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Two Orcadian cist burials: excavations at Midskaill, Egilsay, and Linga Fiold, Sandwick

Hazel Moore* & Graeme Wilson*
with contributions by S Boardman, J Gibson, L Nagy,
A Newton, R Tipping & R Wiggins

ABSTRACT

Two cists representing common forms of Bronze Age burial monument were excavated in 1992 in Orkney. A short flat cist at Midskaill, on the island of Egilsay, was previously unrecorded and it contained coarse pottery sherds and 'cramp' (vitrified cremation slag). No human bone was found. The second cist, located within a mound at Linga Fiold, Sandwick, on Mainland Orkney, contained human bone and cramp. The Linga Fiold mound is one of a recorded and partially excavated group (RCAHMS 1946, no 713). The work was carried out with funding from Historic Scotland.

INTRODUCTION

The excavations were undertaken during the summer of 1992 by Julie Gibson, the Historic Scotland monument warden for Orkney. The cist at Midskaill came to light when a bull collapsed the capstone, necessitating a salvage operation to recover the contents and record the structure. The Linga Fiold cist, revealed by the severe erosion of the overlying mound, was noted during a routine site visit. A short excavation to retrieve the cist contents, record its structure and survey the mound group was rapidly undertaken. Subsequently, the recovered materials were submitted to EASE (see footnote) for assessment, and the present writers were invited to provide this report. All work was funded by Historic Scotland.

The opportunities afforded for the interpretation of the two sites are necessarily limited to the cists and their contents. It was hoped examination of the latter would yield specific data relating to the individual monument types. All recovered materials were examined. Radiocarbon dating was not possible due to the small quantities and insecure origins of the charcoal retrieved from each site.

This paper examines each site individually; the assemblages from the two sites are then compared, and finally, an attempt is made to place each monument type within its wider archaeological context.

* Environmental and Archaeological Services, Edinburgh, Unit 8 Abbeymount Techbase, 2 Easter Road, Edinburgh EH7 5AN

MIDSKAILL

BACKGROUND

The cist at Midskaill (HY 46263009) is situated on a west-facing slope near to Midskaill farmhouse, on the west side of the island of Egilsay (illus 1). The soils are silt loams, currently under pasture. No other sites are recorded in the area.

THE EXCAVATION

A single short cist lay 0.25 m under topsoil and consisted of a rectangular flagstone box aligned approximately north/south (illus 2). Internally it measured 0.7 m by 0.45 m and was 0.3 m deep. The cist structure was intact, consisting of four vertically set wall slabs, with the ends roughly abutting each other, except in the north-west corner where the west slab projected beyond the north end of the cist. The side walls were tightly set around a single base slab, and projected below its upper surface. The angles did not appear to have been jointed or bonded.

The cist had been covered with two slabs, one partially overlying the other. The upper capstone, covering the north end of the cist, had been broken by the bull; the lower capstone had apparently broken in antiquity. A row of smaller stones, overlying and aligned with the vertical west and south walls, had acted as supports and levels for the capstones. The pit containing the cist was cut into the subsoil. It appeared just large enough to contain the cist, although as the slabs were not removed this could not be confirmed.

The primary cist fill (F2) had been somewhat disturbed during the accidental discovery of the cist. Lying between the remnants of the collapsed capstone and the base slab, this fill contained one large rim fragment and several smaller sherds of a coarse, straight-sided pot. A small quantity of vitrified material, hereafter termed cramp, was also recovered from this deposit. No trace of human bone was noted. The upper fill (F1) had been removed by the landowners after the discovery of the cist, although a quantity of the soil had been left beside the open cist for examination. Fill F1 appeared similar to the primary fill and contained sherds of the same pottery (see below).

