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An early metal assemblage from Dail na Caraidh, Inverness-shire, and its context

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with contributions by A Clarke, I Cullen, the late C A Dickson, J H Dickson, S Moore & B O'Connor

ABSTRACT

Between 1980 and 1984 a number of finds of Early Bronze Age metalwork were recovered from an area of rough ground at the head of a small disused quarry at Dail na Caraidh, near Fort William, on the West Highland coast. The finds were recovered by accident, by metal detector, and through archaeological excavation. This report considers the character of the metalwork and the context in which that material was deposited. It concludes that the entire assemblage could have resulted from more than one period of votive deposition, and that these activities focused upon a prominent, but natural, long mound and occurred in an area which may have been demarcated by other natural points of reference. Publication of this report is funded by Historic Scotland.

CIRCUMSTANCES OF DISCOVERY

The metal objects described here were recovered under varied circumstances and the context is described in more detail below. Here we simply record the sequence and means by which the various metal finds were discovered. Numbers refer to the numbered catalogue of metal objects which follows.

In 1980 Mr Kevin Mathers recovered a single axe-head (no 7) from the disturbed ground at the top of a small gravel quarry on a gravel terrace overlooking the confluence of the River Lundy and River Lochy (illus 1 & 2) (find-spots centre on NGR: NN 1292 7642). This object was drawn and photographed but subsequently lost, probably stolen, in 1982 when in transit between Inverness and the Fort William Museum. In 1981 a further eight finds were made (nos 1–6, 25 & 27) by Mr Cummings — another local resident — in the company of Mr Mathers. Mr Cummings noticed some of the metalwork exposed in an erosion channel near the original find-spot and the remaining finds were then dug from the ground in the immediate vicinity. It was this second find which prompted the first limited archaeological excavations in February 1982 leading to the recovery of a further six pieces of metalwork (nos 8–13). In the summer of that same year a second more extensive excavation took place, along with a metal-detector survey, and this

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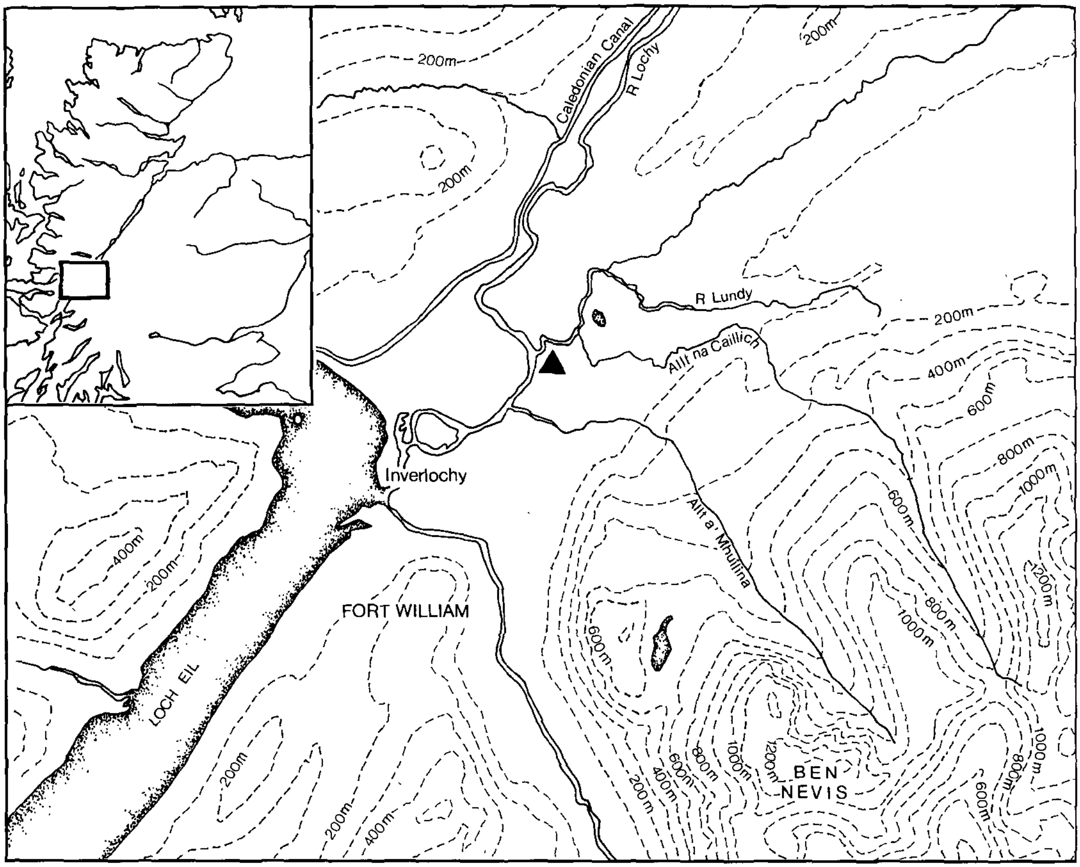
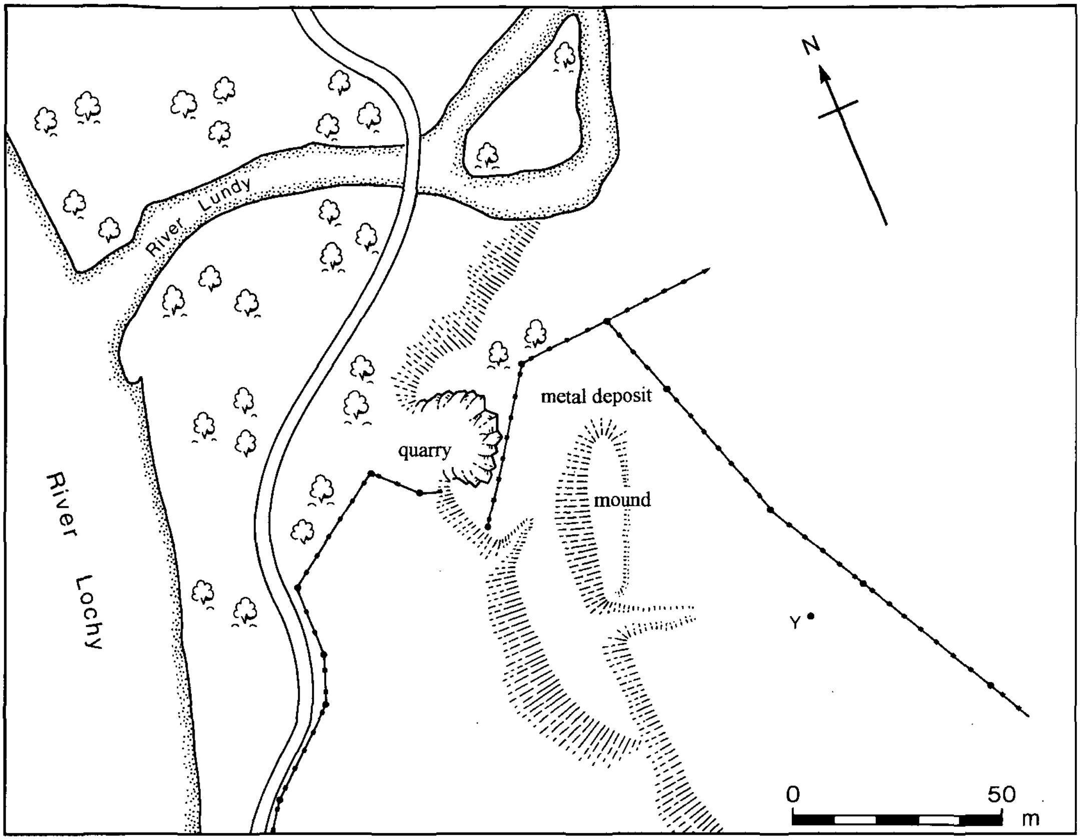


ILLUS 1 Location of the Dail na Caraidh site (*Based on the Ordnance Survey map © Crown copyright*)

produced two additional finds of metalwork (nos 14 & 15). In 1983 Mr Mathers returned to the area with a metal detector and this resulted in the recovery by excavation of a further nine metal finds from a small area to the north of the earlier finds (nos 16–24). A subsequent find (no 26) was recovered from the spoil left by Mr Mathers. Further archaeological excavations and metal-detector surveys took the place in the summers of 1983 and 1984 producing two (nos 28 & 29) and one (no 30) further finds respectively.

Six of the finds by Messrs Cummings and Mathers were kept together (nos 1–6) and two dispersed, one (no 25) to Father John Morrison, then of St Anne's Church in Corpach, the other (no 27) to the Highland Exhibition Centre, Fort William. Both finds were subsequently recovered and the entire assemblage, together with the excavation archive, is now held by Inverness Museum. The stolen axe-head (no 7) has never been recovered. We have no evidence that any further material was discovered between 1980–4, or has since been found on the site, or that the assemblages recovered by Messrs Mathers and Cummings were larger, with additional finds being dispersed or lost without our knowledge.



ILLUS 2 Location of the metal deposit and pollen core (Y) in relation to the mound and quarry

THE CONTEXT OF DEPOSITION

John Barrett
with Irene Cullen (landscape survey) and Susan Moore (palaeobotany)

LANDSCAPE

Archaeological investigation of the area in which metal objects were being recovered at Dail na Caraidh in the early 1980s was designed to establish the physical conditions into which the objects had been deposited and, through stratigraphic analysis, reveal something of the processes and sequence of that deposition. In particular we were interested in whether the entire metal assemblage represented a single deposit or whether it was the cumulative result of more than one act of deposition. We also hoped to locate evidence for any other related activity around the site. Under the circumstances we were only partly successful in these aims; in particular, only limited stratigraphic information survived concerning the context of any specific item of metalwork.

The landscape setting chosen for these deposits appears to have been significant. All the metalwork was dispersed over an area extending 10 m roughly north/south (illus 4) with the first, single find (no 7) having been made some 25 m away to the west. This entire area slopes to the north, west and east on fluvioglacial deposits of sands, clays and gravels. These deposits form a terrace which has been cut into a distinctive promontory by the confluence of the rivers Lundy and Lochy. A small, disused quarry has bitten into the edge of the terrace immediately to the west of the area where the metalwork was recovered (illus 2). Immediately to the south-east of the metal finds the ground surface rises to a long mound which runs for over 30 m along the edge of the terrace. In other words, the initial indications, which have been supported by all further work, are that the metalwork was deposited in an area focusing on the front of this mound. Peat growth now covers much of the uneven surface of the gravel terrace, and this supports birch woodland with occasional pine and rhododendron. Off the terrace and around the confluence of the rivers there is alder, hazel and willow, with a little ash and larch.

Elevated on the terrace immediately above the River Lundy, the long mound appears as a prominent feature in today's landscape, at least when viewed from the west along the opposite shore of the river. This prospect is further enhanced by the backdrop of Ben Nevis. Viewed from the east the mound is less prominent, appearing only as a low feature on the edge of the woodland. In an attempt to assess the extent to which the edge of the gravel terrace and the mound were widely recognizable landscape features a field survey was undertaken covering an area of 1 km radius around the site. Within this area all possible intersections (281 in all) of the 100 m national grid were visited and the visibility or non-visibility of the mound then recorded. Current vegetation cover and buildings obviously impinge directly upon the results of this work but the general pattern holds. The mound is most visible from across the Lochy to the west (41 locations out of an available 68) and indeed it remains clearly visible in some places for distances of up to 2 km. Immediately to the east and south visibility is masked by trees. To the north, across the Lundy, the vegetation again cuts the view before the ground drops away and the mound is lost behind the near horizon. From the mound itself distant views are seen over an arc running north to west to south-east, while around the rest of the compass modern vegetation impinges on the field of view.

Clearly, the mound has always had the potential to be a highly visible landscape feature. It exists as such today from the open ground to the west, although the degree of visibility obviously depended, as its still does, not only upon topography but also upon the cover of vegetation.

