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## 4 THE FINDS

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The following reports are in some cases abridged versions of more comprehensive reports which include tables of numerical data. All this additional data is accessible in the site archive deposited with RCAHMS.

### 4.1 Pottery, by Melanie Johnson

The group of vessels comprises both Collared and Cordoned Urns. Only two of the vessels are Cordoned (013, 030) while the remainder are certainly or very probably Collared (003, 005, 007, 021, 024, 034, 036, 040, 044). However, Urns 005 and 024 have strong similarities with Cordoned Urns in some respects. The incomplete profile of Urn 005 makes its inclusion in the Collared Urn group less certain. Urn 024, despite having a full profile, is also not firmly attributable to the Collared rather than Cordoned Urn series.

The distributions of Collared and Cordoned Urns in Britain have distinct regional patterns. While Collared Urns are common throughout Britain in the Early Bronze Age, Cordoned Urns have a more restricted distribution, largely limited to Scotland and Ireland.

Collared Urns have received considerable study, particularly with the publication of Longworth's (1984) corpus, but Cordoned Urns have been rather more neglected in recent prehistoric studies. The consideration of Cordoned Urns has swung from a belief that they were simply a degenerate form of Collared Urn, and thus later in date (eg [Abercromby 1912](#)), to a hypothesis that they were a distinctive regional form with close links to Collared Urns (eg [Burgess 1986](#); [Gibson & Woods 1990](#)), with a few writers suggesting that Cordoned Urns were an unrelated and completely separate archaeological tradition ([Longworth 1984](#); [ApSimon 1969](#)).

More recently, [Waddell \(1995\)](#) has lent support to the argument that Cordoned Urns are a distinct group, stating 'it is difficult to identify any significant Collared Urn contribution' ([ibid](#), 116), before going on to discuss a number of urns which have proven difficult to classify.

The uncertainty surrounding the positive identification of Urns 005 and 024 as Collared Urns would seem to suggest that, here at least, there is a considerable degree of overlap in form and design between Collared and Cordoned Urns, in contrast to [Waddell's \(ibid\)](#) interpretation. The closest parallel that has been identified for the decoration on Urn 024 is found on a Cordoned Urn from Ireland (unprovenanced; in the Ulster Museum), illustrated by [Waddell \(ibid](#), 117, fig 11.1:5).

The accessory vessel, or pygmy cup, is one of a well-known group of such small pots generally found inside urns during the Early Bronze Age. These vessels can replicate urns, such as miniature Food Vessels ([Scott 1951](#)), be perforated, decorated or plain, and there has been much speculation as to their function, with recent residue analysis being undertaken ([Gibson & Stern 2006](#)). About 90 examples are known from Scotland.

Three of the vessels, all Collared Urns, are undecorated (007, 034, 040). The decorated urns (003, 005, 013, 021, 024, 030, 036, 044) all display impressed twisted cord. On the majority of the vessels the decoration is based around lattices, chevrons and triangles, while decoration on the internal rim bevel is based on lines and zigzags. All these motifs are common on Collared and Cordoned Urns.

More unusual is the decoration on Urn 044, a motif of multiple lozenges with lattice which is difficult to parallel. It has some similarities with vessel 1017 in Longworth's corpus (1984, pl. 146), a pot from Rothwell, Northamptonshire.

Vessel 024 also has unusual decoration, a radiating triangle motif set in panels. This is not paralleled within the vessels illustrated by Longworth ([ibid](#)). It is, however, very similar to an unprovenanced Cordoned Urn from Ireland in the Ulster Museum, illustrated by [Waddell \(1995, 119, fig 11.1:5\)](#).

