

Excavations at Machrins, Colonsay

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SUMMARY

In 1977 and 1978 excavation of a small settlement dating to c 800 AD was undertaken at Machrins, on the island of Colonsay, by the Royal Commission on the Ancient and Historical Monuments of Scotland during the preparation of the *Inventory of Argyll*; a long-cist burial was found near the settlement, accompanied by a bronze pin with a loose ring-head, a fragment of decorated bronze and the skeleton of a dog.

INTRODUCTION

The W coast of Colonsay comprises a series of rocky headlands and cliffs with deeply indented sandy bays (Ritchie & Crofts 1974, 14–41). The best known bay is Kiloran, where there is an extensive area of machair; a Viking burial discovered there in 1882 was accompanied by a rich array of grave goods (Anderson 1907, 443–9). Smaller bays to the S include Port Mór and twin bays of Tobar Fuar and Port Lobh to the W of Machrins farm (fig 1). Still further S the geological make-up of the islands has created a broad sandy strand, covered by the sea at high tide, between Colonsay and Oronsay. The bays of Tobar Fuar and Port Lobh are themselves separated by a rocky peninsula dominated by the fort of Dùn Ghallain at its seaward end, but the E half of the peninsula is machair with a number of marshy hollows. To the E of the heads of both sandy bays, and bounded on the N and S by rocky massifs, there is an extensive area of machair where both erosion and past archaeological exploration have uncovered a considerable number of artefacts, although their precise provenance has not always been recorded. The only other extant field-monuments, however, are a small dun near Tobar Fuar and a cross-slab just S of Machrins farmhouse.

In 1891 excavation of a mound in the dunes revealed a burial, accompanied among other things by a sword, shield fragments, a spearhead, an amber bead, a bronze pin, a penannular brooch and fragments of horse harness (McNeill 1892; Anderson 1907, 441; Loder 1935, 31; Greig 1940, 197). The penannular brooch belongs to the distinctive class represented in the St Ninian's Isle hoard, Shetland, dated to the second half of the 8th century (Small *et al* 1973, 80–105). In 1902 twenty-six iron clinch-nails of 'Viking' type were found at Cnoc nan Gall to the NE of the head of Port Lobh, and the objects have been attributed to a further Viking burial (Greig 1940, 61–2); the surviving finds are listed in Appendix 6. In June 1920 a cist 'built of loose stones' and containing an unaccompanied inhumation was found in a bunker on the golf-course at

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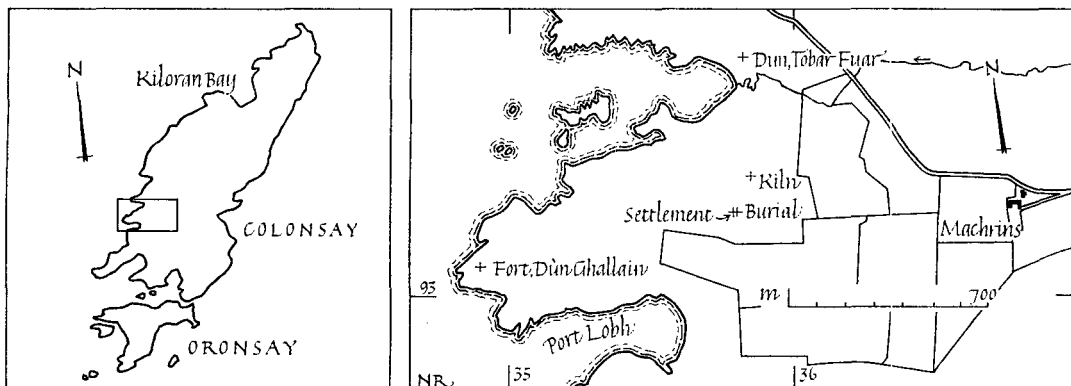


FIG 1 Machrins, Colonsay: location map

Machrins; the skeleton was re-buried. 'Quite a number of cists' were visible in the following year, but they do not seem to have been examined further. The bones of a horse were also uncovered in the shifting sands, but there is no indication of its antiquity (Grieve 1923, 285-6).

In the days before the use of Ordnance Survey grid references the position of several of the sites on the machair at Machrins was given in relation to a wall of a field projecting westwards into the golf-course; it is no longer possible to be certain which projection is intended, but, from the positions of sites or field-walls on the relevant OS maps and those that accompany the volumes by Grieve and Loder (1923, frontispiece; 1935, end-map), it may be suggested that the wall in question angled at NGR NR 35809319 and has now been extended as a post and wire fence to form the boundary of the airstrip; it is thus immediately S of the area described as Cnoc nan Gall on the present 1:10 000 OS map (NR 39 SE). Loder uses the wall to indicate the position of the Viking burial dug by McNeill in 1891: 'The mound was one of several just north of where an angle of a stone wall projects into the golf course' (1935, 31). The cists discovered in 1920 and 1921 were 'not far from where the wall of a field on Machrins farm projects westwards into the [golf-] course. The Bunker lies a little to the West of the point of the wall and contains a number of cists, some of the enclosing stones being exposed to view' (Symington Grieve MS notebook in NMRS). A short distance to the NNE of this bunker there are said to have been several mounds described as 'boat burials', the most southerly of which Grieve states was opened long since with the discovery of many iron rivets – perhaps recording the work of Ludovic Mann in 1902.

In view of the earlier discoveries, the machair areas of Kiloran Bay and Machrins were field-walked with particular care during the preparation of the *Inventory of Argyll* in the hope that new cists or settlements might be found. Kiloran Bay proved negative, but at Machrins, in the area known as Cnoc nan Gall just to the N of the angle of the field-wall already mentioned, several upright stones were discovered protruding through the turf at the edge of an area of blown-out sand (NGR NR 35799330); examination of a rabbit-hole revealed a portion of a worked whalebone vertebra and subsequent excavation showed that the stones formed part of the wall of a small house. Thus all the sites so far discovered, as well as that to be described here, are within the same immediate area. A short distance to the N a low mound of stones, examined because it was thought that it might be a burial cairn, proved to be a ruined kiln; this has been published separately (NGR NR 35849343; Ritchie, J N G 1980). A description of corn-drying kilns on Colonsay by William Stevenson, not noted in the published account of the excavation, should be read in conjunction with it (Stevenson 1881, 136-7; see also Loder 1935, 179).

SETTLEMENT

Excavation revealed four single-roomed 'houses' (fig 2) set in hollows in the sand. The structures had, however, suffered severely both from erosion and from extensive rabbit-burrows; the best-preserved (fig 2, no 2) had probably been squarish on plan with rounded corners and measured about 4.2 m across the centre. The walls, where these survived, were upright slabs of stone set into a shallow groove in the sand; there was no outer wall-face and excavation did not uncover traces of any outer timbers by which the roof might have been supported. A similar method of wall-construction may be assumed for houses 1 and 4, though few of the upright slabs remained in position, and in the case of house 4 the line of the wall was best indicated by the darker staining of the sand of the floor and by the remains of the slight bedding trench and chocking stones that had formerly helped to support the uprights. The walls of the third structure were at a rather lower level. The presence of animal bones pushed down into the sand also indicated where the uprights of the wall had formerly been placed; in house 2, for example, a large worked fragment of whalebone (SF 17) was found inserted beside one of the uprights, presumably to provide some additional support, and an iron knife (SF 3) had found its way to a similar position. The small finds are listed on pp 270-74.

The NW flanks of both houses 1 and 2 had been destroyed by erosion. Communication between the two houses was possible through a gap in the walling on the NE side of house 2; outside this entrance there was what appeared to be a low bench of stones (measuring 1.2 m by 0.4 m and 0.3 m in height), incorporated into the upper surface of which was a stone saddle quern (SF 21). Perhaps house 1 had gone out of use before the construction of house 2 or was employed as a courtyard. House 1 had a central hearth, with a well-set upright slab on the S side; there was a second hearth on the SE side of the house. Several iron objects were found on the floor of the house including small single-sided knives (SF 1-2).

The central hearth in house 2 measured 0.7 m by 0.55 m within four slabs, that on the E side set upright and fire-blackened, the other three slabs lying flat; the hearth contained dark brown sand and charcoal with fragments of shell, mostly limpets. This was the latest of a series of hearths; the earliest, resting on natural sand, had mottled sand beneath it (possibly the result of fire action) and a layer containing patches of burnt clay (SF 31) on top of it, possibly representing the debris of an oven. Above this was a layer of brown sand. The next hearth was apparently lined with upright slabs, although, because of the disturbance caused by the burrows, only one of these remained in position. A small iron strip (SF 10) was recovered from just below the latest hearth.

