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A Viking Age cemetery at Cnip, Uig, Isle of Lewis

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with contributions by B Finlayson, N Kerr, N Murray & R J Strachan

ABSTRACT

Six burials of ninth–tenth century AD date have been recorded during rescue excavations in 1991, 1992 and 1994, as a result of erosion of the machair on the south-east slopes of Cnip (Kneep) headland. Combined with the discovery of a later 10th-century AD pagan Norse burial recovered in 1979, this evidence suggests the headland to be the site of a Viking Age cemetery, the first such to be confirmed in the Western Isles. Some comments are made regarding the likely extent and degree of survival of deposits associated with the cemetery, and reservations are expressed about inference of the cultural affiliations of those buried in the cemetery on the basis of the excavated evidence. The projects were funded by Historic Scotland and the National Museums of Scotland.

INTRODUCTION

Recent years have seen intensive archaeological activity on the Bhaltos (Valtos) peninsula in the west of the Isle of Lewis. This fieldwork has had three main facets: a detailed field survey of a large part of the peninsula, providing a broad overview of the archaeology of the area (Armit 1994); research excavations at Loch na Berie broch and Loch Bharabhat island dun (Harding & Armit 1990); and sporadic rescue excavations resulting from exposure of archaeological remains within eroding areas of the coastal machair. The latter have included a wheelhouse and possibly associated structures at Tràigh Cnip (Armit 1988; Armit & Dunwell 1992; illus 1, nos 7–8), and a Bronze Age cairn (Close-Brooks this volume; illus 1, no 2) and Viking burial discovered in 1979 (Welander *et al* 1987; illus 1, A) on the southern slopes of Cnip headland, to the south-east of Cnip township (NGR: NB 099364).

This report details the results of the excavation of a further six Viking Age burials on the headland. In May 1991 the excavation of a child burial was undertaken by Trevor Cowie for the National Museums of Scotland (illus 1, B): an interim statement of results (Cowie *et al* 1993) is superseded by the present paper. A cluster of three adult and two infant burials was subsequently excavated nearby, the former in March–April 1992 and the latter in August 1994, by the Centre for Field Archaeology (CFA), funded by Historic Scotland (illus 1, C–G). The combined evidence suggests that Cnip headland was the site of a cemetery of ninth–tenth century AD date. The analysis of the human remains from these excavations was carried out by Dr Margaret Bruce and Neill Kerr; the opportunity was also taken to re-examine the burial found in 1979. Finally, consideration

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is given to collections of small finds from eroding/deflating surfaces in the immediate vicinity of the sites, made by Mr and Mrs G R Curtis of Callanish, Lewis, between 1984 and 1994 and loaned to CFA for cataloguing and analysis.

The results of further fieldwork carried out by CFA in 1992 are published separately. A Bronze Age cist burial was excavated (illus 9; Dunwell *et al* this volume), and the field survey, mentioned above, was also completed.

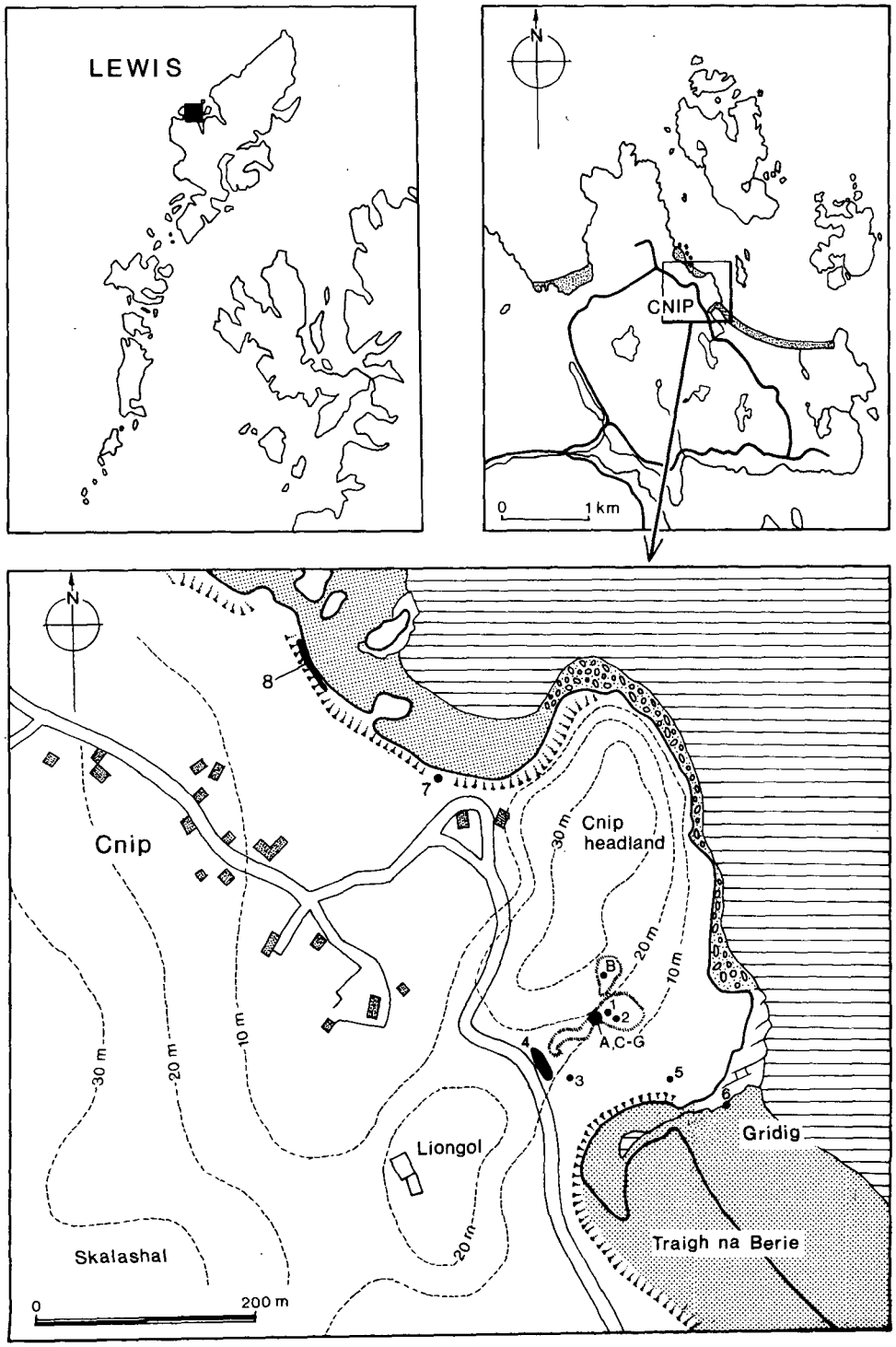
The Viking Age burial discovered in 1979 is hereafter referred to as Burial A, the child burial excavated in 1991 as Burial B, the three adult burials recorded in 1992 as Burials C–E, and the two infants excavated in 1994 as Burials F–G. The Gaelic place-name spellings of 'Cnip' and 'Bhaltos' are adopted in preference to the anglicized names 'Kneep' and 'Valtos', reflecting current nomenclature on Ordnance Survey maps and recent excavation reports (eg Armit 1988).

PREVIOUS ARCHAEOLOGICAL WORK ON CNIP HEADLAND

The south-eastern slopes of Cnip headland overlook Tràigh na Berie, one of the largest and most scenic beach, dune and machair systems in Lewis (illus 1). The slopes of the headland are covered by blown sand supporting a thin turf cover, broken in many places by large blow-outs or deflation hollows scooped out by the wind. Geomorphological description of the machair formations of the Bhaltos peninsula has been published by Ritchie & Mather (1970), with a more recent analysis and discussion of patterns of erosion provided by Armit (1994). Where the machair profile is exposed, at least two fossil soil horizons are still visible, associated with archaeologically detectable episodes of human activity.

A number of archaeological sites have, at various times, been exposed by the erosion on the headland. Lacaille (1937) published details of a group of sites which he described as 'hut-circles' on the south-east slopes of the headland, first noted by the Royal Commission (RCAHMS 1928, 29, no 98). He also collected a substantial quantity of artefacts, from what he termed 'working-sites' and 'kitchen middens' exposed within the eroding areas around the sites. Only one of these 'hut-circles' (*ibid*, fig 2; illus 1, no 3) is still visible. The interpretation of these structures has long been uncertain but, since Lacaille's observations were made, excavations on sites in Lewis, such as Barvas (*Discovery Excav Scot* 1987, 62) and Dalmore (Ponting & Ponting 1984), and, further afield, in other sand dune machair areas in the West of Scotland (eg Ardnave, Islay; Ritchie & Welfare 1983) suggest that they may well be associated with earlier Bronze Age activity. Drawing on the testimony of local inhabitants, Lacaille (1937) also drew attention to accounts of discoveries of human bones on the headland and poorly provenanced stray finds, including several pins of Norse date (*Discovery Excav Scot* 1961, 45, and Close-Brooks, this volume, for recent accounts of surface finds). The recent surface collections made by Mr and Mrs Curtis were made in the same general area as the assemblage collected by Lacaille.

An eroding multi-phase Bronze Age cairn was excavated in 1976 and 1978 by Joanna Close-Brooks (this volume; illus 1, no 2). One of Lacaille's hut-circles (1937, fig 3) may have been a misidentification of this site. Burial A was subsequently exposed by sand erosion approximately 18 m west of the Bronze Age cairn (illus 1, A). Its precise position cannot now be reconstructed, but from the available measurements it must have lain no more than a few metres south of subsequent discoveries (Burials C–G). Owing to the circumstances of its recovery, little is known of the structural and stratigraphic associations of this burial. Sufficient information was recorded to allow a reasonably accurate reconstruction of the disposition of the contents of the grave: these included two oval brooches, a necklace of segmented glass beads, a ringed pin, a matching buckle and strap-end, a knife, whetstone and needle case, and a sickle. Fragmentary remains of textiles were also recovered from the grave (for full details see Welander *et al* 1987).



ILLUS 1 Site location map (*Based upon the Ordnance Survey map,. Crown copyright*)
Site 1: cist burial; 2: Bronze Age cairn; 3: 'hut circle'; 4: undated settlement mound; 5: exposed walling; 6: boat noost; 7: Cnip wheelhouse; 8: Cnip, sites 2 and 3; A–G: Viking Age burials

Archaeological survey of the Bhaltos peninsula has identified further undated sites on the headland (Armit 1994), in particular a substantial settlement mound (gazetteer no. 20; illus 1, no 4) c 50 m to the south-west of the burial sites. In addition, exposed walling in the beach-front of Tràigh na Berie, and a denuded boat noost on an area of rocky foreshore to the east of this, were recorded by Armit (*ibid*, gazetteer nos 31, 27; illus 1, nos 5–6).

The density of known sites and exposed buried soils indicates that the whole of the south-eastern slope of Cnip headland is archaeologically sensitive.

