

Excavation of a kerbed funerary monument at Stoneyfield, Raigmore, Inverness, Highland, 1972-3

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ABSTRACT

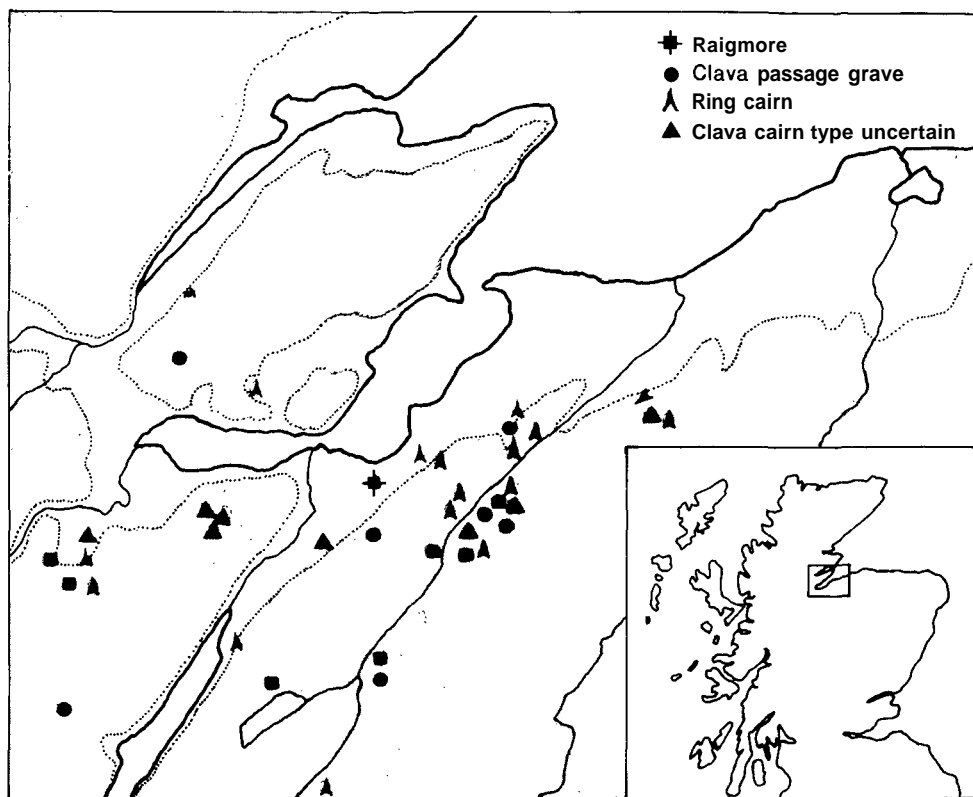
Rescue excavation at Stoneyfield was undertaken on behalf of the then Ministry of Public Buildings and Works (Scotland) in 1972-3. The results suggest that this multi-period monument can be divided broadly into three major phases of construction. In Phase 1 a series of pits were dug in the early third millennium BC, one containing Grooved Ware and a second a cup-marked stone. In Phase 2 further pits were dug, again some with Grooved Ware. Two of these antedated a central rectangular post setting, but the recovery of sherds, similar to those from the pits, suggest the structure belongs to the same general period. To this phase also belongs the construction of a massive kerb of graded stones, the tallest to the south-west enclosing a platform cairn in the Clava tradition. Finally, Phase 3 involved the construction of a series of cists, one with a Food Vessel, and the digging of a pit through the platform cairn containing a cremation beneath an inverted Cordoned Urn. There was also evidence of Iron Age and early medieval activity on the site.

INTRODUCTION

The site lay on the eastern boundary of the burgh of Inverness some 600 m north of Raigmore Hospital and close to the shore of the Moray Firth (NGR: NH 687 456) (illus 1), on a sand and gravel terrace some 20 m above sea level. The monument lay on the line of a projected new approach road leading to the bridge across the Moray Firth to the Black Isle (since completed) and this was the reason for its excavation under the direction of the writer and on behalf of the then Ministry of Public Building and Works in 1972 and 1973.

The site consisted of a circular setting of contiguous stones 18 m in diameter, graded in height, with the tallest on the south-west and the lowest on the north-east (illus 2 & 4). The arc of the circle was broken on the north side where stones had either been displaced and dumped in the interior or physically removed from the site as had happened in living memory. Two stones lying to the west of the site and adjacent to the field gate probably came from the monument. Drill holes in two of the stones (nos 17 & 18) of the circle are also evidence of attempts to destroy them at some time in the past using explosives. Apart from the displaced stones of the kerb, the interior was grass covered and showed little traces of a mound (illus 3). Anderson (1831, 215) lists it among his stone circles

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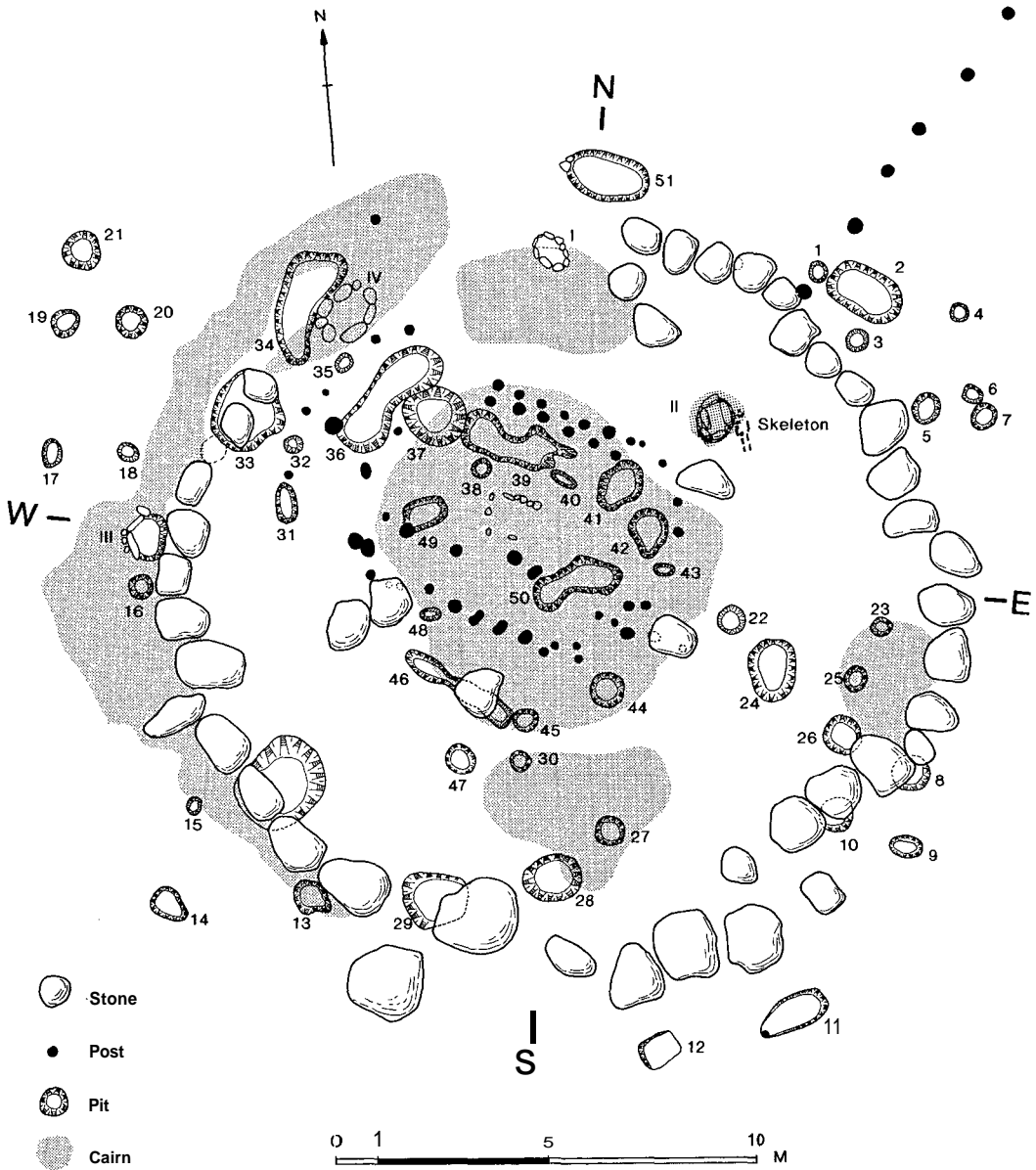


ILLUS 1 Location of site and distribution of Clava type passage tombs and ring cairns (after Henshall, 1963, 18, map 1)

rather than cairns, suggesting that even in the early 19th century it was the massive kerb which was the dominant feature. The site is listed as circle 31 by Fraser (1883, 358, fig 24) in his survey of stone circles of Strathnairn and the Inverness neighbourhood. Fraser's plan was reproduced by Henshall (1963, 385, fig 99), accompanied by a brief description and listed as her Inverness Site 47. An earlier account of two Druid circles (Pococke 1887, 104) may refer to the site, although there are no other references to a second monument and no surface traces exist today.

METHOD OF EXCAVATION

The area within the kerb was excavated by the quadrant method; beyond it the topsoil was removed mechanically and trowelled down to a radius of 12 m to determine whether the monument had ever been surrounded by a free-standing stone circle after the manner of the majority of well-preserved Clava cairns. No evidence of such a feature was recovered, although the absence of stone holes for a putative outer circle is inconclusive in view of the fact that the kerb stones themselves were not set in stone holes. The features revealed in the course of the excavation were recorded by conventional planning methods but this was supplemented by a photogrammetric survey under the supervision of Mr F M B Cooke of the Department of Archaeology, University of Leicester. Following



ILLUS 2 General plan (cists are numbered I-IV)

excavation of the interior, all the kerb stones were lifted and the area beneath them examined. Finally, the stones were moved to a new site some 500 m to the south-west, and were re-erected along with the stone cists and wooden posts to mark the position of the timber structures located during the excavation. This work was undertaken by the Inverness Burgh Planning Department under the direction of Mr W T Jack, Burgh Planning Officer. The restored monument is now open to the public.

The finds from the excavations, including the human remains, are deposited in the Museum and Art Gallery, Inverness.

DESCRIPTION OF THE STRUCTURES

THE KERB

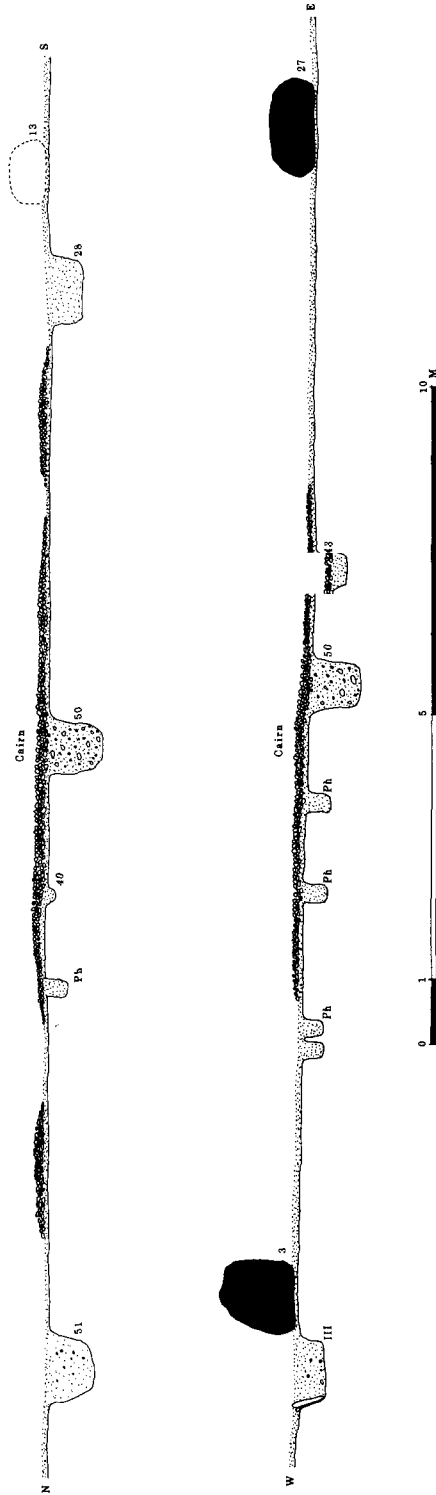
Thirty-nine stones of the kerb survived *in situ* or had simply fallen or been pushed over from their original positions. A further seven stones, evidently forming part of this structure, lay in the interior of the site (illus 5). The best-preserved portion of the kerb is the arc of large stones on the south-west, their size and weight probably preserving them from the damage seen elsewhere on the circumference (illus 6). The tallest of these stones was 1.7m in height and the smallest opposing stone on the north-east 0.5 m. All the stones were conglomerates and could have been obtained within a comparatively short distance of the site (Smith 1975). None of the stones was placed in stone holes, even the largest resting on a layer of fine, dark, worm-sorted soil. In view of this, the absence of any stone holes for a free-standing circle surrounding the site cannot be conclusive. Analysis of soil samples from beneath two of the largest and broadest stones on the south-west sector suggested an initial clearance of the site followed possibly by cultivation over a considerable period of time prior to the erection of the kerb (Romans below).