There was another hearth deposit on the S edge of the central setting; to the N of the centre of the house a further hearth was found set in a slight hollow between two fire-blackened stones at right angles to the uprights of the wall and covered by a large flat slab - the latter shown on fig 2.

The only other feature of note in the interior was the presence of what may be described as a cupboard immediately to the S of the entrance; a well-set upright stone which formed one side of this feature projected from the line of the wall. It measured 0.94 m in height, 0.38 m in width and 0.06 m in thickness. Set in a neat hole in the sand and chocked round with two fire-shattered stones, this upright would originally have stood to a height of some 0.6 m above floor-level. Its neighbour some 0.7 m to the S had slipped slightly away from the wall; measuring up to 1.05 m by 0.32 m and 0.1 m in thickness, it had been set in a socket and its upper surface would originally have been level with its partner. Between the stones there appeared to have been a seating of smaller stones on which a further flat slab rested to form a bottom shelf and there may originally have been a further slab over the tops of the two uprights. A large amount of animal bone was

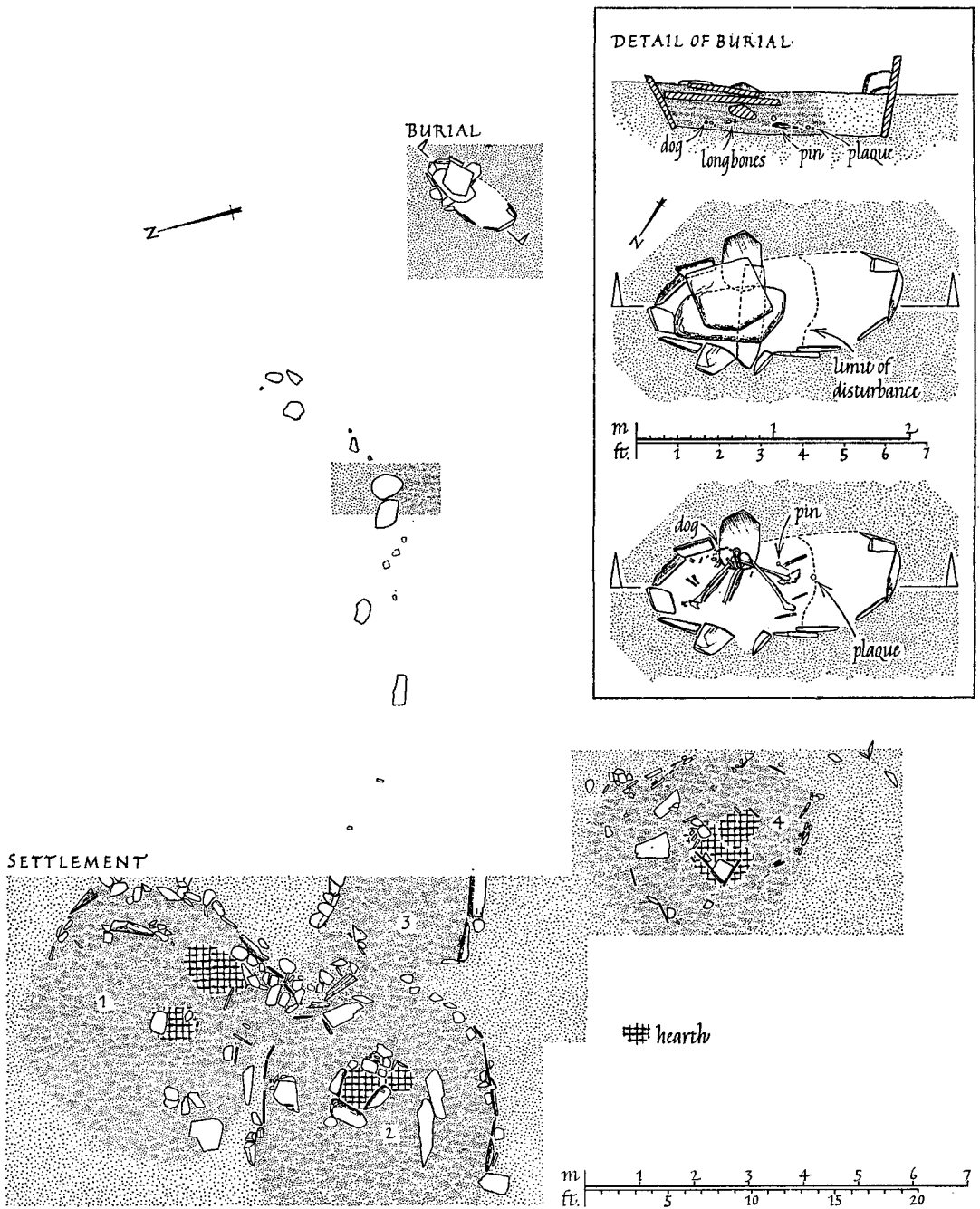


FIG 2 Machrins, Colonsay: site plan.

discovered at the back of this feature (Appendix 1); radiocarbon analysis of the collagen from these bones produced a date of ad 800 ± 70 (GU-1115).

The remains described as house 3 are less easy to interpret. They comprised two short stretches of wall facing one another, that on the N side being only a stone or two high; the S wall had slumped forward but had stood to a height of at least 0.6 m in five courses. There was no indication of an outer face and the walls had merely held back the outside sand. Between the two walls were found two rough layers of flat stones with midden material between them, the lower some 0.5 m below turf and the upper about 0.2 m above this. There were no hearths or small finds.

In house 4, which was covered by a deposit of midden material (Appendices 1 and 2), the hearths at the centre provided the clearest evidence that the site had been occupied on several occasions; the best preserved measured 0.8 m by 0.5 m and had been set in a slab-lined pit. The E half had been undermined by burrows and the paving had slumped. This was in fact the second in a sequence of three hearths; the earlier was on the same spot as the stone-lined one, but covered a larger area and was later cut through by it, with the pit in which the second hearth was set protruding from the SW side of the first. The third, situated a little to the SE of the other two, had an upright slab at its back set in a small square stone-hole. To the N of this hearth complex there was an ash pit measuring about 0.7 m by 0.4 m containing dark brown sand with dark smears. There is some indication that the fuel burnt was peat (Appendix 3).

BURIAL

At a point some 14 m ESE of the settlement, an upright stone protruding slightly above the turf suggested the presence of a further structure; excavation revealed, however, a partly disturbed long-cist burial (figs 1 and 2). The sand-filled cist (pl 14a), aligned NE and SW and measuring 1.6 m by 0.7 m and 0.3 m in depth, contained the remains of a flexed inhumation; the SW end of the cist, where the upper part of the body had been, was disturbed and little of the skeleton survived. The leg bones were intact, their position indicating that the body had been buried on its side, with its back on the NW side of the grave (Appendix 4). At the NE end, a dog (Appendix 5) had been laid out with its head at the knees of the inhumation; from the position of the bones there was no doubt that the dog had been deliberately laid out over the knees of the burial (pl 14b). Three flat slabs covered the sand filling at this end (fig 2), but it is not clear whether these were original cover-slabs or whether they were the result of the robbing of the uprights on the SE side of the grave. There were a few supporting stones particularly behind the end slabs, but there was no indication of the pit in which the cist had been originally built. The accompanying grave-goods included a pin with a loose ring-head (SF 32) (the distal end of the right ulna had a green stain from proximity to this piece), a fragment of decorated bronze (SF 33), an iron nail with the shank hammered over (SF 34), and a tiny piece of textile (SF 40). Radiocarbon analysis of collagen from the long bones of the inhumation produced a date of ad 780 ± 70 (GU-1114).

A small trench was opened between the settlement and the burial in order to examine the nature of a line of stones which protruded through the turf. The area around two large granite erratics was cleared – the stones being 0.55 m high by 0.52 m and 0.26 m thick, and 0.46 m high by 0.5 m and 0.3 m in thickness. The N half of the trench revealed only natural sand; the S half contained a thin deposit of midden material (shells and some bone) over natural sand. There was no indication that the stones were part of a formal field- or plot-boundary and their purpose remains unknown.