The two Cordoned Urns are simple forms. Urn 013 has an internal rim bevel on a slightly inturning rim. The bevel is undecorated but the upper panel of the pot, as defined by the upper cordon, is decorated with a double lattice. There is evidence of a mistake having been made with the decoration, one of the portions of double lattice having an extra, third line, placed slightly crookedly. This may have been the starting point for the decoration and when the potter completed the design the decoration did not quite match up. Urn 030 has an internal bevel and an external moulding to the rim, suggesting an upper cordon. Its decoration is not typical of Scottish Cordoned Urns as it occurs on the internal rim bevel and both above and below the cordon, where both lattice and chevrons are displayed. The cordons have been defined by having a line of twisted cord set either side of them.

The vessel fabrics are very similar, the urns tending to be buff or orange-brown in colour, with thick walls (up to 15mm) and coarse fabrics with hackly fractures. Inclusions of local rock and quartz were noted, generally at less than 2% of the fabric. The surfaces, where sufficient detail remained, were carefully finished and smoothed, some perhaps even polished. There were no differences noted between

urn types, suggesting that they were all made locally from the same clay sources.

There was no positive evidence of the urns having been used in a domestic context prior to their deposition. Some slight sooting was noted on the external rim of Urns 003, 005, 030 and 036, suggesting that perhaps these vessels had been sitting by the pyre and had come into contact with the fire. The external surface of Urn 044 may have been scorched.

The survival of the urns was variable. Only Urn 024 had a complete profile, probably due to its being much smaller than the other urns and therefore more fully protected by its pit. The remaining urns had lost their bases and in some cases quite a large portion of their profile, resulting in the vessel being reduced to a surviving ring of collar and rim. Urn 021, unusually placed upright within its pit, had lost its rim.

A number of objects were found within the urns, most notably a flint foliate knife (034), a small pinch accessory pot (024) and a bone point or pin (013). A stone disc was also found associated with 024.

Most of the pots had been carefully placed within the pits but the reality of placing such a heavy object upside down within a pit of similar dimensions meant that some of the pots may have been dropped lightly into position. Some of the cracking and distortion visible on some of the urns may bear witness to this procedure. Two of the pots had been placed on stones; Urn 040 was set on a flat slab, that may have acted as a lid during inversion and placement; and Urn 034 was positioned on a bed of angular stones. The upright urn in Pit 021 was pressed hard against the side of the cut and propped up by a series of angular stones, including some large quartz pieces.

It is likely that some form of organic lid was attached to some of the urns, such as a piece of leather tied on and secured under the collar or cordon, to prevent the contents from spilling when the urn was inverted. However, there is no archaeological evidence to support or refute this as it would not have survived.

The sequence of fills in each of the pits was very similar, often with an upper fill of re-deposited subsoil and a lower fill of charcoal-rich soil also containing some bone fragments. This sequence of fills suggests that as the urn was placed upside down, some spillage of its contents occurred or subsequently, once the organic cover had rotted, settling of the contents took place. Once the vessel was in place, the pit was then backfilled with the material which had come out of it, presumably resulting in a small mound.

A detailed conservation report and a full catalogue of the urns have been deposited with the site archive.

## 4.2 Human bone, by Kathleen McSweeney

### 4.2.1 Background and methods

Cremated human remains from 31 contexts were examined. The results are summarised here and

a full catalogue is included with the site archive. **Table 1** summarises the findings from the anthropological analysis of the cremated human remains from Skilmafilly. **Table 2** summarises the identifications made.

The un-urned material had been sieved prior to receipt in 10mm, 4mm and 2mm sieves. In most cases, there were small flakes of bone in the material from the 2mm sieve and residue. These were checked so that any small diagnostic pieces, such as tooth roots, could be extracted. The remainder of the bone flakes was not otherwise removed from the residue. The contents of the urns had been excavated by the conservator in spits of varying depths, and sieved in 2mm mesh.

Regardless of the method for extracting the bone, each fragment of bone from each context was examined and sorted according to anatomical area. In some instances, only a general area of origin could be established. For example, some fragments, which, from their size, shape and fracture pattern, clearly originated from one of the six major long bones of the body, but were too incomplete to be more positively identified, have been classified simply as 'long bone'. Where, because of size or distortion, even a general anatomical provenance could not be established, fragments have been classified as 'unidentified'. Once identified, the bones were weighed.