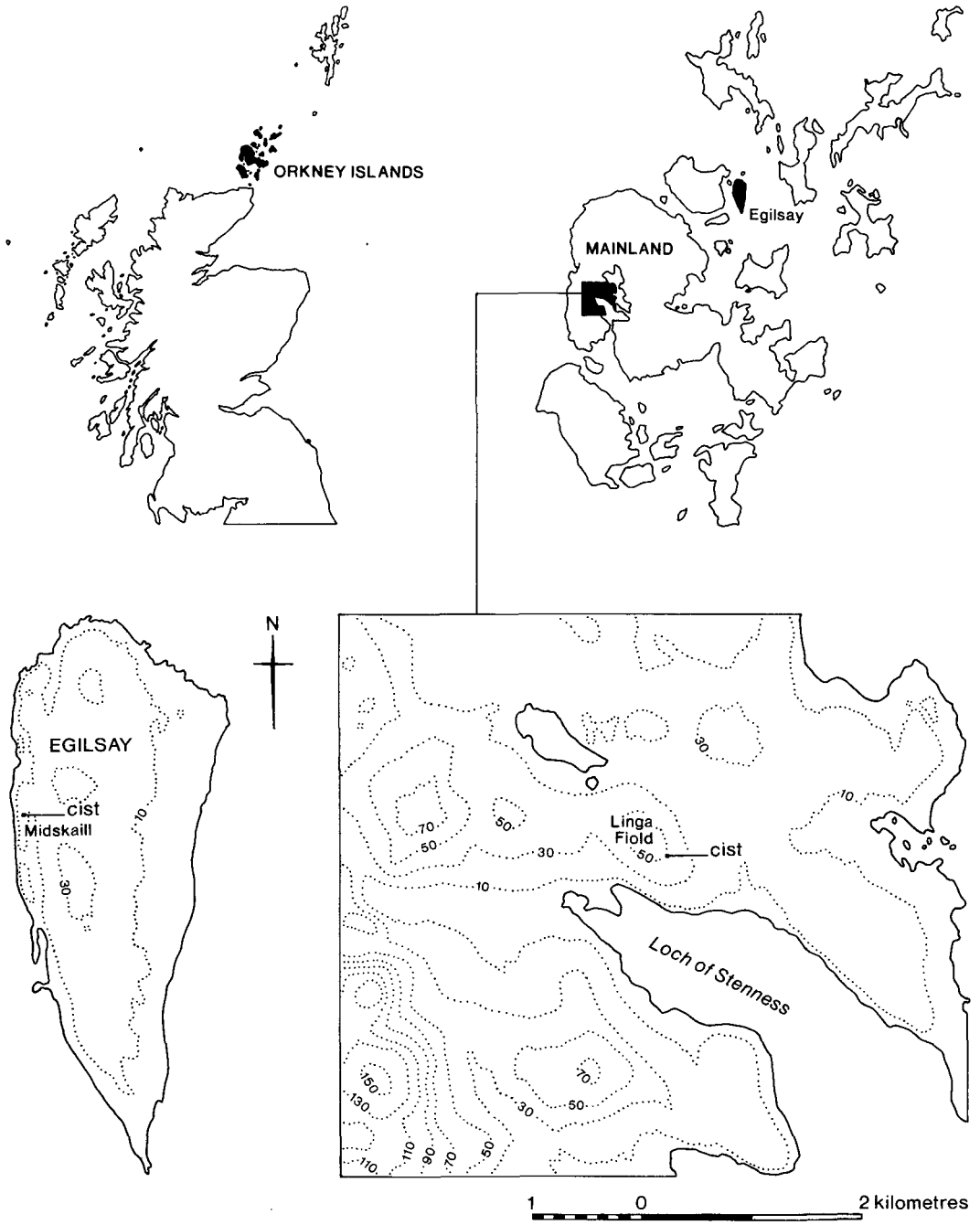
It was not possible to extend the excavation in the time available, but no other features were noted on the surface in the immediate area.

Both cist fills were sub-sampled, then wet sieved. The sub-samples were investigated for pH, organic matter content via loss-on-ignition, and high, medium or low phosphate content, using a spot test for easily available phosphate (after Hamond 1983). The 1 mm wet sieve fractions produced additional pottery and cramp, some charcoal and other charred plant material. The deposits were considered too disturbed for pollen analytical work. The results of the specialist investigations are summarized in illus 6.