EXCAVATION OF A CHILD BURIAL, 1991 (BURIAL B)

Trevor Cowie

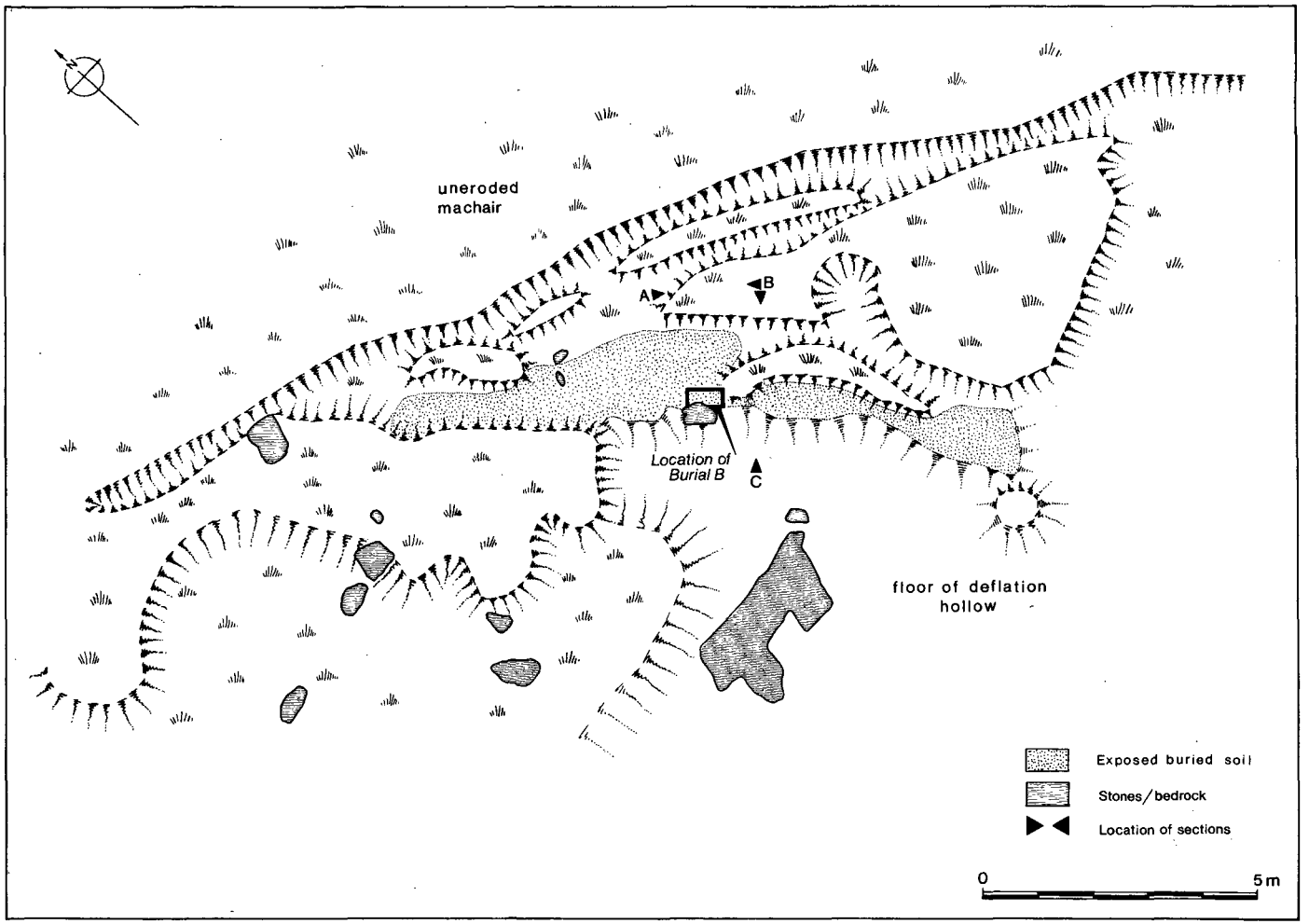
CIRCUMSTANCES OF DISCOVERY

This burial was discovered by two teenagers, Marie MacLean (then aged 15) from Point, in Lewis, and Ross James (13) from the Wirral in Cheshire, while visiting Tràigh na Berie for a day trip with their families on Sunday 26 May 1991. In a blow-out, high up on the machair-covered slopes of Cnip headland, Marie spotted what turned out to be the bleached remains of a human skull lying in the sand. While on a school trip, she had previously been shown sites in the vicinity by Mrs Curtis and was therefore aware of the potential archaeological interest of the area, but she later admitted that she had actually been looking for a rabbit skull to play a practical joke on Ross – intending to hold it up and say that she had found human bones! To her great credit, however, she recognized that she had indeed found part of a human skull (part of the orbit). Her father confirmed the identification and, returning to the site, they removed more sand to reveal further skull fragments and the mandible, and what were subsequently identified as an amber bead and a stone pendant. At this point they realized the archaeological significance of their find, replaced all the material they had uncovered and reported it as soon as possible to Mrs Curtis.

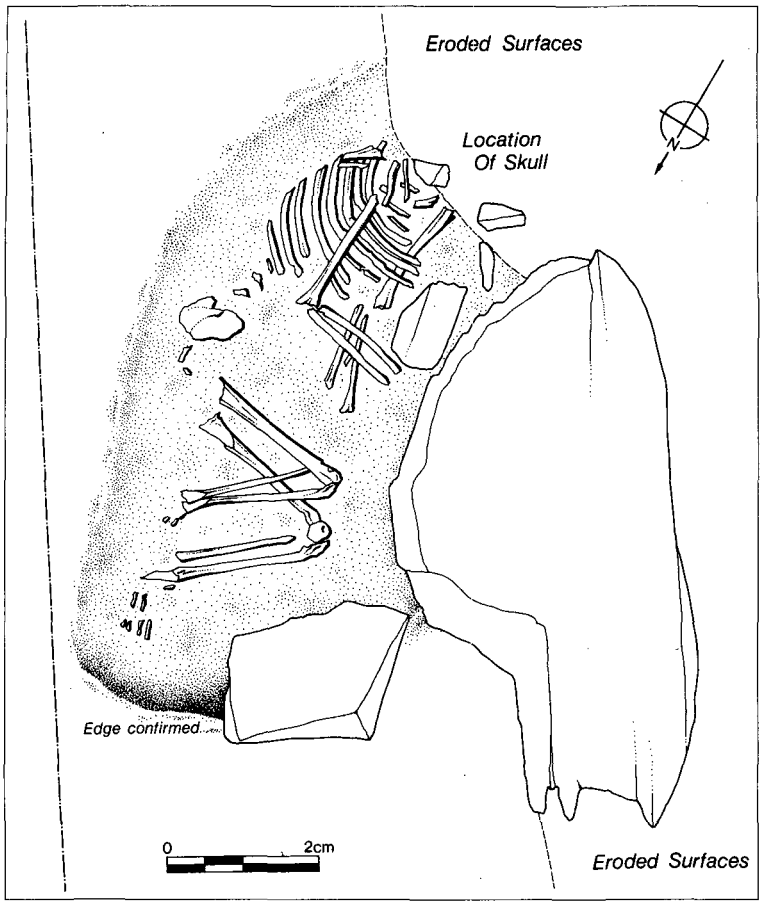
That same evening, the site was brought to the attention of the National Museums of Scotland by Mrs Curtis. Although initial details were vague, the find-spot appeared to be in the general vicinity of Burial A (Welander *et al* 1987), and, in view of the finders' description of the two objects found with the bones, it seemed very likely that the discovery was that of another Viking Age burial. On behalf of the National Museums of Scotland, the writer travelled to Lewis as soon as possible, and inspection of the site had started by the Tuesday afternoon.

EXCAVATION

The find-spot of the bones lay within a large deflation hollow near the summit ridge of the headland, uphill and approximately 45 m north-east of Burial A. At the time of investigation, the machair deposits had been completely eroded over most of the floor of the deflation hollow, exposing the remains of the original ground surface, a compact gritty grey-brown sandy soil immediately overlying glacial till and/or bedrock, now covered with wind-blown sand and a surface litter of redeposited stone fragments and midden debris. Towards the west end of the deflation hollow this surface was starting to stabilize and revegetate, but elsewhere erosion was still active. The bones had been found at a point where a bench of buried soil had been exposed along the northern margin of the blow-out at around 29 m OD, where the machair profile was still reasonably intact (illus 2). In order to facilitate excavation, the overburden of slumped turf and wind-blown sand deposits was cut back to expose the old land surface over an area c 4.5 m by c 2.5 m.

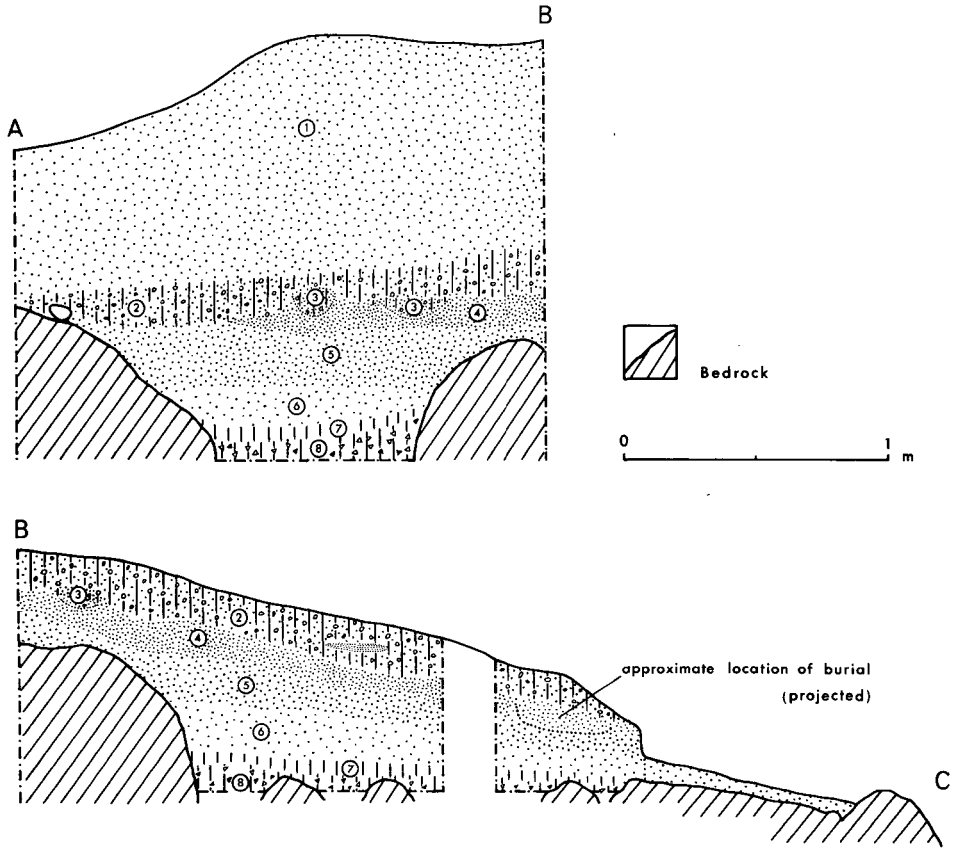


ILLUS 2 Location plan of the child burial (Burial B) within deflation hollow



ILLUS 3 Plan of the child burial (B)

Investigation of the find-spot revealed the skeletal remains of a child, deposited in a shallow grave-pit scooped in a layer of wind-blown sand beside a large granite-gneiss boulder. The body had been laid in a flexed position on its left side, oriented north/south, with the head at the south end facing west (illus 3). The surviving dimensions of the grave-pit were approximately 1.55 m by 0.85 m, but its outline could be traced with any certainty only towards its northern end for, apart from slightly greater rootlet penetration and a very slight textural change, the grave fill was indistinguishable from the surrounding sand. This would tend to suggest that the pit was dug from a land surface actually composed of blown sand or, perhaps more likely, thinly vegetated with a light machair-type sward, and quickly refilled. It is unlikely that the boulder itself was visible when the grave was excavated for, in preparing the pit, several flakes of rock appear to have become detached; some of these lay against the side or within the fill of the grave, but others clearly lay *underneath* the skeleton as fragments of stone were recovered under the left humerus by Dr Margaret Bruce (while excavating the block of grave-fill containing the spine in the



ILLUS 4 Sections (A–B, B–C) of deposits in area of Burial B. Layer 1; wind-blown sand; 2: buried soil; 3: plough furrows; 4: slightly reddish stained sand; 5: yellow sand; 6: grey-pink sand; 7: dark grey/black buried soil; 8: boulder clay and decayed stone, between bedrock outcrops

laboratory). Had the boulder been visible on the surface, it might be expected that the grave-digger(s) would have taken steps to avoid it.

Whatever its condition at the time of burial, at some later stage the land surface stabilized fully, allowing the development of a mature soil profile (illus 4, layer 2). This had been tilled and enriched by manuring, for which activity there was evidence in the form of plough-marks (illus 4, layer 3), spade-marks and profuse charcoal flecks and fragments of shell, bone, and pottery incorporated in the soil. It may have been that the presence of the large boulder and nearby outcropping bedrock resulted in the fortuitous survival of the grave during this activity, with ploughing perhaps being shallower or intermittent in this area. The rim form, fabric and general context of the pottery sherds would tend to suggest a late- or post-medieval date for the agricultural activity associated with the layer of buried soil which sealed the grave. Owing to the limited time available, the cultivation traces were only exposed over a restricted area. Showing up as slightly darker, charcoal-flecked bands against the lighter-coloured sand below the cultivated soil layer were two discontinuous linear features, c 0.10–0.12 m in width, oriented roughly

NE/SW, and there were hints of further marks on a crosswise alignment. Although the collapse of animal burrows had resulted in the creation of several spurious features, the linear marks appear to represent traces of furrows. The possible spade-marks were visible in the westernmost part of the excavated area where the proximity of outcropping bedrock may have restricted the scope for use of a plough; several were visible as reasonably clear and convincing D-shaped marks when first trowelled but the windy conditions dried out the features, and with each retrowelling there was progressive loss of definition. Several of these were sectioned; the most convincing example was approximately 0.21 m by 0.12 m by 0.06 m deep.