THE CAIRN

When topsoil and turf were removed it was found that cairn material was not spread evenly within the area defined by the kerb but formed a number of discrete concentrations no more than 0.4 m in maximum height (illus 3). Although some of these piles of cairn material may originally have been higher, it is unlikely from their distribution that the whole area within the circle was originally covered by a single substantial cairn. The pattern of the surviving material is difficult to explain in terms of robbing. Where cairn material did exist the lowest course of boulders had left characteristic impressions in the fossil soil. No such traces were found in other areas of the interior. On the existing evidence it would appear that the massive kerb enclosed a platform-like cairn similar to those enclosed by recumbent stone circles to the south-east. Additional cairn material lay outside the kerb, serving as an extra revetment for the larger stones in this area resting on the fossil soil. The problem is that on the south-west arc of the kerb there is substantial support on the exterior, but this does not apply to the inner face where there is a gap between the massive kerb and the unsubstantial cairn. Richard Bradley (pers comm) has suggested that this may originally have been filled with turf or topsoil. The majority of the stones forming the cairn heaps were waterworn conglomerates with an average diameter of 0.2 m. Within the circle was a general scatter of small fragments of calcined bone (Wilkinson, below) with the greatest concentration beneath the central cairn or platform. A Romano-British bronze brooch was found within the cairn material of the south-west quadrant (Mackreth, below). Subsoil features both within and outside the kerb circle and beneath the cairn consisted of a series of cists, pits and post-holes. (The cists in illustrations and text are distinguished by Roman numerals, the pits in Arabic.)

THE CISTS (ILLUS 7 & 8)

The four cists were distributed in an arc on the northern area of the site, both within and outside the circle. The 'proto-cist', III, abutted on the outer face of the circle; Cists I and IV probably stood in a similar relationship to the inner face of the kerb although the kerb stones were absent at this point. The position of the cists in the structural sequence could not be demonstrated stratigraphically, but



ILLUS 3 Sections of the central structure

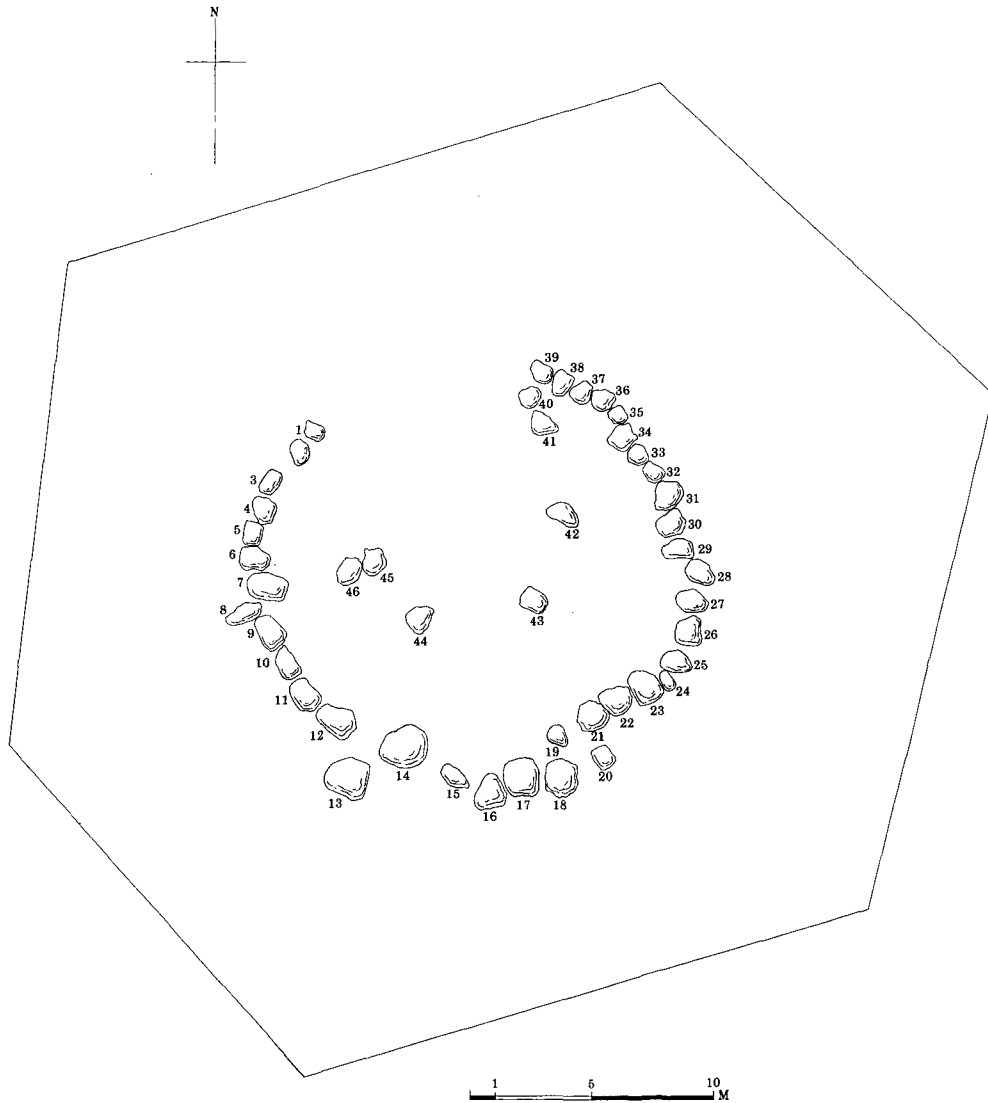


ILLUS 4 General view from east

their siting close to the kerb and perhaps even touching the stones suggests they post-date this feature. All were set in pits dug in the subsoil and formed of small slabs of local conglomerate and sandstone, closely juxtaposed in Cists I, II and IV, but in Cist III with only two slabs set against the west side of the pit. None had capstones and there were no traces of built floors in the graves. The stones of Cists I, III and IV were set in cairn material and projected above the buried surface although whether this was the result of subsequent insertion or later stone robbing could not be determined. Cist II was covered by its own individual cairn. All the cists were filled with humic soil and small stones. Minute fragments of calcined bone were found in Cist IV (probably an adult) and a single fragment from Cist III, although this material could be part of the general scatter of cremated bone from the buried soil and cannot be considered as deliberate interments. If the cists had originally contained inhumations, destroyed in the acid soil conditions, only Cist IV was large enough to accommodate a crouched adult, the remainder being of a size suitable for juvenile corpses. A Food Vessel stood on the floor of Cist I (illus 8). Immediately to the east of Cist II, and partly covered by its small cairn, was a badly decayed inhumation lying in an extended position on the buried soil. It could possibly be a male but in view of the weathered state of the bones this cannot be confirmed.

THE PITS (ILLUS 2 & 8)

Both within and outside the kerb were 51 pits. These were of varying plan, the majority being oval or circular, but a number, particularly very large examples, were of irregular form; dimensions range from 2 m to 0.3 m in maximum diameter and from 1.25 m to 0.12 m in depth. Four were of



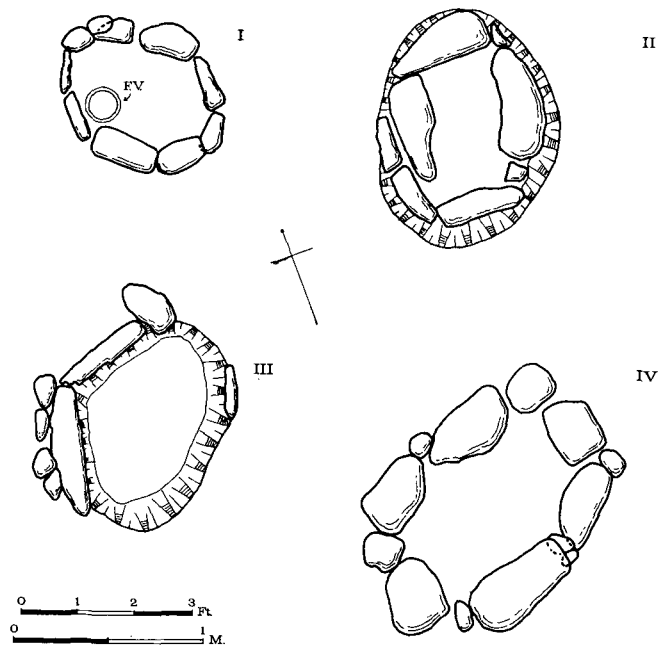
ILLUS 5 Plan of kerb stones

undoubted post-prehistoric date. Pit 26 contained a number of badly corroded and unidentifiable iron fragments and part of the rim of a medieval glass still (Moorhouse 1972); Pit 10 contained 19th-century pottery; Pit 12 the decomposing corpse of a sheep, while a further pit was dug by persons unknown between the 1972 and 1973 seasons. Of the remaining 47 pits, 24 are, in view of their contents and radiocarbon dates, undoubtedly prehistoric, and the remainder presumably so. These may be divided roughly into three groups on the basis of their fill and contents.

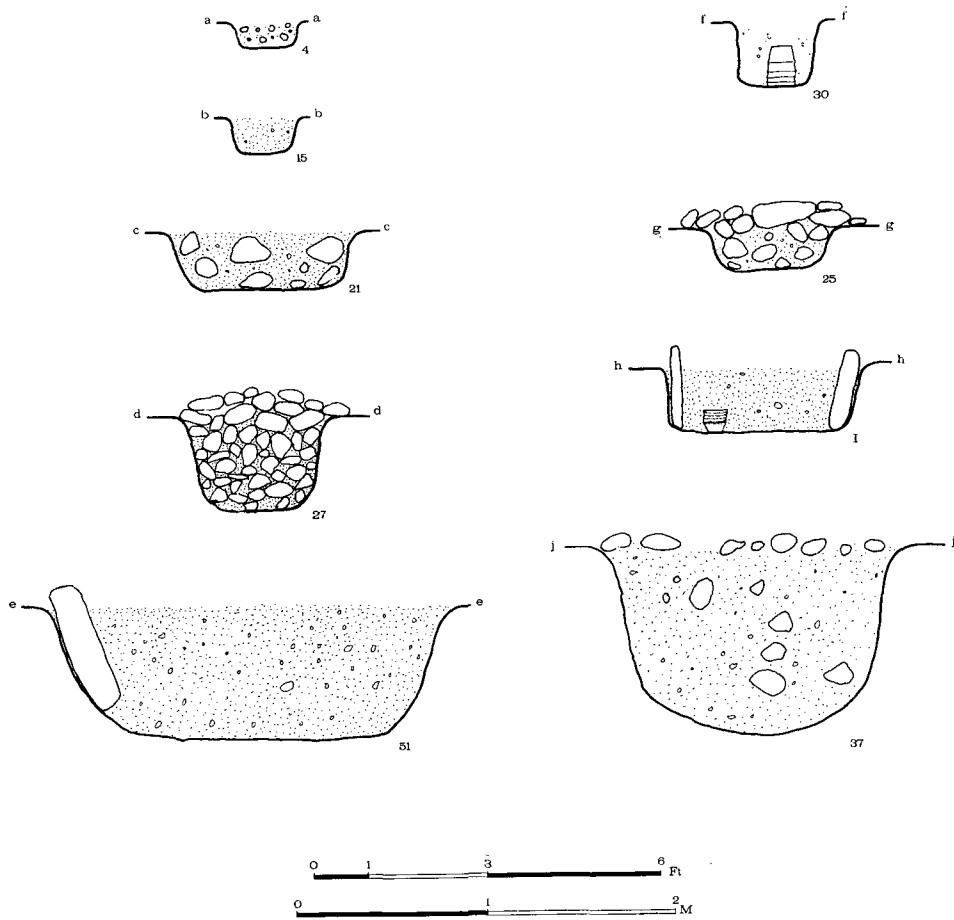
Firstly there is a series whose contents consist of sterile deposits of loam, gravel and stones. Within this category, lying outside the kerb but parallel with its circumference, were three large pits



ILLUS 6 The south-western arc of the kerb with extra revetment



ILLUS 7 Plans of cists



ILLUS 8 Sections of pits and Cist I

(Pits 2, 5 & 11), just under 2 m in length and orientated NW/SE and NE/SW, which may originally have contained inhumation burials destroyed in the acid soil conditions. Pit 51 had a stone set upright at its north-west end and Pit 11 a post-hole at its south-west end. Pit 9, contained a stone with a single cup-mark on its under-surface (illus 9).

The second series of pits contained what appeared to be occupation debris including charcoal, pottery and flints. Some were stone free while others contained a number of waterworn stones. Nineteen of the pits in this group also produced minute fragments of calcined and unidentifiable bone.

Finally, Pits 25 and 50 contained unurned human cremations, the former a young adult, probably male, and the latter the remains of at least two adults (Wilkinson, below). The upper part of the fill of Pit 25 consisted of waterworn boulders which projected above the subsoil forming a small cairn. The Cordonned Urn from Pit 30 contained the calcined remains of a child of three or four years of age (Wilkinson, below). In addition to the cremated human remains, Pit 50 also contained sherds of Grooved Ware pottery representing several vessels, a *petit tranchet* derivative arrowhead and other flints.