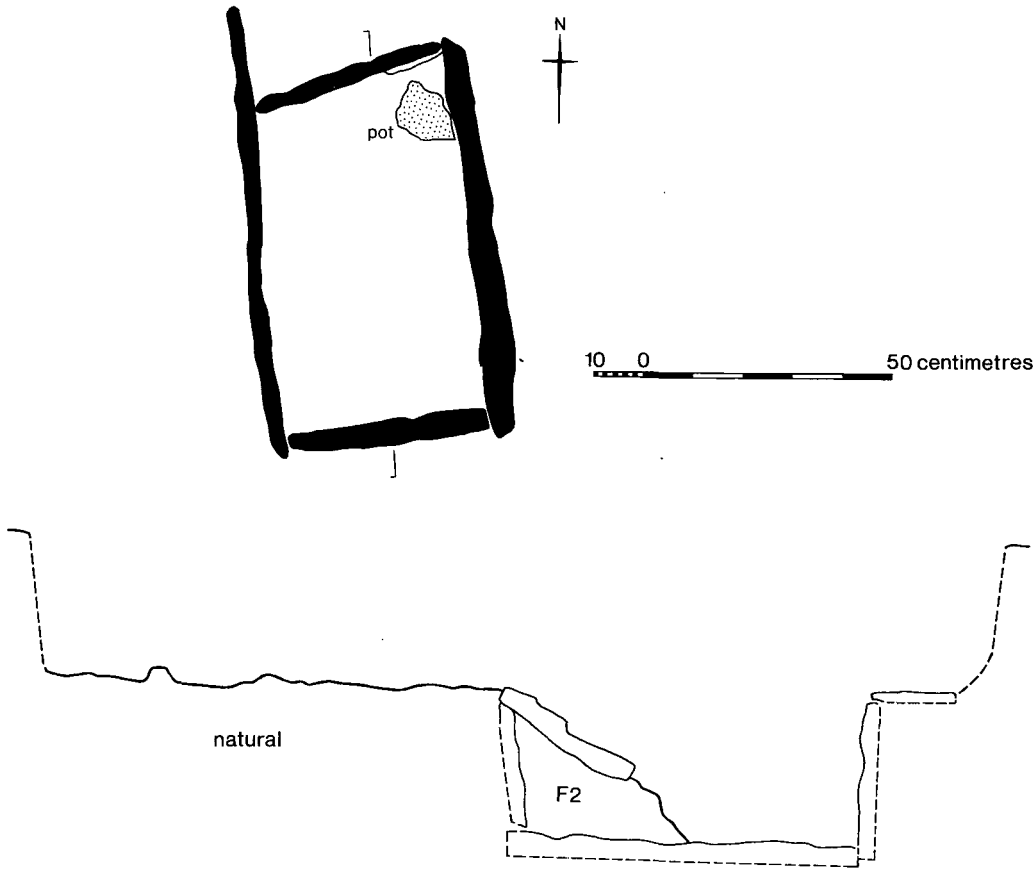
LINGA FIOLD

BACKGROUND

The mounds at Linga Fiold are situated on an upland ridge to the east of Upper Lyking farmhouse, overlooking the west end of the Loch of Stenness (illus 1). The soils in the area are poorly drained clay loams, presently under grass. The mounds appear to be capped with clay, overlying a looser clay loam. The loss of clay capping due to ploughing, rabbit burrowing and cattle trampling has left these monuments very vulnerable to destruction. This state of affairs is typical of this class of



ILLUS 1 Location map (*Based on the Ordnance Survey map © Crown copyright*)



ILLUS 2 The Midskaill cist

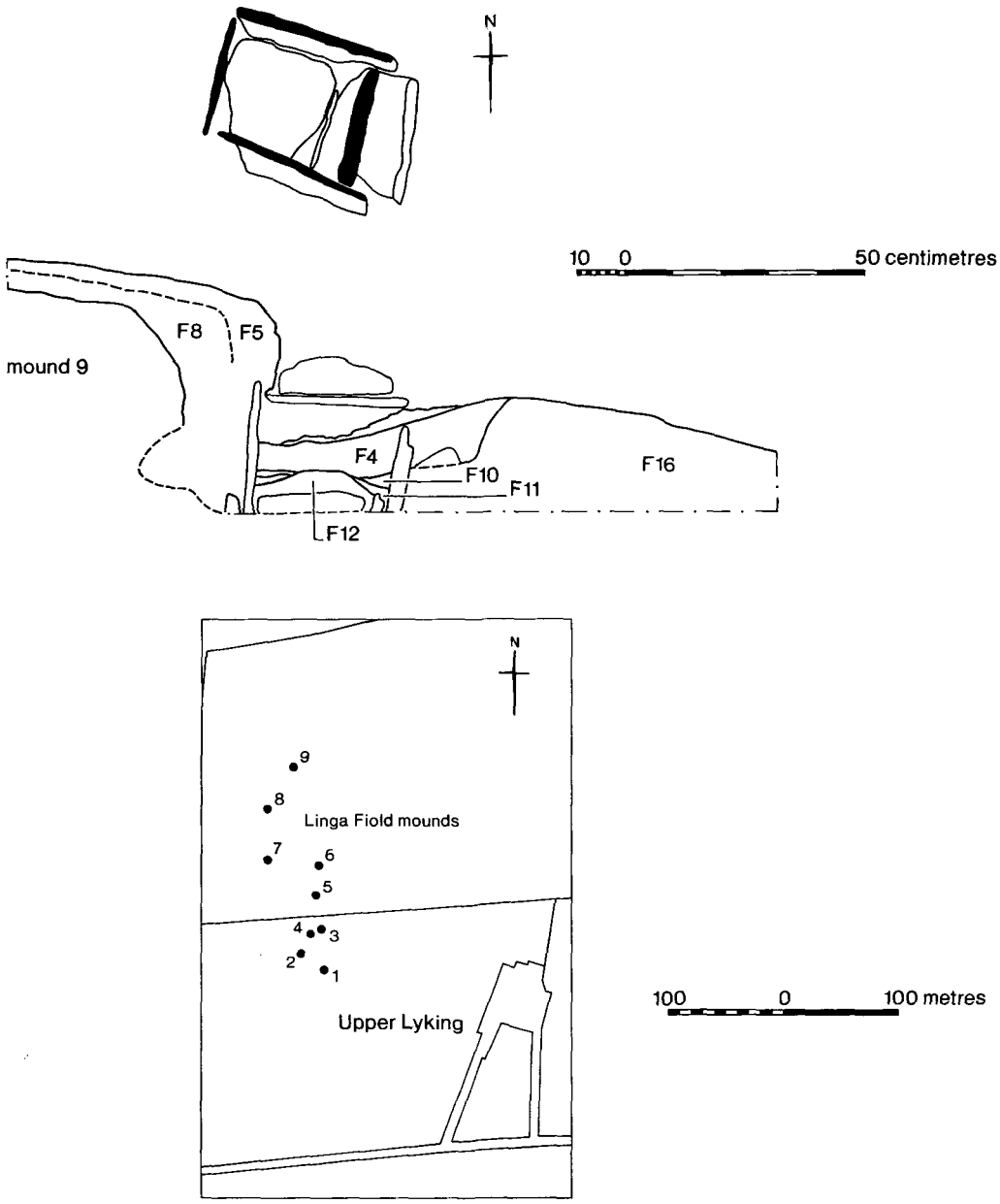
monument in Orkney today, as recorded by inspection of scheduled examples by Historic Scotland's monument warden (J Gibson).

Thirteen mounds were recorded at Linga Fiold in 1946, although it was thought then that there had originally been up to 16 (RCAHMS 1946, no 713). Nine mounds are visible today, of which only seven are upstanding (Table 1). The excavated cist was located within mound 9 (HY 26431542), the most northerly of this group (illus 3).