DISCUSSION

There is no reason to doubt the indication of date of the settlement provided by the radio-carbon analysis of bone material from house 2, a date confirmed to some extent by the form of the iron knives, comparable to examples from Dunollie (Alcock 1978), Dunadd (Christison & Anderson 1905, 318) and for example Yeavinger, Northumberland (Hope-Taylor 1977, 187; the doubtful value of such simple types for dating purposes is here stressed); the other small finds are not sufficiently diagnostic to be helpful. The flimsy nature of the stonework suggests that they are little more than the stances for impermanent structures, but the sequence of hearths in houses 2 and 4 indicates perhaps more prolonged occupation, or at least use on a number of separate occasions. The most likely interpretation is that they were used during some seasonal activity at some distance from the permanent settlement, with the walls and roof formed of turf and timber with no substantial upright posts. Few comparable sites of similar date can be quoted, for such slight remains must frequently be eroded without notice.

In 1911 Mungo Buchanan discovered a stone-lined hearth at Druim Arstail, Oronsay (NGR NR c 360885); the sand immediately surrounding this hearth had blown away and there was thus no trace of any enclosing wall as at Machrins. The hearth (pl 15b) measured 1.0 m by 0.45 m internally and was at least partly paved at a depth of about 0.18 m; it was filled with blackened sand resting on the basal slabs and there was also black sand 'for a few inches' under the stones. 'Several pieces of burnt bones were got among the debris and fire fractured stones, also pieces of charred wood'; fragmentary bones and charcoal were also present in the sand beneath the floor slabs. Although there is no evidence of the date of this setting, it appears to have been very similar to the hearth in house 4. Another hearth has been recorded in the sand-dunes at Sithean Mòr, at the head of Tràigh nam Bàrc and some 700 m WNW of Garvard, Colonsay (NGR NR 360914), some 1.8 km S of Machrins. The kerb stones formed a rectangular setting aligned N and S measuring 1.7 m by 0.8 m, one end of which had fallen away; the space within the surviving uprights was filled with burnt sand and charcoal. The surrounding sand was at a lower level than this setting, and there were no traces of associated structures. A bronze pin (fig 7) discovered in the sand-dunes a little to the S is of later 9th- to 10th-century date, and, while the pin and the hearth clearly need not be associated, the former confirms activity in the dunes at the same time as that at Machrins; the pin is described in Appendix 7. Loder, following Murdoch McNeill, records the burial of a 'Norse warrior' at Tràigh nam Bàrc (1935, 32), but apart from the discovery of bones and a sword nothing further is known (*see also* Stevenson 1881, 144).

Secondary occupation on the mounds formed by collapsed or sand-covered duns has produced small finds of this date. At À Cheardach Mhor, South Uist, arcs of drystone walling, forming rather smaller structures than those at Machrins, were found dug into the sand covering the wheelhouse (Young 1958; Young & Richardson 1960, 157-8; Alcock 1980, 71). Within the dun at Kildonan, Kintyre, Fairhurst discovered a series of secondary foundations associated with an extensive assemblage of small finds including iron knives and probably a penannular brooch dating to about the ninth century (Fairhurst 1939, 204-7).

The radiocarbon dates for the settlement and the burial suggest the contemporaneity of the two sites. The accompanying grave-goods, notably the pin with movable ring-head and the bronze fragment (SF 32-3; figs 5 & 6; pl 15a), accord well with a date around AD 800. The bronze fragment is a further example of a small group of metal objects isolated by Bakka (1963, 27-33); the ribbon-shaped animals and the hatched background are characteristic of such pieces as the bronze-bound pails from Birka (Sweden), Hopperstad and Farmen, and a fragment of bronze from Torshov (all in Norway) (Graham-Campbell 1980, 91). James Graham-Campbell has kindly

drawn attention to the distinctive manner in which the bodies of animals are coiled round their hind quarters, as for example on the reconstruction of the ornament on the bronze sheet from Torshov (Bakka 1963, 31, fig 28). The Machrins piece may well have been part of a pail-binding, but it has been re-used, perhaps as a belt-mounting. Bakka saw the pails as belonging to the Northumbrian area of the Hiberno-Saxon art province (1963, 32). In reconsidering the group, Wilson put forward a Pictish origin, but suggested that 'it is just possible that these objects were manufactured in the west of Scotland, where a few technically similar decorated objects of sheet metal have been found in Viking graves' (1970, 9; *see also* Wilson 1976, 100). The brooch of St Ninian's Isle type found at Machrins in 1891 is a further indication of the artistic contacts of this part of Colonsay, and the animal ornament of the bronze fragment (SF 33) may also be compared to that on the mounts from St Ninian's Isle (Small *et al* 1973, 60-1; mount no 12 particularly). The re-used nature of the bronze fragment from Machrins makes it impossible to take the discussion further, but, in view of Wilson's suggested area of manufacture, the discovery of this fragment on Colonsay is of some interest.

The iron objects were exceedingly fragmentary (except the bent nail beside the skull of the dog; SF 34), but it seems likely that the body was accompanied by a knife in a sheath. The presence of iron objects has, however, allowed the preservation of a small fragment of textile (SF 40) – a further example of the textile remains found in graves of this period listed by Henshall (1952, 15-17).

The grave itself may be compared to that discovered at Ballinaby, Islay, in 1932 (Edwards 1934), where a long cist (2.1 m by up to 0.76 m and 0.5 m deep), also aligned NE and SW, contained an inhumation with the head at the SW end; the cist was composed of a series of upright sides with four overlapping cover slabs. A ring-pin and a belt buckle were found near the centre of the body, but the other finds from Ballinaby were of a more military character than those from Machrins – sword, shield boss and axe. Another example of a long cist aligned NE and SW with the head of the burial at the SW end is that from Buckquoy, Orkney (Ritchie, A 1977, 183-4), but in this case there were no associated grave-goods.

The burial of dogs has been recorded at a number of sites in Norway and Scotland including Pierowall, Westray, in the Orkneys (Thorsteinsson 1968, 167), though here the breed of dog is not known. Dogs must have been a common sight on the settlements of this period including Jarlshof, Shetland (Hamilton 1956, 214), where, in a domestic midden, the 'remains of a dog, a fairly small breed', probably a terrier, have been recorded. In western Scotland bones of dogs have been found at Dunadd, Argyll ('about the size of a small collie'; Craw 1930, 126), and in the midden levels of the wheelhouse at À Cheardach Mhor, Drimore, South Uist ('comparable in size to a Skye or cairn terrier'; Young & Richardson 1960, 143, 170).

The excavations at Machrins have revealed a type of settlement dating to around AD 800, as well as a distinctive form of burial. If it is permissible on such slight structural and equivocal artefactual evidence to suggest a 'nationality' either for the settlement or the burial, we have the quandary of deciding whether a 'Scottic' or an early 'Viking' label is more appropriate, and Alcock has urged caution over the attribution of certain classes of metalwork to particular peoples (1980, 84). Plan-form and building technique suggest that the houses belong to native traditions, but it is possible that they were erected under duress by slave labour for Viking masters (Wilson 1976, 112). By AD 800 it is certainly difficult to envisage a pagan Scottic burial, and the local flavour of some of the surviving grave-goods may be misleading; the picture would have been radically altered if the missing upper part of the body had worn a pair of oval brooches. It is most likely that the burial is indeed Viking. Despite the broad contemporaneity of the radio-carbon dates, the settlement and the burial need not be associated, but, if they are, they

represent a rare occurrence in western Britain, and one that implies hope for the discovery of Norse settlements in the vicinity of known burial sites by intensive fieldwork.

SMALL FINDS

Settlement

Iron (fig 3)

- 1 Single-edged knife, 102 mm long. Floor deposits, house 1.
- 2 Fragment of a similar knife, 90 mm long. Floor deposits, house 1.
- 3 Fragment of a similar knife, 95 mm long. Beside a whalebone object (no 17) at the S edge of house 2.
- 4 Fragmentary tang. Found just SE of the central hearth in house 2.
- 5 Perforated iron plate, 65 mm by 30 mm. Floor deposits, house 1.
- 6 U-shaped clasp or binding with two transverse nails 23 mm by 23 mm, 9 mm thick. Floor deposits, house 1.
- 7 Y-shaped object, 80 mm long, 46 mm across the tips. Unstratified.
- 8 Tip of an iron nail, 25 mm long. House 4.
- 9 Ring, 58 mm by 52 mm, rectangular section 6 mm by 4 mm. Unstratified.
- 10 Iron strip, 92 mm by 11 mm, c 2 mm thick. Central hearth, house 2.
- 11 Fragmentary iron sheet with a small circular stud or nail. Floor deposits, house 2.
- 12 Fragmentary tang, 125 mm long, rectangular cross-section. Floor level, house 1.
- 13 Fragmentary iron strip, 40 mm by 18 mm by 1 mm thick. Floor level, house 1.
- 14 Fragment of thin iron sheet 44 mm by 40 mm, c 1 mm thick, with a portion bent under. Unstratified.
- 15 Triangular fragment, 20 mm by 15 mm, 2 mm thick. House 4.
- 16 Tang or nail fragment, 22 mm long. House 4.