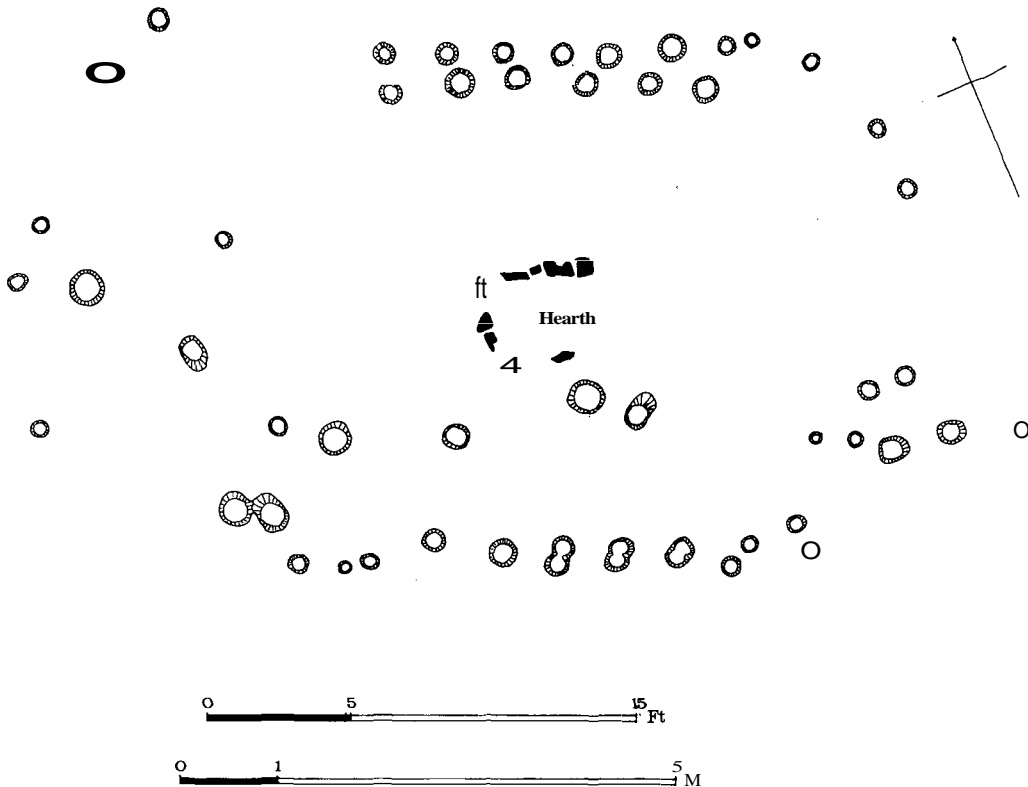
ILLUS 9 Cup marked stone from Pit 9

No clear pattern of distribution of the pits can be discerned in terms of size, shape and nature of contents, apart from the fact that the three possible inhumation graves respected the outer arc of the kerb and presumably post-dated its construction. All but one of the pits containing calcined bone lay inside the kerb. This is not surprising, as the main concentration of burnt bone from the buried surface was in the central area and the discovery of a few small fragments in many of these pits may represent material wormed down from this level. With the exception of the two small groups, north-west and north-east of the kerb, those pits containing sherds and other occupation debris did show a concentration in the centre of the site and ran in a roughly NW/SE direction between the two rows of posts and beyond.

POST-HOLES: ALIGNMENT AND (?) BUILDING (ILLUS 2, 10 & 11)

Fifty-five post-holes were identified on the site. Apart from a few isolated examples they formed two recognizable settings. The first was a row of seven post-holes outside the massive kerb, running in a north-easterly direction for some 8 m. Excavation beyond this point failed to locate further examples. The innermost post-hole was partly overlain by one of the kerb stones. The orientation of this setting is similar to that of the kerb and this may have influenced the layout of the stone monument.

The second setting consisted of a possible grouping of 52 post-holes forming a roughly rectangular layout 10 m in length and 5 m in maximum width. These presumptive post-holes vary from 0.12 m to 0.4 m in diameter and from 0.2-0.26 m in depth. Some of the larger 'post-holes' may in fact be pits unrelated to the central wooden structure, which makes a possible ground plan difficult to derive, let alone a reconstruction. The maximum dimensions of the 'structure' are 14 m in length



ILLUS 10 Plan of central post setting

and 6 m in breadth. Within this post setting was what appeared to be a rectangular hearth, 1.4 m by 1 m, composed of sandstone slabs which had been cracked either by heat or frost action. The presence of a probable hearth associated with a rectangular timber setting suggests a domestic structure and perhaps a roofed building. However, fragments of burnt bone from the hearth and three of the post-holes may have been human, indicating a possible ritual structure.

It is difficult to reconstruct the central timber feature in terms of a built structure. In particular the northern row of paired post-holes suggest a two-phase monument but the digging of a series of later pits (Pits 37–43) may have obliterated additional posts which could even further complicate the sequence. The southern setting consists of two much more widely spaced lines of posts; their disposition hints even more strongly of multi-period construction. The terminals at the east and west ends are equally vague with no patterned arrangement of post-holes. If these features represent a roofed building its actual function, domestic or ceremonial, is problematic. Examples of what appear to be Neolithic domestic buildings have been identified beneath later structures. A notable Irish example is the long house defined by continuous bedding trenches and individual post-holes covered by the dual court tomb at Ballyglass, County Mayo (6 Nualláin 1972). The differing orientation of the timber structure and the later tomb suggest little continuity in siting. In contrast, the Raigmore timber setting occupied a central position in relation to the subsequent enclosing kerb and platform cairn. One might compare such an arrangement with timber circles on Arran which were replaced by later



ILLUS 11 Interior of site

stone settings which echo the plan of the earlier structures, in spite of a considerable interval marked by ploughing and the construction of fences (Haggarty 1991). A similar hiatus in building may have existed at Raigmore with the digging of at least some of the pits prior to the construction of the stone features.

THE CONSTRUCTION SEQUENCE: PHASES I-III

Pits 10, 33 and 52 antedated the stones of the kerb and Pit 34 lay on the projected circumference of this feature (the stones had been removed at this point). Pits 8, 26 and 29 were partly covered by kerb stones at the time of excavation but these stones had been displaced, and in the absence of stone holes their original relationship is uncertain. Pit 34 was earlier than Cist IV and Pits 36 and 49 earlier than post-holes in the rectangular setting. Pit 37 cut Pit 39 and was itself cut by Pit 36, while Pits 49 and 50 must have been open at approximately the same time, as joining sherds from the same vessel were found in them. Although it cannot be demonstrated stratigraphically, the positioning of Cists I and IV immediately inside the arc of the circle and of Pits 2, 11 and 51 in a similar relationship to its exterior suggest that these features were constructed at the same time as, or subsequent to the construction of the kerb. Radiocarbon dates (below) and to a lesser extent artefactual remains would suggest activity on the site lasting for at least one-and-a-half-millennia. Three main phases are apparent, each prolonged and with a suggestion of further sub-divisions.

Phase I

Phase I is marked by pits dug in the first half of the fourth millenium BC. These include Pit 9 containing the cup-marked stone and Pit 41 with Grooved Ware pottery. Single, undecorated body sherds of similar fabric to Grooved Ware were recovered from dated Pits 4 (SRR-421 CAL BC 4833-3370) and 6 (SRR-187 CAL BC 3637-3373) although they cannot with certainty be assigned to this class of pottery. To this phase also belong Pit 18 without artefacts (SRR-424 CAL BC 3960-3700). This would equate with a date from charcoal from the buried soil beneath the cairn material (SRR-432 CAL BC 3619-3147).

Phase II

In Phase II further pits were dug, some of which contained occupation debris, including sherds of Grooved Ware pottery. Although at least two of these pits were earlier than post-holes of the rectangular setting, the recovery of pottery similar to that from the pits suggests that the building should belong to this same general period and, probably too, the row of post-holes running north-east from the main concentration and which certainly antedates the kerb circle. While the post structure and the contents of a number of the pits may suggest domestic activity on the site at this period, Pit 50, contained the cremated remains of two adults in addition to Grooved Ware pottery and a *tranchet* flint arrowhead. Dated pits with Grooved Ware were Pit 21 (SRR-429 CAL BC 2468-2298) and Pit 49 (SRR-425 CAL BC 2873-2509). Pit 19 contained a number of plain body sherds similar in fabric to the Grooved Ware (SRR-428 CAL BC 2466-2311).

In Phase II the monument takes on a ceremonial and funerary character with the erection of the massive kerb of graded stones enclosing the central platform cairn. No absolute dates were obtained for the beginning of this phase but in view of the near central placing of the rectangular building in relation to the kerb (if this is not fortuitous) it probably represents a near continuum from the preceding phase.

Phase III

Phase III is likely to have been a protracted one involving the deposition of fragmentary calcined bones in the interior, and particularly beneath the cairn, but also the construction of four cists, Cist I with a radiocarbon date (SRR-430 CAL BC 2290-1979) associated with a Food Vessel; a pit with a cremation in a Cordoned Urn; and three possible inhumation graves outside the kerb.

Later features

The latest dated pit was Pit 24 within the kerb (SRR-422 CAL BC 921-809). Even later activity is represented by the bronze brooch of the first or second century AD; a body sherd of Romano-British grey coarse ware; and from Pit 26, fragments of a medieval glass still (Moorhouse 1972), unidentifiable iron fragments and charcoal which produced the latest radiocarbon date from the site (SRR-420 CAL AD 1280-1460).

ARTEFACTS

POTTERY (ILLUS 12-18)

With the exception of the Iron Age (P58) and Romano-British (P59) sherds, the Food Vessel (P53) and Cordoned Urn (P54), the bulk of the ceramic material (where classifiable) from the pits, post-

holes and beneath the cairn belongs to the Grooved Ware tradition and is a useful addition to the corpus of this ware from the Scottish mainland, providing a further link between the Orcadian material and North English sites, as indeed have other recent discoveries in Scotland, for example at Beech Hill House, Perthshire (Stevenson 1995), Balfarg (Barclay & Russell-White 1993) and Balbirnie (Ritchie 1974) in Fife.

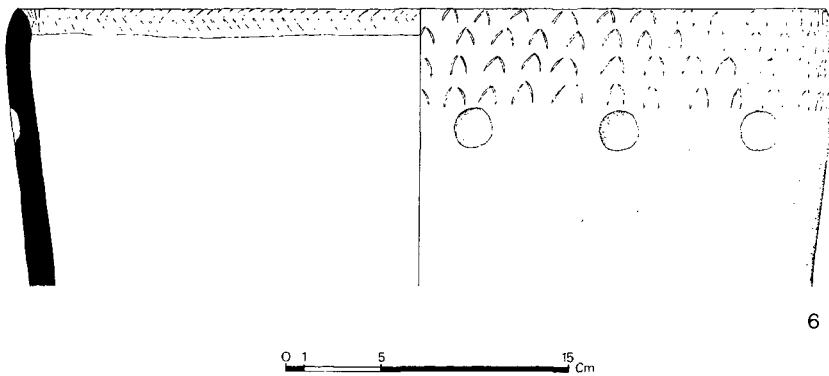
GROOVED WARE (ILLUS 12-15)

A minimum of 35 vessels appear to be represented, 27 coming from Pits 41, 49 and 50. Sherds of two further vessels (P35 & P36) were recovered from the buried soil beneath the central cairn.

The vessels exhibit a considerable size range and, where it was possible to gain some estimate of rim diameter, varied from a small cup of 140 mm (P6) to very large vessels up to 460 mm in diameter (P23). Wall thickness was between 8 and 15 mm. There appeared to be no significant distribution in terms of vessel size as suggested by Richards (1994) for the Barnhouse settlement site, although the quantity of material from Raigmore is tiny in comparison and its context would appear to be ritual rather than domestic. The fabric ranged from well-fired vessels with smooth exteriors to poorly fired forms with the inclusions projecting through the surface. The latter consisted largely of crushed angular rock fragments but also included quartz, grass and grog. Decoration was extremely variable as far as patterning was concerned, but limited in technique, being largely confined to incision or grooving with two examples of finger nail impressions (P3, P4). Plastic ornament occurs in only one case, in the form of vertical cordons on the lower part of a large vessel (P1). For Barnhouse, Richards (*op cit*) has suggested that style of decoration might be related to function, with large storage vessels bearing applied cordons and smaller vessels, presumed to be used in cooking, decorated with incision and grooving. The only cordoned vessel at Raigmore is large and might be interpreted as a storage pot, but equally large examples are decorated with grooves, finger nail and circular impressions. One interesting feature of two of the larger vessels (P43 and P44), both from Pit 50, is that they bear random impressions of basketry or textiles which do not appear to be specifically decorative (illus 16). Five Grooved Ware vessels from Balfarg Riding School have similar impressions and there it was suggested that this could be the result of their being supported in a basket during the process of manufacture (Barclay & Russell-White 1993, 108). A similar explanation could be advanced for the Raigmore material.