VEGETATION

In an attempt to gain an understanding of the vegetation history of the area a pollen core was taken from the peat bog to the east of the mound (Moore 1984). A number of transects had been probed through the peat and the core was extracted from the deepest point (Y on illus 2). The bog is small, around 100 m in diameter, and it is unlikely that there is a large regional component in the pollen samples (Jacobsen & Bradshaw 1981) with most of the pollen probably originating within several hundred metres of the bore-hole. A peat column 3.2 m in depth was removed and sampled at intervals of 0.1 m. Seven radiocarbon dates were obtained for peat samples along this column, selected on the basis of the results of the pollen analysis (Table 1).

The basal peat is dated to the post-glacial period, with a date of 8390 $\pm$ 95 BP (GU-1941) and a pollen zone characterized by small percentages of birch (*Betula*) and very high values of sedge (Cyperaceae). The greatest quantities of herb pollen found in the sequence occur here and willow (*Salix*) is also present. This is followed by a rise in hazel (*Corylus*) dated to 8685 $\pm$ 100 BP (GU-1940) with a following rise in oak (*Quercus*) and alder (*Alnus*) accompanied by the presence of charcoal for which zone a date of 6235 $\pm$ 85 BP (GU-1939) was obtained. The next distinctive zone begins at 2.5 m, marked by an alder rise. Percentages of alder become dominant very quickly, the influx of alder being combined with that of oak. At 2.4 m there is a curious increase

TABLE 1

Summary of pollen analysis and calibrated radiocarbon dates (after Stuiver *et al* 1998)

Depth	Lab code	Years BP	Calibrated dates at two sigma	Pollen
0.42–0.50 m	GU-1935	2915 ± 110	1400–800 BC	Above 1.55 m birch begins to dominate and heather also increases; oak, alder and hazel/bog myrtle are also present; grass pollen is less than 10% of total pollen.
1.05–1.13 m	GU-1936	4055 ± 160	3050–2050 BC	
1.50–1.60 m	GU-1937	4260 ± 155	3350–2450 BC	
1.83–1.93 m	GU-1938	4735 ± 85	3700–3350 BC	Elm, which is negligible throughout, becomes totally absent at about 1.8 m.
2.40 m				Grass increases at the expense of oak.
2.50 m				At 2.5 m alder becomes dominant; oak is still present in high quantities.
2.45–2.53 m	GU-1939	6235 ± 85	5400–4850 BC	Oak and alder increase; charcoal is also present.
2.95–3.03 m	GU-1940	8685 ± 100	8200–7500 BC	Hazel increases.
3.2 m	GU-1941	8390 ± 95	7600–7180 BC	Sedge is abundant; there are relatively high amounts of herb pollen; birch and willow are also present.

in grasses (Gramineae) at the expense of oak. Even though there are negligible amounts of elm pollen throughout, it could be postulated that the elm (*Ulmus*) decline phenomenon should be identified at around 1.8 m as there is a total absence of its pollen from this part of the diagram. A radiocarbon date of 4735 ± 85 BP (GU-1938) was obtained for a peat sample at 1.83–1.93 m.

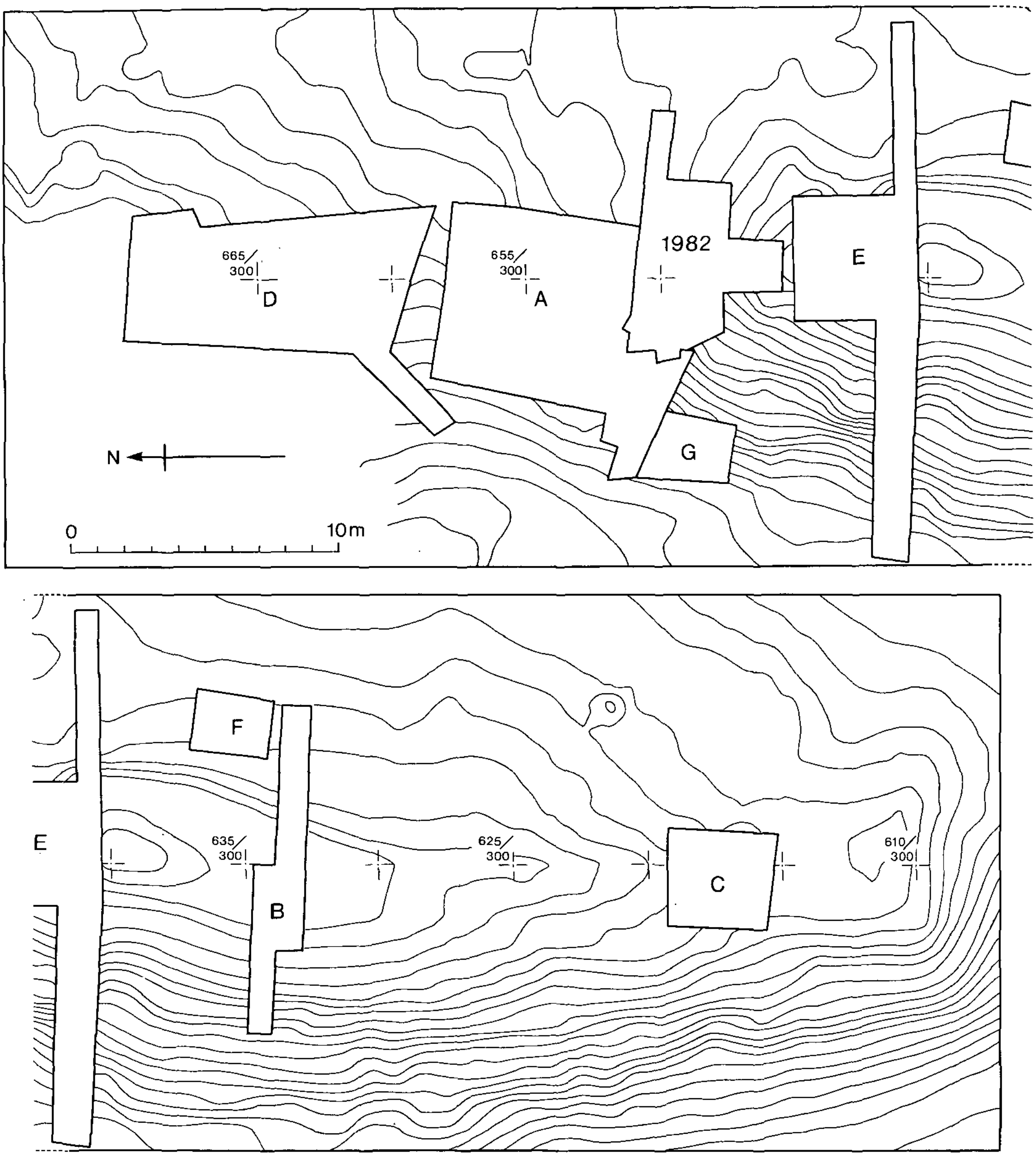
From a depth of 1.55 m upwards there are increasing values of heather (*Calluna*). Birch percentages fluctuate along with heather, while oak, alder and hazel/bog myrtle (*Myrica Gale* L) stay relatively constant. Grass pollen values are modest, never reaching 10%, and by the top of the sequence birch has become the dominant species. Values for heather exceed 25% for most of this part of the sequence indicating its local presence (Huntley & Birks 1983). Three radiocarbon dates are relevant to us here, at 1.5–1.6 m a date of 4260 ± 155 BP (GU-1937), at 1.05–1.13 m a date of 4055 ± 160 BP (GU-1936), and at 0.42–0.5 m a date of 2915 ± 110 BP (GU-1935).

This small peat bog clearly developed throughout the post-glacial period. The sampling span for the palaeobotanical analysis is relatively large but an outline of the vegetation history has been established. In the upper part of the diagram the rise in heather is much more pronounced than that of grass and there is a fall in total tree pollen at 1.1 m. Human intervention may have been responsible for retarding the regeneration of woodland and the increased values in heather in the upper part of the sequence, although the area shows no evidence of intensive use and cultivation. Indeed there is little evidence for human disturbance at any period in the sequence.

The overall impression around the period in which metalwork was being deposited, at the end of the third millennium BC, is one of heather moorland supporting the growth of birch along with some oak, alder and hazel. It was in this environment that the metalwork was deposited in front of a prominent mound standing above the River Lochy. Potentially the mound may have been visible for some distance and, viewed from the east, the distant skyline was, as always, dominated by the mass of Ben Nevis.

THE PLACE

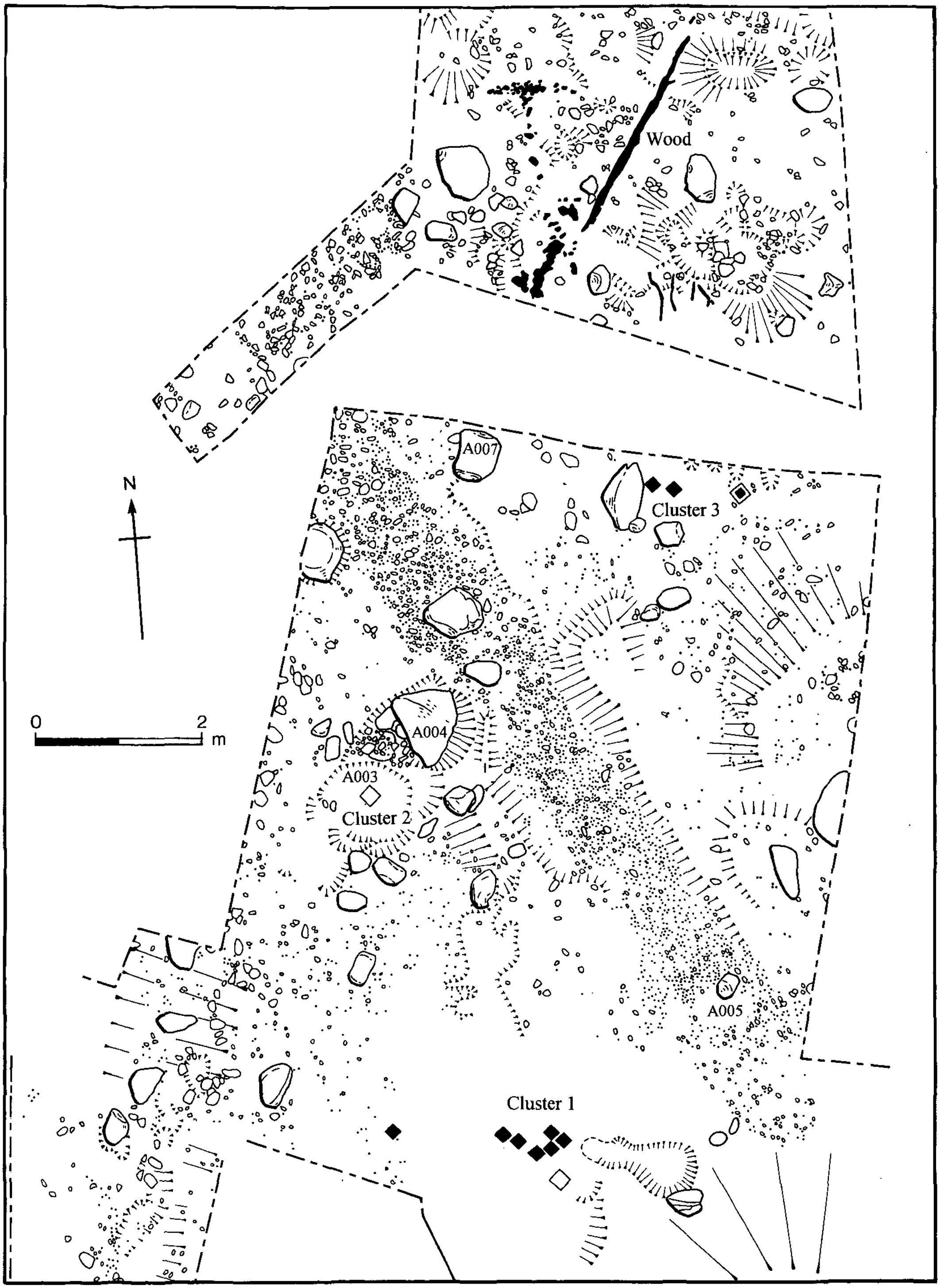
Initially excavation focused upon the area of the original find of eight objects with the excavations of 1981 and 1982 clearing an area immediately around the find spot. Excavations in 1983 and



ILLUS 3 The mound and excavated areas

1984 (illus 3) (Trenches A–G) extended the investigation, moving further beyond the mound northwards in one direction and southwards up onto the top of the mound in the other. At the same time a section was cut into the mound (Trench B) and another (Trench C) located at its southern terminal.