Bone (fig 3)

- 17 Whalebone vertebra, body diameter 290 mm, thickness c 200 mm, processes trimmed off. Central part of articular surfaces at both ends cut out to form a hollow, with walls c 20 mm to 30 mm thick, c 120 mm deep at the sides and 140 mm deep at the centre on one side, and c 20 mm deep on the other. House 2 at S edge (with no 3).
- 18 Bone pin or needle, 66 mm long; shaft rectangular in cross-section, circular perforation 2 mm in diameter. Floor level, house 1.
- 19 Small bone needle, 45 mm long, with irregular oval perforation, 2 mm by 1 mm. Floor deposits, house 1.
- 20 Tip of a broken pin or needle, 39 mm long, oval in cross-section. Unstratified.

Stone (figs 3 and 4)

- 21 Saddle quern formed on a flat stone 0.53 m long, 0.22 m broad and up to 0.11 m thick, with a smooth working area 0.33 m by 0.15 m. Found on a rough work-bench at the entrance to house 2.
- 22 Pebble pounder or weight, one end bashed, the other broken, waisted at the sides, possibly for secondary use as a weight, 170 mm by 100 mm and 45 mm thick. Unstratified.
- 23 Pebble pounder, bashed at both ends, 130 mm by 73 mm and 42 mm thick. In the 'cupboard', house 2.
- 24 Flat pebble, the upper surface pecked out, possibly to form a lamp, one end broken, 140 mm by 95 mm and 25 mm thick. Unstratified.
- 25 A stone with a rubbing surface and two grooves possibly for smoothing points, broken, 76 mm by 65 mm and 35 mm thick. Unstratified.
- 26 Pebble pounder, bashed at both ends, 170 mm by 88 mm and 63 mm thick. From the base of the wall of house 4.

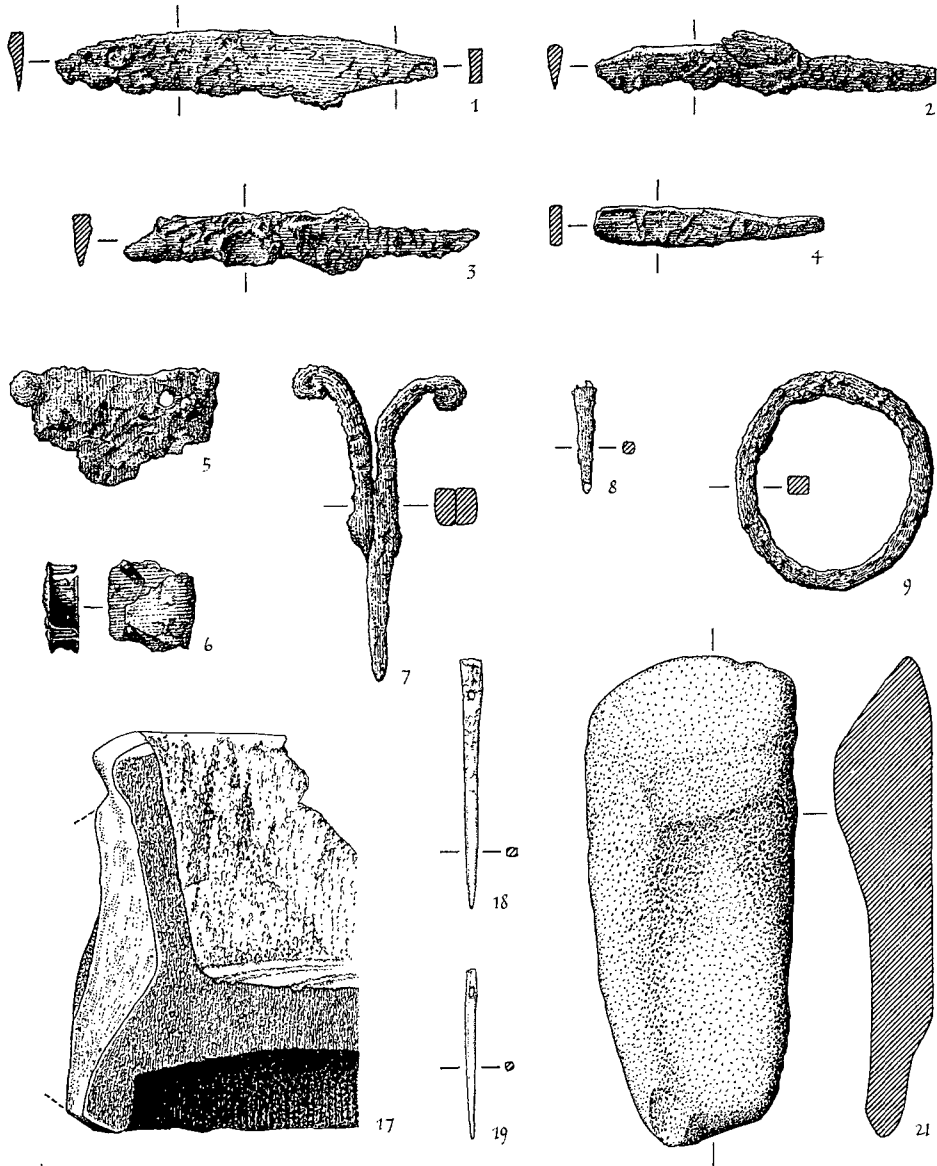


FIG 3 Machrins, Colonsay: ironwork, quern, whalebone and bone objects from the settlement (scale 1:2 except no 17, 1:4 and no 21, 1:8)

- 27 Pebble pounder, bashed at both ends, 135 mm by 70 mm and 35 mm thick.
- 28 Stone disc, 83 mm in diameter, 4 mm thick. Unstratified.
- 29 Ten hammer-stones or pounders. Unstratified.

Flint

- 30 Three cores and eleven lumps, flakes or chips of flint. Unstratified.

Burnt Clay

- 31 Forty-seven fragments of fire-hardened clay, some showing traces of burnt withies or twigs; possibly oven debris. Central hearth, house 2.

*Burial**Bronze* (figs 5 and 6; pl 15a)

- 32 Pin with a loose ring-head; shaft 96 mm long, sub-rectangular in section, with a rolled-over top to secure the ring-head; head c 21 mm in overall diameter, the ring being c 4 mm thick.
- 33 Fragmentary sheet of thin bronze (40 mm by 32 mm) decorated with engraved ornament forming the hind quarters of two animals with a background of oblique hatching; at the time of burial this piece had been on the front of an organic object with a fragmentary and undecorated piece of bronze riveted through it; a thin edging strip suggests that the material was c 2 mm thick (possibly leather). A cast bronze boss (13 mm in diameter, 15 mm in height) with a perforated tang had been inserted into an oval hole which cut across the decoration, the base of the boss further obscuring the engraved pattern. There seems little doubt that the sheet had been re-used (perhaps as a belt ornament) without regard to the decoration or to its original function (perhaps part of a pail-binding). The metal is a tin bronze; the decorated surface has been tinned after engraving to produce the grey surface-finish to the bronze. The fragmentary rivet also appears to be tin bronze as is the boss, which has the same tin:bronze ratio as the reverse of the sheet. This suggests that the boss and