MacSween (forthcoming), in discussing Scottish Grooved Ware, finds the sub-styles and regional groupings as defined by Wainwright & Longworth (1971) more difficult to apply in a Northern context. She suggests some regional preference for certain decorative styles but considerable variation from site to site. This also applies to the Impressed Ware (Peterborough) tradition where there are major variations in design preference from individual sites (Simpson & Coles 1990).

Although certain designs appear to be peculiar to Raigmore (Barrowman 1994) the bulk of the material fits into the general range of Grooved Ware styles and, not surprisingly, finds its closest links with Orkney and Northern Britain. Scalloped rims (P27, P28) are well represented in Orkney (MacSween 1992, 265, Table 19.2) although these are also found as far south as Yorkshire (Manby 1974, 14, fig 3, 1) and the rim sherd from Fimber Church also incorporates a wavy relief line also represented at Raigmore (P15). This motif also occurs at Balfarg henge (Mercer 1981, fig 43, 2) and Balfarg Riding School (Barclay & Russell-White, 1993, 101, illus 30). The horizontal grooves and oblique incisions on the ribs of P35 can be matched in a vessel from Carnaby Top 12, in Yorkshire (Manby 1974, 25, fig 9, 6). Horizontal multiple-grooved lozenges (P26) occur at Stenness (Ritchie 1976, 23, fig 6, 16), Quanterness (Renfrew 1979, 76, Fig 33, 2), Tentsmuir (Longworth 1967, 76,



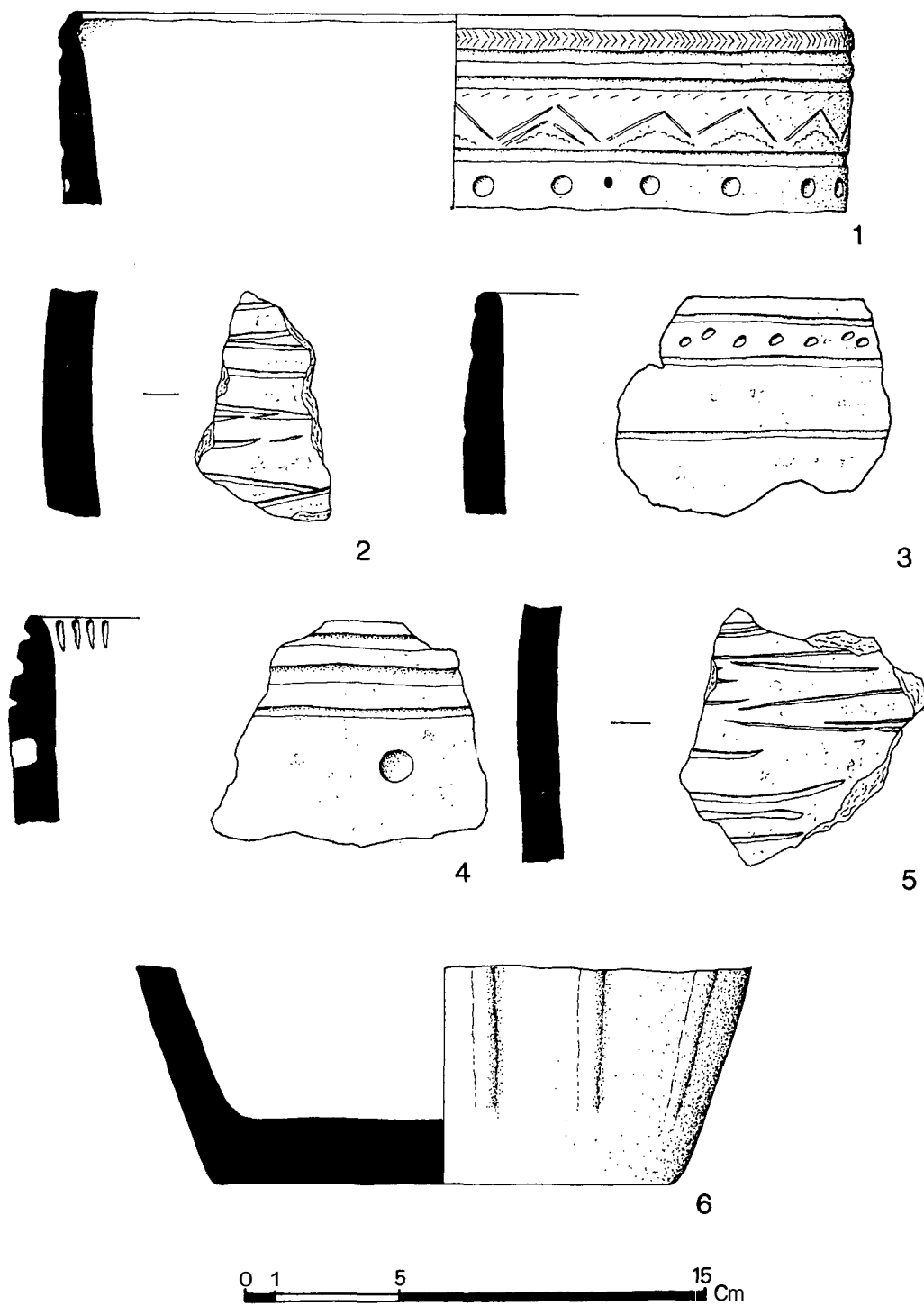
ILLUS 12 Grooved Ware

fig 8.1) and Knappers Farm (Mackay 1952, 181, fig 1). Finger nail impressions (P3) are less frequently associated with the Grooved Ware tradition but examples do occur at Pickering, Yorkshire (Manby 1974, 14, fig 3, 15) and Beckton, Lockerbie (Cormack 1963).

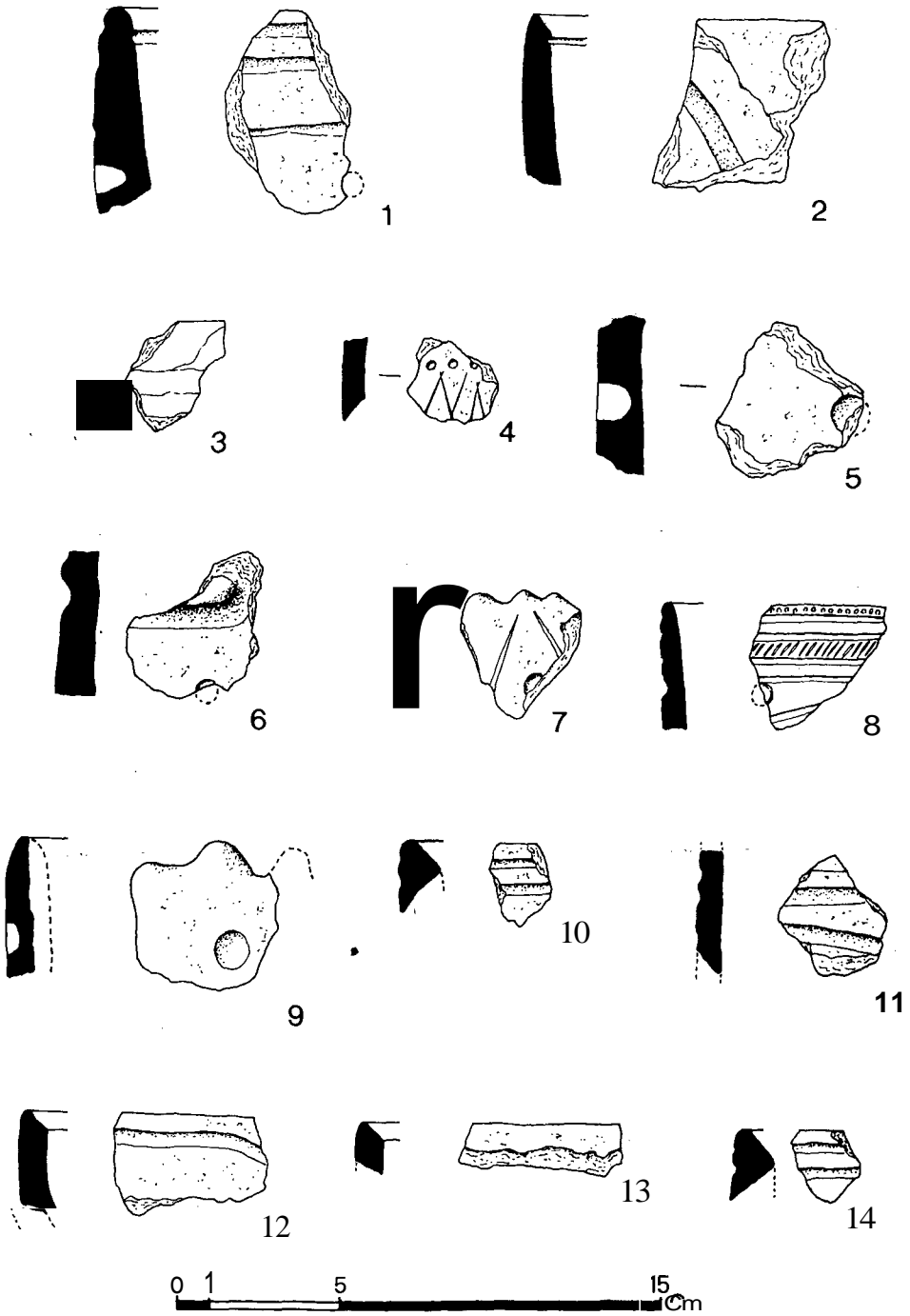
Pottery catalogue

- P 1 Plain body sherd of thick walled red/brown ware tempered with angular fragments of granite. Pit 4 (not illustrated).
- P 2 Plain body sherd of reddish brown sandy ware finely tempered with crushed stone and quartz. Pit 6 (not illustrated).
- P 3 Four plain body sherds of buff, poorly fired ware coarsely tempered with stone fragments and grass. Pit 19 (not illustrated).
- P 4 Thirteen rim, body and basal sherds of a large thick walled poorly fired vessel of red/brown ware tempered with rock fragments. The lower part of the body bears vertical cordons. Pit 20 (illus 13, 6).
- P 5 Twenty-three rim and body sherds of pale buff ware tempered with large rock fragments. Decorated with incision, stamped impressions and a row of circular pits. Pit 20 (illus 13, 1).
- P 6 Rim sherd of black/brown ware tempered with rock fragments. Decorated on the outer surface with paired finger-nail impressions and a row of circular pits; finger-nail impressions forming a herringbone pattern on the rim interior. Pit 20 (illus 12, 6 and 17, 3).
- P 7 Rim sherd (damaged) of black/brown ware with rock filler. Decorated with irregular finger nail impressions. Pit 21 (illus 15, 4).
- P 8 Two undecorated body sherds of well fired grey/brown ware lacking the outer surface; tempered with quartz fragments and grass. Pit 21 (not illustrated).
- P 9 Plain body sherd of pale buff ware tempered with finely crushed rock. Pit 21 (not illustrated).
- P10 Plain body sherd of creamy-buff ware with very fine rock tempering. Pit 21 (not illustrated).
- P11 Rim and seven body sherds of reddish/brown well-fired sandy ware tempered with medium rock fragments. The rim sherd has two broken lines of horizontal incision. Pit 24 (illus 15, 6).
- P12 Four body sherds from a large thick-walled vessel of red/brown ware tempered with medium rock fragments. Two of the sherds bear random (?) grass impressions on the outer surface. Pit 28 (not illustrated).
- P13 Twenty rim, body and basal sherds of small undecorated jar of red/brown ware tempered with rock fragment. Pit 35 (not illustrated).
- P14 Plain body sherd of thick walled poorly fired red/brown ware tempered with rock fragments. Pit 38 (not illustrated).