Abandoned cultivation plots can be seen interspersed among outcrops on the north side of the headland and also on the hill ground to its south-west (there probably associated with the abandoned blackhouse settlement at Liongol: Armit 1994, gazetteer no 54; illus 1). Such plots perhaps give an impression of the type of small-scale agricultural activity that may have been practised prior to the inundation of the cultivated surface by further extensive deposits of wind-blown sand (illus 4, layer 1), possibly with intermittent phases of stability, until the formation of the present-day machair surface (and, in due course, the initiation of the current cycle of erosion). The remains of several rabbit burrows were encountered, indicating one of the probable catalysts of contemporary deflation. It is clear that the grave would not have survived present-day erosion for much longer, for it was the exposure, drying out and undercutting of the buried ground surface that revealed the bones of the skull.

ARTEFACTS

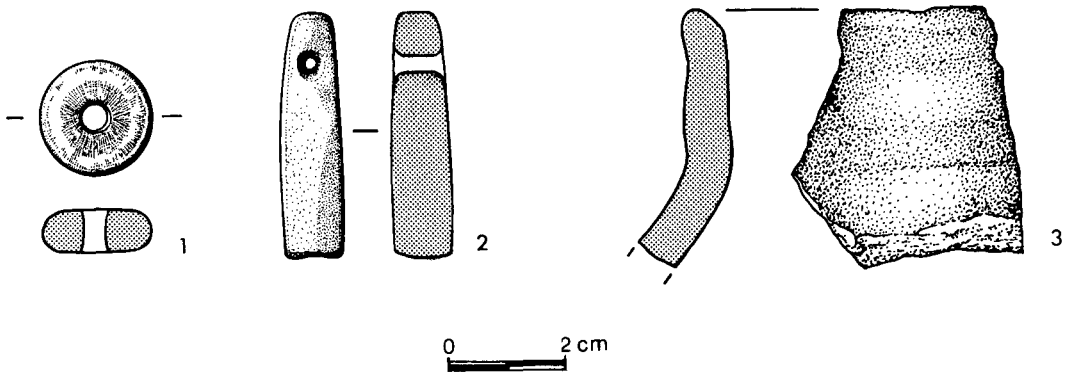
The only artefacts likely to have been deliberately deposited with the burial are an amber bead and stone pendant found at the time of the original discovery (illus 5, nos 1 & 2).

1 Annular bead; amber; one surface is convex, while the other is flat; in good condition apart from a slight chip out of the flat surface; diameter 18.5–19 mm; thickness 7 mm; diameter of perforation 5 mm.

2 Pendant; light grey and pink fine-grained sandstone; surfaces matt, and slightly pitted in places; length 41 mm; width 10 mm; thickness 10.5 mm; diameter of perforation 2.5 mm opening to 4–5.5 mm. While superficially resembling a whetstone, the pendant shows no obvious sign of such use.

In view of their recovery apparently near the jawbone, it is possible that the bead and pendant had been worn on a string around the neck. Neither of the artefacts from Burial B is definitively of Norse type, although both have Norse parallels, nor is the particular combination of bead and stone pendant readily matched among Norse graves. Simple amber beads have a very wide date range (Beck & Shennan 1991, 53), although, where amber beads occur in funerary contexts, the graves have been Norse. The stone pendant cannot be readily paralleled in Britain. However, a simple pendant of similar form has been found at Birka in Sweden (Arbman 1940, taf 103, no 3). The general form of the Cnip object invites comparison with the small whetstones perforated for suspension which are a common feature of Norse and early medieval contexts (cf Burial A: Welander *et al* 1987, 170).

Mention must also be made of three iron nails, each c 40 mm in length, which may also have been present in the fill of the grave. Two were found in excavation, but the third was recovered in the laboratory by Dr Bruce while excavating the trunk, which had been lifted as a block. The nail lay below or at the right side of the trunk just above pelvic level. The significance of the three nails is uncertain:



ILLUS 5 1–2: amber bead and stone pendant associated with the child burial (B); 3: rim sherd from the layer of cultivated soil overlying the burial

they could have been incorporated fortuitously into the fill either as detached nails, or perhaps still attached to one or more pieces of wood. In view of the irregular shape of the grave, and the posture of the body, it seems highly unlikely that the nails relate directly to grave furniture such as a coffin, nor does it seem likely that they represent fittings of wooden artefacts deliberately placed in the grave.

Finally, approximately 25 sherds of pottery (weighing 111.3 g) were recovered from the soil layer which sealed the burial; these were mainly featureless and abraded, the only significant sherd being from a vessel with an upright rim (illus 5, no 3). As noted above, the most likely date for the pottery, on basis of the rim form and range of fabrics, is late- or post-medieval.

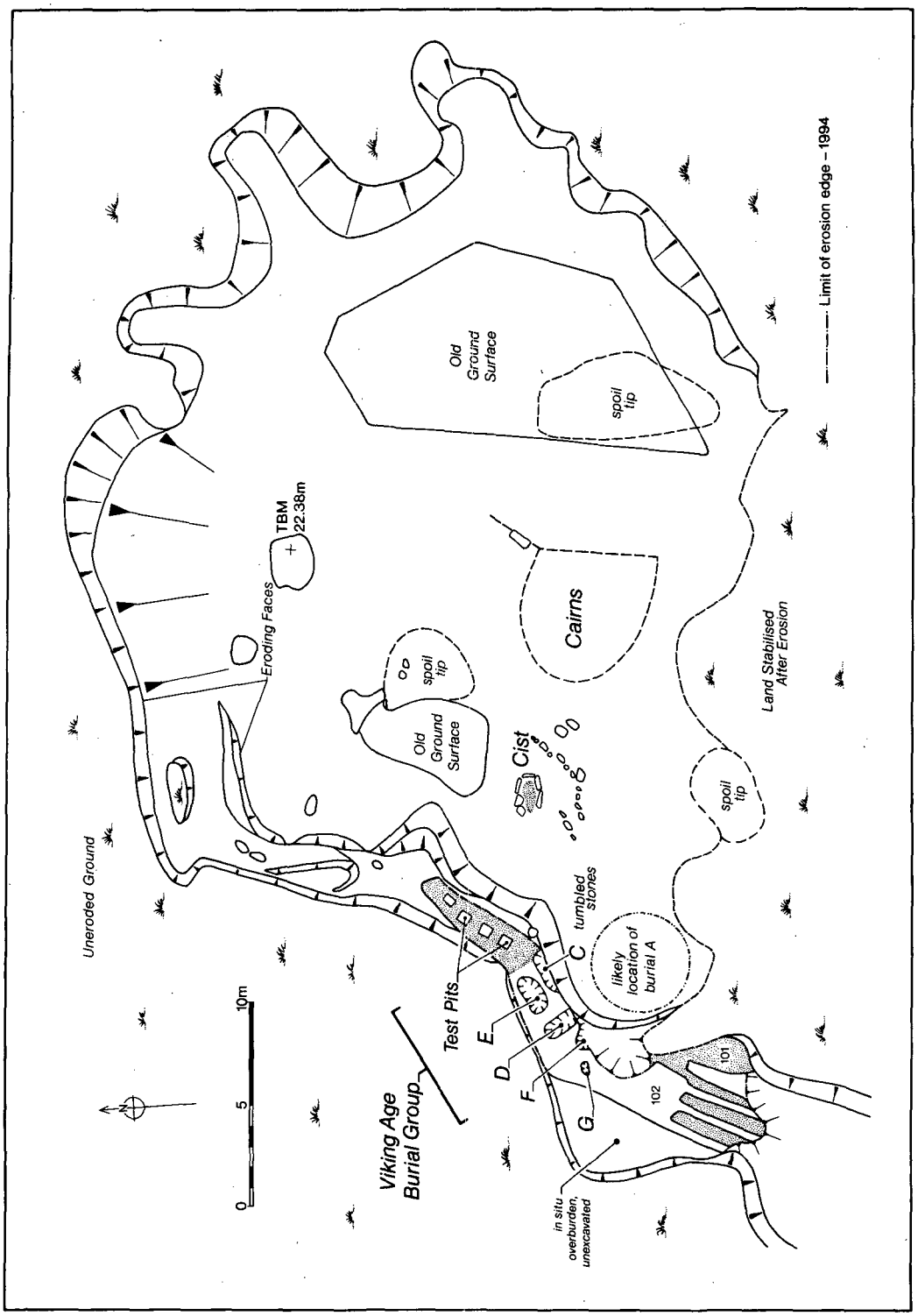
EXCAVATION OF THREE ADULT AND TWO INFANT BURIALS, 1992 & 1994 (BURIALS C–G)

Andrew Dunwell, Tim Neighbour & Alastair Rees

CIRCUMSTANCES OF THE DISCOVERIES

This find-spot was first identified in mid-November 1991 by Mrs Maud Duthie, of Great Bernera, Lewis, who suspected that a bone projecting from a sandbank on the north-western edge of a large, active blow-out was human. This identification was confirmed by Mr and Mrs Curtis, who inspected the site after notification by Mrs Duthie. The site was subsequently inspected by Trevor Cowie (Cowie 1991). The find-spot lay c 13 m west of the edge of the Bronze Age cairn previously discovered (illus 6). Concealment and protection of the site until the following spring was deemed the best course of action; the unpredictability of the November weather, the limited available daylight and the relative stability and potential complexity of the exposed remains all warned against their immediate excavation. In particular it was felt that investigation of the intact areas of buried soil might throw more light on the contemporary environs of Burial A. Sand, stones and turf were heaped against the sandbank as a protective buttress, and regular monitoring was carried out thereafter by Mr and Mrs Curtis. These precautions were justified when three burials were exposed within the limited area examined in spring 1992.

In summer 1994 further eroding bones were discovered by Mrs Duthie, accompanied by her daughter Anne, at almost the same location (Burial F). A bone pin, two beads and a small quantity



ILLUS 6 Location of Burials C–E, in relation to Bronze Age cist and cairn (based on survey plan produced by Mr and Mrs Curtis)

of bone were removed from the eroding sand-face and from collapsed sand at its foot during a subsequent site inspection conducted by Dr Ian Armit of Historic Scotland.

The blow-out has formed largely within the last 15 years and, in 1992, measured approximately 40 m east/west by 30 m north/south. In the western and northern sides of the blow-out, eroding sequences of buried sand deposits, including possible buried soils, were visible at the time of the 1992 and 1994 excavations. By contrast, the eastern sides of the blow-out faces were formed purely of blown sand apparently of no great age.