Despite its very distinctive profile the mound proved to be part of the fluvio-glacial deposit which made up the rest of the terrace. Trench B revealed a complex mixed composition of gravels, sands and clays which also contained a number of large, rolled boulders. The very uneven surface



ILLUS 4 Trenches A & D, showing the three clusters of metal objects and associated features

of the glacial terrace is today blanketed by varying depths of peat growth which has the effect of levelling the ground surface and thus enhancing the prominence of the mound. As we have already indicated, it is likely that the mound has always been a distinctive feature and a visual point of reference when viewed from the wider landscape.

On the basis of the excavations, all the evidence for human activity in the vicinity of the mound comes from the area at the north (ie Trenches A & D). The excavation strategy here was to remove the turf and peat down to a surface of thin peaty soils, sands and gravels which was then cleaned. All peat and spoil was checked with a metal detector as was the surface prior to, and during, cleaning. Materials from three quite distinct periods were recovered: an early assemblage of chipped stone, the Bronze Age metal objects, and fragments of worked wood of broadly early Iron Age date.

EARLIER ACTIVITY: LITHICS (NOT ILLUS)

Ann Clarke

The palaeobotanical evidence indicates little human activity in the vicinity of the site. Its location, however, on a promontory above the confluence of two rivers, may have been significant for the small game and fish available here, and this is the likely context in which we must place the small scatter of lithic material which was recovered. The lithics were found across the area of Trench D, on the flatter ground to the north of the mound. This area was covered by peat and the lithic material was either recovered from the lower levels of the peat (38%) or from the buried soil surface beneath it (55%).

The lithic assemblage numbers 173 pieces: 63% is of quartz, 36% of flint and there is one chunk of agate. The quartz assemblage is composed of flaked pebbles, scalar cores and flakes while that of flint is composed entirely of flakes and a few small chips, and includes two blades and two retouched pieces. There was a tendency for more flint than quartz to occur in the peat deposits.

The quartz is white in colour, with no visible inclusions, and varies in texture from a fine to a coarse grain. Just under one-third of the assemblage exhibits rolled cortical surfaces (including five flaked pebbles), indicative of the use of a pebble source. The flint is also from a pebble source with one-fifth of the flakes retaining some cortex. Local gravels and/or beach deposits are the most likely sources for both materials.

About one-quarter of the flint is burnt and a surface patination is present on most of the rest of the flakes. The quartz appears to be much fresher than the flint, although it should be noted that the alteration of this material through weathering and chemical or heat action is less easily recognized than on flint.

The presence of flaked pebbles and scalar cores in the quartz assemblage indicate that the major reduction strategy was that of bipolar working. With this method a nodule is placed on an anvil and the upper end struck repeatedly with a hammer, often causing flakes to be detached from both ends simultaneously. The nodule may be reversed as necessary (Callahan 1987). In the early stages of reduction, flat platforms may be used but the cores rapidly develop the characteristic crushed (scalar) platforms which resemble chisel edges and the flakes detached in this way often have crushed (scalar) platforms. The flaked quartz pebbles from the site range in length from 26 mm to 56 mm and are often just simple split pebbles. The scalar cores have a length range of 24 mm to 49 mm and vary in type from pebbles in the initial stage of bipolar reduction to heavily reduced cores with double scalar platforms.

The majority of the quartz flakes have scalar platforms and they range in length from 12 mm to 50 mm although most are shorter than 30 mm. The presence of flakes with flat platforms is not unusual in an assemblage that has been formed through bipolar working and those from the excavation have a similar size range to the scalar flakes. Other characteristics of bipolar working such as crushed distal ends and longitudinal breakage are present on some flakes.

There are no cores present in the flint assemblage and, although scalar platforms are present on a few flakes, the predominant reduction method appears to have been that of prepared platform working as indicated by the presence of flat platforms on many of the flakes. The flint flakes are smaller in length than those of quartz and range in length from 7 mm to 35 mm with the majority being shorter than 20 mm. One-quarter of the flakes have hinge fractures present on the dorsal end which may indicate either an uncontrolled knapping technique or the poor quality of the raw material. There is one narrow blade of a translucent grey flint and the proximal end of a snapped blade.

Retouch is present on only two of the flint flakes and in both cases the flaking is irregular and is located on only part of one edge. One piece (cat no 129) may be an attempt to form a scraper edge while the other (cat no 141) exhibits a fine nibbling retouch.

The use of bipolar reduction technique for quartz is common throughout prehistory (Broadbent 1979; Clarke 1986; Callahan 1987; Knutsson 1988) and shows no specific chronological or cultural affiliations, being often the most efficient knapping strategy for such a brittle material. The similar working of flint is also common to Scottish sites (Wickham-Jones 1990) particularly where small pebbles are used. Although at Dail na Caraidh there is some evidence for the bipolar working of flint, it is probable that flat platform working was also used. However, the lack of flint cores means that the reduction strategy for this material cannot be fully determined.

Any assessment of the function of the flint and quartz industries is problematic as both assemblages differ in several respects. Patination, burning and breakage are common on the flint while the quartz shows little such alteration, although as has been noted above, the recognition and comparison of such physical alteration between different raw materials is difficult. The artefact types also differ between the two materials: those of quartz include flaked pebbles and cores as well as some quite large flakes while those of flint are all flakes and are smaller in size.

There are two possible reasons for these differences between the two material assemblages. The first is that the flaked quartz is *in situ* (although plotting of the artefacts gives no coherent pattern indicative of a knapping floor) while the flint is part of a larger assemblage derived from elsewhere. The redeposition of the flint assemblage may be postulated particularly as there was no evidence for burning from the excavation while the small size and fragmentary nature of the artefacts suggests that they may have been subject to a high degree of sorting which had separated the smaller pieces from the rest of the knapping component. If the quartz is not *in situ*, and this may be so given the amount of material recovered from the peat, then it does not appear to have been subject to the same degree of sorting as that of the flint. Alternatively, both collections may represent the original structure of the assemblages and this implies that the quartz was knapped locally to the site while the flint was knapped elsewhere and brought to the site as flakes.

The flaked lithics recovered include both flint and quartz and the evidence suggests that bipolar working was used on the quartz while for the flint there was some use of prepared platform working. Neither knapping strategies are diagnostic of particular periods and the dominance of quartz over flint is common to many prehistoric assemblages from the west coast of Scotland (Wickham-Jones 1986). The two retouched pieces show no evidence for formal type and are undiagnostic of period.

The comparison of artefact types between the two materials and the contrasts in survival of both suggest that the formation of both the assemblages may have differed although whether this was through post-depositional processes or is a reflection of the on-site activities is not clear.

DEPOSITION OF METAL OBJECTS

The distribution of metal finds appears to fall into three clusters, all in Trench A (illus 4), with an additional single find (no 7) recovered some distance from these (by the quarry edge to the west). We will consider these three clusters in turn, beginning with the original group of objects (the first cluster) which was also that found closest to the mound.

The first cluster was comprised of eight objects (nos 1–6, 25 & 27) recovered from an active erosion scar running westwards off the front of the mound and a further eight objects (nos 8–15) recovered immediately downslope from this (no 14 was recovered from the clearing of topsoil and its position is not recorded on illus 4). All this material appears to come from the base of the topsoil. There is no evidence that any of the material was in a cut feature, although a slight truncated hollow was recorded upslope from the entire group. One explanation for this material is that it is a single hoard of axes or axe fragments which had eroded downslope from the original point of deposition.

The second cluster consists entirely of the material recovered by Mr Mathers using a metal detector and spade, including one object (no 26, a possible blade fragment) which was found later among the upcast spoil from this work. The initial metal detector reading resulted in the recovery of a single axe (no 18) which appears to have been high in the peat. Further digging below this produced two more axes (nos 16 & 17) and six dagger or knife blades (nos 19–24). In all, Mr Mathers' excavation was about 0.7 m square. It was sunk centrally into a shallow hollow in the underlying gravel surface (A003), immediately adjacent to a boulder which was sitting on that surface (A004) (illus 4). Clearly, the composition of this cluster, with dagger or knife blades outnumbering axes, is very different from that of the first cluster. This, along with the close distribution of the objects and the slight hollow immediately below the area where the finds were recovered, might indicate that this second cluster of objects represents a single buried hoard. However, attractive as this idea is, there are problems. Not only was one axe high in the peat, but a fragment of granite which had been drilled and split (a relatively modern quarrying technique — see below) lay between this and the remaining finds. Under subsequent controlled excavation, little infilling material was found to remain in the hollow and it is difficult to tell if this had ever been a deliberately cut and backfilled feature. The close distribution of the material certainly implies that most of this cluster of material could derive from a single deposit (nos 16, 17, 19–24 and possibly 26), if the remaining axe (no 18) also belongs here then the deposit had clearly been disturbed prior to its discovery. If this is a single hoard then it may have been deposited in a shallow scoop dug into the top of the gravel.

The third cluster is the smallest and appeared more dispersed than the other two. It comprises two fragments of knife or dagger blade and one axe fragment (nos 28–30). All three finds came from the base of the peat and were at the most northerly point in the distribution of metal finds (illus 4). There is no evidence that any of this material was originally buried in a cut feature or, indeed, that the three finds represent a single deposit.

Finally we must mention again the single axe recovered near the top of the quarry face (no 7). This, the most westerly find in the distribution of the material, may have lain between 18 m and 25 m downslope from the first of the clusters described above.

ILLUS 5 Granite boulder A007 with the erosion hollow of a former inclusion in the shape of an axe-head (scale length 300 mm)

The fluvioglacial deposits were covered by traces of a thin, peaty soil and overlying peats. The sands, gravels and clays of these deposits contained a number of boulders while others lay on the surface. The deposits were obviously complex and proved confusing to excavate. It was clear that no major structural features were associated with the metal deposits; as we have seen it was even difficult to trace any possible pits into which the material had been placed. The most notable feature was a distinct gully extending down from the face of the mound, its base comprised of compacted water-rolled pebbles (A005). This feature extended for some 10 m before it petered out on more level ground to north-west. Any boulders on the line of this gully were deeply embedded in the gravels while on either side three boulders stood either on the ground surface or in shallow eroded scoops (eg A004 & A007). The first two clusters of finds were recovered immediately to the west of this gully. Initially it was thought that the gully might represent a path running up towards the northern terminal of the mound but the more likely interpretation is that it formed as a post-glacial erosion channel.

The ambiguous nature of these deposits is fully illustrated by one small granite boulder which lay on the gravel surface (A007). At first sight this appeared to be like other such boulders which had eroded from glacial deposits and rolled into place on the clay and gravel surface, particularly those around the eastern and western edges of the mound. However, this example appeared to rest on a thin soil and was propped in place by a number of smaller stones placed beneath it. It presented a flattened curving face towards the mound, and from this face an inclusion in the granite had eroded. Viewed from the mound, and in the afternoon sunlight, the void appeared to represent an axe-head (illus 5).