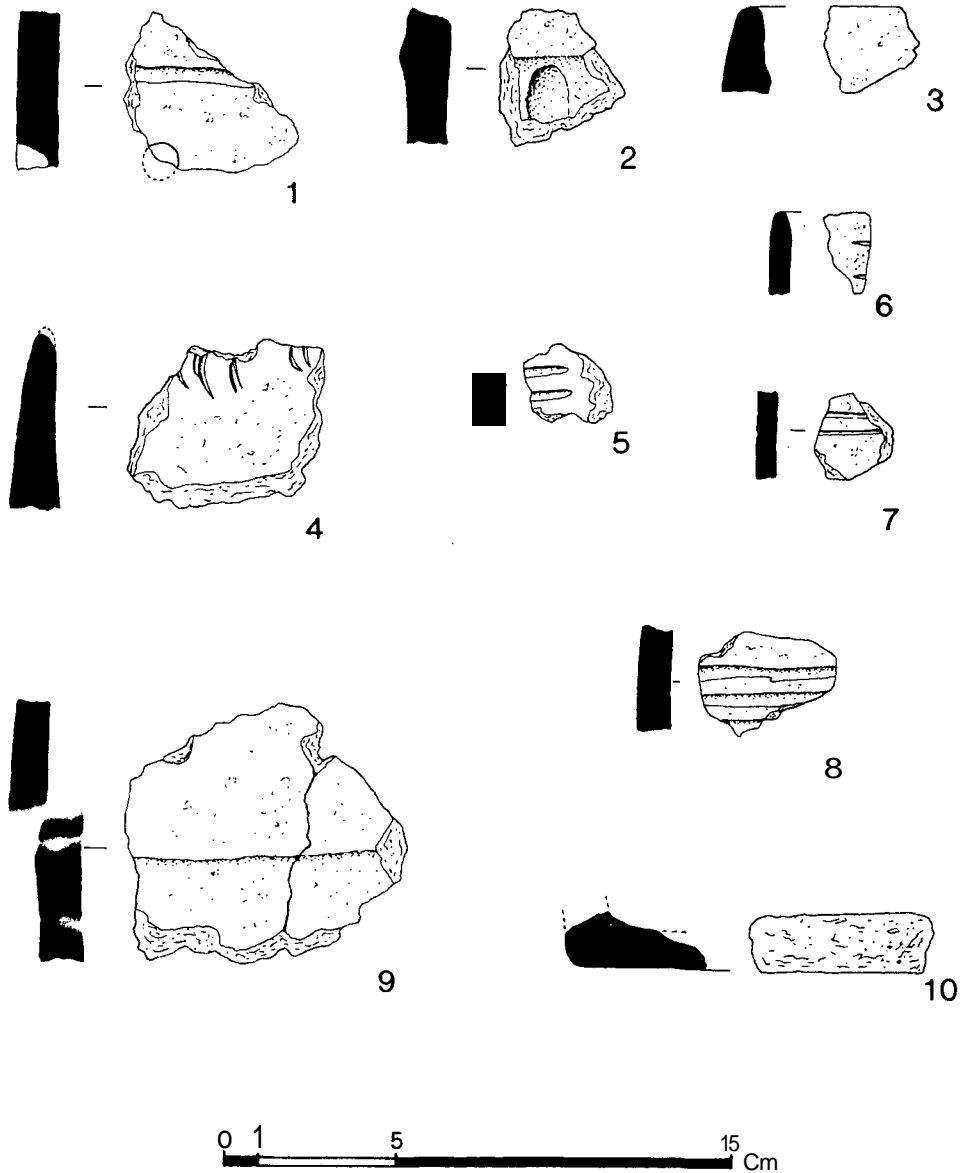
- P15 Body sherd of brown poorly fired ware tempered with finely crushed rock fragments. The outer surface is decorated with two horizontal grooves. Pit 39 (illus 15, 7).
- P16 Body sherd of black ware very finely tempered with crushed rock fragments. Decorated on outer surface with three curvilinear grooves. Pit 41 (illus 14, 11).
- P17 Plain rim sherd of buff ware tempered with rock fragments. Pit 41 (illus 14, 13).
- P18 Rim sherd of red/brown ware from a large vessel tempered with rock fragments. Decorated on the outer surface with three horizontal grooves and a single circular pit. Pit 41 (illus 14, 1).
- P19 Three body sherds from a large vessel of buff/black ware tempered with large rock fragments. One of the sherds bears a slight carination. Pit 41 (illus 15, 9).
- P20 Body sherd of brown ware finely tempered with rock fragments. Outer surface bears two interrupted grooves. Pit 41 (illus 15, 5).
- P21 Body sherd of grey buff ware finely tempered with rock fragments. Decorated on the outer surface with three horizontal grooves. Pit 41 (illus 15, 8).
- P22 Three basal sherds of buff ware tempered with large rock fragments. Pit 41 (illus 15, 10).
- P23 Numerous, mostly very small, fragments of the rim and body of a vessel of poorly fired red/brown ware coarsely tempered with rock fragments. Decorated on the outer surface with horizontal grooves, a row of false relief ornament and a single circular pit. Pit 42 (illus 13, 4).
- P24 Plain body sherd of plain, poorly fired ware tempered with medium rock fragments. Pit 43 (not illustrated).
- P25 Small body sherd of red/brown ware tempered with finely crushed rock fragments and grog. Part of a (?) lug on the outer surface. Pit 45 (not illustrated).
- P26 Rim sherd of buff ware tempered with medium rock fragments. Irregular horizontal groove on the outer surface. Pit 49 (illus 14, 10).
- P27 Rim sherd of coarse brown ware tempered with medium rock fragments. Curvilinear groove on outer surface and a deep incision on the rim interior. Pit 49 (illus 14, 2).
- P28 Rim sherd of red/brown ware tempered with medium rock fragments. Broad horizontal groove on the outer surface. Pit 49 (illus 14, 3).
- P29 Body sherd of buff ware tempered with medium rock fragments. Incised chevron and deep circular impressions on outer surface. Pit 49 (illus 14, 4).
- P30 Body sherd of red/brown ware from a large vessel tempered with medium rock fragments. Horizontal and diagonal grooving on the outer surface. Pit 49 (illus 13, 2).
- P31 Rim sherd of buff ware coarsely tempered with medium rock fragments. Outer surface decorated with three horizontal grooves and a row of irregular, oval impressions. Pit 49 (illus 13, 3).
- P32 Body sherd of red/brown ware tempered with medium rock fragments. The outer surface bears a horizontal groove and a circular impression. Pit 49 (illus 14, 1).
- P33 Nine rim and body sherds of brown ware tempered with medium rock fragments. Outer surface has two horizontal grooves and a row of circular impressions. Pit 49 (illus 17, 1).
- P34 Body sherd of buff ware finely tempered with medium rock fragments. Decorated with one horizontal and one oblique groove on outer surface. Pit 49 (not illustrated).
- P35 Body sherd of red/brown ware tempered with large rock fragments. Single groove on the outer surface. Pit 49 (not illustrated).
- P36 Rim sherd of red/brown ware coarsely tempered with rock fragments. Decorated on the outer surface with three horizontal grooves and a circular impression. Vertical incision on the rim interior. Pit 50 (illus 17, 2).
- P37 Rim sherd of red/brown ware with finely crushed rock inclusions. Undecorated. Pit 50 (illus 15, 3).
- P38 Body sherd of red/brown ware tempered with medium rock fragments. Horizontal and diagonal grooving on the outer surface. Pit 50 (illus 13, 5).
- P39 Three rim and body sherds of red/buff ware coarsely tempered with rock fragments. Outer surface has two horizontal grooves above a multiple conjoined lozenge pattern. Two horizontal grooves on the rim interior and a single perforation in the wall. Pit 50 (not illustrated).



ILLUS 13 Grooved Ware



ILLUS 14 Grooved Ware

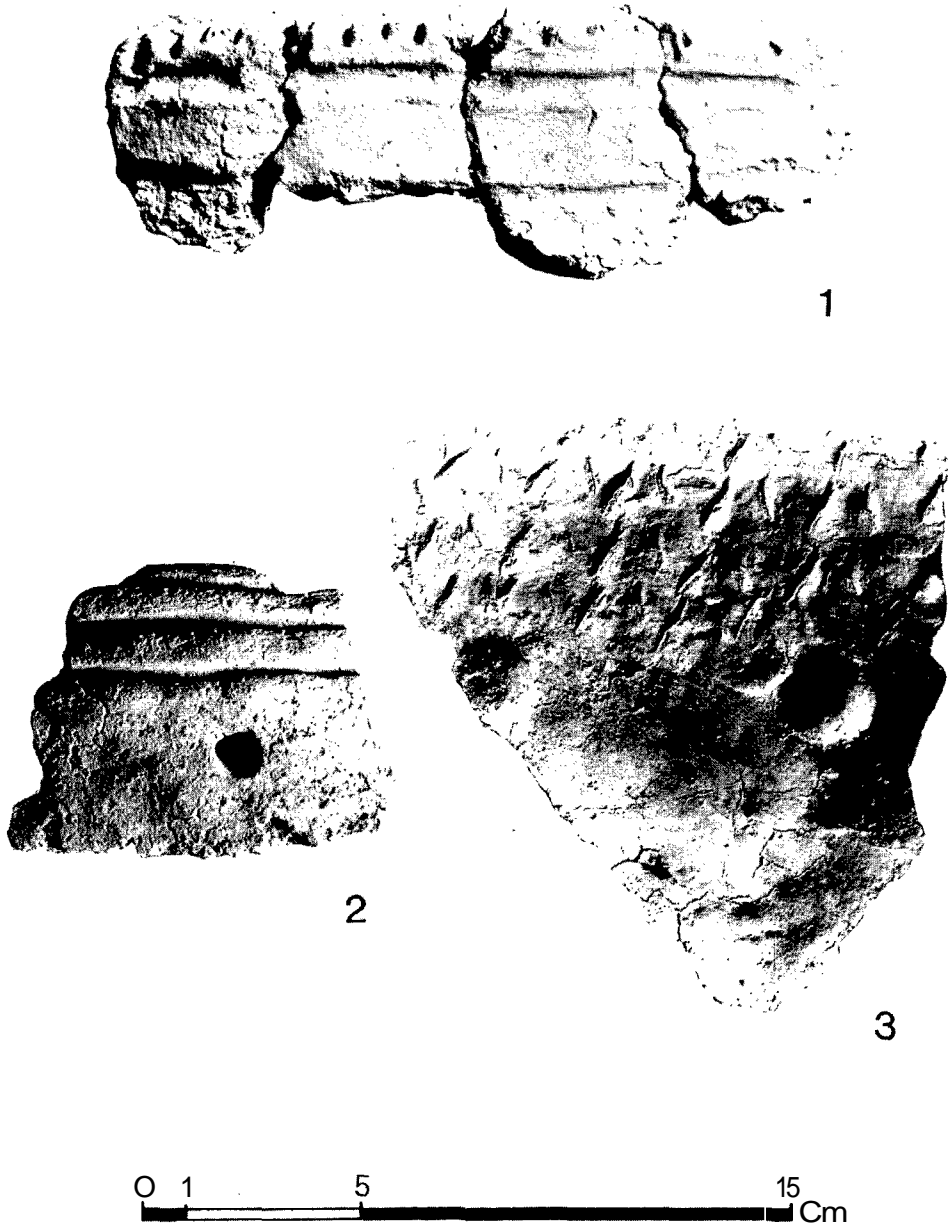


ILLUS 15 Grooved Ware

- P40 Rim sherd of red/brown ware with scalloped top tempered with small rock fragments. Lacks inner surface. Single circular impression on the exterior. Pit 50 (illus 14, 9).
- P41 Rim sherd of red/brown ware with scalloped top tempered with medium rock fragments. Decorated on the outer surface with oblique incisions and a single circular impression. Pit 50 (illus 14, 7).
- P42 Four rim sherds of buff ware tempered with medium rock fragments. Decorated on the outer surface with a row of circular impressions and two horizontal grooves. Two horizontal grooves on the interior. Pit 50 (illus 15, 1; illus 17, 2).



ILLUS 16 Body sherds from Pit 50 with fibre impressions



ILLUS 17 1 & 2: rim sherds, Pit 50; 3: rim sherd Pit 20

- P43 Thirteen body sherds of red/brown ware from a large vessel tempered with large rock fragments. Outer surface bears random impressions of (?) vegetable fibre. Pit 50 (illus 16).
- P44 Body sherd of red/brown ware tempered with large rock fragments. Single perforation in the wall and slight impressions of vegetable fibre. Possibly part of vessel. P41. Pit 50 (illus 16).
- P45 Body sherd of red/brown ware tempered with medium rock fragments. Outer surface decorated with vertical and (?) horizontal groove; single circular depression. Pit 50 (illus 14, 6).

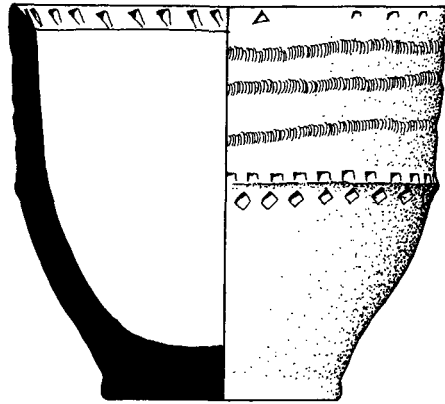
- P46 Body sherd of buff ware tempered with medium rock fragments. Single deep impression. Pit 50 (illus 14, 5).
- P47 Rim sherd of buff ware tempered with medium rock fragments. Two horizontal grooves on outer surface. Pit 50 (illus 14, 14).
- P48 Single body sherd of poorly fired brown ware tempered with medium rock fragments. Pit 50 (not illustrated).
- P49 Plain body sherd from large vessel of hard, well fired buff ware finely tempered with rock and quartz fragments. Post-hole of central rectangular structure (not illustrated).
- P50 Fourteen small plain body sherds and (?) single basal sherd of dark brown ware finely tempered with rock fragments. Post-hole of central rectangular structure (not illustrated).
- P51 Body sherd from immediately below the rim of a large vessel of dark brown ware coarsely tempered with rock fragments. The outer surface bears traces of finger nail rustication. Post-hole of central rectangular structure (not illustrated).
- P52 Six small plain body sherds of brown, poorly fired ware tempered with medium rock fragments and quartz. Post-hole of central rectangular structure (not illustrated).
- P53 Food Vessel of pale buff ware tempered with medium rock fragments. Decorated on the outer surface with horizontal lines of whipped cord impressions and below the carination with similar diagonal lines of whipped cord. Triangular impressions on the internal rim bevel. A portion of the rim was missing and the vessel appears to have been damaged in antiquity. Cist II (illus 18).
- P54 Cordoned urn of buff/black ware tempered with medium rock fragments and having four horizontal cordons. The outer surface had been brushed with grass or straw before firing. Pit 30 (illus 18).

