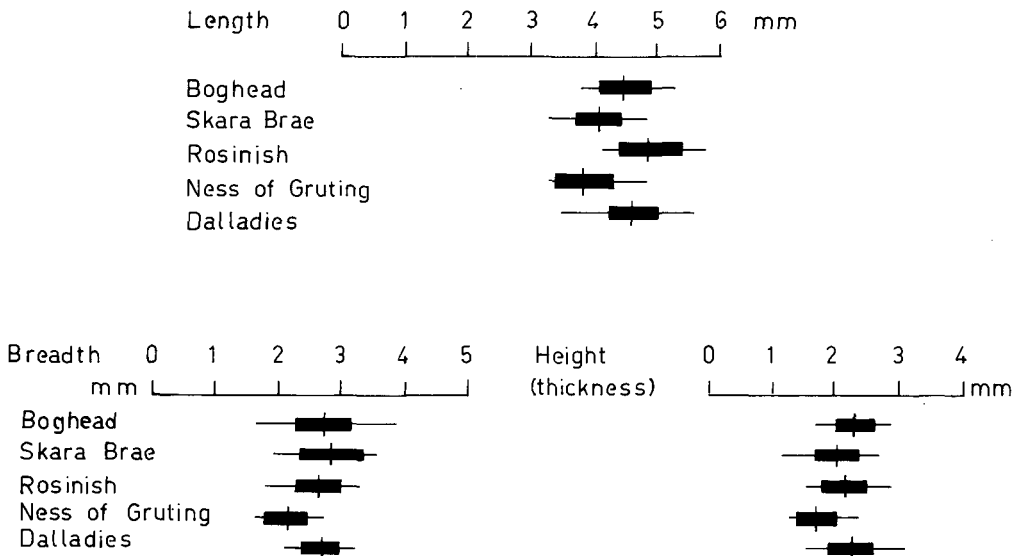
In an attempt to extract meaningful information from these measurements they were compared with measurements taken from various other samples of grain from Scotland. These samples are from Skara Brae, Orkney (on which material a full report is in preparation), the beaker site at Rosinish, Benbecula (Shepherd & Tuckwell 1977), the Bronze Age site at Ness of Gruting, Shetland (Calder 1956) and the Iron Age site at Dalladies, Kincardine and Deeside.



ILLUS 12 Bar diagram of sizes of emmer grains (vertical bars - arithmetical mean, horizontal bars - range of measurements, thickened bars - 1 standard deviation)

Apart from its presence at Boghead, emmer occurred only at the slightly later site of Skara Brae and the beaker site at Rosinish. From a total of 239 grains so far studied from the basal layer in Trench I at Skara Brae, only 20 grains were emmer - 8.4%; furthermore, in material recovered from the midden deposit at Rosinish, only five out of a total of 170 grains were emmer - 2.9%. Neither Ness of Gruting nor Dalladies contained any emmer. This pattern of decline and extinction is consistent with the interpretation of Jessen and Helbaek (1944).

When one examines the parameters of the emmer grains from Boghead and Skara Brae (illus 12) (none of the Rosinish grains was measureable), a possible reason for this decline emerges. It may be seen that the Skara Brae grains are appreciably smaller than those from Boghead. As regards distortion of grains during carbonization, length appears to be less affected than breadth or height (Hubbard 1976, 261). The decline in length noted, therefore seems to reflect a real decline in the size of the emmer grains.



ILLUS 13 Bar diagram of sizes of naked 6-row barley grains (see illus 12 for legend)

It would seem from this evidence of a steady decline in both grain size and proportional representation of emmer that this cereal was at the most northerly end of its adaptive range, and poorly adapted to local climatic conditions. We would postulate that its extinction was due to natural selection and not the cropping techniques of man.

Barley, in varying sizes, is present throughout the sequence (see illus 13). The two most northerly sites, Skara Brae and Ness of Gruting, have clearly smaller grains than do those from the mainland, which do not show any significant change in size from the Neolithic to the Iron Age. It is, therefore, inferred that these observed variations are due to differing climate in the more northerly latitudes rather than to changes in environment or cropping technique through time.

Hulled barley is present in very small proportions at Skara Brae and Rosinish, although, as noted above, none was found at Boghead. Its increased representation at Ness of Gruting and its overwhelming presence at Dalladies gives further evidence of the already observed trend of a gradual replacement of the naked by the hulled form of barley (see eg Jessen & Helbaek 1944).

The sample from Boghead, therefore, takes its logical place at the head of the sequence described and will, we suggest, prove to be similar to other early Neolithic samples from Scotland.

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APPENDIX 5

RADIOCARBON DETERMINATIONS FROM CHARCOAL SAMPLES TAKEN FROM THE BOGHEAD MOUND, 1972 AND 1974 (Submitted to the Scottish Universities Research and Reactor Centre)

SRR-683	4946±175 bp	(2996 bc)	Oak charcoal in infill of central pit. 1974.
SRR-684	4823±60 bp	(2873 bc)	Large pieces of charred oak from layer XIII under North Cairn. 1974.
SRR-685	5031±100 bp	(3081 bc)	Oak charcoal from bottom of Hollow M. 1974.
SRR-686	4898±60 bp	(2948 bc)	Charcoal from layer XIII. 1972.
SRR-687	3867±70 bp	(1917 bc)	Charcoal from the beaker pit. 1972.
SRR-688	4124±200 bp	(2174 bc)	Charcoal above 'cobbling' under layer XIII. 1972.
SRR-689	4959±110 bp	(3009 bc)	Charcoal from layer XIII. 1972.
SRR-690	6006±60 bp	(4056 bc)	Charcoal under West Cairn. 1972.

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