Excavation in the last century investigated mound 1, the largest and most southerly mound of the group (Clouston 1839, 55–7). A central cist contained a cremation deposit and urn; the latter has since been lost. A second mound was opened, which, from the dimensions recorded, would appear to have been mound 2. This contained six cists, and a cremation in a pit.

Within the immediate area of the Linga Fiold mound group are located a large unexcavated mound to the west and a pair of standing stones to the north-east (RCAHMS 1946, nos 685, 760). Two flat cist burials, found separately, were located in an adjoining field (HY 271153). A third flat cist in the area (HY 269155) was cut into a natural hillock and contained an inhumation burial accompanied by a steatite vessel (Marwick 1949, 238).

Burial mound groups are found throughout Orkney (Hedges lists 60 recorded sites, 1977,



ILLUS 3 The Linga Fiold cist and location of mound group

140); the area surrounding the Lochs of Stenness and Harray is particularly rich in such monuments. In a current project, also supported by Historic Scotland, further work on the Linga Fiold mounds is taking place (Downes 1992).

THE EXCAVATION

The capstone of a cist and an upright stone, located at the centre of the mound, were visible on the surface prior to excavation. The upright stone may form part of another cist. Alternatively, it may be a stone feature, of unknown function, similar to those at Tenston (RCAHMS 1946, no 731) and the Knowes 1 and 4, Quoyscottie (Hedges 1977, 131, 136). A stone kerb is visible within mound 1 and a ditch partially surrounds mound 2 of this group; mound 9 does not appear to have either (Gibson 1992).

Mound 9 has been truncated to the west and south by ploughing and on the eastern side by rabbit burrowing; now oval in plan, it was probably originally circular. From north to south it measures 9.5 m, from east to west, 7.3 m and presently stands less than 0.5 m high. The cist was situated on the eastern side of the mound and was aligned approximately NW/SE.

Internally, the cist measured 0.3 m by 0.25 m and was 0.2 m deep (illus 3). The side slabs abutted each other and projected slightly below the upper surface of the base slab. The joints were apparently unbonded. The base slab did not cover the entire floor, and gaps at the south-west and north-east corners had facilitated the downward seepage of the cist fill. Two shattered flags, found dislodged and partially collapsed into the cist, had originally formed a double capstone.

A strip, 0.5 m wide, was cleared around the sides of the cist to investigate the pit cut. While animal burrowing had obscured its original shape, the pit was clearly cut into the yellow clay which capped the mound. Packing stones lined the cut, keeping the cist slabs in place. In turn, the packing had been covered with more clay. The reinstatement of the clay capping suggests that insertion of the cist had closely followed the construction of the mound. The peripheral position and small size of the cist suggests a satellite rather than a main burial. The cist structure was not removed.

Four distinct fills were recorded within the cist (F4, F10, F11, F12). The upper fills, F4 and F10, represent secondary infilling or gradual seepage from the overlying mound. These were situated to the sides of the cist. The primary fills consisted of a loose soil (F11), which contained some bone, and beneath this, a concentration of cremated bone (F12). The latter formed a low mound at the centre of the cist floor. Analysis of the bone indicated that a single adult was represented, and that not all of the cremation had been recovered from the pyre for burial. The bone did not appear to have been deposited in a container. Samples from the cist and mound contexts were sub-sampled and investigated via pH, organic matter content, and high, medium or low phosphate content. The 1 mm wet sieve sample fractions contained cremated human bone and cramp. Total charcoal weight was 0.2 g. The palynology of the cist deposits which were rich in human bone, and from layers sealing these, was also investigated. The results of specialist investigations are summarized in Table 2.

THE POTTERY

Graeme Wilson

Pottery was recovered from only the Midskaill cist. In total 42 sherds of coarse pot, 15 from the cremation deposit (F2) and 27 from the disturbed fill (F1) were found. The sherds appear to derive from a single vessel, but not to constitute an entire pot.

TABLE 1
Dimensions and characteristics of the Linga Fiold mounds

MOUND	GRID REF.	DIAM	HEIGHT	FEATURES	STATUS
1	HY 26461525	18 m	2 m	Hollow centre Kerb to south, runs east/west for 1 m Excavated in 1830s (A)	Eroding 80% denuded of turf
2	HY 26441526	12 m	1 m	Hollow centre Large stones on top Ditch to north c 2 m wide Possibly excavated in 1830s (A)	20% denuded
3	HY 26461528			Barely visible	Grassed over
4	HY 26451528	7 m	0.2 m	Barely visible	Grassed over
5	HY 26451531	13 m	0.7 m	Small stones on surface	50% denuded
6	HY 26461533	15 m	1.1 m	Large stones on top	Eroding 40% denuded
7	HY 26411534	11 m	0.6 m	Hollow centre Flat stones on top	Eroding 30% denuded
8	HY 26411538	8 m	0.6 m	Small stones on surface	50% denuded
9	HY 26431542	9.5 m	0.5 m	Large stones on top Cist on east side Excavated 1992 (B)	Eroding 30% denuded