EXCAVATION METHODS

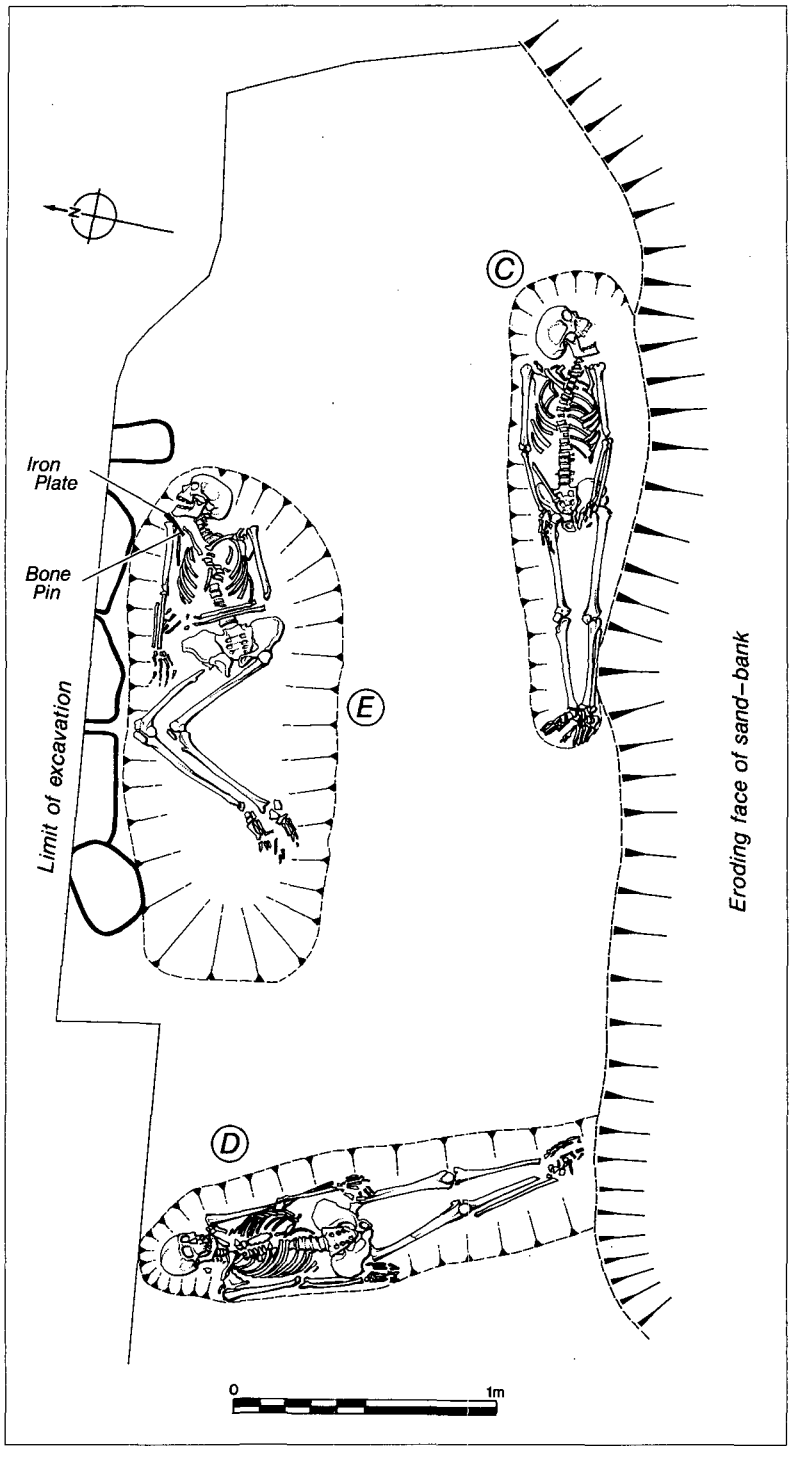
Prior to the excavation in 1992 of the exposed burial (C) it was necessary to remove both the protective material piled against the exposed bones and a thick overburden of displaced sand. The area of excavation created by this work consisted of a sand terrace measuring c 6 m by 2 m. This contained the full extents of two graves (Burials C & D) and part of a third (E). The stone kerbs of the graves were exposed and the site cleaned for photography and illustration, prior to the excavation of each grave in turn (illus 8). Following the excavation of Burials C & D the rear face of the terrace was cut back to fully expose Burial E, which was then excavated. Finally, a box-section was excavated in order to record an extended sequence of sand deposits within which the stratigraphic position of the graves could be placed. The spoil was then replaced on the terrace and against the section wall at its rear, in an attempt to slow the pace of erosion.

A more extensive search was made in 1994 for the presence of burials threatened by machair erosion. By this time the rear section wall of the terrace investigated in 1992 had retreated no more than 0.6 m, whilst active erosion to the front of the terrace had gouged out an embayment immediately west of Burials C–E, thus revealing a further burial (F). Prior to its excavation, collapsed sand at the base of the erosion face was sieved; several human bones but no artefacts were retrieved. Following the excavation of Burial F, which proved to be substantially truncated, cleaning of areas of the exposed light brown sand ground surface cut by Burials C–E (illus 6, 101) was undertaken: in all, an area of the sand terrace measuring c 21 m north-east to south-west by 1.2–3.8 m was investigated (see illus 6 for extents). As Burial F, which was found in section, could not be detected on the cleaned surface of this layer, regular test-pits and test-sections were excavated through it to reveal the white sand layer beneath it (illus 6, 102), in order to detect the presence of any other unmarked graves. One further grave was located and excavated as a result of this cleaning (Burial G). These test excavations were spaced with a density sufficient to discount the possibility that graves lay undetected in the areas between them. Areas where *in situ* sand overburden exceeded 0.5 m were not investigated: these lay at the rear of the terrace upon which the burials were identified, and it was considered that the creation of additional vertical exposed faces here might have increased the rate of erosion.

THREE ADULT GRAVES (BURIALS C–E)

The graves

The three adult graves (Burials C–E) possessed very similar characteristics. This, combined with their shared stratigraphic position and their close proximity, lack of inter-cutting and orderly layout, suggested that they were at least broadly, if not closely, contemporary burials. Whatever the time intervals between the cutting of successive graves, the position of pre-existing burials was evidently taken into account by the gravediggers.



ILLUS 7 Plan of burials C–E within grave-pits

The cuts for the graves defined shallow and rounded pits, not much larger than the skeletons which occupied them (illus 7, C–E). Grave-pit C was oriented east/west and measured 1.65 m long by at least 0.5 m wide by 0.25 m deep: the southern edge of this feature had been eroded. Grave-pit E was also oriented east/west, and lay c 0.7 m to the north of grave-pit C, although offset to its west by c 0.9 m. It was noticeably larger than the other two grave-pits, measuring approximately 1.9 m long by 0.8 m wide by 0.3 m deep. Grave-pit D lay c 0.6 m to the west of grave-pit E, and was oriented north/south. It measured 1.65 m long by up to 0.55 m wide and c 0.5 m deep, although its southern end had been truncated by erosion of the face of the sandbank.

The three grave-pits had been dug through a light brown sand deposit containing lenses of white wind-blown sand and had been backfilled with very similar material; as a consequence the upper edges of the grave cuts were initially difficult to define in plan. As suggested above for Burial B, it appears likely that these three grave-pits were dug through a relatively unstable sand or lightly vegetated sandy soil and were filled in with the upcast material after interment of the corpse.

A rectilinear arrangement of undressed stones was placed on the ground around each grave (illus 8 & 9). These may have been simply intended to show the position of flat graves above the ground. Unless Burials C–E were very closely contemporary, such a precaution would have been necessary to avoid disturbance of existing graves when digging further grave-pits. However, the stone arrangements all partly overlay the grave-pits, indicating that they had been laid down after the grave-pits had been backfilled (illus 9). A low mound of sand and possibly turf may have been created over each grave after interment with the excess upcast material, obscuring the original edges of the grave-pits, and around which a stone arrangement was positioned as a kerb. No trace of these mounds survived, although there is some evidence to suggest that they had been removed, possibly eroded, in antiquity (see below).

Only in the case of Burial E was a complete circuit of kerbstones preserved. Three of the four corner-stones were blockier, and had greater relief, than the generally 0.2–0.4 m long cobbles laid between them. The two kerbstones at the head of Burial C, and the stone preserved *in situ* at the foot, were set upright, in contrast to the cobbles along its northern side, which lay immediately beside the kerb of Burial E. The southern alignment of the kerb of Burial C was not preserved: a scatter of stones identified at the base of the sandbank on the initial discovery of the exposed bones was probably its collapsed remains. One of the uprights from the foot of this grave had been displaced eastwards either by sand erosion or by animal disturbance (a small burrow lay beneath this stone and ran along the very edge of the sandbank). By contrast, the preserved kerbstones of Burial D were all laid flat. The southern part of this kerb was not present. Although recent erosion may account for this, the kerb did not extend as far as the erosion face of the terrace; it may therefore either have been disturbed in antiquity, possibly during a previous erosion cycle, or may never have been present.

A cobble exposed immediately beside the north-eastern angle of Burial E was considered at that time to form part of the kerb of an additional grave (illus 9, p). However, further work in 1994 discounted that possibility.

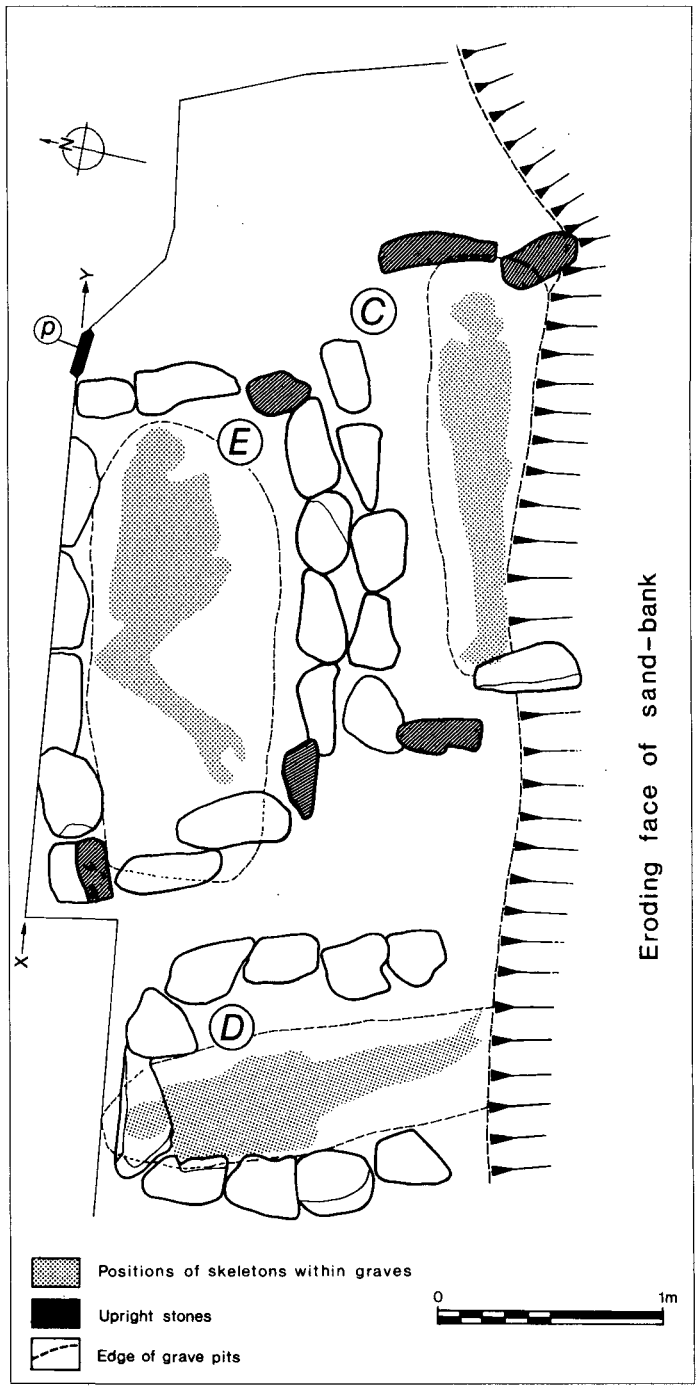
The area between the kerbs was filled by a layer of dark brown sand up to 0.15 m deep (illus 11), indicating that some stabilization of the land surface had occurred during the use of the area as a burial ground. This was sealed by a layer of white, windblown sand up to 0.10 m deep, which reflects unstable conditions, but possibly no more than a single depositional event, such as a severe storm. This deposit did not extend across the areas of the graves, providing some support for the notion expressed above that mounds had capped the graves, against which these layers had abutted. The putative grave mounds appear to have been eroded by the time a continuous layer of orange to light brown sand up to 0.4 m deep was deposited, obscuring any surface trace of the burials.

ILLUS 8 View of the kerbs of Burials C–E, prior to the full exposure of Burial E. The scatter of stones on the floor of the deflation hollow in the middle ground represents the unexcavated remains of the Bronze Age cist, and that in the background part of the Bronze Age cairn. (*Crown Copyright: Historic Scotland*)

The burials

The inhumed skeleton present at the base of each grave was enveloped within a well-defined brown sand. This dark colour possibly reflects staining of the sand fill of the grave immediately around the corpse, resulting from the decay of soft body parts and/or non-human organic remains, such as textiles. The poor quality of preservation of pollen and organic remains in calcareous sand deposits, as noted by Whittington in relation to the nearby Bronze Age cairn (in Close-Brooks this volume) suggested that detailed analysis of this stained sand would not be rewarding.

Graves C and D both contained the skeletons of adult males laid in an extended and supine position (illus 7). Burial C was undisturbed, although the left tibia had been exposed in the eroding face of the sandbank, leading to the initial discovery of the site. The skeleton was oriented east/west, with the skull to the east and tilted to the south. The hands of the corpse were placed on the pelvis, possibly as if contained by a shroud or other form of clothing. Skeleton D was oriented



ILLUS 9 Plan of Burials C–E, showing relative positions of stone kerbs and grave-pits

north/south, with the skull to the north and the upper torso resting against the western side of the narrow grave-pit. The arms of this skeleton lay extended on either side of the torso, and the bones of the ankles and feet appeared to have been disturbed by recent erosion. No artefacts were found in direct association with these skeletons, although a cattle molar was found in the upper part of the grave-fill of Burial D.