METAL ASSEMBLAGE

Brendan O'Connor

The Dail na Caraidh find contains 21 pieces which certainly or probably represent flat axes. Eleven are complete or nearly complete axes: nos 1, 6–10, 12–13 & 16–18. Two more are blades, nos 2 and 3, and one is a butt, no 4. Two other fragments, nos 11 and 30, retain both faces. Four fragments retain only one face: nos 5, 14, 15 and 25. The last fragment, no 27, does not appear to retain any original surface. The 11 axes and two blades give a minimum total of 13 axes and no 11 is almost certainly from another separate axe. Of the complete and nearly complete axes, all except nos 9 and 12 appear to belong to the Migdale type as defined by Schmidt & Burgess (1981, 35–6) in their corpus of axes from Scotland and northern England.

The tin-rich surface appearance described for some of this material (below) was confirmed as such by metallurgical analysis by E A Slater of a selection of five objects (nos 2, 5, 8, 28 & 29).

Catalogue (illus 6–10)

1 **Flat axe** The original surface remains on most of one face and on the upper part of the other face; it is completely eroded from the cutting edge and from one side of the axe. The surface which remains in the centre of the other side shows a triple facet. The butt is slightly damaged. No edge bevel survives. Length 161 mm; butt 33 mm; blade 92 mm; maximum thickness 11 mm; weight 510.7 g.

2 **Flat axe blade**, broken from the butt. The surface survives on most of one face and on the lower part of the other; it is almost completely absent from the sides. The bevel on the cutting edge survives, with sharpening striations, on both faces. The better preserved face bears loose rain-pattern ornament, irregular lines of drop-shaped marks 1 mm by 3 mm to 5 mm in size. Length 105 mm; blade 80 mm; maximum thickness 9 mm; weight 357.0 g.

3 **Axe blade** Both faces retain some original surface and the bevel on the cutting edge, with sharpening striations. Although eroded, the line of one side can probably be distinguished. Length 69 mm; blade 69 mm; maximum thickness 7.5 mm; weight 137.0 g.

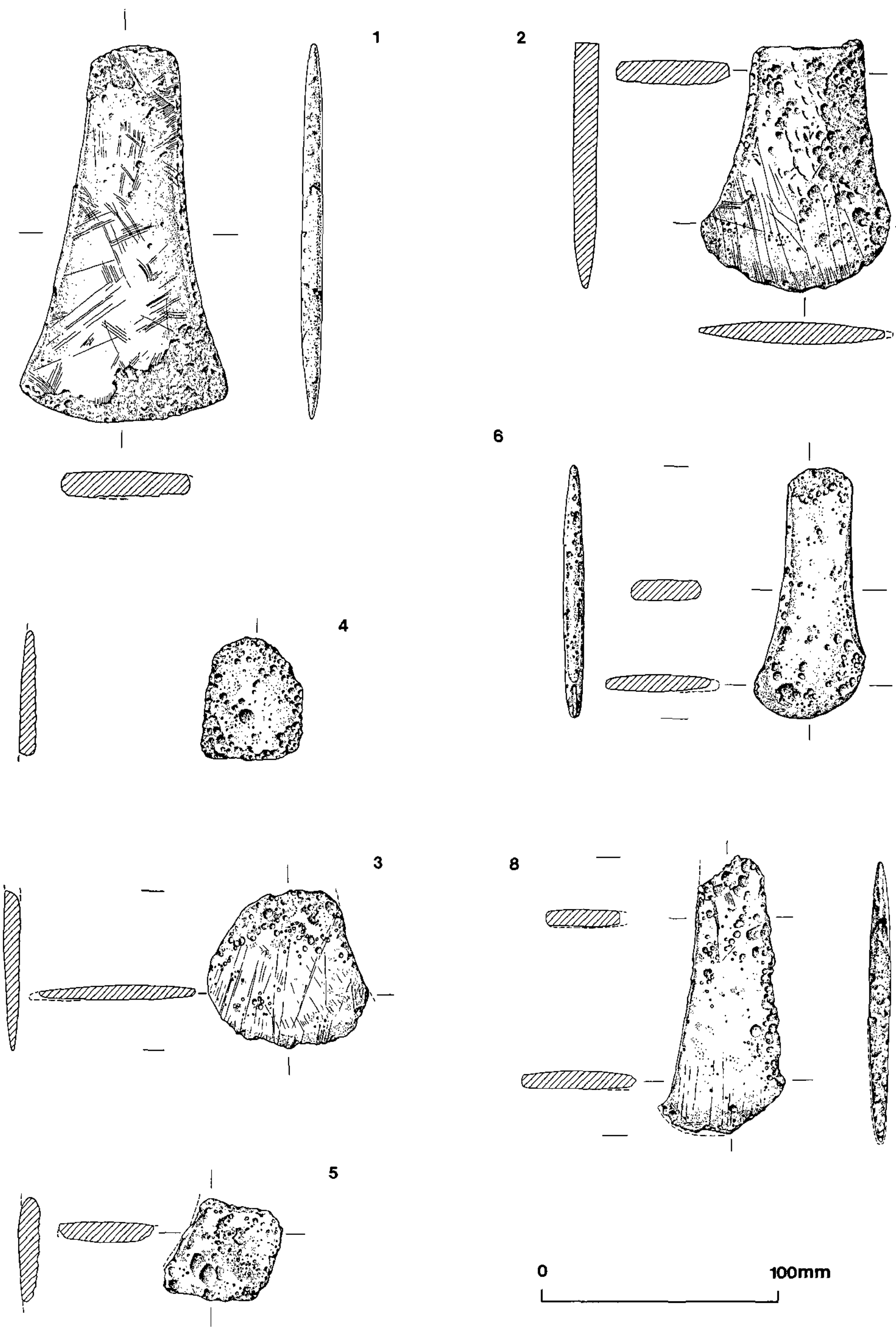
4 **Axe butt** The original surface survives on one face only. The sides are eroded, but the outline can be distinguished. Length 52 mm; width 42 mm; maximum thickness 7 mm; weight 75.2 g.

5 **Axe blade fragment**, probably close to the blade tip. One face is smooth, but unlike the shiny original surface preserved on the other pieces, and bears hammer marks. Maximum dimensions 57 mm by 47 mm; weight 69.3 g.

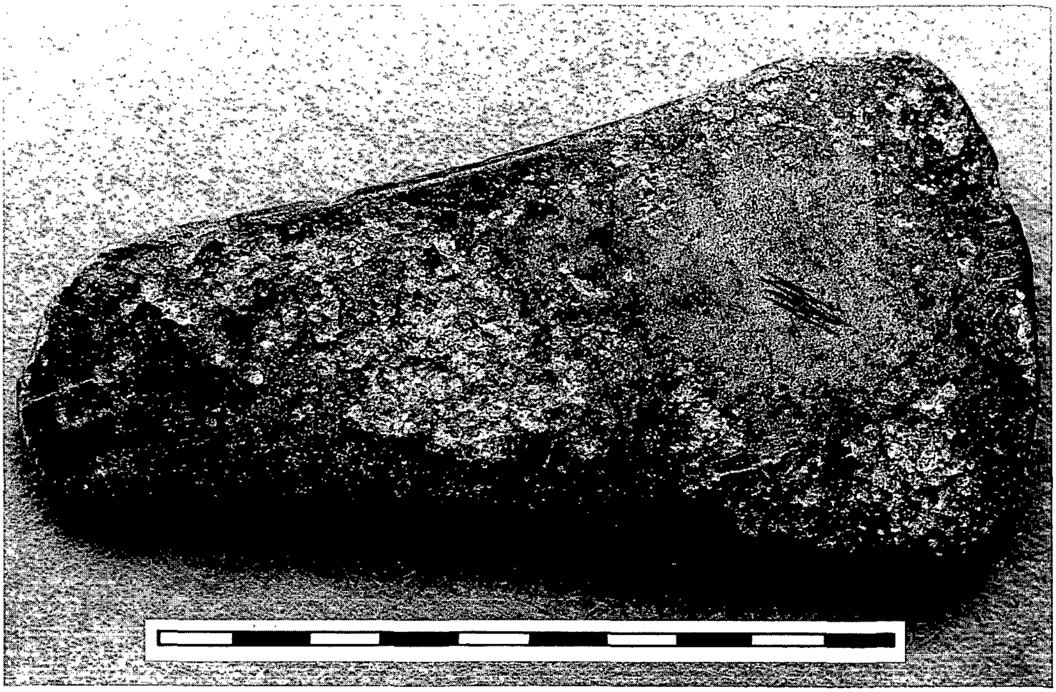
6 **Flat axe**, complete but for edge and one corner of the blade. The original surface is pitted, but survives on one face and on the other to within 20 mm of the edge. On one side there is a double facet, swinging from one face to the other; there is also a double facet on the other side, but less well defined. Slightly waisted body: asymmetrical cross-section. The butt is eroded. The blade is heavily eroded. Length 106 mm; butt 29 mm; blade 40 mm; maximum thickness 9.5 mm; weight 168.6 g.

7 **Flat axe** Found earlier than the rest of the hoard. Formerly in Fort William Museum, now lost. Outline almost complete, except for one blade tip and butt corners. Length 137 mm; butt 33 mm; blade 71 mm; maximum thickness 10.5 mm; weight 427.8 g.

8 **Flat axe** The original surface survives on most of one face and on parts of the other. The butt is damaged and this damage extends down one side of the axe and round part of the edge, which is almost intact close to the left tip. This has the remains of the spur of a recurved blade. There is a double facet



ILLUS 6 Metal finds: nos 1–6 and 8



ILLUS 7 Metal find no 7, the lost axe (scale bar 100 mm)

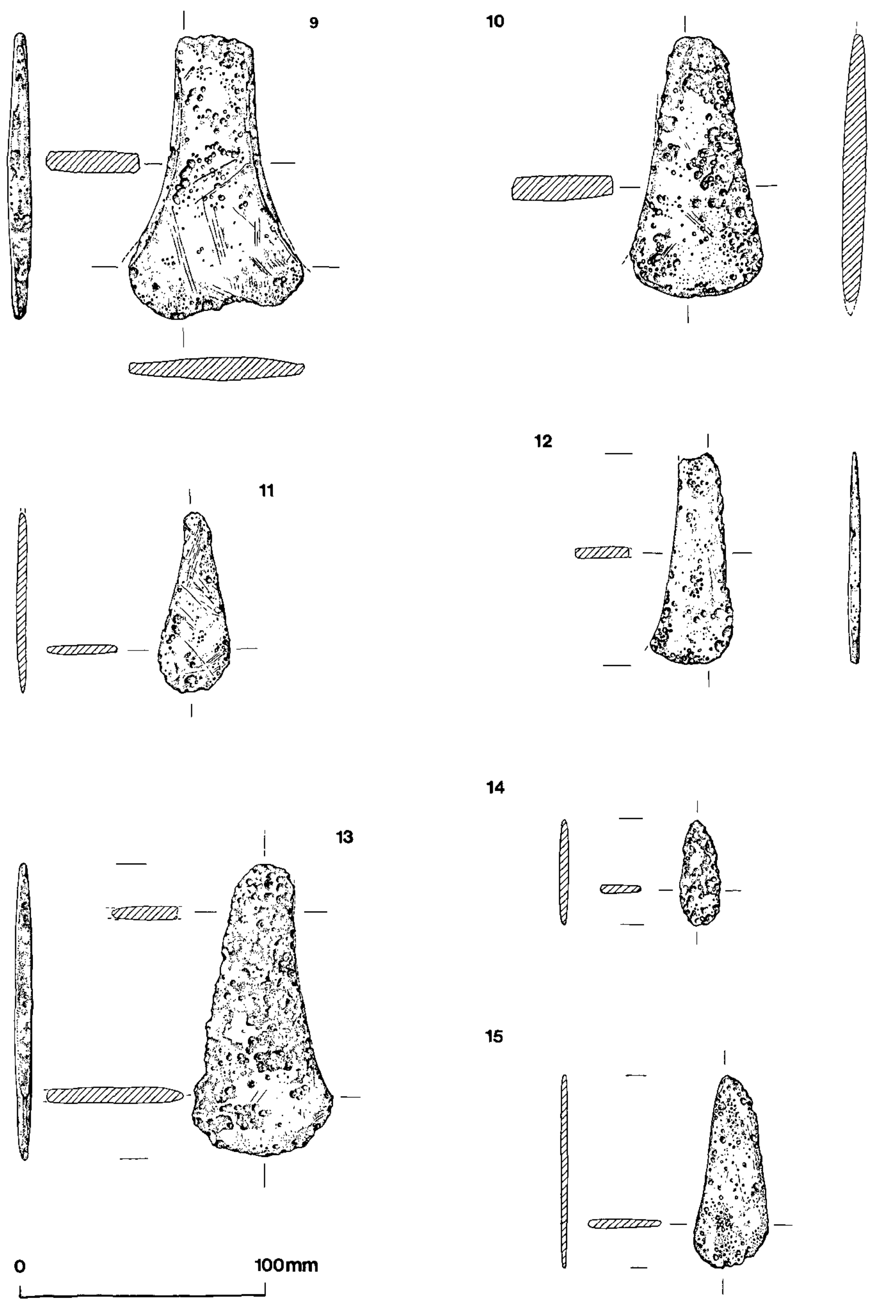
on the surviving side. High polish shows sharpening of the edge on both faces; cracks in the surface. Length 117 mm; butt 22 mm; blade 52 mm; maximum thickness 9 mm; weight 213.2 g.