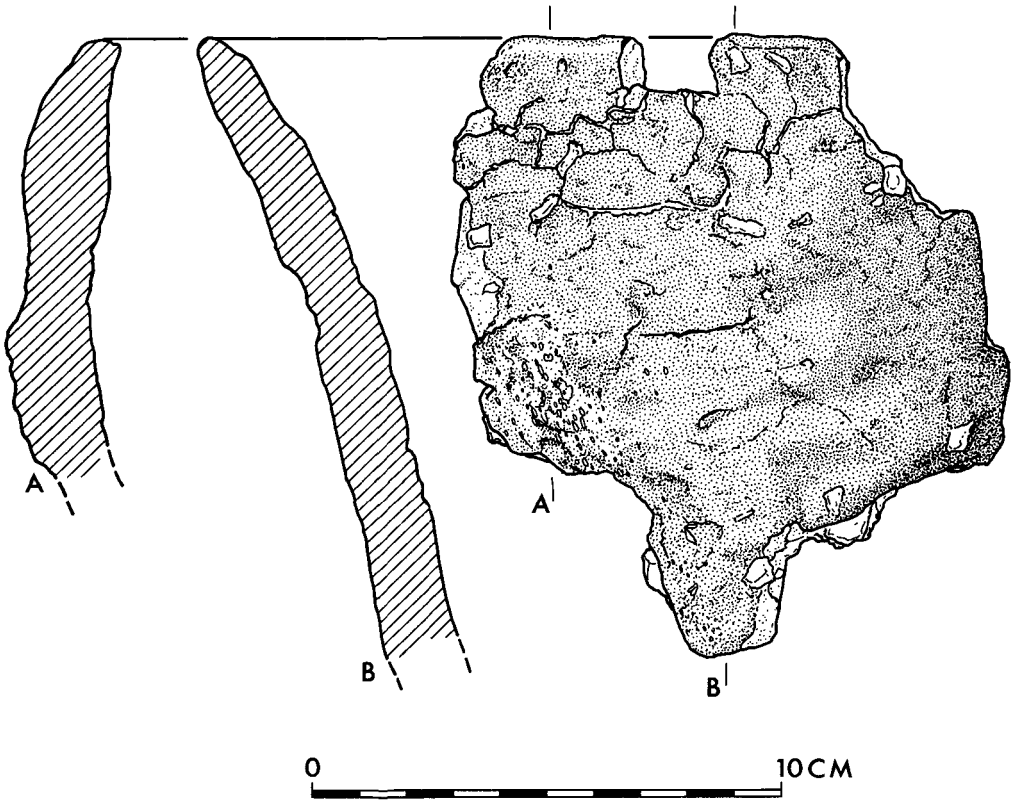
(A) *New Statistical Account*, vol XV: Orkney (1839), 55–7
(B) as detailed in this report

The fabric was coarse and friable with large, irregularly sized, angular sandstone grits. The internal surface was orange-brown and the exterior buff. The condition of the sherds was poor.

The largest and most diagnostic sherd was a flat-rim, rim-body fragment, 135 mm in height, 150 mm in width and 14–16 mm thick (illus 4). This was so badly warped that it was not possible to estimate the diameter of the vessel. Of the remaining sherds, 31% were between 20 mm and 70 mm in size, and included one possible base sherd; 68% were less than 20 mm, including one identifiable rim. Profiles suggest a straight-sided, bucket-shaped pot, which was undecorated and likely to have been of local manufacture (Callander 1934).

The large rim sherd had a patch of glassy, vitrified material on its outer surface. Some smaller sherds had a 'honeycomb' texture when observed in profile, due to the loss of their organic temper, and warping had rendered the fabric unstable. These characteristics appear to be secondary, possibly the result of refiring on the cremation pyre, and may account for the partial recovery of the vessel.

Flat-rimmed ware was the principal type of pottery in use during the Mid-Late Bronze Age periods outside of the Deverel-Rimbury and Trevisker ranges. It has also been found in deposits dating from the Neolithic to the Early Iron Age period, and represents the poorest quality pottery recovered from this period (Hedges, J W 1975, 69–70, appendix IX). Similar pottery appears to have been in domestic use during the later second millennium, based on radiocarbon dates from burnt mound sites at Liddle, South Ronaldsay, and Beaquoy, Dounby (Hedges 1975, 50, 61). In funerary contexts, flat-rimmed ware has been recovered from the primary burial deposits within mounds at Knowes 2 and 3, Quoyscottie, Beaquoy (Hedges 1977, 137) and at Queenafjold, Twatt (Ritchie & Ritchie 1974, 73). It has also been found in flat cemeteries; from the pit burials at Quoyscottie (Hedges 1977, 140) and in cist 1 at Werne, Harray (Hedges 1980, 53). The sherds from Queenafjold, Werne and the pit burials at Quoyscottie had been refired, most probably on the cremation pyre, a practice commonly recorded in the Mid-Late Bronze Age period (Clarke *et al* 1985, 150–1).



ILLUS 4 The largest of the sherds from Midskaill, showing the marked warping

THE CRAMP

Anthony Newton

Cramp (also referred to as glass, vitrified material and cremation slag) was recovered from both sites. Total cramp from Midskaill weighed 81.3 g and from Linga Fiold 0.3 g. Thin sections were prepared on a selection of material from each site and these were examined using an electron microprobe. The structural and geochemical characteristic of the material were investigated. A qualitative method rather than the quantitative ones employed by Dugmore (1990) and Henderson *et al* (1987) was used because of the heterogenous nature of the cramp.