General methods of ageing and sexing used are those outlined in Bass (1995), Brothwell (1981) and White & Folkens (2000), for sub-adults Scheuer & Black (2004) and for foetal remains Fazekas & Koza (1978). Grading used in the assessment of sex is based on the method advocated by Buikstra & Ubelaker (1994). The sexing of immature remains is problematic, even with intact skeletons, and has not been attempted here. The identification and assessment of age of the dental remains is based on van Beek (1983).

The condition of the remains in terms of the degree of fragmentation is compared with McKinley's findings in her analysis of 15 modern cremations (1993, 284), where pieces of skull of up to 95mm and long bone fragments of up to 195mm were found. As cremated bone is very fragile and further post-depositional disintegration may well have occurred, a smaller fragment size than that originating from recent cremations is to be expected. Mays (1998, 209) reports that, in his experience, fragments of up to 100mm are only occasionally found.

The weight of the remains is also compared with those of McKinley's study of modern cremations (1993, 284). Total weight ranged from 1227.4g for an 83-year-old female, to 3001.3g for a 90-year-old male. She estimated that, in an archaeological setting, a realistic range would be 1001.5g to 2422g.

It has been well established that the colour of bone changes with increasing temperature (Ubelaker 1978, 34; Mays 1998, 217). Burnt bone can occur in shades of red, brown, black, blue, grey, yellow or white. Although there are some slight differences in reported results, in the main, the higher the

**Table 1 Summary of human remains**

Pit	Wt (g)	Max. Frag. Size (mm)	% Id (g)	No. Individ.	Age	Sex	Pathology
<i>Urned cremation burials</i>							
003	1991	70	42	3?	5–7, c 12 + adult ?	?	<i>ante mortem</i> tooth loss
005	1091	50	29	1	adult	?	arthritis of the jaw
007	1225	80	58	2	adult + foetus	?F +	lesion of sacroiliac joint
013	2051	90	53	1	older adult	M	poor dental health, arthritis of the left thumb, advanced spinal lesions, muscle injury right radius
021	848	80	42	1+?	12 + ?		none
024	1062	70	48	1+?	mid-adult	M	dental disease, arthritis of hands and feet, spinal lesions
030	1179	40	41	1	adult	F	cranial pitting
034	1869	70	37	1	elderly adult	M?	cranial pitting, osteophytes knee and heel, spinal degeneration
040	1517	110	40	1+1?	2 adults	M + ?	<i>ante mortem</i> tooth loss, spinal injury
044	1883	110	55	1	Young adult	M?	cranial pitting
<i>Un-urned burials</i>							
001	427	50	48	1	adult	?	none
002	544	40	32	1	adult	M	cranial pitting
004	4318	120	44	3	9, adult, adult	M + ?F + ?	2 adults with cranial pitting, 2 adults with spinal lesions
006	1245	90	59	1+	older adult	?M	orbital and cranial pitting, ischial bursitis?, sub-gingival calculus, spinal lesions
010	318	30	19	1	adult	?	none
012	561	40	42	1	c 10		none
017	211	40	41	1	12–13		cranial pitting
020	946	30	30	1	?	?	cranial pitting
022	280	30	44	1	young adult	M	none
025	809	90	51	1+?	adult	?	cranial pitting
026	781	30	35	1	14–16	?	cranial pitting
027	91	70	81	1	?	?	none
029	576	50	47	1	adult	M	none
031	44	40	75	1	sub-adult	?	none
033	375	40	35	1	?		none
035	801	40	33	1+?	10–12 + 5?		none
039	398	40	45	1	16–20	?	none
042	359	30	26	1	adult	M	none
043	2779	50	39	2	2 adults	M + ?	none
044	1470	80	46	1	12–16	M?	
<i>Single bones</i>							
009							1 eroded fragment, not identified
036							1 undiagnostic piece of cranium

temperature, the lighter the colour. Light grey or white colouring occurs with temperatures in excess of 645°C (Mays 1998, 217). Shipman et al (1984,

as cited by Mays) found that white or light grey colouring occurred with temperatures of 645–940°C, while Mays' experiments showed no change in