9 **Flat axe** The pitted original surface survives over one face and on parts of the other. There are fragmentary remains of the surface on both sides with faint triple facets and slightly raised sides on all four angles. The butt is little eroded with a fragment of patina on top and tin-coloured faces. The blade is badly damaged and the cutting edge does not survive. In comparison with the other axes in the hoard the sides are markedly concave and the blade broad in proportion to the size of the axe. Length 115 mm; butt 31 mm; blade 72 mm; maximum thickness 8 mm; weight 275.0 g.

10 **Flat axe** One face is heavily eroded and the erosion extends all round the perimeter except for the lower part of one side, where the pitted original surface survives, showing body angle, an asymmetrical double facet, and tin colour. The pitted surface also remains on one face. The cutting edge does not survive. Length 106 mm; butt 22 mm; blade 53 mm; maximum thickness 9 mm; weight 209.25 g.

11 **Flat blade**, probably an axe. The pitted original surface survives on both faces. The section tapers towards the broad end, suggesting that this was the blade of a very small axe. Although comparatively thin, the blade appears to be too thick for a flat knife or dagger. However, no original edge survives, so identification is uncertain. Length 73 mm; width 28 mm; maximum thickness 4 mm; weight 27.3 g.

12 **Flat axe** Damaged around the butt, one side and heavily at the blade. The pitted original surface survives on both faces, with tin-coloured patches, and on the undamaged side, which is flat. One face bears slight furrows, which follow the outline of the sides. Length 86 mm; butt 17 mm; blade 33 mm; maximum thickness 4.5 mm; weight 60.7 g.



ILLUS 8 Metal finds: nos 9–15

13 **Flat axe** Heavily eroded on both faces and damaged along the sides and the butt. The line of one side is preserved on one of its angles. Part of the bevel on the edge survives on both faces. Length 119 mm; butt 25 mm; blade 58 mm; maximum thickness 55 mm; weight 189.3 g.

14 **Undiagnostic fragment**, retaining the original surface, heavily pitted, on one face. Maximum dimensions 41 mm by 17 mm; weight 10.1 g.

15 **Fragment**, probably from a small axe, retaining the pitted original surface on one face. Maximum dimensions 75 mm by 30 mm; weight 26.3 g.

16 **Flat axe** The original surface remains on one face, slightly pitted; fragments remain on the central part of the other face, the rest of which is heavily eroded. The sides, edge and butt are all eroded. Length 142 mm; blade 78 mm; maximum thickness 11 mm.

17 **Flat axe** The original surface remains on one face (with tin-coloured patches), parts of the sides and the centre of the butt; it is almost completely eroded from the other face. The cutting edge is eroded, but the bevel remains. Well-defined body angles. A narrow facet survives on the left angle, a broader facet on the right. The butt is rounded in section. Length 136 mm; butt 34 mm; blade 75 mm; maximum thickness 9 mm.

18 **Flat axe** The original surface survives over most of one face and on the central part of the other, also along parts of the left side where traces of a double facet survive. The surface patina is silvery-grey unlike the green patina of the other axes. The other side, edge and butt are completely eroded. Length 125 mm; blade 65 mm; maximum thickness 10 mm.

19 **Dagger blade fragment** The original surface remains over most of both faces. One edge survives with broad bevels, narrowing towards the haft end. About half the diameter of a rivet-hole survives. There are striations on the surface, especially prominent along the line of the edge. The section is flat, tapering slightly towards the edge bevels. Length 69 mm; maximum width 29 mm; maximum thickness 1 mm; diameter of rivet-hole 3 mm.

20 **Flat blade fragment** The original surface survives over most of both faces. There are possible traces of an edge bevel on the lower left side, but no original edge survives. Flat section. Maximum dimensions 93 mm by 40 mm; maximum thickness 1 mm.

21 **Dagger blade fragment** The original surface survives over part of both faces. One edge, with broad bevel, can be distinguished. Part of the diameter of a rivet-hole survives. The section is flat. Length 45 mm; maximum width 31 mm; maximum thickness 2 mm; diameter of rivet-hole 3 mm.

22 **Flat blade fragment** The original surface, which bears longitudinal striations, survives over most of both faces. Broad bevels allow the line of an edge to be distinguished. Flat section. Maximum dimensions 39 mm by 24 mm; maximum thickness 2 mm.

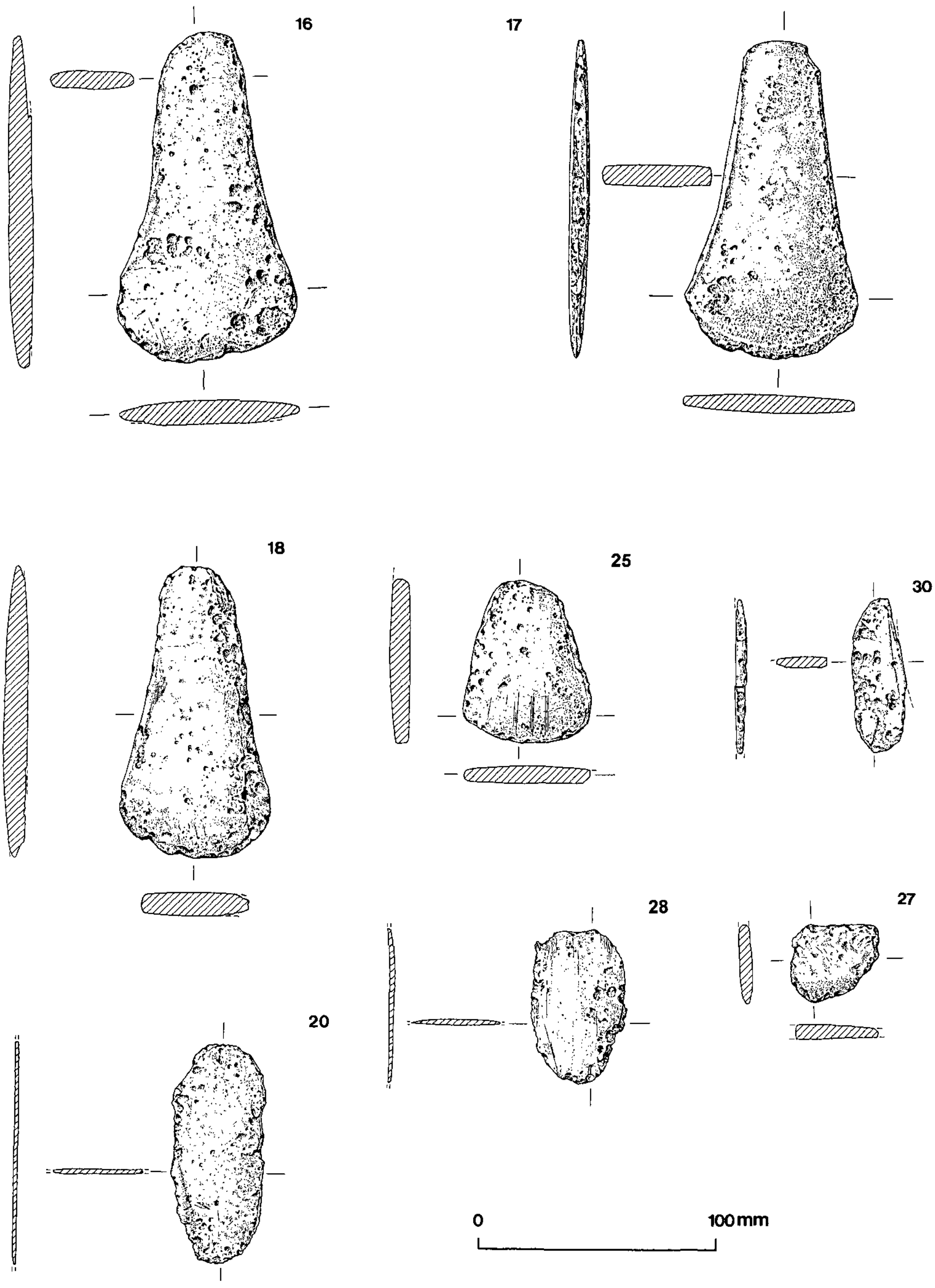
23 **Fragment**, probably from a flat blade. The original surface, which bears longitudinal striations, survives over part of one face and a little of the other. The remaining surface is heavily eroded and no edges survive. Maximum dimensions 42 mm by 24 mm; maximum thickness 2 mm.

24 **Dagger blade fragment** The original surface survives over parts of both faces. Traces of a bevel allow the line of the edge to be distinguished. The section is flat. Maximum dimensions 25 mm by 22 mm; maximum thickness 1 mm.

25 **Axe blade fragment** The original surface survives on one face, but all the other surfaces are eroded. Maximum dimensions 70 mm by 55 mm; maximum thickness 9 mm.