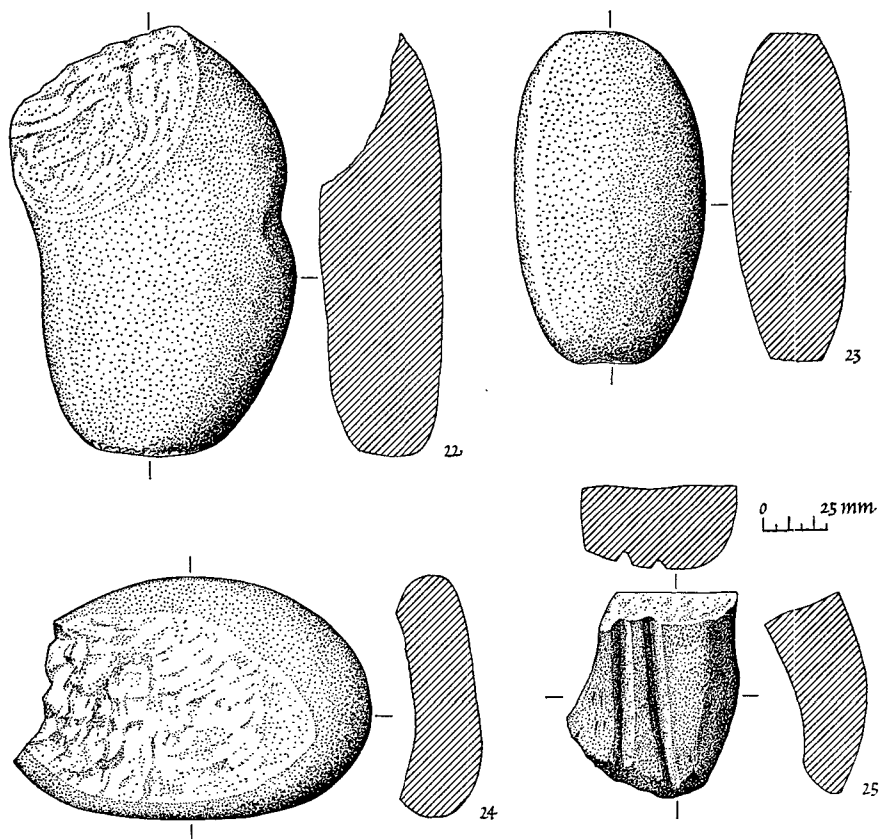


FIG 4 Machrins, Colonsay: stone implements from the settlement (scale 1:3)

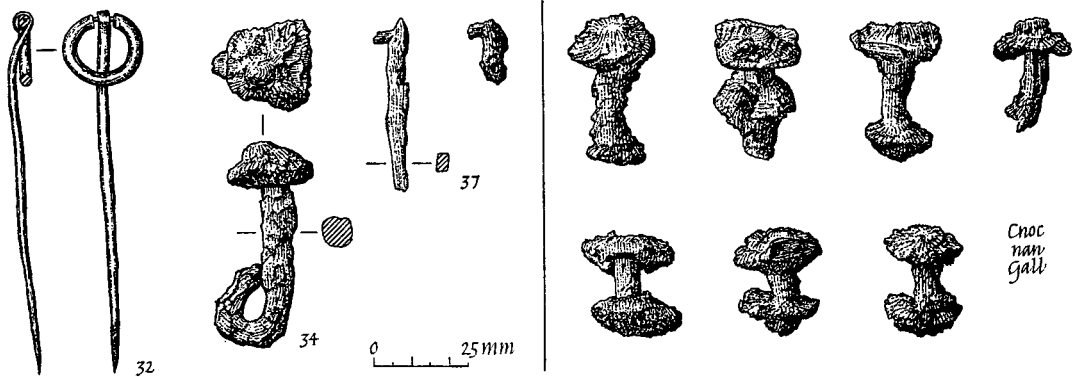


FIG 5 Left; Machrins, Colonsay: bronze pin and iron objects from the burial. Right; Cnoc nan Gall, Colonsay: rivets collected in 1902 (scale 1:2)

the sheet came originally from the same object (NMAS Research Laboratory Analyses nos FO 135-7).

Iron (fig 5)

- 34 Nail with its shank hammered over, 53 mm long. Rectangular head c 24 mm by 22 mm. Beside the skull of the dog.
- 35 Fragment of iron (22 mm by 20 mm and 1 mm thick) with traces of wood on one side; perhaps part of a knife and sheath. On the floor of the cist at the disturbed (SW) end, 150 mm from the end.
- 36 Small flat piece of iron 13 mm by 9 mm and 2 mm thick. On the floor of the cist, at the disturbed (SW) end, 50 mm from the end.
- 37 Fragment of iron, 46 mm long, rectangular in cross-section at one end (5 mm by 3 mm) and flatter at the other (9 mm by 2 mm); a rivet c 9 mm long perforates the centre of the flat end.
- 38 Small bent-over iron fragment 18 mm long. Unstratified.
- 39 Five tiny iron fragments, some with traces of wood adhering to them. Unstratified.

Textile fragment by A S Henshall

- 40 A tiny piece of cloth, measuring only 8.5 mm by 7 mm, now dark brown in colour, has been preserved by impregnation of iron oxide from the metal against which it has lain. One side is obscured

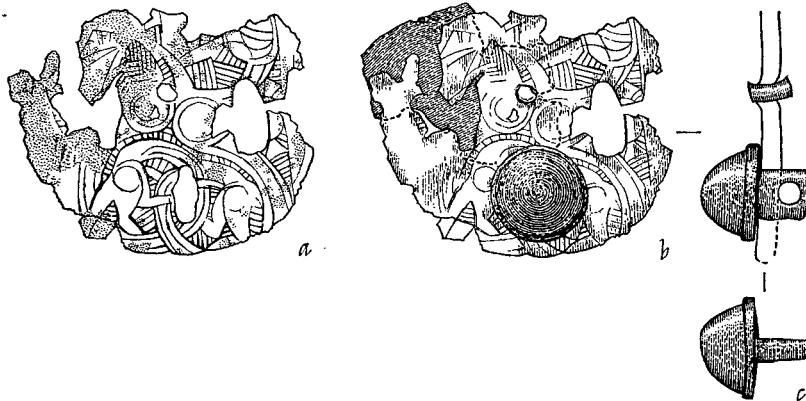


Fig 6 Machrins, Colonsay: sheet bronze fragment (SF 33; scale 1:1); a, front showing decoration, stippled area indicates corrosion; b, front showing position of boss and rivet, the back is indicated by dark hatch and dashed outline; c, section showing boss and rivet

by a deposit, but on the other a fine plain weave is clearly visible, in two layers. The yarns in both systems are Z-spun. A count gives very approximately fourteen threads per centimetre, and roughly the same in the other system. A paler yarn passing in and out of the cloth at one side appears to be a sewing thread. The fine hess would suggest that the material is linen, but this has not been checked. Found beside SF 33.

Slag

- 41 Five pieces of slag-like material, from 22 mm by 11 mm to 10 mm by 4 mm, copper, some with iron corrosion (NMAS Research Laboratory Analyses nos FO 1044-5). Pelvic area of body.

The objects are preserved in the National Museum of Antiquities of Scotland, Edinburgh.

APPENDIX 1

Animal Remains from Machrins, Colonsay

by Mary Harman

The animal bones recovered were in poor condition; though the bone was firm, the surface was badly eroded, and the bones were fragmentary. Most of the pieces could be identified though there were long bone shaft fragments of which it could only be said that they were from large animals (of cattle size) or smaller animals (of sheep size). A list of those which were identified follows. All the bones are from adult or nearly adult animals unless otherwise noted.

House 2

Cattle: Skull, part of the R malar; Mandible, the R ascending ramus; Tooth, lower R fourth premolar, second and third molars; Vertebra, part of body, part of sacrum, one caudal vertebra; Rib, 5 fragments; Scapula, part of glenoid fossa and neck; Humerus, L distal end; R distal end; Metacarpal, R proximal end and part of shaft; Femur, L proximal end; Scapho-cuboid, R; Metatarsal, L part of shaft from an immature beast; possible shaft fragment; Phalanx 1, R; Phalanx 2, 1; Metapodial, shaft fragment.

Sheep: Tooth, lower R third deciduous molar, lower L third molar, lower molar fragment; Rib, 4 fragments; Metacarpal, distal end; Pelvis, L part of ilium; Femur, R proximal end of shaft; Calcaneus, fragment.

Pig: Radius, L diaphysis from animal less than one year old; R diaphysis from animal less than one year old, another individual; Ulna, R fragment from another individual; Femur, L shaft; Phalanx 1, R from animal less than two years old; Phalanx 2, R from animal less than one year old, probably belongs with phalanx 1; Carpal, 1.

Midden overlying house 4.

Cattle: Skull, fragments of cranium including part of L temporal; parts of maxilla; Mandible, L part of ascending ramus; R ascending ramus; R horizontal ramus with deciduous teeth and first two molars from a beast of c two years old; fragment of horizontal ramus; Tooth, R upper third and fourth premolars, first and second molars, probably belonging together, from a beast of over two and a half years old; 1 deciduous incisor, four deciduous molars, one premolar; R and L upper molars, 2 lower L molars; Vertebra, 3 arch fragments; Rib, 8 fragments; Scapula, part of a glenoid fossa; Humerus, L proximal end and part of shaft, from beast c three and a half years old; L shaft from immature beast; L shaft fragment from immature beast; L shaft fragment from immature beast; R part of proximal end; R shaft from immature beast; shaft fragment; Radius, R proximal end, with ulna; R diaphysis from very young calf, with ulna; Carpal, 1; Metacarpal, distal end; Pelvis, L part of acetabulum and ilium; L part of ilium; Patella, 1; Tibia, L part of shaft; R part of shaft from beast less than two and a half years old; L part of distal end; Navicular, L, R; Calcaneus, L fragment; Scapho-cuboid, fragments; Metatarsal, part of proximal end and shaft; shaft fragments; part of distal end; Phalanx 1, L slight bony growth round proximal end, especially on the lateral aspect; L; fragment; Phalanx 2, L.