Burial E contained an undisturbed, flexed, supine, adult female (illus 7). The skull lay at the eastern end of the grave and was tilted to the north, the legs had been drawn up to the north, the left arm had been folded across the abdomen and the right arm lay extended beside the torso. A bone pin and perforated iron plate lay at the right shoulder of the skeleton.

TWO INFANT GRAVES (BURIALS F–G)

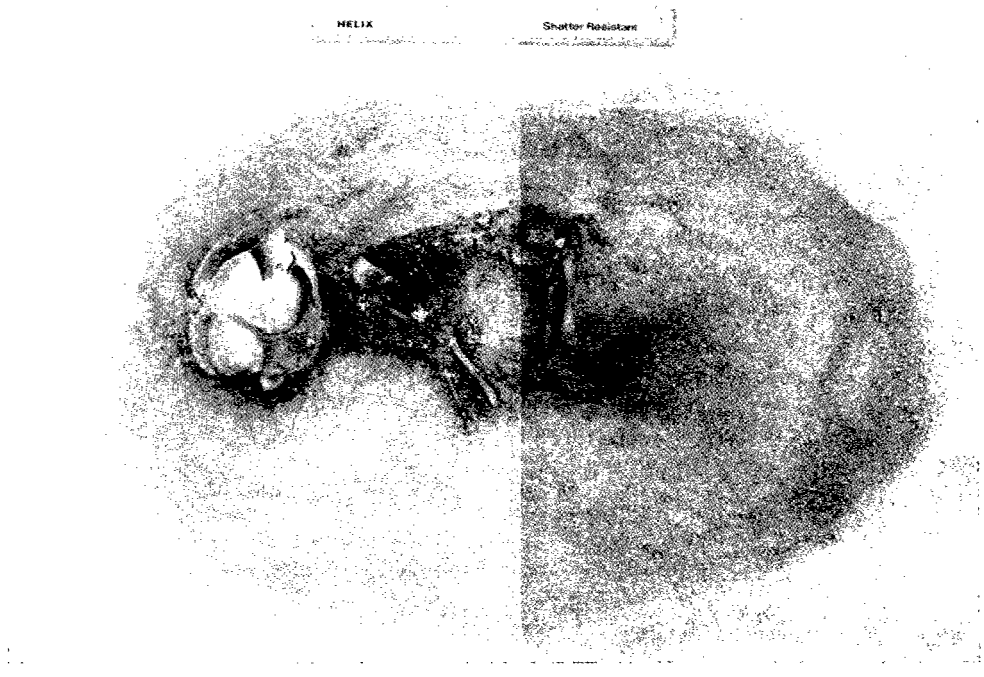
The two infant graves excavated in 1994 possessed very similar characteristics to the adjacent adult graves, and there can be little doubt that they are broadly of the same date. The infants had been deposited in shallow, rounded grave-pits, which were filled with a light brown sand. Unlike Burials C–E, these graves were not marked on the contemporary ground surface by a stone kerb, and thus the presence of sand mounds above the graves could not be established. As a result, only the lower sides of the grave-pits, where cut through clean white sand, could be defined (see illus 11 for the sequence of sand layers). Their upper edges, which were cut through light brown sand very similar to the grave fills, could not be determined. Burial G was identified only when the light brown sand layer was removed to expose the surface of the white sand layer beneath it.

Burial F had been substantially truncated by erosion prior to its excavation. The grave lay less than half a metre south-west of Burial D. The grave-pit had surviving dimensions of c 0.55 m east/west by c 0.2 m north/south, and was cut through the white sand layer for up to 0.15 m. It contained the partial remains of an apparently extended, supine inhumation of an infant. Only the skull and upper left trunk of the skeleton were preserved *in situ*: these indicated that the burial was oriented approximately NW/SE, with the head to the north-west. Further bones were recovered by sieving of sand collapsed from the eroding section face. A perforated amber bead located beneath the jaw represented the only *in situ* artefact discovered during the excavation of this burial. Two further beads and a decorated bone pin had been collected during the initial site inspection; their original positions are not known, although it seems likely that the beads were components of a necklace.

Burial G was located less than 1 m west of Burial F. The grave-pit measured 0.66 m east/west by 0.48 m, and was cut through the white sand layer for up to 0.2 m. Upon excavation, the undisturbed flexed inhumation of an infant was revealed (illus 10). The skeleton was laid on its right side, with the legs flexed at right angles and the arms outstretched above the knees. The skeleton was oriented approximately east/west, with the skull to the west and facing south. A corroded iron object, possibly a rivet-head, lay beneath the skull.

OTHER DEPOSITS

The graves and associated deposits lay within an exposed sequence of blown sand layers c 2.6 m deep (illus 11). A box-section was excavated at the rear of the terrace in 1992, through the base of Burial E, in order to examine preceding deposits. The lowest deposit comprised a golden sand, within which the upper surfaces of three boulders, possibly fractured bedrock, were exposed. This was succeeded by a c 0.2 m deep layer of medium brown sand. This sequence of layers was also observed a few metres to the south, where they were cut through by a Bronze Age short cist



ILLUS 10 Burial G

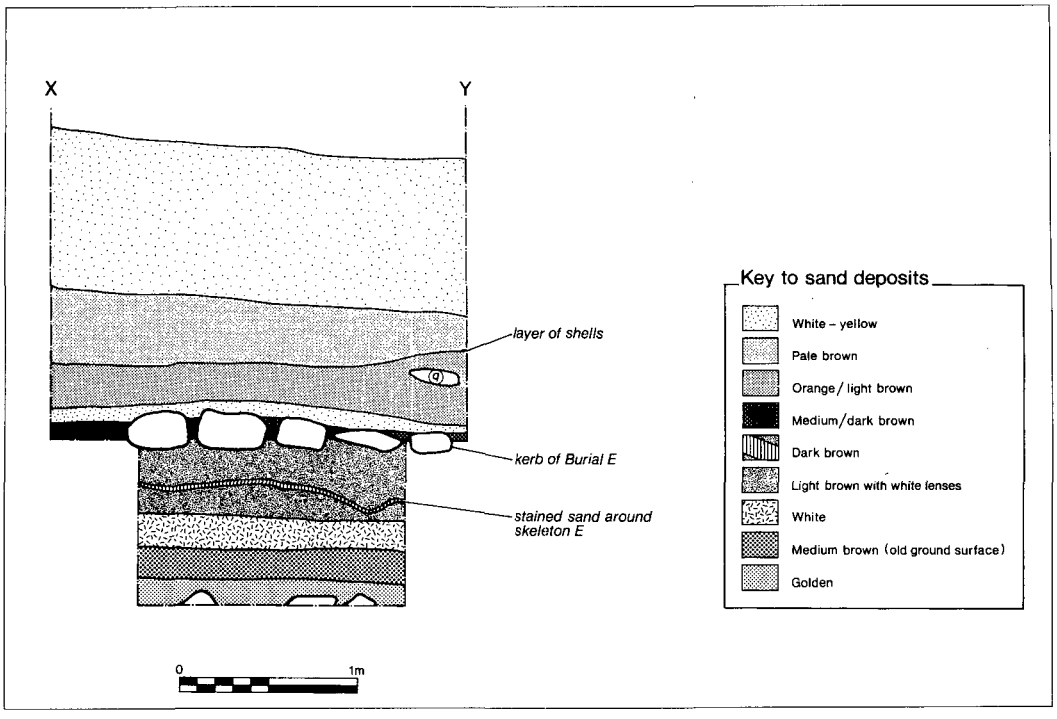
(Dunwell *et al*, this volume). The brown sand was also identified beneath the Bronze Age cairn, where there was evidence that the soil had been cultivated (Close-Brooks, this volume). This surface lay 0.6 m beneath the sand deposit through which Burials C–E had been dug. It therefore seems likely on the basis of the depth of intervening deposits that traces of the Bronze Age cairn were visible above ground when the Viking Age cemetery was in use, even if just as a sandy mound.

Deposits sealing the excavated graves comprised three substantial bands of blown sand with little staining to suggest organic content. The lowest of these contained a single tabular cobble (illus 11, q), which was at first considered to represent the position of a later grave; further examination in 1994 discounted this possibility. A thin band of whole and broken shells at the surface of this layer indicates the presence of a previous deflation surface. This apparent break in machair formation may possibly coincide with the period of medieval or later cultivation referred to above at Burial B.

ARTEFACTS

Artefacts were recovered from Burials E, F and G. These comprised two bone dress pins, three beads and two iron objects (illus 12, nos 1–5). The descriptions given below are in large part those given in the conservation reports for the objects (Clydesdale 1992; 1994).

1 *Burial E* Bone dress pin, broken in two; of simple form with an oval cross-section and a flattened head; surfaces carefully smoothed and polished, with no decoration present; the



ILLUS 11 Section of sand deposits, including position of Burial E and Bronze Age ground surface

centre of its shaft has been stained on one side by iron corrosion from the pierced iron plate, which lay directly above it; length 129 mm, cross-section at head 6 mm by 4.5 mm. The head of the pin lay between the right humerus and clavicle of the skeleton. The bone was examined by Dr Nicola Murray but could not be identified to species.

2 *Burial E* Perforated iron plate; rectangular, 34 mm by 21 mm; one corner broken off diagonally; markedly curved in profile, possibly caused by warping when pierced, possibly by a rivet; rectangular hole off-centre, 5 mm by 3 mm, oriented obliquely from the edges of the plate; hole possibly not an original design feature. This artefact lay between the right humerus and the mandible of the skeleton.

3 *Burial F* Bone dress pin, with a slightly curved profile and a flared head; length 113 mm, cross-section at head 5.5 mm, diameter of shaft 5 mm maximum; immediately below the head the shaft is cut into five facets for a length of 8 mm; rows of three drilled holes aligned parallel to the axis of the pin are present on four facets, with four holes on the other; the bases of the facets are defined by a continuous incised line, which is incorporated in four incised downward-pointing triangles which encircle the shaft. The pin was retrieved from the eroding face of the sand terrace prior to excavation.

4 *Burial F* Disc-shaped bead; amber, deep orange in colour; in generally good condition although many minute cracks; the drilled performation has a slight spiralling ridge on the inside face; diameter 16 mm, thickness 3 mm, perforation diameter 3 mm. From beneath the jaw.

Also recovered during site inspection conducted prior to the 1994 excavation, and presumed to have been part of the grave goods assemblage of Burial F, were the degraded remains of two ring-shaped beads. These are made of a dark brown transparent material, which is possibly glass, but more likely to be amber. Both objects decayed rapidly after recovery, and by the time of conservation one had completely disintegrated. Most of the other bead was preserved, and could be conserved, although it remains in a very fragile condition. Prior to its disintegration, the former showed considerable evidence of iron staining and a fragment of redeposited iron corrosion which had formed on the outside of the bead. The conserved bead has a diameter of c 9 mm, with the central hole being c 5 mm in diameter.