Three types of 'glass' were identified:

TYPE 1

Composed of silica (c 70%), aluminium and potassium. This material had well-rounded vesicles and ranged in colour from clear to yellow, brown and green. There were abrupt changes from clear to mottled glass, and in colour.

TYPE 2

Also composed of silica, aluminium and potassium, with varying amounts of sodium, magnesium, phosphorus, calcium, titanium and iron. Composition was vesicular with abrupt changes occurring over very small distances. The mottled and greenish-brown glasses had higher calcium and phosphorous, and lower aluminium and potassium levels than the clear glass. The Linga Fiold material generally had much lower calcium and phosphorus levels as compared to the Midskaill material.

TYPE 3

Very different to Types 1 and 2. Not vesicular, brown in colour and very unstable. Major components were aluminium and calcium, followed by silica, phosphorus and iron. Type 3 had increased aluminium and much reduced silica levels as compared to Types 1 and 2. Other elements were sulphur, titanium, magnesium and some sodium. Composition was markedly different over very small distances.

Types 1 and 2 are common to Midskaill and Linga Fiold; Type 3 was found only at Midskaill. All three types were formed under high temperatures, probably greater than 1000°C. The heterogeneous nature of the material suggests that high temperatures were localized and maintained only for short periods. The presence of quartz found fused to the cramp confirms that high temperatures were not maintained.

Local geological conditions would have influenced the composition of the cramp. Silica, aluminium and potassium may reflect the soils in the area of the pyre. These were present in proportions similar to those found in potassium feldspars. Orkney consists largely of sandstones, however, suggesting that differences between the sites based on local conditions will be small.

The pyre conditions at Linga Fiold seem to have favoured the survival of both cramp and bone. At Midskaill, only cramp was recovered. The Midskaill cramp also contained a consistently higher level of phosphorus and calcium in proportions similar to those found in the mineral apatite, which constitutes bone. The cramp from Midskaill therefore appears to represent actual cremation material, albeit in vitrified form. The inclusion of other material in the cremation pyre, such as molluscan shell, could also have contributed to the results described here, although it should be noted that macroscopic shell remains were not recovered from any of the wet sieve sample fractions from either Midskaill or Linga Fiold (S Boardman, pers comm).

CHARRED PLANT MATERIAL

Sheila Boardman

CHARCOAL

A total of 1.3 g of degraded and partially vitrified charcoal was recovered from Midskaill, largely from the disturbed cist fill (F1). Only 0.2 g of charcoal was recovered from Linga Fiold. There are no charcoal identifications and radiocarbon dating was not attempted for either site.

CHARRED PLANT MACROFOSSILS

These were present only in the Midskaill deposits. A total of five indeterminate oat (*Avena* sp.) grains and two barley grains, of the six-row species (*Hordeum vulgare* L.), were recovered from F1 and F2. Oat is rare in archaeological deposits predating the Iron Age. Six-row barley is the most frequent cereal recovered from Scottish archaeological sites of all ages (Boyd 1988; Greig

1991). Another possible barley grain and four seeds of chickweed (*Stellaria media* (L.) Vill.) were also identified. The latter is a common cultivation weed.

The samples from both sites also contained uncharred seeds and plant rootlets, insect fragments and worm egg capsules, all probably of recent origin. The inclusion of this material sheds some doubt on the age of the charcoal and other charred material. If the latter are intrusive at Midskaill, their presence may represent accumulation over a lengthy period, rather than the crops available to the cist builders.

THE SOILS

Lazlo Nagy

The Linga Fiold fills which contained human bone (F11, F12) had high phosphate, and slightly higher pH values as compared to the surrounding fills, both a probable result of the release of calcium following cremation. Loss-on-ignition values were also slightly increased in these layers. The pH values from Midskaill (illus 6) did not suggest that conditions here were less favourable for the preservation of bone than at Linga Fiold.

HUMAN BONE

Rebecca Wiggins

Bone was recovered only from the Linga Fiold cist. A large majority of the cremated material could be unequivocally placed in the 'human bone' category, although fragmentation and distortion hampered the identification of anatomical landmarks. Identifiable material included long bone shafts, other limb elements (ulna, metatarso/metatarso-phalange fragments), and various cranial elements; skull and jaw fragments, and two adult tooth roots.

From the width and thickness of the cortex of the long bone shafts and their diaphyseal ends, it can be reasonably assumed that these represent an adult individual. The tooth roots both derived from permanent teeth; one was a mandibular premolar root and the other a mandibular first/second molar root. A portion of the enamel, although very blackened by the burning, survived on the latter. The fragments of skull were unfused suggesting a younger adult rather than elderly individual. No sexing criteria survived and pathological lesions were not identified.

The total weight of the cremated bone was 633.11 g. This falls into the single adult individual range, although it is useful to note that most modern adult cremations weigh between 1600 and 3600 g (McKinley 1989). Material from the Linga Fiold cremation may have been lost as it was recovered from the pyre.

It is tentatively concluded that the Linga Fiold cist contained a single adult individual. There were no duplications of bones and the weight was well within the single individual range.