Sheep: Mandible, L, third and fourth premolars, first and second molars present, from a beast c two years old; L, all adult teeth present, from a beast c two years old; R part of horizontal ramus; Tooth, 1 upper deciduous molar, 1 lower deciduous molar, lower R premolar, 3 upper molars, 1 lower molar;

Vertebra, axis with cut across ventral surface; Scapula, L; Humerus, R part of shaft from a beast of less than three years; R distal end of shaft; R shaft fragment; Radius, R proximal end and part of shaft; R part of proximal end and shaft; R part of shaft; Ulna, L proximal ends; Metacarpal, L part of proximal end and shaft; L shaft; R nearly complete; R shaft, from a beast less than two years old; Pelvis, L part acetabulum; Tibia, L shaft; R proximal end and part of shaft; shaft fragment; Calcaneus, L; Metatarsal, L part of shaft; part of proximal end and shaft; part of proximal end and shaft; shaft fragment; Phalanx, L.

Pig: three fragments are very probably to be attributed to pig; Humerus, R part of distal end of shaft; Femur, R part shaft, from an immature beast; Fibula, shaft fragment.

Roe Deer: Antler, a mis-shapen antler with part of the cranium still attached to it, therefore taken from a dead deer rather than being a cast antler.

Human: Tooth, 1 premolar, 1 lower L molar; Vertebra, body fragment, possibly lumbar; Radius, shaft fragment; Carpal, 1.

The collection is very small and little can be deduced from it. Excluding teeth and rib fragments, the total number of bones from the three species of domestic animals represented was:

house 2 – Cattle 16; Sheep 4; Pig 7.
midden overlying house 4 – Cattle 41; Sheep 27; Pig 3.

Most of the bones were from fully grown adult animals: of those that were from immature beasts, only one calf radius and several of the pig bones were from very young animals, not well grown. The pathological cattle phalanx might suggest an elderly beast. The cut on the sheep axis may be the result of slaughtering: similar cuts may be seen on both the atlas and axis of sheep at other sites. All the bones were from small animals, no large breeds being represented. Both groups of bones appear to be domestic rubbish. The roe-deer antler may have been imported as raw material for working. The fragmentary human bones could be derived from an earlier disturbed burial in the vicinity of the site.

APPENDIX 2

Fish bones from Machrins, Colonsay

by *A Wheeler*, British Museum (Natural History)

House 1

The vertebra of a ling, and probably a second broken example; the vertebra of an unidentified gadoid (cod family). The parts of the 'shell' of goose barnacles *Lepas* sp.; these presumably originated on drift wood which had floated from the central Atlantic.

Midden overlying house 4

Most of the remains are of saithe or coalfish, *Pollachius virens*, and include numerous vertebral centra and a pair (?) R and L premaxillaries. Because of the size of the fish represented (c 300 mm, 250 gm) it is probable that they were caught close inshore on hook and line or in a drop net. This species is very abundant in shallow, inshore water on the W coast of Scotland in summer and autumn. One vertebral centrum fragment comes from an unidentifiable elasmobranch (dogfish or ray). Invertebrates are represented by a single spine of a sea urchin, a fragment of a gastropod (eg winkle), and several fragments of acorn barnacle shell valves. The assemblage suggests shore collecting and fishing, although it is not conclusive.

APPENDIX 3

Cereals and Charcoal from Machrins, Colonsay

by *C A Dickson*, Department of Botany, University of Glasgow

The following cereals and charcoal fragments recovered by wet-sieving samples from the midden overlying house 4 have been identified.

Hordeum vulgare L Emend. (barley) 11 hulled grains, c 4.5–5.8 × 2.5–3.2 mm. No grains preserved intact, lemma bases absent. cf *Hordeum vulgare* 10 poorly preserved grains.

Cereals 30 grains, could all be very poorly preserved barley.

Avena sp (oats) 4 grains, 5.0–5.5 × 1.8–2.5 mm. The small size of the rather poorly preserved grains suggests *A. fatua* L. or *A. strigosa* Schreb.

cf *Calluna* (heather) 4 charcoal fragments, each c 0.5 cm long, are tentatively identified as *Calluna*.
cf *Fraxinus* (ash) 1 charcoal fragment c 0.5 cm long is tentatively identified as *Fraxinus*.

The sample from the final hearth in house 4 has carbonised plant material some of which resembles *Eriophorum* (cotton-grass) – a bog plant. This would suggest that the material is peat, as do associated fungal sclerotia of *Coenococcum*. Unfortunately no fragments could be found with sufficiently well-preserved cell structure to be certain of this. The samples from the ash pit in house 4 contained no recognisable remains; had the fuel been wood, the discovery of tiny pieces of charcoal might have been expected.

APPENDIX 4

Human Remains from Machrins, Colonsay

by *Mary Harman*

The skeleton from the long-cist burial (fig 2) was incomplete, the upper half in particular being scantily represented, and the bones, while firm, were light and broken and had very eroded surfaces. Most of the fragments were recognisable; the parts remaining were a number of skull fragments, including the right side of the mandible and seven loose teeth, parts of four vertebrae, fragments of the right scapula and clavicle, parts of the diaphyses of both radii and ulnae, and the distal ends of the right radius and ulna the latter with a green stain, part of the left acetabulum and ischium and the right acetabulum, ilium and ischium, all the leg bones, some with the epiphyses crumbled away, both tali, the right calcaneus, and parts of four metapodials.

The skeleton was that of an adult; few of the features most useful in deciding sex remained, but the bones are not large or particularly robust; a small part of the occipital bone of the skull shows no strong muscular markings, and the mastoid process is small, all suggesting that the person may have been female, but none of these is conclusive. The angle of the sciatic notch is not clear, but there is no pre-auricular sulcus on the right ilium.

The teeth recovered were the two lower right incisors, one canine, one premolar, one upper and one lower molar, and one broken molar crown with root attached. The molars were heavily worn, two of them with uneven wear, though the rest of the teeth showed no signs of extreme wear. The piece of mandible contained the sockets for all the teeth on the right side, except the last two molars, which were lost before death. The socket for the first molar was open and slightly enlarged. There may have been an abscess around the second premolar. The wear on the molars suggests an age of over 40 years; this is consistent with a very slight lipping on the margin of the body of the lumbar vertebra, due to osteoarthritis. There is no other evidence of disease or injury on the bones.

The bones were re-buried within the sand-hills of Machrins at local request.

APPENDIX 5

The skeleton of a dog from Machrins, Colonsay

by *Juliet Clutton-Brock*, British Museum (Natural History)

Almost the whole of the skull and skeleton of a small dog was retrieved from the burial, but the bones were in a very friable condition with most of the epiphyses missing and the surface much eroded by the soil conditions. Because of their poor state of preservation it was difficult to obtain exact measurements of the bones, with the exception of the mandible, but despite this it was immediately obvious that the dog had been remarkably short-limbed, bow-legged, and had a long head.

There was no sign of a baculum, or penis bone, which would have proved the animal to have been male. Its absence, however, cannot be taken as indicating that the dog was certainly female because of the generally disintegrated state of much of the skeleton.

The bones showed no obvious signs of disease or of butchery and it is therefore not possible to

discern the cause of death. The right radius had a healed fracture towards the anterior end of the shaft which showed up well on X-ray, whilst the left radius had been, doubtfully, also fractured during life.

Although the teeth are much worn it is probable that the animal was not more than six years old when it died. This can be deduced from the open state of the premaxillary-maxillary suture of the palate. The dog had probably been well fed within 24 hours of its death as there was a large number of coprolites preserved with the skeleton. These have a small, globular shape and a granular texture without many fragments of bone.