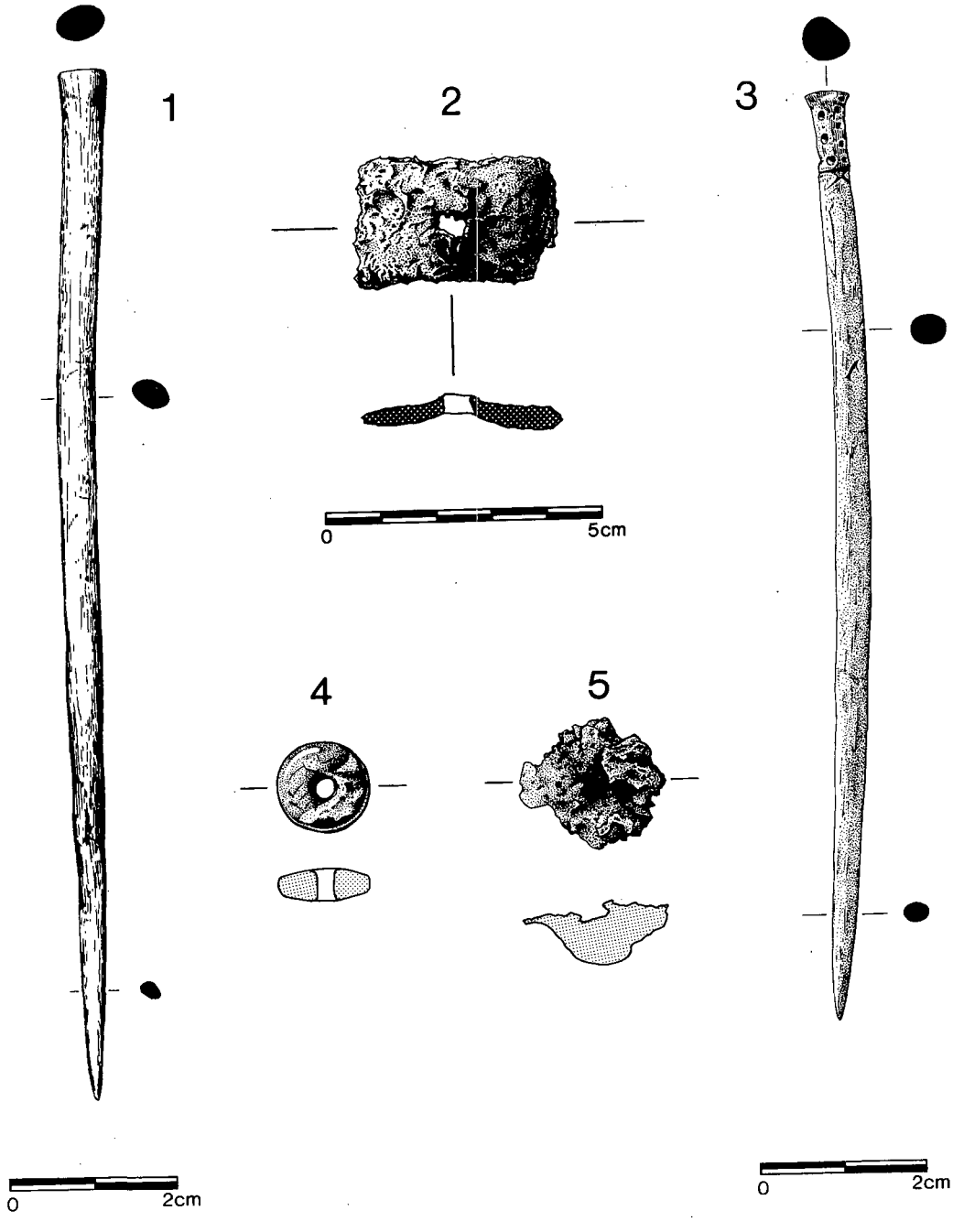
5 *Burial G* Square iron rivet-head with shaft base; one corner of the rivet-head broken off; dimensions 17 mm by 16 mm, shaft diameter 8.5 mm; fragment of textile adhering to one end of the rivet-head, mostly on one side; at least two, and possibly four, layers of textile. The fibre could not be identified, but the thread was Z-spun, the weave tabby, and there are approximately 21 threads per cm.

The bone pins were probably fasteners for the clothes or shrouds in which the corpses were buried. That from Burial E has a simple, functional form and has a Norse parallel from the midden associated with House 4 at Skaill, Deerness (Gelling 1984, 29, 30, fig 13, especially no 2). That from Burial F is similar in profile to the nail-headed pins recovered at Brough of Birsay and other sites (Curle 1982, 73, illus 48, eg no 130; 74, and references therein). A shorter bone pin with a similar profile, and with the neck decorated by dots, has been recovered as a stray find from Cnip headland (Close-Brooks this volume, illus 10, no 12).

A parallel for the perforated iron plate from Burial E was found in a Norse grave at King's Cross Point, Arran; this was catalogued by Greig (1940, 26) as a flat, square mounting measuring 50 mm by 30 mm with a central perforation, on one side of which an imprint of cloth was clearly visible. The close proximity of the bone pin and rivet-plate in Burial E suggests that they might have been functionally related, although not necessarily interdependent. The presence of fragments of textile adhering to the rivet-head in Burial G appears to strengthen the argument that the corpses were interred in some form of clothing, possibly a shawl or even swaddling. However, it is not clear whether the introduction of this artefact to the grave was deliberate, possibly as an attachment to a wooden object, or accidental.

Amber beads are not uncommon finds in Viking Age funerary contexts (eg Kildonan, Eigg; Lamaness, Sanday; a further, unlocated, grave on Sanday: Greig 1940, 67, 87–8; Cruach Mhor, Islay: Gordon 1990). Of interest is the association of two different types of bead apparently with Burial F. The context of recovery of the larger bead from beneath the jaw indicates that it formed part of a necklace, from which the other beads may also have derived. On the evidence of the collected sample, any further amber beads displaced prior to excavation are likely to have disintegrated and evaded detection. The presence of corroded iron on one of the beads suggests that an undetected iron object (presumably displaced and degraded) formed part of the original assemblage of grave goods.

The only other stratified finds recovered during the excavation of Burials C–G were a cattle molar recovered from the upper fill of Burial D and two undiagnostic plain bodysherds of pottery from the light brown sand layer through which the graves had been cut. There is no reason to suppose that the presence of the cattle molar in Burial D was other than fortuitous.



ILLUS 12 Bone dress pin (1) and iron plate with rivet hole (2) from Burial E; bone pin (3) and amber bead (4) from Burial F; iron rivet-head (5) from Burial G

THE HUMAN REMAINS

Margaret Bruce

Detailed results of the human skeletal analysis by Dr Margaret Bruce and Mr Neill Kerr are included on fiche. The human bone was robust and well preserved, although rather fragile in the cases of the infant skeletons.

The remains of Burial B are those of a child of about six years of age, the gender of which could not be determined owing to the immaturity of the skeleton. A fairly reliable estimate of the age-at-death could be made because of the very good preservation of teeth *in situ* in the mandible in particular. Less reliable but confirmatory evidence of age was gained from the lengths of the femur and tibia and the general state of development of the skeleton. The concordance between dental and skeletal age points to normal growth patterns. The degree of attrition of the deciduous teeth and absence of caries suggests the diet was of an abrasive nature, with few carbohydrates. The 'good-quality' bone and well-formed tooth enamel suggest that the youngster was well nourished, enjoyed a relatively healthy childhood and did not suffer from any severe infections or debilitating illnesses. The human remains shed no light on the cause of death.

Mention must also be made of an *adult* human molar tooth found in the immediate vicinity of the child burial. This suggests the possible unrecorded loss through erosion of other nearby burials in the past.

The remains of Burial C are of a mature adult male, probably 35–45 years old at death and estimated to be about 1.67 m (5 ft 6 in) tall. Gender was suggested very strongly by pelvic morphology. No evidence was present to suggest the cause of death. The left humerus had a well-healed fracture, of a type usually gained by falling from a height. There is some evidence for spinal injury in adolescence. Limb proportions were normal, indicating normal growth processes, and there was no evidence of metabolic or deficiency disease. Root caries and dental abscesses linked to severe attrition were present.

The remains of Burial D are of a mature adult male, probably at least 40 years old at death and estimated to be about 1.62 m (5 ft 4 in) tall. The skeletal remains throw no light on the cause of death. This individual had suffered a fracture to the pelvis which had healed before death and would have had no long-term effects. There is also evidence of slight trauma to the spine of this individual, possibly reflecting prolonged arduous work. This man was short in stature and powerful, although there is no evidence to suggest stunted growth. He had lost his upper incisor teeth in life as a result of trauma; his lower front teeth were markedly proclined.

The remains of Burial E are of a mature adult female, probably 35–45 years old at death and estimated to be 1.60 m (5 ft 3 in) tall. The skeleton shows no significant pathology; there is some evidence that she may have borne children, but no cause of death is apparent. There is evidence of minor trauma to the left hand and left shoulder. Dental abscesses associated with severe attrition and evidence of a benign gum tumour are both present.

The remains of Burial F comprised an infant of several (probably 6–9) months. Burial G was of an infant who had died at or around birth, or in the first few weeks thereafter. In niether case was there any evidence of congenital or developmental anomaly or any pathological features of processes to indicate the cause of death.

GROUP ANALYSIS OF ADULT SKELETAL FEATURES (BURIALS A & C–E)

All four individuals had reached well into adulthood – none is likely to have been less than about 30 years of age at the time of death. In no case could the cause of death be identified and there was no evidence of any significant chronic or debilitating condition.

There was marked sexual dimorphism in pelvic shape within the group – A and E showed very characteristic female features and C and D very characteristic male features. However, sexual dimorphism in height was rather less than might have been predicted (female mean is here about 96% of male mean, but is usually only about 93% of male mean; Bennike 1985). The sample size from Cnip is too small to warrant statistical comparisons, but the data provided in Table 4 suggest that the reduced height dimorphism is probably due to the males being shorter, rather than the females being taller than usual. Males are more easily deflected from reaching their full growth potential by adverse environmental conditions than are females. The relatively low level of male stature seen in Burials C and D probably reflects poor conditions during childhood.

By contrast the levels of sexual dimorphism in bone dimensions (widths, circumferences and diameters), which reflect 'muscularity', are higher, with female dimensions reaching no more than 90% of male values. The differences are more marked in the arms (85–88%) than in the legs (88–90%), and reflect functional demands in the years prior to death rather than in childhood.

Limb bone shape also reflects functional demands and here too there are differences within the group. In female A and male D the right femur is flattened compared to the left (see platymeric index in Table 3), while in male C and female E the reverse is the case. Modern femora are rounder in shape – flattening represents a redistribution of bone around the shaft in response to functional loading. Differences between sides reflect habitually different loading conditions (body weight affects each equally). These marked differences in the four individuals are confined to the femur. The shape of the tibia (see platycnemic index, Table 3) differs little between the sides. Interestingly, none of the four shows the lateral flange of bone which is so prominent in femora of Scottish short cist skeletons (MacLaughlin & Bruce 1983), including that excavated at Cnip (Dunwell et *al* this volume), and which accounts for much of the flattening of the shaft in these short cist burials. More detailed analyses of this kind of limb shape in larger samples may prove valuable in determining differences in activity patterns in earlier populations.

All four skeletons showed some evidence of trauma – either due to 'wear and tear' or involving a single incident. The vertebral column in each case showed some evidence of 'wear and tear' degeneration. Male C had spine lesions suggesting compressive loading of the back in adolescence. Male D had a spondylolysis or non-fusion of a vertebra in his lower back which is a condition with either a congenital aetiology or it may be acquired through arduous exercise. Stewart (1931) associated its high prevalence in Eskimo skeletons with kayak-style rowing. Male D also had unfused tips on the acromial processes of both shoulder blades, a condition which has possibly been associated with habitual powerful use of the shoulders. Both male skeletons had suffered major fractures – C to his humerus and D to his pelvis. This is an unusually high fracture incidence: Bennike (1985) reported only four post-cranial fractures in almost 600 Viking period skeletons from Denmark. In both cases the fractures were well healed and had occurred some considerable time before death.

Both female skeletons (A & E) showed features in the pelvis which have been associated with childbirth by some authorities (eg Ulrich 1975). It would, of course, be not unexpected that mature women would have given birth. In both cases the pelvis was capacious and obstetrical difficulties seem unlikely.

None of the skeletons showed evidence of specific metabolic deficiency (but see comment above on childhood growth conditions). Congenital anomalies affecting the spine were noted in female A (unusual pattern of foramina in neck vertebrae; six-segment sacrum), in male C (six-segment sacrum) and in male D (defect in posterior arch of the atlas, spondylolysis in the fifth lumbar vertebra). Although such anomalies are not uncommon, their occurrence in three out of four skeletons is somewhat unexpected. There was little evidence of significant chronic specific or non-specific infection.

The oral and dental health of the four adults paralleled that of Scottish medieval populations (Kerr 1989a, 1990, 1991; Kerr, Bruce & Cross 1990). All four skeletons showed similar degrees of occlusal and interproximal attrition of the teeth, which is associated with the coarse nature of the diet (Kerr 1991). As a result of this severe wear, the contact areas between the teeth were constantly abraded and the pits and fissures of the occlusal surfaces of the teeth gradually ground out. The resulting elimination of stagnation areas, which form a breeding ground for cariogenic bacteria, no doubt accounted for the low incidence of dental caries in the sample. Considerable root exposure was noted in all four. This, too, is typical of dentitions with extensive 'dietary' attrition, and reflects the process of supereruption of the teeth to compensate for the loss of tooth and thus face height, rather than reflecting inflammatory bone loss. Some loss of attachment secondary to inflammatory periodontal disease was observed but it was not excessive and in the main was confined to multi-rooted teeth and related to areas of furcation exposure consequent upon supereruption.

Extensive deposits of calculus covering the buccal/labial and lingual/palatal surfaces of the teeth were noted in all four individuals, indicating that there had been no effective attempts to remove plaque and indeed no other oral hygiene measures. No dental anomalies were noted apart from evidence of a soft tissue growth in one individual (E). In two individuals (female A and male D) there was some crowding of the incisors but, in jaw and tooth size and inter-arch relationships, all four fell within the normal range.