**Table 2 Summary weights of identified bone types**

Pit	Skull	Trunk	Limb bones	Hands/feet	Immature bones	Sub-total	Unident.	Total
Pit 001	127	6	71	0		204 (48%)	223 (52%)	427
Pit 002	69	14	86	3		172 (32%)	370 (68%)	542
Pit 003	300	150	340	39		829 (42%)	1162 (58%)	1991
Pit 004	581	372	860	73		1886 (44%)	2432 (56%)	4318
Pit 005	92	17	193	10		312 (29%)	779 (71%)	1091
Pit 006	195	90	439	6		730 (59%)	515 (41%)	1245
Pit 007	326	362	477	50	10	1225 (58%)	870 (42%)	2095
Pit 010	30	4	26	0		60 (19%)	258 (81%)	318
Pit 012	64	50	115	6		235 (42%)	326 (58%)	561
Pit 013	242	207	602	37		1088 (53%)	963 (47%)	2051
Pit 017	24	12	48	2		86 (41%)	125 (59%)	211
Pit 020	101	4	176	1		282 (30%)	664 (70%)	946
Pit 021	118	28	199	9		354 (42%)	494 (58%)	848
Pit 022	67	5	48	2		122 (44%)	158 (56%)	280
Pit 024	152	38	292	25		507 (48%)	555 (52%)	1062
Pit 025	177	19	211	6		413 (51%)	396 (49%)	809
Pit 026	62	29	164	17		272 (35%)	509 (65%)	781
Pit 027	36	3	35	0		74 (81%)	17 (19%)	91
Pit 029	92	33	135	8		268 (47%)	308 (53%)	576
Pit 030	132	89	259	6		486 (41%)	693 (59%)	1179
Pit 031	3	9	20	1		33 (75%)	11 (25%)	44
Pit 033	31	6	92	4		133 (35%)	242 (65%)	375
Pit 034	112	62	492	31		697 (37%)	1172 (63%)	1869
Pit 035	70	43	143	7		263 (33%)	538 (67%)	801
Pit 039	59	30	87	4		180 (45%)	218 (55%)	398
Pit 040	249	83	264	19		615 (41%)	902 (59%)	1517
Pit 042	38	14	37	3		92 (26%)	267 (74%)	359
Pit 043	218	77	752	34		1081 (39%)	1698 (61%)	2779
Pit 044	383	427	859	82		1751 (52%)	1602 (48%)	3353

colour over 645°C. Wells found that black colouring occurs with temperatures of less than 800°C, while temperatures above 800°C produced calcined bone, which ranged in colour from bluish-grey to white. Furnaces in modern crematoria were said to operate at between 820°C and 980°C (Wells 1960, 35). The colour of the Skilmafilly remains is compared with these findings.

#### 4.2.2 Burial type

The examined remains originated from nine urned cremations, nineteen un-urned cremations, one context consisting of both an urned and an un-urned cremation and two single bones that were presumably stray losses.

#### 4.2.3 Weight of the remains

Total weight of any single context varied from 44g to 4318g, those at the lower end of the range either presumably being token deposits or cremations where the original deposits have been vastly depleted, and those at the upper end containing multiple cremations. There were four of the latter – 003, 004, 043 and 044, as well as 007 that contained an adult and a foetus.