The dimensions of as many of the bones as could be measured are given below:

Skull

zygomatic width	103 mm estimated
palatal width	65.2 mm
width at canines	36.0 mm
palatal length	95.5 mm estimated
length entire tooth row	91.5 mm
length cheek tooth row	64.6 mm
length P ¹	5.3 mm
length P ²	10.3 mm
length P ³	12.4 mm
length P ⁴ (carnassial)	18.6 mm
length M ¹	14.2 mm
length M ²	6.9 mm
length M ¹ + M ²	20.0 mm

Mandible

length of bone	130 mm estimated
height of vertical ramus	52.7 mm
depth of mandible at P ₄	21.2 mm
width of condyle	25.5 mm
length P ₁	4.0 mm
length P ₂	9.1 mm
length P ₃	10.5 mm
length P ₄	11.4 mm
length M ₁ (carnassial)	22.1 mm
length M ₂	8.6 mm
length M ₃	4.4 mm

Atlas

width	56.4 mm
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Axis

length of bone	54.4 mm
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Scapula

length of articular surface	27.4 mm
width of articular surface	17.0 mm
length of neck	21.8 mm

Humerus

length of bone	109 mm estimated
proximal width	28.5 mm estimated
distal width	23.5 mm estimated
shaft width	12.0 mm

Ulna

depth at olecranon beak	23·7 mm
minimum depth of olecranon	18·9 mm
length of olecranon notch	17·7 mm

Radius

shaft width	13·0 mm
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Femur

length of bone	126 mm estimated
shaft width	14·6 mm

Tibia

shaft width	13·1 mm
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Estimate of shoulder height (Harcourt 1974, 154)

$$\text{Humerus: } (3\cdot43 \times 109) - 26\cdot54 = 350 \text{ mm}$$

$$\text{Femur: } (3\cdot14 \times 126) - 12\cdot96 = 380 \text{ mm}$$

The dog had a well-proportioned skull with a long straight mandible and well-spaced teeth. The head was, however, large for the length of the legs. The limb bones are stout in comparison to their lengths, which are remarkably short, and the radii and ulnae are distinctly bowed. Taking all these characters into account it is difficult to escape from the conclusion that the dog must have looked remarkably like a present day Welsh Corgi.

It is often said that the Welsh Corgi has a Celtic origin, presumably because of its former distribution as a cattle dog in the west of Britain. This breed is, however, almost identical in appearance to the Swedish cattle dog, the Västgötaspets. Both dogs should be between 310 mm and 380 mm in height and should have a long back, stocky legs, and a large head with a straight muzzle.

As is evidenced from their many pictorial representations the main lines of dog breeds were established in northern Europe by early medieval times. It is probably not possible to say whether the short-legged, rather heavily-built dogs, used for driving cattle, were first bred in Scandinavia or in Britain, but it is possible to assert that the skeleton from Machrins is the earliest of its kind to be excavated in this country.

The skeleton is now preserved in the British Museum (Natural History).

APPENDIX 6

Cnoc nan Gall, Machrins, Colonsay

In July 1902 part of the sand dunes at Cnoc nan Gall, Machrins, was blown bare and a series of objects was recovered including a human tooth (an upper molar), a horse tooth, and 26 iron clinch-nails or fragments, a selection of which has been illustrated on fig 5. They have circular heads c 20 mm in diameter and square or diamond-shaped washers; there are nine fragmentary heads, ten fragmentary washers and seven nails with both heads and washers. Two groups may be distinguished on the basis of the length of the shank, the larger being c 25 mm and the smaller 15 mm in length, measurements that have been confirmed by X-ray examination of representative examples. Several have traces of wood impressions. There are no further details about the disposition of these finds and, though it is perhaps wrong to describe this group as a 'grave find' (Greig 1940, 61-2), the rivets are certainly very similar in size and shape to those from Balladoole, Isle of Man (Bersu & Wilson 1966, 13-14, pl iii). Hope-Taylor has described the discovery of clinch nails of rather larger size associated with two phases of wooden timber building at Yeavinger, Northumberland, and has suggested that where these accompany burials

they represent a 'token' form of boat-burial (1977, 1993). The objects are now in Glasgow Art Gallery and Museum ('55-96).

Dr D A Lunt, University of Glasgow Dental Hospital and School, has kindly commented on the human tooth. 'The tooth is a human upper right permanent molar, either the second or third molar. Unfortunately it is not possible to say precisely which of these teeth is present, but in my opinion it is perhaps more likely to be the second molar. The tooth shows very little sign of wear. There is some post-mortem erosion of the enamel which makes assessment of the early stages of attrition more difficult, but there appear to be very early wear facets of the enamel. This suggests that the tooth had erupted only a short time before death. Two of the roots are rather badly broken, but the third appears to have an incomplete apex. This again suggests that the individual died about two years after the eruption of the tooth. If the tooth is a second molar, this would give an age at death of c 13-15 years. If the tooth is a third molar the age would be c 17-19 years. There is no evidence of dental disease.' Miss Mary Harman has kindly commented on the horse tooth. 'The tooth, formerly described as that of an ox, is the cheek tooth of a horse or more probably, as it is quite small, a pony. It is either the second premolar or the third molar from the mandible of an adult animal.'

APPENDIX 7

A bronze pin from Garvard, Colonsay

In 1979 in the course of fieldwork Mr A Leith of the Royal Commission on the Ancient and Historical Monuments of Scotland discovered a bronze pin in the sand dunes at Sithean Mòr at the head of Tràigh nam Bàrc at a point c 700 m WNW of Garvard (NGR NR 360914), a little to the S of a hearth (p 268). The pin (fig 7), which is in excellent condition, although the shank is slightly bent near the tip,

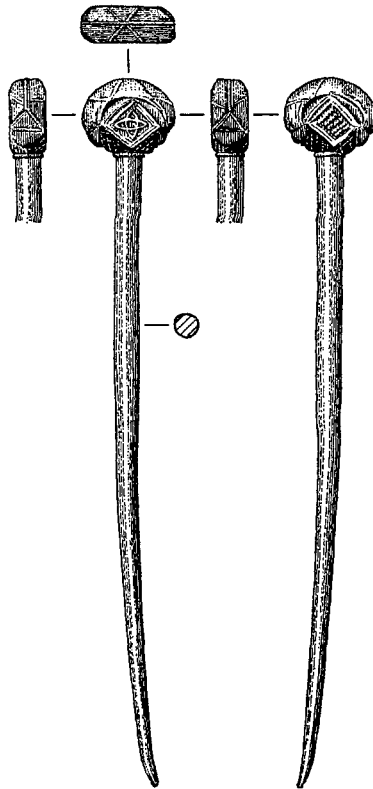


FIG 7 Garvard, Colonsay: bronze pin (scale 1:1).

measures 96 mm in length, tapering from 3.5 mm at the head of the shank, where there is a slight beading, to a pointed tip; the shank is circular in section.

The pin belongs to Fanning's 'kidney-ringed, polyhedral-headed' type of ringed pin, the ring in this case cast with the head and not movable (Fanning 1982, 329–31). The 'ring' has a band of incised chevron lines on each face, terminating in triangular motifs at each side; a pin possibly from Harris had a rather similar decorative layout (Close-Brooks & Maxwell 1974, 299, fig 2, no 978). On one side of the polyhedral head the Garvard pin has brambled ornament, also present on the four faces at the head of the shank, and on the other there are two lentoid motifs at right angles forming a *duplex* (O'Meadhra 1979, 12), which give the impression of a simple interlaced knot. A date in the later 9th to 10th centuries may be put forward for pins of this type and Fanning suggests that the use of such designs as the interlaced knot and step pattern sprang from trade and 'contact between Irish, Viking and perhaps late Saxon workshops' (1977, 224). The majority of the pins of kidney-ringed polyhedral-headed type have been found in the Outer Hebrides (Lewis, Harris, North Uist); a comparable Irish example found near Navan, county Meath is illustrated by Pryor (1976, 74, fig 25, no 6).

The pin is now in the National Museum of Antiquities of Scotland, Edinburgh.

ACKNOWLEDGMENTS

The excavation at Machrins was carried out in the course of fieldwork on behalf of the Royal Commission on the Ancient and Historical Monuments of Scotland, and this account is published by courtesy of the Commissioners. Permission to excavate was granted by Lord Strathcona and by Mr R McNeill, Machrins. The assistance of Miss J Comrie, Mr I G Parker, Mr J B Stevenson and Mr J N Stevenson during the excavation is gratefully acknowledged. Many people have helped by examining, conserving and advising on the small finds and environmental material, or by allowing access to museum collections: Miss H C Adamson, Mrs K Antonio, Miss M M Brown, Mr T Bryce, Dr A S Clarke, Dr D V Clarke, Dr J Close-Brooks, Dr J Clutton-Brock, Mr T G Cowie, Mrs C A Dickson, Mr T Fanning, Mr J Graham-Campbell, Miss M Harman, Dr D A Lunt, Miss E Macartney, Dr E W MacKie, Mr A MacLaren, Dr A Ritchie, Mr C R Russell, Mr M Sheldrick, Dr M J Stenhouse, Dr J Tate, Mr A Wheeler and Dr A Young. The excavation drawings have been prepared by Mr I G Parker, Mr I G Scott and Mr J N Stevenson.