THE POLLEN

Richard Tipping

Palynology of the *in situ* stratified cist floor deposits at Linga Fiold was undertaken, partly to investigate whether a pollen assemblage rich in meadowsweet (*Filipendula*), such as that recognized at comparable sites and believed to represent a 'ritual' deposit, was present (Tipping, in press). No such assemblage was identified, and uncertainties over the origin of the assemblages which were counted meant that no palaeoecological interpretation of the data was possible.

TABLE 2
Summary of analysed material

CONTEXT	pH	LOI %	PHOSPHATE	HUMAN BONE (g)	CRAMP (g)	POTTERY (pieces)	CEREAL (pieces)	SEEDS (pieces)	CHARCOAL (g)	MODERN MATERIAL*
Midskaill										
F1	5.1	7.7	medium		2.4	27	6 (A)	3 (C)	.9	PL, IN, WE
F2	5.9	6.37	low		78.9	15	2 (B)	1 (D)	.4	PL, IN, WE
Linga Fiold										
F4	4.6	5.51	medium							PL, IN
F10	5.1	3.96	medium-high						.1	PL, IN, WE
F11	5.25	4.32	high	108.3						PL, IN
F12	5.6	3.38	very high	444.7	.3				.1	

(A) 4 *Avena* sp., 1 *Hordeum vulgare* L., 1 cf *Hordeum*
(B) 1 *Avena* sp., 1 *Hordeum vulgare* L.
(C) 3 *Stellaria* sp.
(D) 1 *Stellaria media* (L.)

*PL – plant
IN – insect
WE – worm eggs

DISCUSSION

Recent reassessment of the large body of evidence from burial monuments attributed to the Bronze Age in Orkney has led to the recognition of two widely occurring burial types: flat, short cists and cists within mounds. These are broadly represented by the Midskaill and Linga Fiold sites. Few dates exist for either class of monument and classification has relied upon morphological details. Funerary monuments represent one highly visible and important aspect of Bronze Age society. Previous work has tended to concentrate upon them, arguably to the detriment of the contemporary settlement evidence. Relevant information could be sought from sites such as Tenston (HY 273164), where, situated in close proximity to burial mounds, are the remains of circular enclosures and hut circles (RCAHMS 1946, nos 705 & 731). It has been suggested that burnt mounds, which occur along the shores and to the north of the Loch of Stenness, may also represent activity contemporary with the mound burials (Parry 1977, 151–2).

Within the limited nature of this discussion, an examination of the broader Scottish picture will not be made, since Bronze Age Orkney (in so far as funerary practice is a guide) developed on different lines and seems to have been little influenced by changes taking place elsewhere, witnessed by the almost complete lack of beakers and associated artefacts (Clarke *et al* 1985, 92).

The Midskaill cist is similar to the Ellibister type, as defined by Hedges (1980, 47–9). This grouping of flat cists is based on structural rather than dating or locational similarity. Briefly, these consist of a rectangular stone-lined box, a base slab and one or more cover slabs. Such cists generally have overall dimensions of less than one metre. They are not covered by a mound, but may be set into a natural rise in the ground surface. Most have been discovered accidentally, with limited investigation of their surrounding area and are thus recorded as isolated burials. Subsequent accidental discoveries or further excavation has revealed that some, however, occur in cemeteries (Hedges 1980, 49). Grave goods are scarce and generally undiagnostic. Only cists with evidence of a cremation deposit are included in this group (Hedges 1980, 48). Since no bone fragments were found during excavation of the Midskaill cist, this would initially appear to fall outside the Ellibister group.

Post-depositional decay may explain the lack of bone recovered from some sites, but soil pH did not support this argument for Midskaill (Nagy, above). This cist did, however, contain cramp. While cramp is frequently found adhering to, or in association with, cremated bone (RCAHMS 1946, 59; K McSweeney, pers comm), it is often the only deposit found in cist 'burials'. It is

argued here that where cramp is incorporated into sealed cists, it can reasonably be assumed that a cremation had taken place, even when no bone has survived. It may be that, in some instances, cramp was the only material recovered from the pyre.

Microscopic analysis of the cramp from Midskaill revealed minute fragments of cremated bone (Newton, pers comm) and examination using a microprobe identified probable bone constituents within the cramp matrix. The presence of refired potsherds in the Midskaill cist further suggests that a cremation took place. On the basis of this evidence Midskaill can be placed within the Ellibister cist group, together with many other cists containing only cramp, hitherto discounted. As far as the authors are aware, cramp has not been analysed at other flat cist sites where bone was absent.

These observations suggest that cramp is a useful indicator of cremation deposits. Work undertaken at other sites supports the hypothesis that the background soil conditions on Orkney produce cramp of a fairly uniform composition (Dalland 1989, 6; Fleet 1976, 46–8; Sofranoff 1975, 91; Callander 1936, 52–3). Significant differences in composition are more likely to result from the material being burnt (Newton above); although materials other than bone have not been identified to date.