The vessel is fairly typical of the series. Undecorated examples are quite common (eg Morrison 1968, 89) although generally with two cordons (Morrison *op cit*, nos 29, 66, 74). Inside the urn and mixed with the cremated human remains was a bone toggle of elongated lozenge form with two perforations (illus 18). A very similar toggle with four perforations was found with a cremation beneath an inverted collared urn at Kinneil Mill, Stirlingshire (Marriot 1968, 94 and 93, fig 4.1) and a rectangular example with two perforations was found inside another cordoned urn at Balnabraid, Kintyre, Argyll (Ritchie 1967, fig 5, 7). The closest parallel however was found with a cremation inside a Food Vessel Urn from Woodhead of Gavrock, Dunning, Perthshire (Cowie 1978, 132-2 & 164, fig 27), although almost twice the size of the Raigmore example. In Ireland a similar toggle in terms of size and having two perforations was associated with a cremation in a Cordoned Urn at Killyneil, County Tyrone (Waddell 1990, fig 6, i). All these toggles appear to have been burnt on the pyre and were presumably worn by the dead.

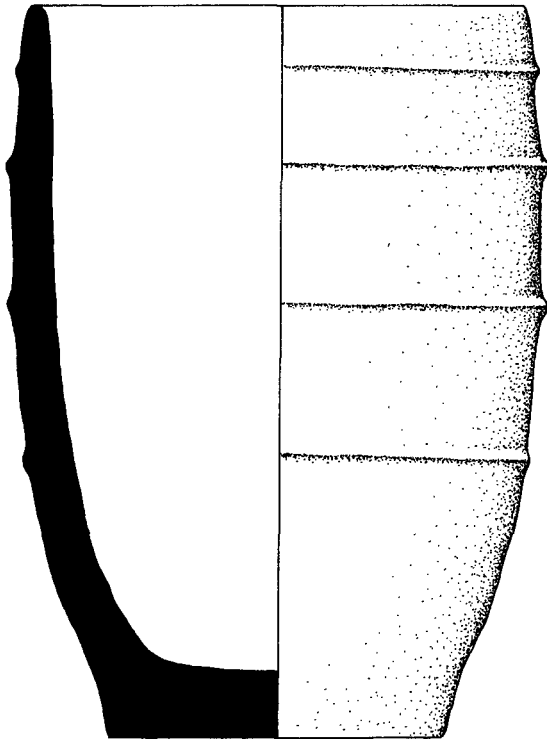
- P55 Rim sherd of black/brown ware finely tempered with small rock fragments. Outer surface has four horizontal and one oblique grooves, diagonal incision and a row of stab marks. From buried soil in the north-west quadrant (illus 14, 8).
- P56 Plain body sherd of buff ware tempered with medium rock fragments. From buried soil, north-west quadrant (not illustrated).
- P57 Body sherd of buff ware tempered with large rock fragments. Carination and (?) finger impression on the outer surface. From buried soil in the south west quadrant (illus 15, 2).
- P58 Plain body sherd of well fired sandy ware very finely tempered with rock fragments. On top of the cairn in the south-west quadrant. Iron Age (not illustrated).
- P59 Body sherd of grey Romano-British coarse ware. From top of cairn in south west quadrant (not illustrated).

FLINT

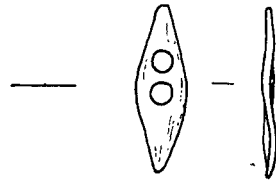
In addition to a number of small fragments, 12 struck flints were recovered from pits and a further 12 from the cairn and buried soil, none of which showed traces of retouch. Ten flints were identifiable as artefacts. The only diagnostic forms are *petit tranchet* derivative arrowheads of Clark's (1934) forms C and D from Pits 49 and 50 and the serrated blade from Pit 44, all with Grooved Ware



1



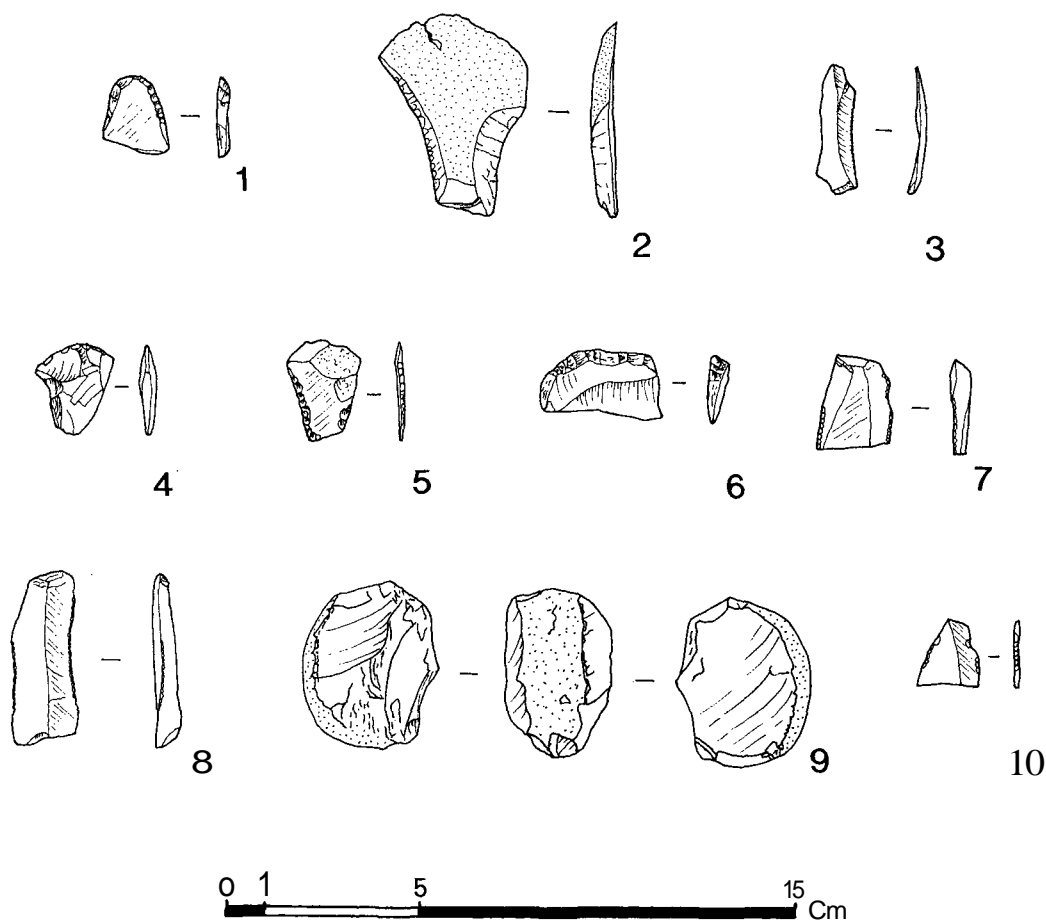
2



3



ILLUS 18 Food Vessel: Cordoned Urn and bone toggle



ILLUS 19 Flints

pottery. Similar ceramic associations with these types are common on other sites (Wainwright & Longworth 1971, 254). Apart from pebbles obtainable from the gravel terrace the nearest source of flint is at Ardesier (NGR: NH 770 532) where a deposit of grey tabular material is visible in a weathered coastal section. This source is not mentioned by Wickham-Jones & Collins (1978).

Flint catalogue

- F 1 Serrated flake of grey-brown flint finely retouched on one edge. From cairn material in the north-east quadrant (illus 19, 3).
- F 2 Tranchet arrowhead of grey-brown flint of Clark's Class C (1934, 36) with side retouch extending over face and damaged cutting edge formed by the intersection of several flake scars. Pit 50 (illus 19, 5).
- F 3 Side scraper of grey-brown flint with steep and coarse retouching on one edge. Pit 49 (illus 19, 6).
- F 4 Flake of grey flint with pebble cortex on one face. Partly retouched on both edges. From buried soil in the north-west quadrant (illus 19, 2).
- F 5 Serrated blade of grey-brown flint carefully retouched on both edges. Pit 44 (illus 19, 8).

- F 6 Broken serrated flake of grey flint retouched on both edges. Pit 19 (illus 19, 7).
 F 7 Tranchet arrowhead of pale brown flint of Clark's Class D (1934, 44), with side retouch on one face and cutting edge formed by intersection of numerous small flake scars. Pit 49 (illus 19, 4).
 F 8 Flake of grey-black flint partially retouched on both edges. Pit 41 (illus 19, 10).
 F 9 Flake of grey flint with edge retouch. From cairn material in the south-west quadrant (illus 19, 1).
 F10 Flint pebble core with shallow flakes detached from both surfaces. Pit 41 (illus 19, 9).

THE BRONZE BROOCH (ILLUS 20)

Don F Mackreth

Description

The brooch was recovered from the topsoil (unstratified) and is probably a lost or hidden object, rather than a late votive deposit. The pin, now broken, is hinged and its axis bar is housed in a cylinder behind the head of the brooch. Each wing has a recessed panel containing two lozenges in relief set in a field of red enamel, now largely decayed. There is a moulding with cross-cuts running down the junction of each wing with the bow, and there is also a trace of another moulding at the end. On the head of the bow is a circular stud with, in its top, a sunken ring filled with red enamel. Above the stud is a crest, curved in profile, with a relieved ridge. Below the wings, which splay back from it, the bow tapers to a moulded foot. The front face of the bow below the stud is relieved by a step down each side and the main panel is filled with a series of cells in lozenge form down the middle, containing traces of a dark blue enamel, infilled down each side with triangular cells containing traces of red enamel. The foot-knob is rounded with a once enamelled circular groove beneath, and with a smaller moulding above separated from two more by a deep flute. The lower of the upper mouldings has a series of cross-cuts. The catch-plate is damaged and the bow distorted.

Date

As for date, on stylistic grounds, it is perhaps not too rash to suggest that the Raigmore brooch probably dates after c AD 75. The terminal date is much more difficult. The type is to be found in the second century, but it is not really possible to know when it went out of manufacture, let alone out of use. At a conservative estimate it would seem that those in use by AD 150 were few.

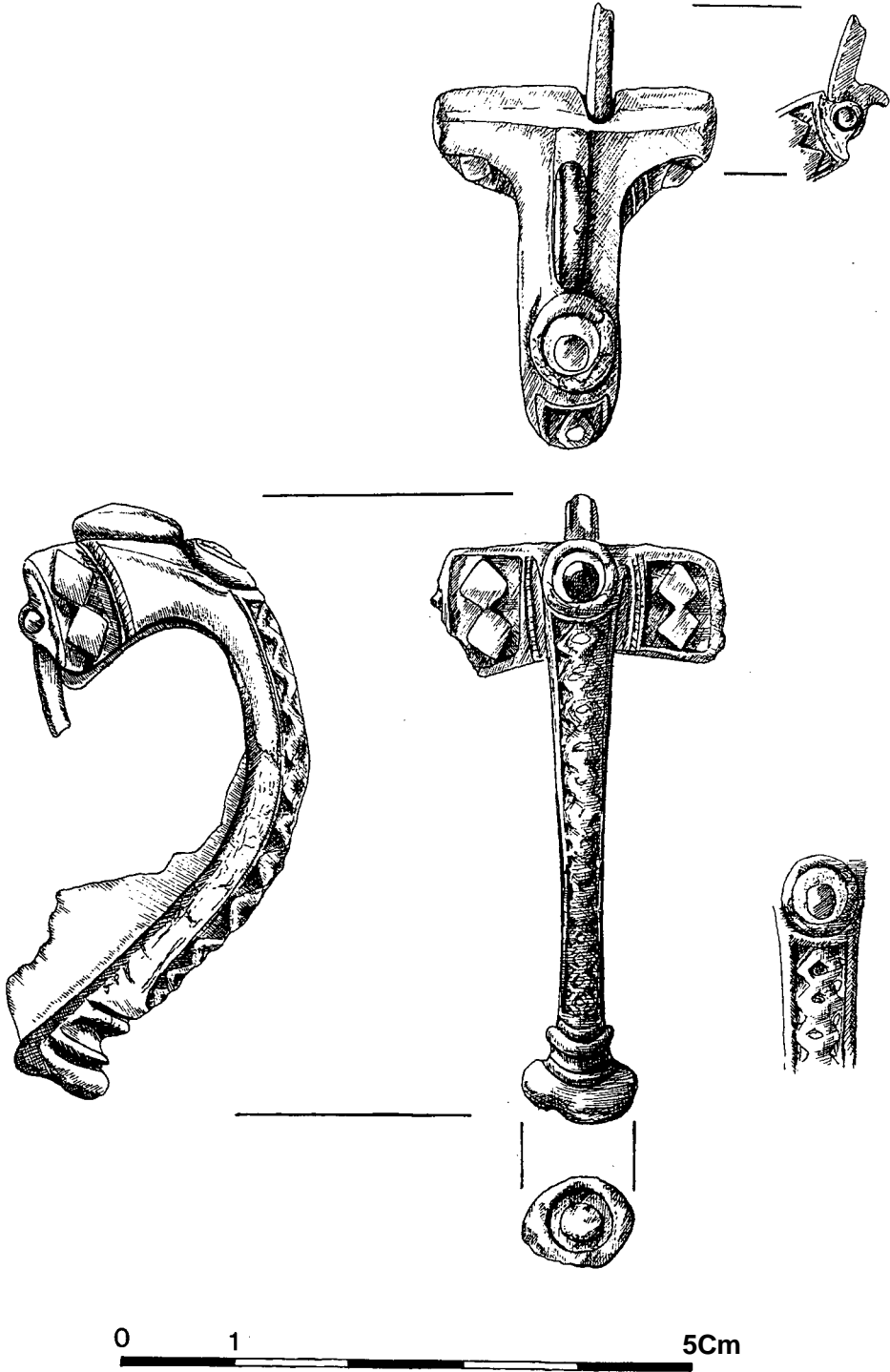
A comprehensive discussion of the brooch and its parallels is included in the archive of the project records at the National Monuments Record of Scotland (RCAHMS), Edinburgh.