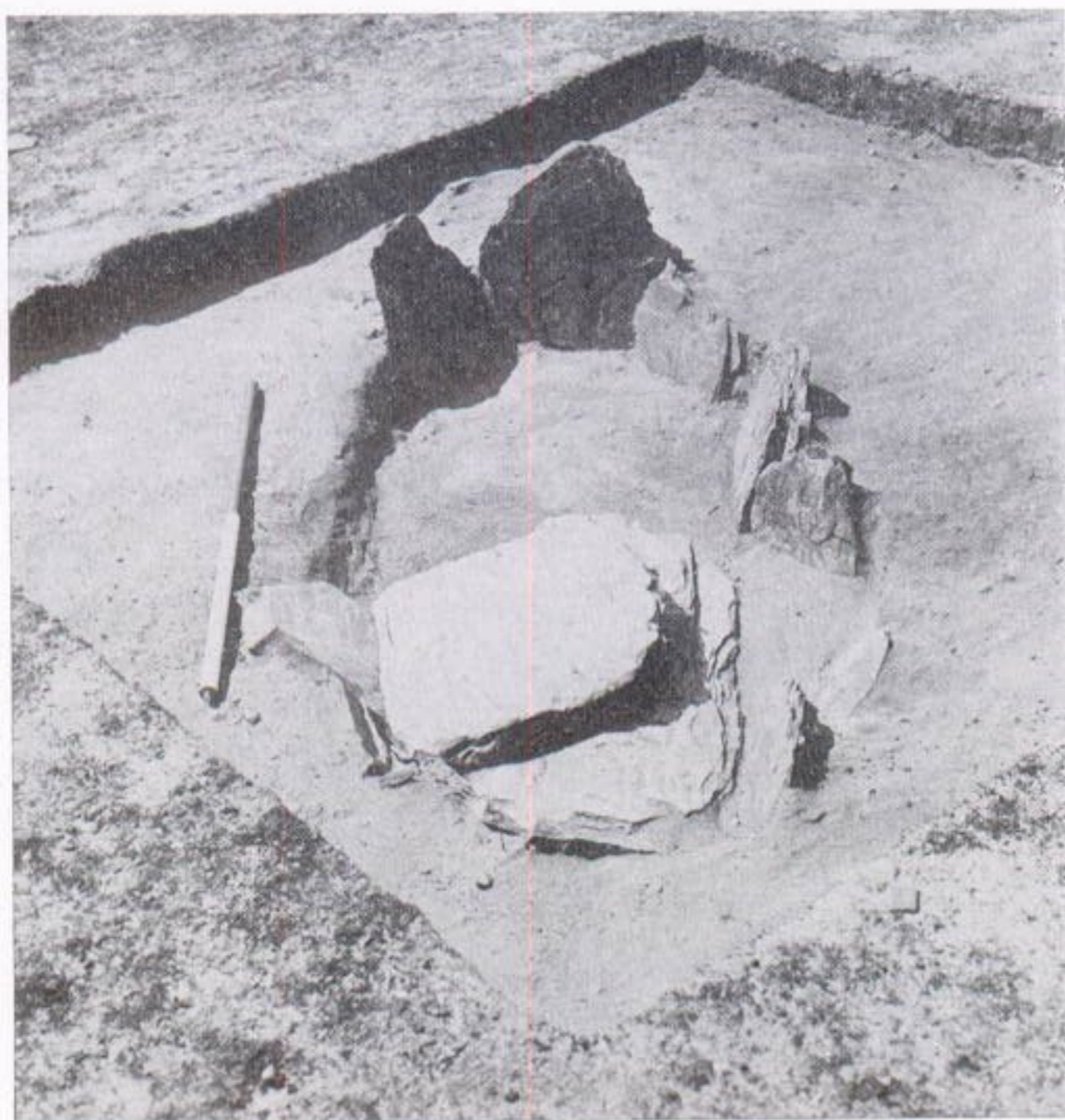
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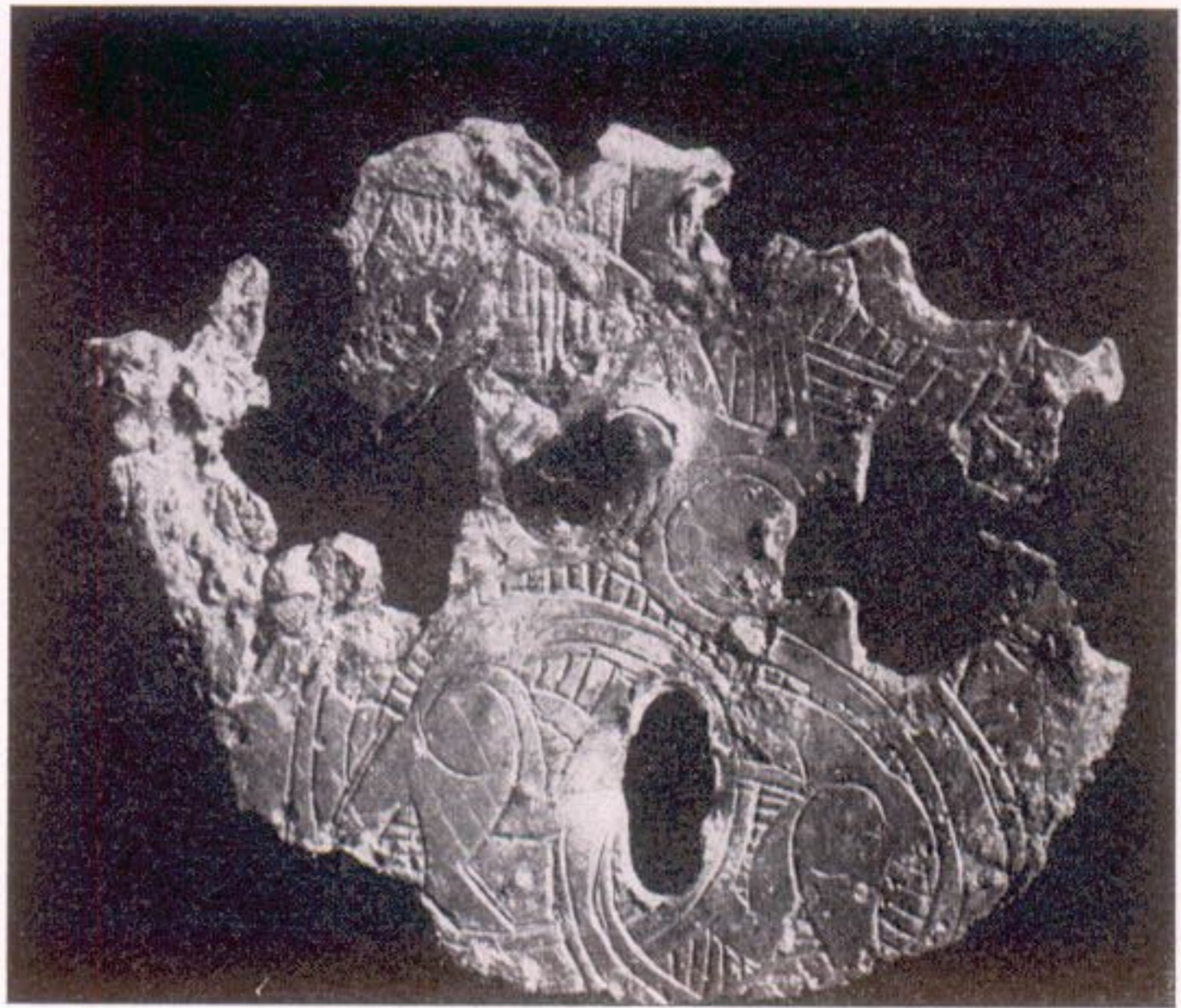
The Society is indebted to the Scottish Office for a grant towards the publication of this paper.



a Machrins, Colonsay: cist from SW



b Machrins, Colonsay: lower limbs and dog burial



a Machrins, Colonsay: sheet bronze fragment (SF 33; scale 2:1)



b Druim Arstail, Oronsay: hearth excavated by Mungo Buchanan 1911