There was no significant dental or skeletal feature by which Burial A could be distinguished from Burials C–E.

TABLE 1
Head and face shape

BURIAL	A female	C male	D male	E female
Cranial index	75	81	67	77
Cranial module	149	157	150	144
Length/height index	70	76	66	71
Breadth/height index	93	93	99	93
Frontal/parietal index	66	65	65	67
Orbital index (higher)	86	84	78	90
Nasal index	–	–	49	40
Upper face index	53	–	55	58
Palatal index	91	–	85	89

TABLE 2
Upper limb dimensions (in mm*)

BURIAL	A female	C male	D male	E female
Humeral length	314(R)	313(R)**	303(R)	328(R)
Humeral head diameter	40.0	47.7(R)	50.2(R)	43.3(L)
Bicondylar width	53.4	67.5	62.1	60.0(L)
Midshaft circumference	61	69	70(R)	61
Ulnar length	261(L)	261	267(R)	265(R)
Radial length	235	242	240	244
Clavicle length	131	150	136(R)	143(L)
Brachial index	76	81	80	78(L)

* larger value (L or R) given
** Left/Right is markedly larger

TABLE 3
Lower limb dimensions (in mm*)

BURIAL	A female	C male	D male	E female
Maximum femoral length	411	439(R)	415	426(L)
Maximum head diameter	41.4	45.9	48.3(L)	42.2
Midshaft circumference	79	85(R)	101(L)	85
Bicondylar width	75.2	82.7(L)	82.4	74.5(R)
Head/neck angle (deg.)	120	134	128	120
Platymeric index (L&R)	82/78	73/79	86/79	67/75
Robusticity index	0.13	0.12	0.15(L)	0.13(L)
Tibial length	350	359	341	362(L)
Tibial circumference	89(L)	96(R)	97	85
Platycnemic index (L&R)	69/71	76/76	76/74	70/70
Crural index	85	82	82	85
Intermembral index	72	69	72	74

TABLE 4
Height statistics for broadly contemporary North European populations

Location	Mean height male	Mean height female	Source
Danish, Viking	1.71 m	1.57 m	Bennike 1985
Greenland, Viking	1.72 m	1.62 m	Jorgensen, in Bennike 1985
Aberdeen, medieval	1.68 m	1.60 m	Cross & Bruce 1989
Linlithgow, medieval	1.70 m	1.56 m	Cross & Bruce 1989
Cnip, Viking Age	1.64 m	1.57 m	this study

RADIOCARBON DATES

Samples of human bone from Burials B–E, comprising the lower right limb, upper left limb and ribs of Burial B, and the right femur and right tibia of Burials C–E, were submitted to the Scottish Universities Research & Reactor Centre for radiocarbon analysis. No bones were submitted from Burials A, F and G. The raw dates were calibrated by Stuart Campbell, of the Department of Archaeology, University of Edinburgh, using the University of Washington, Quaternary Isotope Laboratory, Radiocarbon Calibration Program Rev. 3.0, 1993 (Stuiver & Reimer, 1993), incorporating the latest bidecadel calibration curve (Stuiver & Pearson 1993). The following determinations were obtained:

Burial B
Sample no GU-3489
Radiocarbon Age 1150±50 BP
Calibrated dates 1-sigma (68% prob.) cal AD 870–973
2-sigma (95% prob.) cal AD 778–1006

Burial C
Sample no GU-3485
Radiocarbon Age 1150±50 BP
Calibrated dates 1-sigma (68% prob.) cal AD 870–973
2-sigma (95% prob.) cal AD 778–1006

Burial D
Sample no GU-3486
Radiocarbon Age 1200±50 BP
Calibrated dates 1-sigma (68% prob.) cal AD 778–891
2-sigma (95% prob.) cal AD 687–974

Burial E
Sample no GU-3487
Radiocarbon Age 1180±50 BP
Calibrated dates 1-sigma (68% prob.) cal AD 785–896; 913–956
2-sigma (95% prob.) cal AD 717–740; 763–985

Average of the four dates
Radiocarbon Age 1170±26 BP
Calibrated dates 1-sigma (68% prob.) cal AD 874–892
2-sigma (95% prob.) cal AD 787–899; 902–964

The individual calibrated dates for the burials at the 68% confidence level suggest a later eighth to later ninth/earlier tenth century AD date for Burials D–E, which contrasts with the later ninth to later tenth century AD date for Burials B & C. There is no significant difference between the four dates at the 95% confidence level. While the four dates all have some degree of chronological overlap at the 68% confidence level, it would be unwise to necessarily assume that this overlap defines the date of the four burials. However, a statistical average of the four dates was produced, which suggested a burial date centred on the later ninth century AD. This data is valid only if the burials are archaeologically contemporary (Ward & Wilson 1978). The assumption that Burials C–E are broadly contemporary seems valid on the basis of the excavated evidence, but it is impossible to assume the contemporaneity of Burial B on the same grounds, which would be a circular argument.

DISCUSSION

Seven Viking Age burials have now been excavated on the south-east slopes of Cnip headland. This is sufficient to propose this location with confidence as the site of a cemetery of that date. In common with the previously identified cemeteries of this period at Pierowall, Westray (Thorsteinsson 1968), and Reay, Caithness (Batey 1987, 35–6), the site at Cnip is a chance discovery resulting from sand erosion (see eg Crawford 1987; Ritchie 1993 for recent reviews), with consequent problems for the interpretation of the combined results of excavation. The spatial distribution of Burials A–G, combined with the stray finds of bones and teeth and the extent of the erosion, indicate that only a fragment of the cemetery site has been recorded and/or exposed, which suggests that the recorded remains do not necessarily form a representative sample of the cemetery as a whole. However, the evidence is sufficient that a few general comments can be made regarding the likely date, extent, form and character of the Cnip headland cemetery, although these may require to be modified in the light of future discoveries. The uphill progression of sand deflation on the headland is such that the exposure of further graves can be expected.

The combined artefactual and radiocarbon dating evidence from the excavations suggests some longevity of use of the site as a burial ground, lasting broadly through the ninth and tenth centuries AD. Individual radiocarbon dates for Burials B–E suggest use in the ninth and early tenth century AD (discussed above), with the average date centred on the later ninth century AD. These

four burials appear to be earlier than Burial A, which is dateable to the later tenth century AD on the basis of the associated ringed pin (Welander *et al* 1987, 170). Due to the changing topography of the eroding machair on Cnip headland and the circumstances of the 1979 excavation it was not possible to relate Burial A to Burials C–G stratigraphically, even though the two find-spots appear to have been only a few metres apart. The apparent time depth within the cemetery must be considered in any discussion of its spatial layout. Further discoveries may extend the chronological range of the cemetery.

The extent and form of the cemetery is difficult to judge on the basis of the known sample of burials. Whilst it is reasonable to expect that further interments may have occupied the intervening ground between Burials B and C–G (illus 1), the excavated evidence suggests that this need not have been in the form of a continuous spread of graves. Burials C–G appear to form a discrete cluster, albeit one whose southern (already eroded) and northern (uneroded) limits are not known. Investigations in 1994 indicated that no burials were located on the eroding sand terrace immediately east or west of the excavated group (illus 6). The spatial relationship of Burial A to C–G cannot be reconstructed precisely, although it appears to have lain a few metres to the south of the cluster, of which it may have formed a part. Burial B, although broadly contemporary, cannot realistically be considered as part of the same grouping as Burials C–G on the basis of this evidence. The cemetery on Cnip headland need not therefore have had a single focus, and the possibility of spatially discrete groupings reflecting familial or kinship groupings must be countenanced. The presence of two adult males, an adult female and two infants within the excavated group is consistent with this hypothesis. Due to the patchy recovery of the evidence at most Viking Age cemetery sites, there is currently no published Scottish data against which the spatial patterning at Cnip can be examined; the cemetery at Westness, Rousay, undoubtedly provides an opportunity for comparison, but this has been published to date only in summary form (eg Kaland 1993).

Little can be said regarding the immediate topographic context of Burials A and B, due to the limited areas of investigation and, in the former case, the circumstances of its discovery and excavation. Burials C–G appear to have occupied a patch of level ground. However, in the investigated areas around them, where no further graves were located (illus 6), it was established that the contemporary ground surface fell away to the south-west (by c 1 m over a 10 m distance) and rose to the north-east (by c 0.5 m over a 6 m distance), and could be seen in the eroding northern face of the deflation hollow to climb more steeply to the east of this. The implication of this evidence is that this grave group, probably deliberately, occupied a level shoulder on the hillside. As no evidence of a formal boundary to the grave group, such as a wall, fence or ditch, was located by excavation to the east or west of these graves, it is likely that the limit of this burial plot was topographically defined.

As far as was visible, the topography of the Viking Age ground surface closely followed that of the current uneroded ground level. There is a noticeable saddle in the current ground surface almost immediately to the north of Burials C–G, and it was thought that this might therefore define an area occupied by further graves. However, resistivity survey conducted in 1992 over a 20 m by 15 m grid over this feature revealed sub-surface variations related only to geological factors, particularly the differential depth of sand cover over bedrock (see Armit 1994, gazetteer, no 15). A second possible explanation for the saddle is that it represents the remains of a healed blow-out. In such a case, rather than defining an area of further graves, this feature might mitigate against preservation of remains associated with the cemetery. It is evident that only future excavation, or exposure of burials by creeping erosion, will provide an answer to this problem.

It is not clear how much of the cemetery site has already been lost unrecorded as a result of

sand erosion, particularly downslope from the excavations. It is perhaps possible that the uphill progression of sand deflation has begun to expose the lower end of the cemetery since the late 1970s. No eroding burials were located between 1979 and 1992 in the lower deflation hollows on the slopes of the headland, despite the excavation of the Bronze Age cairn and Viking burial in the late 1970s having caused intense local archaeological interest. Set against this evidence, however, is the discovery during the last 15 years of a number of human bones as stray finds, including the adult molar tooth found in the eroded sand in the immediate vicinity of the child burial (B) and three bones discovered by Mr and Mrs Curtis on the floor of the deflation hollow containing Burials C–G (see Appendix for further discussion), to which may be added the earlier vague local accounts of discoveries of human bones on the headland (reported by Lacaille 1937). It must be borne in mind that these bones are not necessarily coeval with the Viking Age cemetery, especially in view of the presence of Bronze Age funerary activity at this location (Close-Brooks, this volume; Dunwell *et al* this volume). The cultivation of apparently small-scale plots on the headland after the cemetery fell into disuse may also have had detrimental effects on its survival, and has been commented upon above in relation to Burial B.

In addition, stray finds including several pins of Norse date and possible Norse pottery have been recovered from the headland (see Appendix, and also Lacaille 1937; Fanning 1983; Close-Brooks this volume). This stray material may indicate the presence of further burials but, as is discussed in the context of the cemetery at Reay, Caithness (Batey 1987, 35–6), may conceivably be associated with nearby Norse settlement. No Norse settlements have yet been identified on the Bhaltos peninsula: Armit (1994, 82–3) has noted the problem of their recognition, although a few possibilities are present within his list of settlement mounds, including one example a short distance to the west of the cemetery site (illus 1, no 4). The discovery of diagnostic artefacts may assist in the identification of such sites as either being of Norse origin or as containing a Norse structural component.

CHARACTER OF THE GRAVES

There are variations in the grave form and burial rite within the seven graves which, although not always clear-cut, might provide indications of cultural and/or social heterogeneity or distinctions within the cemetery. The limited excavated sample, the circumstances of the recovery of Burial A (detailed in Welander *et al* 1987) and the indefinite nature of the combined evidence, inevitably mean that no solid conclusions can be drawn. A simple point worthy of mention is that the presence of women and children within the cemetery indicates that this was the burial ground of a settled community.

Grave form

The form of the graves and the presence/absence of grave goods tend to suggest differential treatment of children and adults in death and social differentiation within the cemetery. Burials B–G are of simple form – each body appears to have been laid in a shallow pit, with both extended and flexed supine inhumations present. A small mound appears to have been raised directly over the graves of adult burials C–E, around which a rectilinear stone kerb had been placed. Eldjarn's (1984, 4) description of the typical Icelandic Viking burial contains many of the elements of Burials C–E. A rectangular grave-setting of very similar form and size was recorded during the excavation of a Viking Age female grave at Tjørnuvik in the Faroes, from which a ring-headed pin of tenth-century Hiberno-Norse type was recovered (Dahl & Rasmussen 1956). By contrast the

children and infant burials (B, F & G) appear to have been flat inhumations not marked above the ground in an archaeologically detectable manner. The form of Burial A cannot be determined with any confidence; loose stones were noted during the excavation of this burial, and it is possible that their potential significance was not appreciated at the time (cf Welander *et al* 1987, 152–3).