SKELETAL REMAINS

REPORT ON SKELETON 1

Laureen Buckley

This was an incomplete skeleton in a very a poor state of preservation. The outer surface of the bones was so very eroded that in some cases only a fragile shell of the original bone remained. There were very few joint ends remaining and few definite morphological features which would enable sex to be determined.



ILLUS 20 Bronze brooch

Skeletal parts

Very little remained of the skull. There was one large section of frontal bone, extending from just above the frontal sinuses to the coronal suture. The outer layer of compact bone was completely worn away. A small fragment of the left temporal bone was present showing the mandibular fossa. A larger portion of the right temporal bone was present with most of the mastoid process present but it was partly decayed. Only the basilar portion, with bone occipital condyles present, remained from the occipital bone. The body of the mandible and two fragments of maxilla were present. Nothing remained from the vertebral column, apart from two fragments of the atlas and the odontoid process of the axis. The upper torso consisted only of a small fragment of scapula and the left and right humeri. The left humerus consisted of the shaft only. The shaft and part of the distal end of the right humerus was present as well as the head and neck. However all of the surface bone of the articular surfaces was eroded. A small fragment of the right acetabulum remained from the pelvis. A slight larger fragment around the left acetabulum, with part of the sciatic notch was also present. Only a few small fragments remained from the sacrum. Both femurs were present. The left one was almost complete, although some of the shaft was missing. The proximal end was missing from the right femur. The surface of the femur shafts were very decayed. The proximal two-thirds of both tibiae were present, although the proximal joint surfaces were incomplete and the outer surfaces of the bones were very decayed. The right talus was the only foot bone to survive.

SUMMARY

The amount of surface decay and incompleteness of the skeleton made it difficult to determine sex. The bones had a slender appearance usually associated with a female individual but this was probably a result of the severe erosion which had removed most of the outer layer of bone so that the true thickness of the bones and the strength of muscle attachment could not be determined. Part of the left ilium was present and the sciatic notch appeared to be narrow which usually is indicative of a male. The only other feature which may indicate sex is the mastoid process of the skull, but it could not be used in this case as it was partly eroded. The decay of the bones means that no evidence of periostitis, if it had been present, was remaining. The number of joint ends available for inspection was limited but there was no sign of arthritis on any joint or part of joint remaining.

A complete inventory of the skeletal parts is included in the archive of the project records at the National Monuments Record for Scotland (RCAHMS), Edinburgh.

SKELETON 1: REPORT ON DENTITIONS

Dorothy A Lunt

The specimen consists of the body of a mandible, part of the left condyle of the mandible, and two fragments of the alveolar process of the maxilla. The bone is poorly preserved and shows very severe post mortem erosion, especially on the facial surfaces. There are six erupted permanent teeth still *in situ* in the mandible, and seven in the maxilla fragments. Parts of two more teeth are present. The teeth have been affected by the same process of post mortem erosion that has destroyed the bone. The dentine of their roots and crowns has been attacked, and some of the enamel of the crowns has flaked away from the shrunken dentine beneath.

All the teeth present except the maxillary right third molar show quite severe attrition and this suggests an age in the range 35–45. There are no obvious cavities due to dental caries, but the teeth are so badly eroded that it is impossible to tell whether small early lesions were present. Similarly, the degree of bone erosion precludes any assessment of the periodontal bone condition. No tooth is present in the position of the mandibular right third molar. The maxillary right third molar is present, and a tiny area of its socket shows that it had erupted, but the tooth shows no trace of wear. This suggests that it had never had an antagonist, ie the mandibular right third molar was congenitally absent. The left third molars are both present and normally erupted.

CREMATED HUMAN REMAINS

J Leonard Wilkinson

The assemblage of cremated human bone represents large or medium-sized deposits in four contexts and very small deposits from numerous other contexts. The larger deposits derived from Pit 30 (which contained a Cordoned Urn), Pit 50, Pit 25 and a single deposit within the old ground surface layer in the southwest quadrant. The remaining, smaller deposits, were recovered from a variety of contexts, including pits, cists and parts of the old ground surface throughout the kerbed area.

A few fragments of burnt bone were also recovered from three of the post-holes of the central structure, as well as from the associated hearth. These may be significant for the interpretation of the structure as, alternatively, a ritual or domestic building. However, as the quantities are small, the possibility that these are later, intrusive inclusions must also be considered.

A comprehensive report on the identification and analyses of the cremated bone has been included in the archive of the project records at the National Monuments Record of Scotland (RCAHMS), Edinburgh. The main points are summarized in Table 1 (opposite).

ANIMAL BONES

Mary Harman

Unburnt bone

In addition to the complete skeleton of a modern sheep buried in Pit 12 there were three ancient bone groups. In the south baulk from the buried soil beneath the stone platform came part of a humerus shaft, probably ox. On the north side of the cairn and incorporated in it was an ox astragalus and another unidentifiable fragment. Finally in Pit 26 were the vertebra, radius and metacarpel of a sheep or goat. These last are probably medieval in date.

Calcined bone

There were pieces of well calcined bone in a number of deposits; in most cases they were small and unidentifiable fragments, some with weathered surfaces. (Such material came from Pits 4, 18, 21, 28, 33, 37, 37, 39, 40, 41, 42, 45 and 46). Pit 20 did contain recognisable long bone shaft fragments from indeterminate species. Pit 44 produced a very small group of fragments which included part of a sheep or goat calcaneus and in Pit 49, in a similarly small deposit, was part of the scapula blade and humerus shaft of a sheep or goat. Further calcined fragments, including shaft fragments of indeterminate species, came from the central hearth associated with the rectangular post structure and three post-holes of the structure produced similar material.

SOIL SAMPLES

John C C Romans

The buried soil on the site was a forest brown soil - comparable with similar soils of Neolithic data as seen at Fochabers and Edzell. In 1972 undisturbed samples were collected for thin sectioning and soil analysis from under the edge of Stone 14 of the kerb. These thin sections produced very little evidence other than one piece of identifiable oak charcoal together with minor amounts of bone from unidentifiable species. Total phosphate values per 100g of soil were as follows:

0-7.5 cm	229 mg
7.15 cm	214 mg
15.22 cm	196 mg

TABLE 1
Cremated human remains

Context	Weight	Skeletal Parts represented	Probable Age/Sex
<i>Cists</i>			
Cist IV	6 g	skull, long bones	adult?
Cist 111	4 g	long bones	adult
<i>Pits</i>			
Pit 20	4 g	long bones	—
Pit 20	2 g	long bones	child, < 4 yrs?
Pit 20	34 g	long bones	child, 10-12 yrs also adult bones
Pit 21	1 g	long bone	—
Pit 21	2 g	long bones	adult?
Pit 25	1488 g*	skull, mandible, teeth, vertebrae, ribs, upper & lower limbs, hands & feet	adult female and also adolescent (c 12 yrs)
Pit 30	112 g	skull, teeth, vertebrae, ribs, upper & lower limbs	child, 2-3 yrs.
Pit 33	2 g	long bones	adult, male
Pit 39	2g	long bones	
Pit 39	4 g	long bones	adult?
Pit 39	10 g	skull, long bones	adult?
Pit 40	1 g	skull?	
Pit 41	2g	long bone, mandible	—
Pit 42	1 g	long bones	—
Pit 44	18 g	skull, long bones, vertebra	adult male?
Pit 45	4 g	long bones	adult
Pit 45	0.5 g	skull	child, 3-5 yrs?
Pit 49	42 g	skull, long bones	adult, male?
Pit 50	662 g	skull, teeth, vertebrae, ribs, upper & lower limbs, hands	adult male, < 40 yrs.
<i>Cairn material</i>			
SW quad	2 g	long bones	—
SW quad	1 g	cortical frags.	child?
Centre	1 g	long bone	—
Centre	2 g	long bone	—
<i>Central timber structure & hearth</i>			
Post-hole	2 g	long bone cortex	—
Post-hole	2 g	frags.	—
Post-hole	0.5 g	long bone	—
Hearth	4 g	long bones	—
<i>Old ground surface layer</i>			
OGS	150 g	skull, mandible, upper & lower limbs	adult male
OGS	1 g	skull	adult?
OGS	5 g	skull, long bones	—
OGS	10g	skull, long bones	-adult?
OGS	8 g	long bones, rib	adult
OGS	10g	skull, long bones	—
OGS	1 g	frags.	—
OGS	2 g	frags.	—
OGS	6 g	skull, long bones	adult?
OGS	6 g	long bone	adult, male?
OGS	1 g	long bone	—
OGS	2 g	long bone	—
<i>Baulks</i>			
S baulk	4 g	long bones	adult?
S baulk	6 g	long bones	adult
Intersect.	52 g*	skull, long bones	adult, male

*Total bone weight from these contexts includes some small stones and earth

TABLE 2
Chemical analysis of soil samples from beneath stone 12

Depth	Water	CaC ₂	% C	% N	C/Nratio	Total P ₂ O ₅ mg per 100 of soil
A horizon 2-6 cm	4.0	3.7	1.57	0.23	6.8	315
B horizon 13-16 cm	4.5	4.2	0.51	0.06	8.5	212
B/C horizon 2-36 cm	4.9	4.6	0.25	0.05	5.0	84

In 1973 undisturbed samples were collected from beneath Stone 12 and from the 'dark occupation soil' (excavator's description) beneath Stone 14. Chemical analysis of the soil samples from beneath Stone 12 are shown in Table 2. Microscopic examination of the thin sections from beneath Stone 12 showed that pieces of charcoal were very scarce and very small, no species being identified. There were some indications that a leaching sequence - which could have been initiated after the destruction of deciduous forest - had subsequently been disturbed by worm action. No orientated clay was observed in the sections. Samples from the central 'house structure' confirmed the probable presence of a leaching sequence which had been established before infilling of the post-holes. Occasional pieces of charcoal were present in the infill material; these may have been of Scots Pine and had an annual ring width of c 3 mm.

This pattern would be consistent with initial clearance of the site followed possibly by cultivation; whether cyclic or continuous, this went on long enough to prevent the accumulation of orientated clay in the pores of the upper layer of the soil profile until conditions at the surface became sufficiently acid to ensure the destruction of such material (it is possible that open grassland would produce a similar result). The levels of phosphate are likely to be the results of Neolithic settlement on the site which might well have raised soil fertility to a level consistent with the re-introduction of casting species of earthworms.

CHARCOAL

Graham Morgan

Charcoal fragments derived from three types of context: the buried soil layer, the post-holes of the central structure, and various other pits.

Oak (*Quercus*) and hazel (*Corylus*) were present throughout, and were the only species associated with the post-built structure. Poplar (*Populus*) and Ash (*Fraxinus*) also occurred in single instances in the buried

TABLE 3
Radiocarbon dates

Lab No	Feature	Years BP	Calibrated date
SRR-187	Pit 6	4732 ± 90	(CAL BC 3637-3373)
SRR-188	Pit 9	4983 ± 130	(CAL BC 3970-3650)
SRR-420	Pit 26	553 ± 150	(CAL AD 1280-1460)
SRR-421	Pit 4	5270 ± 650	(CAL BC 4833-3370)
SRR-422	Pit 24	2710 ± 70	(CAL BC 921-809)
SRR-423	Pit 28	2940 ± 80	(CAL BC 1300-1020)
SRR-424	Pit 18	5000 ± 100	(CAL BC 3960-3700)
SRR-425	Pit 49	4100 ± 70	(CAL BC 2873-2509)
SRR-426	Pit 41	4890 ± 60	(CAL BC 3777-3638)
SRR-427	Pit 45	3270 ± 100	(CAL BC 1680-1440)
SRR-428	Pit 19	3890 ± 50	(CAL BC 2466-2311)
SRR-429	Pit 21	3890 ± 60	(CAL BC 2468-2298)
SRR-430	Cist I	3720 ± 100	(CAL BC 2290-1979)
SRR-431	Cist III	6920 ± 150	(CAL BC 5970-5640)
SRR-432	Cairn	4650 ± 120	(CAL BC 3619-3147)
SRR-433	Pit 37	4100 ± 45	(CAL BC 2866-2585)

soil, and may have been intrusive. Of the pits, Whitebeam (*Sorbus*) occurred in Pits 20, 26, 33 and 36; Poplar was recovered from fills of Pits 28, 32, 35 and 41; Pine (*pinus*) was identified in Pits 26, 36 and 41.