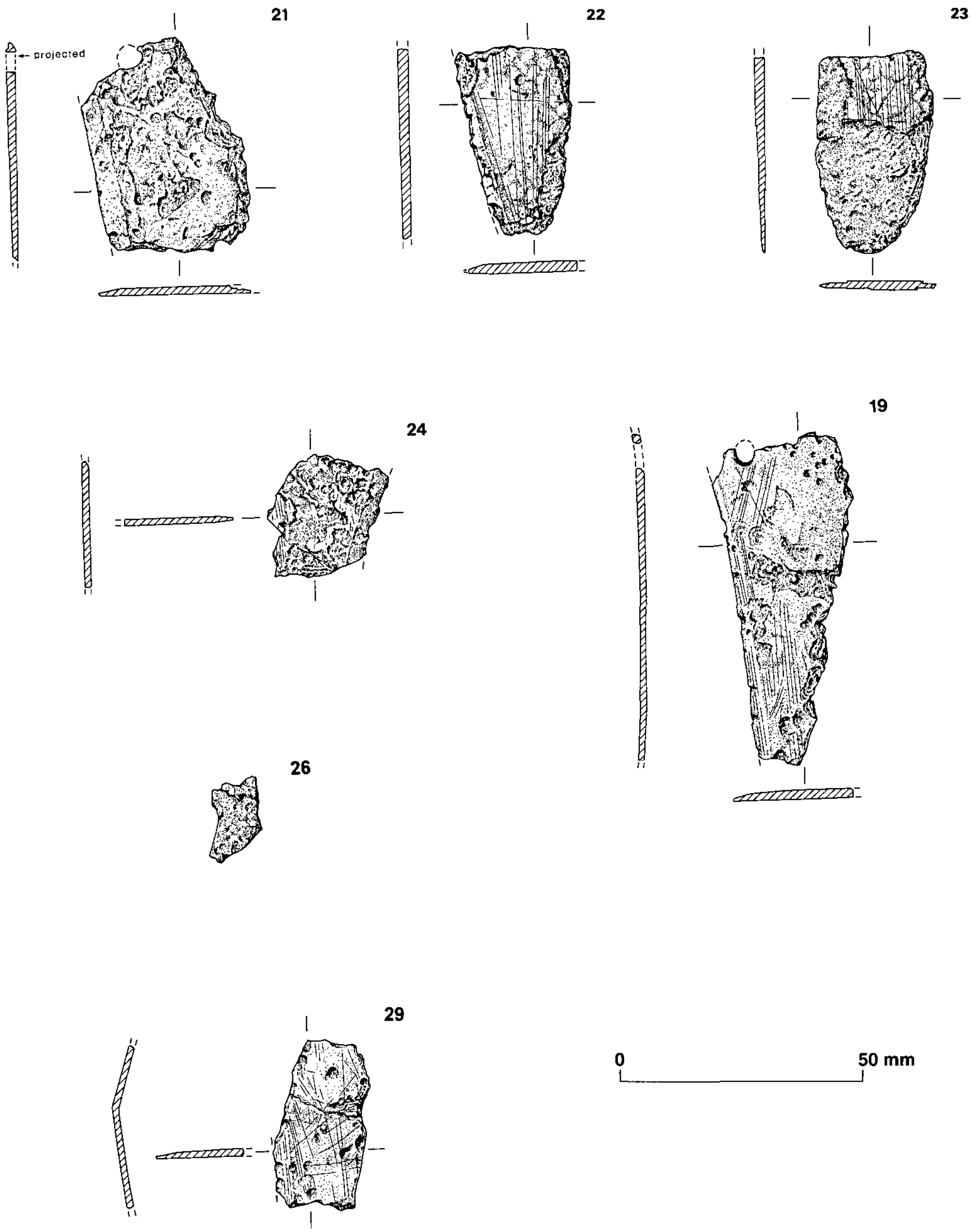
26 **Flat blade fragment** Traces of the original surface survive and there may be remains of an edge at the bottom left. Maximum dimensions 18 mm by 10 mm; maximum thickness 1 mm.

27 **Undiagnostic fragment**, perhaps part of an axe blade. No original surface appears to survive. Maximum dimensions 39 mm by 33 mm; maximum thickness 6 mm.



ILLUS 9 Metal finds: nos 16–18, 20, 25, 27, 28 and 30

28 **Flat blade fragment** The original surface survives over most of one face and part of the other. Remains of an edge bevel can be distinguished on the centre left. Lenticular section. Maximum dimensions 65 mm by 41 mm; maximum thickness 2 mm.



ILLUS 10 Metal finds: nos 19, 21–24, 26 and 29

29 **Fragment**, probably from a flat blade, bent across the centre. The original surface survives over both faces. An edge bevel, emphasized by longitudinal striations, can be distinguished at the bottom left. Maximum dimensions 41 mm by 19 mm; maximum thickness 1 mm.

30 **Axe blade fragment** The original surface survives over most of one face, covering part of the single remaining side, and over part of the other face. There are distinct body angles; the side bears two facets.

This fragment is probably from the upper part of a flat axe, just below the butt; its proportions are similar to those of no 17. Length 64 mm; maximum width 22 mm; maximum thickness 5 mm; weight 30.6 g.

Discussion

As described above, most of the complete or nearly complete axes (except nos 9 & 12) are of the Migdale type, as defined by Schmidt & Burgess (1981, 35–6). The Migdale type comprises 'all those simple thin-butt flat bronze axes with more or less evenly curved sides and relatively wide cutting edge, which do not turn out abruptly from the sides'. 'Simple' here means that Migdale axes lack the typologically advanced features of median bevel and raised edges and retain an evenly curved outline, compared with more developed axes, which have bodies with straighter, more nearly parallel sides and distinct, expanded or recurved, cutting edges. Decoration is common on British axes of this developed form, but rare on Migdale axes. Migdale axes are distinguished from the Irish Killaha type, which has a broader edge and a more triangular outline. Killaha axes have a length-to-width ratio of less than 1.5:1, while Migdale axes have a ratio of more than 1.5:1 (ibid, 33, fig 3). Dail na Caraidh axe no 9 is close in form to the Killaha type.

Schmidt & Burgess were unsuccessful in trying to detect subdivisions within their Migdale type. Migdale axes vary in form and proportions; while most have rounded sides, longitudinal facets occur. In all, 122 Migdale axes are listed from Scotland and northern England (ibid, 36–44). Migdale axes with embellished faces are distinguished as a decorated variant, of which there are 20 examples (ibid, 44–6). There are two further variants, both of which may bear decoration. Axes of the Biggar variant have a relatively narrow butt and upper body; there are 27 examples (ibid, 46–8). The Nairn variant consists of outsize axes between 194 mm and 338 mm long (ibid, 48–9).

Dail na Caraidh axes resemble the following Migdale axes in the collection of the National Museums of Scotland (I am grateful to Trevor Cowie for allowing me access to the collection). Axe no 1 may be compared to these examples, although most have more expanded blades: Berwickshire (ibid, 36, no 68), Brockhillstone, Dunscore, Dumfriesshire (ibid, 37, no 82), Abdie, Fife (ibid, 38, no 94), Mountskip, Borthwick, Midlothian (ibid, no 98), Newseat of Ardo, Methlick, Aberdeenshire (ibid, 39, no 107), Airds, New Abbey, Kirkcudbrightshire (ibid, 40, no 130), Culbin Sands hoard, Moray (ibid, no 135), and Rhynie hoard, Aberdeenshire (ibid, 41, no 137). Axe no 8 resembles another axe from the Rhynie hoard (ibid 36, no 67).

The silvery-grey patina of axe no 18 is characteristic of the tinned surfaces on a group of Scottish axes (Coles 1969, 34, 102, app D) (see below). These occur in the following hoards: Rhynie; Mill of Lathers, Aberdeenshire; Fortrie of Balnoon; Camptown; Ravelston, Edinburgh; Sluie, Moray; Migdale, Sutherland; and the possible hoard from Abdie. Most of these axes are assigned to the Migdale type by Schmidt & Burgess (1981, nos 67, 92, 93, 95, 97, 137, 154, 156, 157); the axes from Mill of Laithers and Fortrie of Balnoon are unclassified (ibid, nos 280 & 293) and the Camptown axe is assigned to the Dunnottar type (ibid, no 54). Coles also identified tinning on two single finds from Glenforsa, Isle of Mull, and Inverness; both these axes are assigned to the Migdale type (ibid, nos 86 & 100). Two further Dunnottar axes are described by Schmidt & Burgess as 'tinned' (ibid, nos 47 & 50) and four or five Migdale axes (ibid, nos 87, 96, 116, ?117, 134); all these are Scottish finds. Needham & Kinnes (1981) identify 17 of 132 Migdale/Killaha axes as tinned.

The surface coatings of axes from Fortrie of Balnoon, Ravelston and Sluie were analysed during the 19th century and shown to have high tin content (Smith & MacAdam 1872); more recent analyses have identified tin-rich surfaces on some of the other axes listed by Coles (Close-Brooks & Coles 1980). A flat axe of form similar to the Migdale type from Barton Stacey, Hampshire, has a separate surface layer of high-tin bronze (Kinnes *et al* 1979). It has been suggested that tin-plating reflects a high status which may have been accorded to the earliest bronze axes (ibid, 143) and this may be supported by the apparent preference for selecting tinned axes for deposition in hoards (Close-Brooks & Coles 1980, 229).

Axe no 9, with expanded blade and concave sides, may be compared to the Migdale axe from Glen Drynoch, Skye (ibid, 38, no 88). However, the length-to-width ratio of this Dail na Caraidh axe on its surviving dimensions, at 115:72, is little more than the ratio of 1.5:1 used to separate the Killaha and Migdale types. It seems likely that in its original form this axe would have qualified for the Killaha type and its shape is certainly distinctive within the Dail na Caraidh group. Axe no 9, with raised sides, is typologically advanced; so is axe no 30, with its pronounced body angle.

The small axe, no 12, is similar to the small axes in the Maidens hoard, Kirkoswald, Ayrshire (ibid, 51, nos 287–8; Piggott & Stewart 1958, GB 31, 1, 3), which also includes three Migdale axes (Schmidt & Burgess 1981, nos 64, 112, 141).

Dail na Caraidh blade no 2, with rain-pattern ornament, should belong to the Migdale decorated variant. The form of axe no 6, with its comparatively narrow upper body, suggests similarity with the Biggar variant, but this identification is not certain.

Two other Scottish hoards combine plain and decorated Migdale axes. The Colleonard hoard, Banff, contains one Migdale axe with five axes of the decorated variant and one developed flat axe of the Scrabo Hill type (ibid, 37, no 74). The hoard from Barevan Kirk, Cawdor, Nairnshire, combines one Migdale axe with one decorated variant (ibid, 43, no 169). Axes of the Biggar variant have not hitherto been found associated with other Migdale axes. According to Schmidt & Burgess, the Low Glenstockdale hoard, Stranraer, Wigtownshire, combines a plain Biggar axe with a decorated flat axe of the developed Glenalla type (ibid, 48, no 239: their fig 4 does not accurately reflect the text for these three associations). However, Needham (nd [1979], 285, fig 11, 1) suggests that the plain axe should also be assigned to the developed group; in the Schmidt & Burgess classification it might be a plain example of the Glenalla type. Apart from the uncertain association with the Dunnottar axe at Camptown, Haddington, East Lothian (Schmidt & Burgess 1981, 32, no 54), the remaining associations between the Migdale type and other axes in Scotland and northern England are with the Killaha type. Schmidt & Burgess identify one Killaha axe and one Migdale axe in the hoard from Durris, Kincardineshire, with four lost axes, although the two surviving axes are very close to one another in form and proportions (ibid, 34, no 58). The Newbiggin hoard, Northumberland, contains a Killaha axe, a Migdale axe and one, two or three flat axes are lost (ibid, 34, no 59, fig 4 is defective again; Britton 1963, 312, no 4).

Hitherto, the largest surviving hoard of Migdale axes has been from Hill of Finglenny, Rhynie, Aberdeenshire, with seven axes according to Schmidt & Burgess (ibid, 36, no 67, pl 132c) and the original publication (Stevenson 1948, 292), eight according to Coles (1969, 102, fig 50). Five Migdale axes were found at Ladyhill, Avoch, in the Black Isle, Ross & Cromarty (Schmidt & Burgess 1981, 39, no 113). Perhaps the largest finds of flat axes recorded in Scotland have been from Dunino, Fife, where one Migdale axe survives from a group of seven or eight axes (ibid, 42, no 163), and Hill of Fortrie of Balnoon, Inverkeithny, Banffshire, where one broken flat axe survives from a find of seven or eight (ibid, 50, no 280; Coles 1969, 33, app D).

Thus, the Dail na Caraidh find appears to be the largest group of bronze flat axes recovered in Scotland, even allowing for doubt about the total number of axes which it contains. (Some of the smaller fragments, however, might not have been recovered except under modern conditions of detection and excavation.) The fragmentary and eroded condition of some of the pieces hinders detailed typological analysis. However, a large association composed mainly of Migdale axes is consistent with other finds.