Taking into account only those deposits that appeared to consist of single full cremations, the average weight for un-urned cremations was 905g. This is clearly below McKinley's (1993) estimated range of 1001.5g to 2422g; indeed there was only one deposit that fell within the range, 006, which had 1245g of cremated remains. Although there were



varying quantities of tiny fragments of bone mixed with the soil matrix that could not be extracted and were therefore not included in the total bone weights, it is unlikely that these would make much difference to the results.

Of the urned cremations, the average weight was 1462g, well within the estimated range. Indeed the weights of all of the urned cremations, which ranged from 1062g to 2051g, fell within the estimated limits. A higher weight for urned cremations is expected because of the protection from post-depositional erosion and disturbance provided by the urn.

It is interesting to note that none of the single cremations from Skilmafilly was anywhere near McKinley's (*ibid*) upper range.

#### 4.2.4 Identification rate

The rate of identification is closely related to the size of the surviving fragments – the larger the fragment, the more chance of identifying it – and is an indicator of general condition. McKinley (1994a) associates fragment size with two factors: burial method and post-depositional disturbance.

The overall identification rate of the Skilmafilly remains, based on the relative weights of the identified to unidentified remains, varied from 19% (010) to 81% (027). The average for the urned cremations was 44.5% and that of the un-urned cremations was 43.6%. The small difference between the two is surprising. From personal experience (see, for example, McSweeney 1997) the identification rate from urned cremations is normally much better than that from un-urned cremations. In this case, the poor rate of identification in the urned cremations probably relates to the condition of the urns, most of which were damaged, some severely.

#### 4.2.5 Total number of individuals

There is a minimum of thirty-five individuals present from all of the contexts, with a probable further seven whose presence could only be confirmed from one or more duplicated bones. It is likely, therefore, that 42 individuals were present, at least in part.

#### 4.2.6 Age at death

There were thirteen sub-adults: one foetus, eight children (5–12 years), three adolescents (12–17 years) and one sub-adult whose age could not be accurately determined. No neonates or infants were present.

There were twenty-two adults: two young adults (17–35 years), three middle-aged adults (35–45 years), one old adult (45+) and sixteen who were adults but whose age could not be accurately determined.

#### 4.2.7 Sex

Of the twenty-nine adolescents and adults for whom sexing could have been attempted had the relevant bones survived, there were one female, two possible females, nine definite males, four possible males and thirteen adults whose sex was unknown. The high number of males is probably not of great significance; male characteristics, generally more pronounced than those of females, are more likely to be recognised in cremated remains.

#### 4.2.8 Pathology

A fairly large number of pathological lesions, normally difficult to detect on cremated remains, were identified. These can be grouped roughly as follows: cranial/orbital pitting, dental disease, spinal degeneration, arthritic and miscellaneous conditions.

The presence of pitting on the external surfaces of the cranium (porotic hyperostosis) and/or orbit (cribra orbitalia) from 11 contexts, roughly a quarter of the individuals, is high. Such changes may be caused by iron-deficiency anaemia during childhood. The presence of such changes, however, may not necessarily indicate an iron-deficient diet, as disease may also play a part in the development of such bony changes (Roberts & Manchester 1995).

Dental disease was noted in five individuals and included teeth lost during life (003 and possibly also 040), sub-gingival calculus indicating severe recession and possibly also periodontal disease (006) and two cases of dental abscesses (013 and 024).

Spinal degeneration (osteophytosis) was present on seven individuals. Degeneration of the spine is a normal part of ageing and in many cases can be asymptomatic. The presence of the condition is used in the assessment of age in adults. In some cases the degree of degeneration can be accelerated by heavy manual work or injury, and there was evidence of a traumatic link with disc herniations having occurred in four of the seven affected individuals.

There were three cases of arthritis, probably osteoarthritis: one of the jaw (005), one of the thumb (013) and another case of widespread lesions on several hand and foot bones in the male from 024. Because of the fragmented nature of the remains, arthritic changes would be difficult to detect and the prevalence of arthritis was probably greater than indicated.