RADIOCARBON DATES

Nineteen samples of wood charcoal were submitted to the Scottish Universities Research and Reactor Centre, East Kilbride, Glasgow (SRR) through Dr D D Harkness. Three of the samples were too small for determination and a number of others were close to the size limit, in 1973, as reflected in their large standard deviations, notably SRR-421. The dates were calibrated to one sigma after Pearson *et al* (1986).

DISCUSSION

There are two major problems of interpretation arising out of the excavations at Raigmore. Firstly is that of sequence and chronology, in particular that of the radiocarbon dates. The latter indicate a period of pit digging on the site with dates in the first half of the fourth millennium BC. This could be considered acceptable for Pit 9, with the stone bearing a cup mark. A similar stone was found beneath the Dalladies long barrow (Piggott 1972) and this motif has a long history in Britain and Ireland (Simpson & Thawley 1973, 81-2). Pit 41, with unquestionable Grooved Ware, has a similar radiocarbon date, as have two further pits with undecorated body sherds of similar fabric to the Grooved Ware but which cannot with any certainty be ascribed to that pottery tradition. If local clays and inclusions were used, for pottery of all periods, as would appear likely, then there can be little chronological significance in such comparisons. But the range of radiocarbon dates does form a consistent group. The published dates for Grooved Ware suggest that the Scottish examples, and in particular those from Orkney are earlier than from southern Britain (Renfrew 1979, 206-7). Even so, the date from Pit 41 is several centuries earlier than the earliest of the Orcadian determinations.

The radiocarbon dates from Phase II again form a consistent group, but here the dates for the pits containing Grooved Ware are closely comparable with those from other sites producing this pottery. The last major phase involving the construction of cists, pit graves for inhumation burials and the pit containing a Cordoned Urn is represented by only two radiocarbon dates; these derived from samples in Cist I with a Food Vessel (SRR-430 CAL BC 2290-1979) and the empty Cist III (SRR-431 CAL BC 5970-5640). The latter date is clearly archaeologically unacceptable and probably represents old wood or sample contamination.

Precise parallels for the monument at Raigmore are difficult to find and in trying to fit the site into its archaeological context one must inevitably be open to the accusation of trait searching. On the basis of its surface features, Henshall (1963, 385) included the site within her Clava series and there are certainly architectural links with the cairn group. In distributional terms the site lies at the centre of the area of these monuments and the most obvious point of similarity is in the grading of the stones with the tallest on the south-west sector. The occurrence of cup marks in nine Clava sites and scattered cremations are other shared features. Instead of the kerb enclosing a ring cairn, however, the situation is reversed with a low cairn or platform occupying the central area. The absence of a free-standing stone circle cannot be considered definitive as such may have existed without stone holes. The outstanding problem of the Clava group is dating and, if related to them, the radiocarbon dates from Raigmore shed little light or indeed cast a further shadow on this problem. The only finds from the Clava cairns, a portion of a bone pin, possibly a skewer pin, from Corrimony (Piggott 1956), and flat rim ware (now lost) from Balnuaran (Barclay 1990) are of little chronological

value - the simple flat rim ware tradition having a life extending from the third to first millennium BC (Piggott & Simpson 1971). There appears to be general agreement as to the close links between the passage graves and ring cairns of the Clava series. The relationship in chronological and developmental terms is however more contentious. Burl (1972) for example, would derive ring cairns from passage graves. Henshall (1963), on the other hand, has suggested a possible reversal of this relationship.

There can be little doubt too of some link between the Clava monuments and the recumbent stone circles of Aberdeenshire, and the eight-stone and four-stone circles of Perthshire (Burl 1972); the latter at least belong to the first half of the second millennium BC on the basis of their associations. Ritchie & MacLaren (1972) has suggested that the four-posters of Perthshire may be seen as a contemporary and parallel development to the kerbed cairns. Those examples so far published or excavated are quite small, about 5-8 m in diameter and marked by a kerb which is disproportionately large in relation to the cairn area. The stones again tend to be graded in height, notably in the small kerb cairn at Balnuaran of Clava itself. Further examples occur both in north-east Scotland and at the other end of the Great Glen in Argyll. If the stone structure at Raigmore can be linked with any one category of site it is surely with these kerbed cairns, in spite of the great discrepancy in size. None of the kerb cairns is dated precisely and there is no good reason for making them late - the last gasp of the Clava tradition like the four-posters of Perthshire. Nor indeed is there a deal of evidence for making them early, unless one accepts the link between Raigmore and kerbed cairns. The recently excavated kerbed cairn at Beech Hill House, Coupar Angus, provides an interesting parallel with Grooved Ware beginnings and later cists with Food Vessels (Stevenson 1995). More distantly, the stone circle and cairn at Balbirnie, Fife (Ritchie 1974) shares with Raigmore an early phase associated with Grooved Ware, scatters of burnt bone in the cairn matrix and later Bronze Age deposits.

The Clava ring cairns form a small, close-knit and relatively isolated group of monuments in north-east Scotland. Over much of Scotland and Ireland and the north of England there are ceremonial and funerary structures which share some of the characteristics of this small group of sites. In the past their appearance has been seen as something distinctive and innovative marking an incursion of new peoples migrating up the Great Glen and ultimately deriving their traditions from the Atlantic and Irish Sea provinces and beyond. Current thinking would consider their construction as a response to local social and spiritual needs in the same way as the building of the Scillonian entrance graves at the other geographical extreme of the British Isles fulfilled a similar local requirement without indications of direct contact or a closely shared architectural tradition.

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REFERENCES

- Anderson, G 1831 'On some of the stone circles and cairns in the neighbourhood of Inverness', *Archaeol Scot*, 3 (1831), 3, 211-22.
- Barclay, G 1990 'The clearing and partial excavation of the cairns at Balnuaran of Clava, Inverness-shire, by Miss Kathleen Kennedy, 1930-31', *Proc Soc Antiq Scot*, 120, (1990), 17-32.
- Barclay, G & Russell-White, C 1993 'Excavations in the ceremonial complex of fourth to second millennium BC at Balfarg/Balbirmie, Glenroths, Fife', *Proc Soc Antiq Scot*, 123 (1993), 43-210.
- Barrowman, C S 1994 *Stylistic analysis of the Grooved Ware from Scotland in relation to its context*. Unpub diss, Dep Archaeol, Univ Glasgow.
- Burl, A 1972 'Stone circles and ring-cairns', *Scott Arch Forum*, 4 (1972), 31-47.
- Burl, H A W 1973 'The Recumbent Stone Circles of north-east Scotland' *Proc Soc Antiq Scot*, 102 (1969-70), 56-81.
- Burl, H A W 1988 *Four Posters. Bronze Age Stone Circles in Western Europe*. (=BAR Brit Ser, 195).
- Clark, J G D 1934 'Derivative forms of the *petit tranchet* in Britain', *Arch J*, 101 (1934), 32-58.
- Cormack, W F 1963 'Prehistoric site at Beckton, Lockerbie'. *Trans Dumfriesshire & Galloway Natur Hist Antiq Soc*, 41 (1963), 111-15.
- Cowie, T G 1978 *Bronze Age Food Vessel Urns*. Oxford. (=BAR Brit Ser, 55.)
- Fraser, J 1883 'Descriptive notes on the Stone Circles of Strathnairn and neighbourhood of Inverness, with Plans, etc', *Proc Soc Antiq Scot*, 18 (1883-4), 328-62.
- Haggarty, A 1991 'Machrie Moor, Arran: recent excavations at two stone circles', *Proc Soc Antiq Scot*, 121 (1991), 51-94.
- Henshall, A S 1963 *The Chambered Tombs of Scotland I*, Edinburgh.
- Longworth, I H 1967 'Further discoveries at Brackmont Mill, Brackmont Farm and Tentsmuir, Fife', *Proc Soc Antiq Scot*, 99 (1966-7), 60-92.
- McInnes, I J 1966 'The Neolithic and Early Bronze Age pottery from Luce Sands, Wigtownshire', *Proc Soc Antiq Scot*, 97 (1963-4), 40-81.
- Mackay, R R 1950 'Grooved ware from Knappers Farm, near Glasgow and from Townhead, Rothesay', *Proc Soc Antiq Scot*, 84 (1949-50), 180-4.
- MacSween, A 1992 'Orcaidian Grooved Ware', in Sharpies, N & Sheridan A (eds) *Vessels for the Ancestors*, 259-271, Edinburgh.
- MacSween, A forthcoming 'Grooved Ware from Scotland: Aspects of decoration'.
- Manby, T G 1974 *Grooved Ware sites in the North of England*. Oxford. (=BAR Brit Ser, 9.)
- Marriott, J W 1968 'A Bronze Age burial site at Kinneil Mill, Stirlingshire'. *Proc Soc Antiq Scot*, 100 (1967-8), 86-99.
- Mercer, R 1981 'The excavation of a late neolithic henge-type enclosure at Balfarg, Markinch, Fife, Scotland, 1977-78'. *Proc Soc Antiq Scot*, (1981) 111, 63-171.
- Moorhouse, S 1972 'Medieval distilling - apparatus of glass and pottery', *Medieval Archaeol* 16 (1972), 79-122.
- Morrison, A 1968 'Cinerary Urns and Pygmy Vessels in South-West Scotland', *Trans Dumfriesshire Galloway Natur Hist Antiq Soc*, 45 (1968), 80-140.
- 6 Nuairín, S 1972 'A Neolithic house at Ballyglass, near Ballycastle, Co. Mayo', / *Roy Soc Antiq Ir*, 102 (1972), 49-57.
- Pearson, G W, Pilcher, J R, Baillie, M G L, Corbett, D M & Qua, F 1986 'High precision 14C measurement of Irish Oaks to show the natural 14C variations from AD 1840-5210 BC', *Radiocarbon*, 28, no. 2B (1986), 911-34.
- Piggott, S 1956 'Excavations in passage graves and ring cairns of the Clava group', *Proc Soc Antiq Scot*, 88 (1954-6), 173-207.
- Piggott, S 1974 'Excavation of the Dalladies long barrow, Fettercairn, Kincardineshire', *Proc Soc Antiq Scot*, 104 (1971-2), 23-47.
- Piggott, S & Simpson, D D A 1971 'Excavation of a stone circle at Croftmoraig, Perthshire, Scotland', *Proc Prehist Soc*, 37 (1971), 1-15.

- Pococke, R 1887 *Tours in Scotland, 1747, 1750, 1760*. Kemp, D W (ed), Scott Hist Soc, Edinburgh.
- Renfrew, A C 1979 *Investigations in Orkney*. Soc Antiq London Monogr.
- Richards, C 1994 'What can be done with Grooved Ware?' Lecture delivered at the Conference, *Grooved Ware in context*, British Museum, Feb 1992.
- Ritchie, J N G 1967 'Balnabraid Cairn, Kintyre, Argyll'. *Trans Dumfriesshire Galloway Natur Hist Antiq Soc*, 44 (1967), 81-98.
- Ritchie, J N G & MacLaren, A 1972 'Ring cairns and related monuments in Scotland', *Scott Archaeol Forum*, 4 (1972), 1-17.
- Ritchie, J N G 1974 'Excavation of the stone circle and cairn at Balbirmie, Fife', *Archaeol J*, 131 (1974), 1-32.
- Ritchie, J N G (1976) 'The Stones of Stenness, Orkney', *Proc Soc Antiq Scot*, 107 (1975-6), 1-60.
- Simpson, D D A & Coles, J M 1990 'Excavations at Grandtully, Perthshire', *Proc Soc Antiq Scot*, 120 (1990), 33-44.
- Simpson, D D A & Thawley J 1973 'Single Grave Art in Britain', *Scott Archaeol Forum*, 4 (1973), 81-104.
- Smith, J 1975 'Geomorphic Evolution', in MacLean, L (ed) *The Hub of the Highlands*, 17-25. Inverness & Edinburgh.
- Stevenson, S. 1995 'The excavation of a kerbed cairn at Beech Hill House, Coupar Angus, Perthshire', *Proc Soc Antiq Scot*, 125 (1995), 197-235.
- Waddell, J 1990 *The Bronze Age burials of Ireland, Galway*.
- Wainwright, G J & Longworth, I H 1971 *Durrington Walls: Excavations 1966-68*. Soc Antiq London Monogr.
- Wickham-Jones, C R & Collins, G H 1978 'The sources of flint and chert in northern Britain', *Proc Soc Antiq Scot*, 109 (1977-8), 7-21.

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