Migdale and Killaha axes are characteristic of Stage III in the scheme proposed by Burgess (1974, 192–3) and used by Schmidt & Burgess (1981, 58, pl 153), but Stage IV in Burgess' later scheme (1980, 75–6, fig 2.14; Butler 1981, 351). Migdale axes belong among class 3 in the typology of Needham (1987, 151) for southern Britain; while Killaha axes characterize sub-class 3B (Needham *et al* 1985, 6–7, no 1). Both types recur in hoards of Needham's metalwork assemblage III, which is roughly equivalent to Stage IV of Burgess (ibid, iii, 8; Needham 1996, fig 1).

It is noteworthy that a broken blade, no 2, should be present at Dail na Caraidh, for broken axes are characteristic of Scottish Early Bronze Age axe hoards. There are broken axes in the Migdale hoards from Rhynie, Colleonard, Abdie, Dunino (see above) and Auchnacree (Piggott & Stewart 1958, GB 27; Schmidt & Burgess 1981, 37, no 76) and the surviving axe from Fortrie of Balnoon (see above) is also broken. The characteristic stepped outline of the stump of the Dail na Caraidh blade suggests that the axe was deliberately broken in antiquity, because the fractures in the partly broken axe from Abdie (ibid, 38, no 93) and on one of the broken blades in the Rhynie hoard (ibid, no 96) have similar outlines. Although these axes could have been broken simply for scrap, the fact that they clearly remained in a usable condition has provoked suggestions that their breaking had some ritual function (Coles 1969, 33; Schmidt 1979, 319; Connolly 1998).

The distribution of Migdale axes in Scotland is predominately eastern. The main concentration is in the area from the Black Isle, through Nairn, Moray, Banff and Buchan and south to the River Dee (Schmidt & Burgess 1981, pl 115). Most of the westerly finds are from south-west Scotland and the pair of axes found just outside Caerlaverock Castle, Dumfriesshire (Yates 1979), can be added to the distribution. Early Bronze Age metalwork is scarce around Fort William. There are axes of Dunnottar type from Lianachan, south of Spean Bridge (Schmidt & Burgess 1981, 32, no 55), about 9 km north-east of Dail na Caraidh, and of Migdale type from Ardgour House (ibid, 40, no 119), about 19 km to the south-west. There is also a halberd from Tom-na-Brataich (Coles 1969, 87, fig 29, 4), about 6 km north-east of the site. This appears to belong to Harbison's Cotton type (1969b, 41–5) which was in use during Burgess's Frankford stage, but may still have been current in the succeeding Migdale stage (Burgess 1980, 73, 75, fig 2.13, s). Schmidt & Burgess (1981, 59) contrast the comparative rarity of flat axes in south-west Scotland with the abundance of finds in Ulster (Harbison 1969a, figs 2D & 3A) and the situation of the Dail na Caraidh find might support their suggestion that the Great Glen was used as a route between Ireland and north-east Scotland.

In addition to the axes there are nine fragments which appear to be from flat dagger blades. Only no 23 lacks any trace of an edge. Numbers 19 and 21 each have remains of an edge and a rivet-hole, but their relative positions are different. The two largest fragments, nos 20 and 28, are appreciably different in thickness and seem to be from separate blades. Numbers 21 and 22 are of similar thickness, while nos 22 and 23 share similar thickness and patina; these three fragments may be from the same blade. It appears that two blades at least are represented, probably three or four.

Despite their fragmentary condition the blades represented seem to be typologically homogenous. Their uniformly flat sections suggest that they belong with Gerloff's (1975, 41–65) group of flat riveted blades. Even the smaller fragments appear to be too large for Gerloff's flat riveted knife-daggers (ibid, 161–8). The Butterwick type has stout, so-called 'plug' rivets, which are substantially broader than the rivet-holes in Dail na Caraidh fragments 19 and 21. There are only two examples of this type from Scotland (ibid, 43, nos 27 & 28). The two largest fragments from Dail na Caraidh appear to be too long or too broad for inclusion in the Merthyr Mawr type, with slender 'peg' rivets, of which only one example is Scottish (ibid, 50, no 49). The Masterton type is predominately Scottish (ibid, 58–60, nos 70–5, 77, 83–5), but most of these daggers have rivets broader than the Dail na Caraidh rivet-holes and blades narrower than the two largest Dail na Caraidh fragments. The narrower rivets and broader blades which characterize the Milston type seem to accommodate the Dail na Caraidh blades best. Although only three Milston daggers have been found in Scotland (ibid, 53–4, nos 60, 61 & 65), two of these are in the Auchnacree hoard, Angus (Piggott & Stewart 1958, GB.27). The Dail na Caraidh rivet-holes are similar in size to the rivet-holes in the Auchnacree daggers and the two largest Dail na Caraidh fragments are both comparable in scale to the larger Auchnacree dagger. The Auchnacree hoard contains three Migdale axes (Schmidt & Burgess 1981, nos 76, 104, 127) which reinforces the comparison with Dail na Caraidh. Most of the Irish group of flat riveted blades, Harbison's Corkey type (1969b, 8–10, pl 2, 26–40), have broader rivet-holes than the Dail na Caraidh fragments.

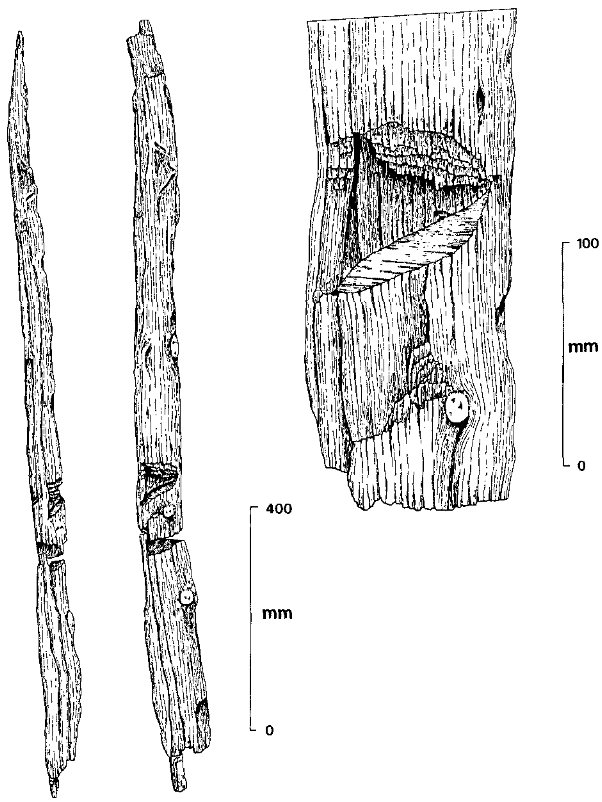
The Dail na Caraidh rivet-holes appear to be consistent with the slender 'peg' rivets which Burgess (1980, 75) uses to characterize daggers of his Stage IV and he had little choice but to use the Auchnacree daggers as British illustrations of this metalworking stage (ibid, 76, fig 2.14, a). The alternative would be the eponymous dagger from Butterwick, Yorkshire (Gerloff 1975, 42, no 20), found with a Migdale axe (Schmidt & Burgess 1981, 43, no 183). The double-pointed awl from this burial (ibid, 57) is illustrated as characteristic of Stage IV (Burgess 1980, fig 2.14, h), although Burgess (ibid, 114, fig 3.17, i & m) uses two more daggers of Butterwick type, from Methillhill, Fife, and Foxley Farm, Eynsham, Oxfordshire (Gerloff 1975, nos 27 & 41), as examples of daggers with plug rivets to illustrate his Stage VI.

Burgess's Stage V is still characterized by daggers with peg rivets, illustrated by the two from Aylesford, Kent (1980, 114, fig 3.7, a & e), one connected with the Masterton type (Gerloff 1975, 60–1, no 86) and the other eponymous for a group hybrid between flat blades and grooved Wessex daggers (ibid, 68, no 103). The Aylesford daggers were associated with an axe eponymous for the type which succeeds the Migdale type in the typological sequence (Burgess 1980, fig 3.7, b; Schmidt & Burgess 1981, 60–1).

Needham places Milston and Butterwick daggers in his metalwork assemblage III, alongside Migdale axes, with Masterton daggers and the Aylesford burial in metalwork assemblage IV (Needham *et al* 1985, iii; Kinnes 1985, 26; Needham 1996, 130). However, Needham (1987, 153) also indicates that the flat daggers associated with axes of metalwork assemblage IV are atypical. This suggests a shorter currency for Butterwick daggers than proposed by Burgess.

Needham identifies typological distinctions between the axes in the first and second clusters at Dail na Caraidh (1987, fig 12; 1988, table 4). The first cluster (axes 1–6, 8–15, 25 & 27) contains axes which are typologically later within his metalwork assemblage III. These generally have narrower blades than axes in the second cluster. Axe no 9 is an exception, with its relatively broad blade, but this belongs to the Killaha type which retained a broad blade throughout metal assemblage III; axe no 9 also has the typologically advanced features of raised sides. The rain pattern ornament on axe 2 appears only later in the currency of assemblage III (Needham 1987, 152). Our decoration may be compared to the example from Manor Farm, Borwick, Lancashire (ibid, 140, 154–5, fig 10, 1). The axes in the second cluster (nos 16–24, 26) have relatively broader blades and are typologically earlier within metalwork assemblage III.

Thus, the typology of axes suggests two separate deposits — at least — at Dail na Caraidh: the second cluster, of axes and daggers, earlier in metalwork assemblage III, and the first cluster,



ILLUS 11 Worked wood with axe-cut

axes only, later on. There could have been more than two deposits on typological grounds: axe no 30, perhaps part of the third cluster or perhaps a separate deposit on its own, has a pronounced body angle which relates it to the first cluster.

It must be a matter for speculation how much time separated the different deposits at Dail na Caraidh. Needham's (1996, 130) metalwork assemblage III covers four centuries, 2300–1900 BC, absolute dating based partly on a radiocarbon measurement of 3655 ± 75 BP for the wooden core of a bead from the Migdale hoard, giving a calibrated range of 2290–1870 BC at 95% confidence (Needham *et al* 1998, Tables 1, 4, illus 3).

LATER ACTIVITY: WORKED WOOD (ILLUS 11)

J H Dickson & the late Camilla A Dickson

Towards the base of the peat in Trench D a single piece of worked wood was uncovered (illus 4). This was 2.7 m long and with an axe-cut notched almost mid-way along its length (illus 11). Alongside this lay a small deposit of bark. A radiocarbon date was obtained for the worked wood of 2440 ± 60 BP (GU-2185).

The worked wood and bark samples are all birch (*Betula*). The bark is of particular interest since there is no evidence of wood attached and the pieces consist of very thin layers of the smooth part of the bark only. The largest pieces submitted for identification measure up to 90 mm by 30 mm, and all are between 1.5 mm and 3 mm in thickness. None of the pieces is regular in outline and there are no indications of shaping. The flat plates of cells are well preserved (birch bark is known for its resistance to decay).

Birch bark is a versatile material which has been used for diverse purposes in several early periods. It burns readily, due partly to its oil content, and torches of rolled birch bark are known from as early as the Mesolithic period. Birch bark was used in early prehistory to make buckets and possibly to extract a resinous pitch for fixing projectile points (Coles & Coles 1995, 11, 14), and in the Iron Age occurs in dagger sheaths from the Thames Valley (Coles *et al* 1978). More recently, birch bark was used in the Highlands to tan leather (Pennant 1790) and in Scandinavia was used as a primitive kind of roofing felt (Lines 1984): 'the bark is laid in overlapping courses straight on the roof sarking and thick turves are then laid on top of the bark. These keep the bark damp and it remains waterproof for many years.'

In addition to the evidence for Iron Age use of the birch woodland, Trench D also contained a large granite boulder which had been drilled and partly split. (The stone was not the same as the granite fragment found close to the second cluster of metal objects.) The boulder has been abandoned with several split fragments lying at its base along with some fragments of glass.