Of the miscellaneous conditions, the most interesting is the case of the large protrusion of bone on the medial side of a left ischial tuberosity (the lower portion of the pelvis) of the individual from 006. This may indicate the presence of a condition known as ischial bursitis or 'weaver's bottom', thought to be caused by long periods of movement whilst sitting – hence the name (Kennedy 1989). Alternatively, it may be an enthesophyte, associated with bone formation in old age.

**Table 3 Lithic artefact list by pit. Numbers in bold represent burnt artefacts.**

Pit	004	019	020	027	033	034	035	038	039	Unstrat.	Total
<i>Débitage</i>											
Chips, flint		<b>3</b>									<b>3</b>
Chips, quartz		1									1
Flakes, flint	<b>2</b>		1	<b>1</b>	<b>1</b>		<b>1</b>	<b>1</b>	<b>3</b>	2	<b>9/3</b>
Indeterminate pieces, flint									<b>1</b>	<b>1</b>	<b>2</b>
Indeterminate pieces, quartz							1				1
Platform rejuv. flakes, flint	<b>1</b>										<b>1</b>
<i>Tools</i>											
Foliate knives, flint							1				1
Truncated pieces, flint										1	1
Edge-retouched pieces, flint	<b>1</b>										<b>1</b>
TOTAL	4	4	1	1	1	1	2	1	4	4	23

#### 4.2.9 Cremation technique

In most cases it was quite apparent that cremation technique was well understood and that high and even temperatures were achieved during the burning process. There were very few instances of uneven burning, and curved lateral splintering, thought to indicate that the body was burned while fresh, was present on most limb bones. In many cases there were high degrees of distortion such as splitting of the tables of the cranium, and in at least two cases there were several bones that had folded completely inside out. Most deposits included small hand and foot bones and tooth roots were often present in large numbers, indicating that the remains had been carefully collected before being placed in the urn or pit. Full details are recorded by individual skeleton in the archive report.

### 4.3 Lithic artefacts, by Torben Bjarke Ballin

#### 4.3.1 Introduction

Twenty-three lithic artefacts were recovered, one (a foliate knife) from an urned cremation (Pit 034) and eighteen from un-urned cremations, and four lithic pieces were unstratified (Table 3). This report characterises the lithic assemblage, with special reference to raw materials, typological composition and technology. A full catalogue has been deposited with the site archive. Numbers in square brackets below correspond to catalogue numbers.

Table 3 shows the general typological composition of the Skilmafilly assemblage. The definitions of the main lithic categories are as follows:

Chips: All flakes and indeterminate pieces the greatest dimension (GD) of which is  $\leq 10$  mm.

Flakes: All lithic artefacts with one identifiable ventral (positive/convex) surface,  $GD > 10\text{mm}$  and  $L < 2W$  ( $L = \text{length}$ ;  $W = \text{width}$ ).

Indeterminate pieces: Lithic artefacts which cannot be unequivocally identified as either flakes or cores.