Only two of the four adult burials (A, E) were associated with artefacts, whereas all three of the children were accompanied. A clear distinction cannot be made between those artefacts related to clothing worn by the corpse and grave goods, defined by Batey as deposited with significance for the afterlife (1993, 162). The artefacts from Burial A clearly indicate a rich individual (Welander *et al* 1987). These finds, along with the amber beads from Burials B and F, and the stone pendant from Burial B, can all be classified as grave goods. Both artefacts within adult grave E may be functional items related to clothing, although the precise purpose of the perforated iron plate is not known. However, the bone pin from Burial F could fall into either category: whilst it is likely to have been a clothing fastener, the presence of incised decoration upon its stem may point to it having been more than a simple utilitarian item. The significance of the only item from Burial G, a possible iron rivet-head, is not known: it may be simply the surviving remains of a decayed wooden piece of grave furniture, or even have been introduced to the grave accidentally.

It is possible that the varying wealth of artefact assemblages in Burials A–G reflects differential social status in life (cf Eldjarn 1984, 4). If so, this might imply that Burial A represents the burial of a woman of some substance, whereas Burials C–E were of individuals of lower social standing, such as household servants. These trends within the grave assemblage are vague, and a larger excavated sample would be required for more meaningful analysis to be conducted.

CULTURAL ASSOCIATIONS OF THE GRAVES

The available evidence suggests that the cemetery is of a pagan Norse character, although a due note of caution is required in view of the fact that so little is known of preceding and contemporary non-Norse burial traditions in the region. Burial A, of a later 10th-century female, provides the least contentious evidence; a rich assemblage of grave goods, including a pair of oval brooches so characteristic of pagan Norse female burials, accompanied the body within this grave (Welander *et al* 1987). Although the evidence is less conclusive, the other burials also appear to be of pagan Norse character. The presence of amber beads with parallels in Norse funerary contexts within Burials B and F suggests a Norse origin, and it is reasonable to assume that the cluster of which Burial F forms a component lies within the pagan Norse tradition.

Of particular interest in this light is the evidence within this grave group of unaccompaied burials. Pagan Norse inhumations are normally identified by the presence of characteristic grave goods. This finding has clear ramifications for the identification of Norse elements within cemetery sites, where unaccompanied burials would normally be cited as evidence of a native, Christian presence.

As outlined above, however, the suggestion of a pagan Norse origin for the Cnip headland cemetery must be set against the dearth of evidence for the late pre-Norse insular burial rite against which to compare the Cnip evidence (cf Close-Brooks 1984), particularly since the radiocarbon dating of a burial excavated in 1985 at Galson (Ponting & Bruce 1989, 99) indicates it to be considerably earlier than the mid-first millennium AD date considered appropriate for the cemetery when the cists were first investigated at the site in the later 1940s (Stevenson 1952, 108). Whilst it is generally accepted that the Norse settlers encountered Christian communities in northern Britain, Armit (1996, 183–5) has suggested that Christianity may have extended only to the ruling classes of the Pictish-related societies inhabiting the Western Isles at this time. As a result of this,

we can only speculate as to whether the people buried within the graves were Norse settlers or native inhabitants who had been exposed to Norse customs and were buried in this tradition.

The extent of native-Norse assimilation following the Norse settlement of northern Britain is a contentious issue. However confrontational the Norse settlement of the Western Isles may have been, Crawford's (1981, 267) model of obliteration of the native culture by extermination of the population would appear too extreme (see Andersen 1991). On the other hand, the thoroughness of the Norse settlement of Lewis has long been recognized on the basis of place-name evidence (Oftedal 1954; Andersen 1991), although with only patchy archaeological evidence to support this perspective (see eg Armit 1996). In the absence of any details of native burial patterns, the Cnip evidence provides no support for either population replacement or cultural assimilation. Significantly, a female pagan Norse burial accompanied by brooches stylistically both of Norse and insular origin (MacLeod *et al* 1916) was discovered nearby at Bhaltos (Valtos) in 1915. Although the insular brooches could simply represent booty, this apparent duality of cultural influences might suggest that evidence of acculturation cannot yet be ruled out for the Cnip headland finds.

Whilst there is currently no convincing support for a native presence within the Viking Age cemetery at Cnip, the latest structures within the broch at Loch na Berie, dating until at least the eighth century AD (Harding & Armit 1990), attest that the area was still settled until the eve of the Norse arrival. Armit has suggested that the abandonment of these structures may reflect a phase of settlement dislocation caused by the Norse occupation and reorganization of land ownership and division within the Bhaltos peninsula (1994, 91). The fertile coastal lands which presumably attracted Norse settlement had presumably also been highly valued by the pre-Norse population. Current analysis by Professor Kevin Edwards of the sequence of sand and peat deposits which formed around the broch may shed light upon the nature of any changes in land use and the local environment which occurred during this contentious period of settlement history.

Conclusion

The site at Cnip is the first Viking Age cemetery to be confirmed within the Western Isles and is a significant addition to the data for this period in Lewis. The chance nature of its discovery strongly suggests that it is in no way unique; new finds may well come to light and other previous stray finds of graves may in time prove to be parts of more extensive burial grounds. One such example is the nearby grave find at Bhaltos (MacLeod *et al* 1916). Perhaps the most important aspect of this addition to the list of known Viking Age cemeteries is that it provides an opportunity for future excavation to be conducted to a modern research agenda on a threatened site with good archaeological potential. In particular, the future application of mitochondrial DNA analysis techniques, although still under development, has the potential to address issues such as kinship relationships (eg Brown & Brown 1992).

APPENDIX: SURFACE COLLECTIONS OF ARTEFACTS

Tim Neighbour & Andrew Dunwell

with contributions on the pottery by Richard Strachan, the stone by Bill Finlayson, and the bone by Nicola Murray (in fiche)

A substantial assemblage has been collected as stray finds in recent years by Mr and Mrs Curtis from the floor of the same blow-out as Burials C–E, as well as further material from adjacent blow-outs. The assemblage includes objects of flaked stone, pottery, copper alloy, iron, iron slag, and animal and human

bone, and augments the collections published by Lacaille (1937) and Close-Brooks (this volume). These artefacts were kindly loaned to CFA for further analysis. The following section presents a summary of the nature and, where possible, date of the various components of the assemblage. The material represents the redeposited product of erosion which could have derived from any part of the sequence of sand deposits visible around the edges of the deflation hollows. The circumstances of their recovery therefore preclude meaningful analysis of their spatial distribution. A full catalogue of artefacts, sub-divided into material types and with expanded discussions, is presented on fiche. Numbers in parentheses refer to catalogue entries detailed on fiche.

The assemblage includes material varying in date from Bronze Age to modern, although a substantial proportion is either unidentifiable or undiagnostic. Few artefacts can be linked with any confidence to the Viking Age activity identified by excavation on the headland. Of particular interest is a possible boat nail of iron, very similar in form to an example found in Burial A (Welander *et al* 1987, 158, illus 8, no 11), and a number of other examples. These artefacts are frequently cited in burial contexts as evidence of a boat burial, although Eldjarn (1984, 8) has pointed out that they could also be associated with a number of other artefacts. These need not be Norse in origin, and may simply reflect the presence of a clinker-built boat-building tradition. The presence of three human bones within the collection has been discussed above: these items may be of either Norse or Bronze Age origin, or indeed neither (K26, K27, K41/4). In addition, a section of bronze pin shaft was found (K105) although it possesses no diagnostically Norse characteristics. X-ray fluorescence suggested that other pins were of modern elemental composition (K13, K31, K34; P Davidson pers comm).

Some trends are identifiable in the remainder of the assemblage. The 64 stone pieces include flint, chalcedony, quartz of varying quality, and gneissic stone. The quartz and flint flake technology which characterises this assemblage is typical of late Neolithic and Early Bronze Age contexts. The assemblage would therefore appear to be at least broadly contemporary with the Bronze Age cairn and adjacent short cist, and also possibly with the putatively Bronze Age structures to their south identified by Lacaille (1937, fig 2; illus 1, no 3). Four pieces of flint are present, all worked and comprising a scraper, two inner flakes and a secondary flake: Lacaille had found no flint (1937, 282). The scraper is the only artefact within the stone assemblage which can be classified as a formal tool. Forty-two pieces of locally available quartz are present, mostly flakes but also including a blade, flaked chunk and deliberately split pebbles. The dominance of quartz within the assemblage mirrors Lacaille's findings and discussion of that industry (1937, 282–5). This material forms the bulk of the stone assemblage, and is commonly used in much of northern and western Scotland as the mainstay of chipped stone industries. The quartz appears to have been knapped on-site, as various stages in knapping are present, from split pebbles to inner flakes. There is no indication that flint was knapped at this site, and it is possible that all the pieces were imported onto the site as implement components.

The condition of the pottery assemblage is consistent with the circumstances of its retrieval from exposed sand surfaces. The majority of the sherds are small in size and heavily abraded. The identification of chronological range is difficult, as Hebridean pottery appears to have been manufactured by the same basic methods and materials over at least 2000 years from the Iron Age until the 19th century AD (Lane 1990, 109). The motifs on many of the decorated sherds are heavily abraded, and some are scarcely visible. The rim and basal forms and identifiable decorative motifs are mostly of types consistent with a later Iron Age and pre-Norse context. The decoration is mainly in the form of incised single lines, or fingertip impressions, with a complete absence of applied cordons or bosses. The identified types are broadly dateable to the first millennium AD. A sherd of diagnostically Norse Hebridean platter ware of 10th/11th century date (Lane 1990) has been recovered previously as a stray find from a midden on Bhaltos beach (Close-Brooks this volume, illus 9, no 19). In the absence of any structural evidence for later prehistoric settlement on the headland it appears likely that the pottery assemblage appears in an off-site context, possibly through the use of domestic midden for manuring on cultivated ground.

Apart from elementally modern material identified by X-ray fluorescence analysis, the metal assemblage is largely undateable and undiagnostic. Of the copper alloy material, a small collection of sheet metal offcuts is parallelled by material retrieved from an Iron Age context on Cnip site 3 (Armit & Dunwell 1992) and previous discoveries on Cnip headland (*Discovery Excav Scot* 1961, 45), and may be associated with craft activity (K105). A possible 'leaf-shaped' brooch mount was recovered from the southern side of the blow-out containing Burials C–E (K24). A whole bracket, and fragments of two others, were recovered

(K25, K105). A further example of this type was found c 20 m west of the Bronze Age cairn during its excavation (Close-Brooks this volume, illus 10, no 8). All are characterized by a regular incised, stepped pattern on the inside faces. Most of the iron pieces are heavily corroded and undateable. Nails, tacks and wire or pin fragments form the majority of this assemblage. A small iron alloy spiral strip was clearly of deliberate design, although its function and date are unclear (K304).

X-ray fluorescence analysis was also carried out on the assemblage of slag collected from Cnip headland. All have an iron and calcium content, with the proportion of iron varying from over 80% to as little as a third of that of calcium. These variations reflect smelting efficiency. Four pieces of limestone derivative, probably a smelting by-product, were also present; one had small copper alloy nodules visible on its surface. These are probably from post-smelting, pre-cooling contamination (P Davidson, pers comm).

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With particular reference to Burial B, full credit for its discovery in May 1991 goes to Marie MacLean and Ross James, who first spotted the bleached bones of the skull eroding from the sand, and who then, with their parents Pat and Don MacLean, and Bobbie James, took steps to ensure that their discovery was reported without disturbing the site further. Carol Cunningham, Mike Spearman and Richard Langhorne assisted in various ways during that excavation, while special thanks are due to Margaret and Ron Curtis for all their help and hospitality. Ian Larner and Doreen Moyes of the National Museums of Scotland carried out a variety of photographic work.

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Skeletal material from Burials A and B is lodged with the Department of Archaeology, National Museums of Scotland. All site records and an archive report for the excavations (Dunwell 1995) have been deposited with the National Monuments Record of Scotland (NMRS). The artefacts recovered from the excavation of Burial B were claimed as Treasure Trove, and subsequently allocated to the Museum nan Eilean, Stornoway, whereas those from the excavation of Burials C–G are with Historic Scotland, pending allocation to a museum. The assemblage of stray finds from Cnip headland has been returned to Mr and Mrs Curtis.

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