DISCUSSION

The metal finds were scattered widely within the area excavated. Despite its marginal location the whole area has clearly witnessed intermittent human activity since the end of the third millennium BC, including exploitation of the birch woodland, quarrying for granite and gravel, and of course such activities as exercising dogs, using metal detectors and archaeological excavation. These activities, and others unattested, as well as the erosion and movement of the soil and peat, have buffeted and exposed the remains of a quite extensive deposit of early metalwork. The area has never been in an equilibrium awaiting the attention of archaeological investigators. The dynamics at work in the erosion, splitting, cutting and movement of the peat within which larger objects have clearly migrated must be a significant factor in any attempt to understand the archaeology of Dail na Caraidh. Although our evidence is ambiguous this does not preclude interpretation.

The overall distribution of the material, its apparent clustering, and the distinctive character of the assemblages which go to make up the two larger clusters, strongly indicate that there was more than one act of deposition. For this reason we have avoided the use of the term 'hoard' throughout this report because the implications of that term — the burying of a single quantity of material — may mislead. Admittedly all the metal finds seem to have been disturbed, but on balance it also seems unlikely that the residual patterning which we have recovered resulted from the dispersal of material from a single source.

If multiple deposits of metal had taken place then they were not associated with any significant structural modification of this place. The ground surface is uneven but no obviously dug pit could be identified in association with any of the finds. The burial of the metal may have resulted in the excavation of hollows which barely penetrated the soil. Indeed some, if not all, of the material may have been left on the old surface or tucked beneath stones and boulders. This possibly minimal coverage of the material would have contributed to its dispersal over the centuries. Therefore, while our lack of stratigraphic information (partly due to the circumstances of discovery) may be frustrating it does seem to reflect an archaeologically significant aspect of the site. The other potential modification of the place is also characterized by its ambiguity: a boulder with an erosion hollow in the shape of an axe-head may have been propped up in its present position to face the mound.

Whether or not this last aspect is accepted, it is still possible to sketch the character of the site. It was set in an area of heather moorland and birch woodland at the foot of land which rose to the mass of Ben Nevis towards the south. The ground surface has always been wet and it is likely to have contained a number of small pools and peat bogs. On the edge of the terrace formed between the confluence of two rivers there rose a distinctive long mound. Perhaps the confluence was known as a place for fishing and hunting small game with the long mound acting as the clearest visual reference point from any distance. When viewed from the west the darker mound stands out prominently against the mountains rising behind it. It was to this place, between the higher northern end of the mound and the confluence of the rivers that, for a relatively short period of time at the end of the third millennium BC, people came to bury axe-heads, knives and daggers.

It seems unlikely that the axe-heads were hafted; at least one may have been fragmentary and elsewhere in the west of Scotland where axes are represented in carvings on funerary monuments as axe-heads only, not as hafted axes (RCAHMS 1988, 69 & 73). We must be less sure as to the state of the knives and daggers. These blades may have been hafted, in other words they may have been buried as functional implements. There are many such examples from graves of the period and the only carving of a dagger, on Stone 53 of Stonehenge, is of a hafted dagger among unhafted axe-heads (Cleal *et al* 1995, 31–2 & fig 20). The objects were either left on the ground surface or buried in shallow scoops. We do not know how many people were involved or when they visited this place; nor do we know how many deposits were made, although such acts do seem to have occurred more than once.

The period spanning the late third and early second millennium BC is characterized by a distinctive patterning of artefact deposition. Different categories of pottery, stone and metal finds tend to occur in distinct associations and in a limited range of contexts. For example, metal axe-heads are rare grave finds and daggers occur more frequently in this context, although the pattern is reversed in hoard assemblages. Such patterns have increasingly been seen in terms of the formal exchange relationships by which different categories of people, actions, places and values were related or associated.

People, artefacts and places each carry their own narratives, or biographies, cross-cut through time in an interplay where distant places are recalled as places visited, or as the places from which objects and other people have come. Each category of object carried a history and a value, not as something in addition to its material function, but as something which helped to locate that function, the proper reasons for its use, in a system of meaning and knowledge. In this way the lives and actions of individuals could be seen to relate practically to longer term, perhaps timeless, orders. Thus the individual's biography, traced between birth and death, intertwined with the biographies of places visited and of objects exchanged and used. Histories of places and things were not simply longer than those of the individuals they outlived, but may have evoked through their longer histories narratives of apparently unchanging practical, moral and sacred orders.

Morphy (1995, 188) has described how an 'ordered, frozen world of the ancestral past becomes part of the subjective experience of the individual, through the acquisition of knowledge in the ancestral past as he or she moves through the world'. The actions which took place at certain locations in the landscape may have 'unfrozen' from those locations their true significance in terms of an ancestral or cosmological order. Perhaps it is in such a context that we should situate the veneration of a place which naturally lent itself to precise definition, at the confluence of the rivers marked by a distinctive mound and set against the backdrop of Ben Nevis. That veneration would have been carried in stories told from one generation to the next, and in the journeys on which this place was encountered. And for a short time at the end of the third millennium it demanded more, the small-scale and intermittent deposition of artefacts whose own histories were brought to a close through their sacrifice at that spot.

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REFERENCES

Britton, D 1963 'Traditions of metal-working in the later Neolithic and Early Bronze Age of Britain: Part 1', *Proc Prehist Soc*, 29 (1963), 258–325.

Broadbent, N 1979 *Coastal Resources and Settlement Stability*. Uppsala.

Burgess, C 1974 'The Bronze Age', *in* Renfrew, C (ed) *British Prehistory*, 165–232. London.

Burgess, C 1980 *The Age of Stonehenge*. London.

Burgess, C nd [1979] 'The background of early metalworking in Ireland and Britain', *in* Ryan, M (ed), *The Origins of Metallurgy in Atlantic Europe*, 207–14. Dublin.

Butler, J J 1981 'Review of Burgess 1980', *Proc Prehist Soc*, 47 (1981), 350–3.

Callahan, E 1987 *An Evaluation of the Lithic Technology in Middle Sweden during the Mesolithic and Neolithic*. Societas Archaeologica Upsaliensis AUN 8.

Clarke, A 1986 *The Flaked Lithic Assemblage from Rosnish, Benbecula* (=unpub MS, National Museums of Scotland).

Cleal, R M J, Walker, K E & Montague, R 1995 *Stonehenge in its Landscape: twentieth century excavations*. London.

Close-Brooks, J & Coles, J M 1980 'Tinned axes', *Antiquity*, 54 (1980), 228–9.

Coles, J M 1969 'Scottish Early Bronze Age metalwork', *Proc Soc Antiq Scot*, 101 (1968–9), 1–110.

Coles, J & Coles, B 1995 *Enlarging the Past*. Edinburgh (=Soc Antiq Scot Monogr, 11).

Coles, J M, Heal, S V E & Orme, B J 1978 'The use and character of wood in prehistoric Britain and Ireland', *Proc Prehist Soc*, 44 (1978), 1–45.

Connolly, M 1998 'Copper axes and ring barrows — ritual deposition or coincidence?', *Archaeol Ireland*, no 44 (1998), 8–10.

Gerloff, S 1975 *The Early Bronze Age Daggers of Great Britain*. Munich.

Harbison, P 1969a *The Axes of the Early Bronze Age in Ireland*. Munich.

Harbison, P 1969b *The Daggers and the Halberds of the Early Bronze Age in Ireland*. Munich.

Huntley, B & Birks, H J B 1983 *An Atlas of Past and Present Pollen Maps for Europe 0–13000 years ago*. Cambridge.

Jacobsen, G L & Bradshaw, R H W 1981 'The selection of sites for palaeovegetational studies', *Quat Res*, 85 (1981), 245–8.

Kinnes, I 1985 *Beaker and Early Bronze Age Grave Groups*. London (=British Bronze Age Metalwork, A7–16).

Kinnes, I A, Craddock, P T, Needham, S & Lang, J 1979 'Tin-plating in the Early Bronze Age: the Barton Stacey axe', *Antiquity*, 53 (1979), 141–3.

Knutsson, K 1988 *Making and Using Stone Tools*. Societas Archaeologica Upsaliensis AUN 11.

Lines, R 1984 'Man's use of birch, past and present', *in* Henderson, D M & Mann, D (eds), *Birches*, 203–13. Edinburgh (=Proc Roy Soc Edinburgh, 85B).

Moore, S M 1984 *A Pollen Analysis from Dail na Caraidh (Inverlochy): A Bronze Age hoard on McVean and Ratcliffe's Pine and Mixed Forest Boundary* (=Unpub BSc thesis, Univ Glasgow).

Morphy, H 1995 'Landscape and the reproduction of the ancestral past', *in* Hirsch, E & O'Hanlon, M (eds), *The Anthropology of Landscape: perspectives on place and space*, 1–30. Oxford.

Needham, S nd [1979] 'The extent of foreign influence on Early Bronze Age axes development in southern Britain', *in* Ryan, M (ed), *The Origins of Metallurgy in Atlantic Europe*, 265–93. Dublin.

Needham, S 1987 'The bronzes and their implications' *in* A C H Olivier, 'Excavation of a Bronze Age funerary cairn at Manor Farm, near Borwick, north Lancashire', *Proc Prehist Soc*, 53 (1987), 149–56.

Needham, S 1988 'Selective deposition in the British Early Bronze Age', *World Archaeol*, 20 (1988), 229–48.

Needham, S 1996 'Chronology and periodisation in the British Bronze Age', *Acta Archaeologica*, 67 (1996), 121–40.

Needham, S & Kinnes, I 1981 'Tinned axes again', *Antiquity*, 55 (1981), 133–4.

Needham, S, Lawson, A J & Green, H S 1985 *Early Bronze Age Hoards*. London (=British Bronze Age Metalwork, A1–6).

Needham, S, Ramsey, C B, Coombs, D, Cartwright, C & Pettitt, P 1998 'An independent chronology for British Bronze Age metalwork: the results of the Oxford Radiocarbon Accelerator Programme', *Archaeol J*, 154 (1997), 55–107.

Pennant, T 1790 *A Tour of Scotland and Voyages to the Hebrides*, 2 parts. London.

Piggott, S & Stewart, M (eds) 1958 *Early and Middle Bronze Age Grave-Groups and Hoards from Scotland*. London (=Inventaria Archaeologica Great Britain, 5th set: GB 25–34).

RCAHMS 1988 Royal Commission on the Ancient and Historical Monuments of Scotland *Argyll Volume 6: Mid Argyll and Cowal, Prehistoric and Early Historic Monuments*. Edinburgh.

Schmidt, P K 1979 'Beile als Ritualobjekte in der Altbronzeziet der Britischen Inseln', *Jahresbericht des Instituts für Vorgeschichte der Universität Frankfurt a. Main* (1978–9), 311–20.

Schmidt, P K & Burgess, C B 1981 *The Axes of Scotland and Northern England*. Munich.

Smith, J A & MacAdam, S 1872 'Notice of bronze celts or axe-heads which have apparently been tinned', *Proc Soc Antiq Scot*, 9 (1870–2), 428.

Stevenson, R B K 1948 'Notes on some prehistoric objects', *Proc Soc Antiq Scot*, 82 (1947–8), 292–5.

Stuiver, M *et al* 1998 'INTCAL98 radiocarbon age calibration, 24,000–0 cal BP', *Radiocarbon*, 40 (3), 1041–84.

Wickham-Jones, C R 1986 'The procurement and use of stone for flaked tools in prehistoric Scotland', *Proc Soc Antiq Scot*, 116 (1986), 1–10.

Wickham-Jones, C R 1990 *Rhum: Mesolithic and later sites at Kinloch Excavations 1994–6*. Edinburgh.

Yates, M J 1979 'The discovery of two flat bronze axes near Caerlaverock Castle, Dumfries', *Trans Dumfriesshire Galloway Natur Hist Antiq Soc*, 54 (1979), 147–9.

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