The Midskaill and Linga Fiold cist contents would appear to suggest an inverse relationship between cramp and bone, with different pyre conditions producing a greater amount of one and a lesser amount of the other. Variation in cremation deposits must reflect differences in the cremation process. Possible factors may include the type and construction of the pyre, available fuel and weather conditions. The lack of good supporting evidence, as yet, curtails discussion of such variation through time or even according to status. Writing in the last century, having witnessed the excavation of many cist burials, the Revd Charles Clouston made an interesting and possibly pertinent observation. The more carefully constructed cist burials tended to contain 'clean' cremated bone with no 'ashes' while the less well constructed cists contained cremations which were frequently mixed with 'ashes'. Clouston inferred that differential status was being represented by the burials (Clouston 1839). This hypothesis, although subjective, remains untested. Such observations are pertinent to casual excavation and may not be capable of superimposition, based on records, at a later stage.

While there is not yet enough new information to update Hedges' work, the present authors would like to suggest that, in addition to re-examining the role of cramp in such burials, some thought should also be given to the relation of flat cist burials with their surroundings. First, the area surrounding isolated flat cists should be checked for the existence of further burials. The probability that some of the flat cist cemeteries were once covered by mounds should also be addressed. Records of four cists at Fiddlerhouse, Sandwick (Hedges 1980, 62–3) make mention of the fact that they were discovered when an earthen mound was being destroyed. Most accidental discoveries of flat cists are made in the course of farming activity, suggesting that even if a mound had existed, by the time the cists are uncovered, little or no trace may be left. Old records for other sites note that cists were found in 'natural' mounds (eg Gyron Hill, Sandwick, Hedges 1980, 63), leaving the suspicion that some may in fact have been within burial mounds.

A further consideration advanced here is the importance of examining relationships between different burial types within cemeteries. Just as the position and structure of the individual burials within mounds may represent chronological or hierarchial differences, so may the variations within flat cist cemeteries. This would also seem to suggest that all categories of material should be examined, not only those included in Hedges' list (Hedges 1980, 44–9).

The burial mounds at Linga Fiold represent a class of monument found throughout Orkney, typified by the Knowes of Quoyscottie, which are dated to the Middle Bronze Age (Hedges 1977,

140–2). A distinguishing feature is their clustered distribution and disposition on the margins of cultivatible land, usually on upland or natural rises. These earthen scrape barrows may contain a single central cist with cremated deposit, sometimes accompanied by grave goods. Additional peripheral burials, in pits or cists, may also be present (Parry 1977, 151–4). Secondary burials are recorded at Linga Fiold mound 2 (Clouston 1839, 55–6), Summersdale, Stenness (Ashmore 1974, 41) and Thrumland, Rousay (Craw 1934, 68). While these may be an exception rather than the rule (Hedges 1977, 142), the sample of extensively excavated and well-recorded mounds currently remains too small to be representative.

The recently excavated cist at Linga Fiold was small and of simple design but earlier excavation of mound 2 of this group revealed a variety of pits and cists surrounding two central cists. These were positioned side by side, each with its own capstone covering. A third large slab covered the cists with a gap between the upper and lower capstones (Clouston 1839, 55–6). The function of complex cist structures may need to be reassessed in the light of recent discoveries at Sandfiold, Sandwick, where a rock-cut cist was constructed to facilitate re-opening for the insertion of secondary burials. This contained both inhumation and cremation burials and a vessel of Bronze Age type (Dalland 1989, 4–6). Such discoveries may be relevant to the cists within Knowes 2 and 3 at Quoyscottie where the weight of the capstone was borne by unusual sloping slabs (Hedges 1977, 135–6, fig 3). Complex cist design is not limited to burials within mounds; a flat cist at Crantit, St Ola, was constructed using two stories of drystone masonry; the upper was empty while the lower contained an inhumation, a cremation burial and an antler hammer (Cursiter 1910, 215).

Occasionally larger mounds occur in close proximity to the clusters of mounds described above, as at Linga Fiold, Tenston and Skae Frue, Wasbuster (RCAHMS 1946, nos 760, 705, 711). It has been postulated that the larger mounds in a group predate smaller ones, and belong to an earlier burial tradition (Ovrevik 1985, 134–5). There are no dates to support this hypothesis. The largest mound at the Knowes of Trotty contained artefacts of Early Bronze Age type but these are, so far, unique (Petrie 1860, 195).

On the basis of limited artefactual evidence, it has been assumed that flat cists predate mound burials and cremations pits (Ovrevik 1985, 135). This is, however, challenged by the suggestion that the flat cemetery and mound burials at the Knowes of Quoyscottie were broadly contemporary. Flat cist cemeteries are often located near other mound groups, as at Sandy Ha', Rendall (Hedges 1980, 56–7) and the three cists in the vicinity of Linga Fiold. The question as to whether these modes of burial were in use at different periods, with or without an overlap, or whether use was concurrent, has not been satisfactorily answered. The suggestion that some cists within both flat cemeteries and mounds were designed for reuse has implications for the survival of older, communal burial traditions.

CONCLUSIONS

Despite the excavation and destruction of many sites, firm conclusions relating to the burial monuments of Bronze Age Orkney remain elusive. It is vital that the maximum information is gained from subsequent work in this area. The presence of cramp may be used with caution as a probable indicator of cremation, even where no bone survives. Charcoal seldom survives in cist fills, but wider investigation of these monuments, of the mound material and of associated old ground surfaces with the specific aim of retrieving dating material must surely repay attention. The very abundance of these sites argues for their importance in any attempt to understand Orcadian culture in the Bronze Age.

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