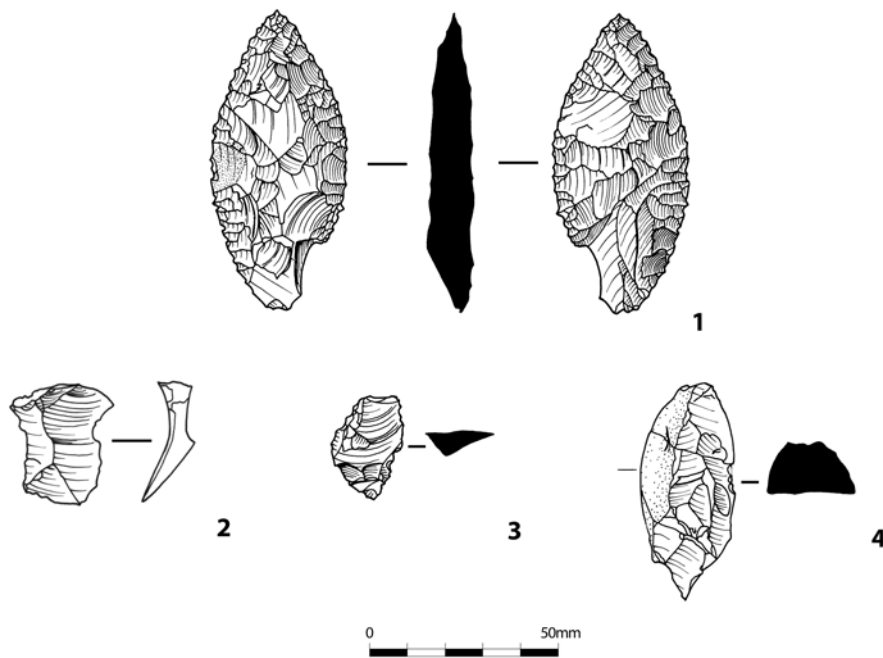
Tools: Artefacts with secondary retouch (modification).

#### 4.3.2 Raw material

The lithic assemblage consists entirely of flint and quartz, with the majority in flint. The site's 23 pieces of worked flint are primarily débitage (20) and expedient flake tools (2), supplemented by an exceptionally fine foliate knife, whereas the small quartz sub-assemblage consists of one chip and one indeterminate piece.

The flint items are mainly in fine-grained, homogeneous flint without impurities. Five have abraded cortex, indicating procurement from a local pebble source (beach or inland gravel deposits; Wickham-Jones & Collins 1978; Saville 1994 and 1995), but the relatively large size of the foliate knife (illus 14.1) suggests that raw material for this piece may have been procured from the nearby Buchan Ridge Gravels. These gravel beds, between Ellon and Peterhead, were probably mainly exploited during the late Neolithic and Early Bronze Age periods (Saville 1995, 365–8), and the nearest known quarry (Skelmuir Hill; Saville 1995, fig. 1) is located less than 10km east of the Hill of Skilmafilly. However, material from this source tends to be compromised by inherent cracks (A Saville, pers comm), and the flawless character of the foliate knife's raw material makes importation from a more southerly source likely.

Most of the worked flint from Skilmafilly is burnt (c 70%, Table 3), and it is in most cases impossi-



*Illus 14 Lithics*

ble to assess the colours of the raw material. The burning is generally severe, and most of the affected pieces are crackled and heavily discoloured (completely white). Practically all the white-burnt flint is vitrified, which means that it has been exposed to such high temperatures that its surfaces melted in places and turned glass-like. These pieces are clearly more highly burnt than one would expect from ordinary settlement contexts, where flints may have fallen into the ashes during knapping by the camp fire. Most likely the vitrified pieces represent grave-goods that accompanied the deceased onto the funeral pyre. The flint knife is unaffected by fire and must have been placed in Urn 034, from which it was recovered, after the cremated material had been recovered from the pyre.

The two faces of the knife (*illus 14.1*) display a slight gloss, which may be due to deposition in a sandy matrix ('glossy patina', Keeley 1980; Donahue & Burroni 2004), but it may also be due to the application of heat-treatment. SF 3136 from Fordhouse Barrow in Angus (Ballin forthcoming) is a related flint object (see below), also deposited in a Collared Urn, but in this case the lustre has, in certain areas, altered from typically vitreous to shiny and chert-like. This lustre is characteristic of intentionally heat-treated flint (Price et al 1982; Eriksen 1999). It is possible that lithic heat-treatment was used to allow the production of thin, invasively retouched prestige objects, such as arrowheads, daggers and knives.

The two quartz artefacts (contexts 019/1 and 035/4) are both in white milky quartz and without cortex; they both appear unburnt. As indicated by the frequent combination of abraded surfaces and

irregular shapes, most of the quartz was acquired in the form of erratic blocks or nodules.

#### 4.3.3 Débitage and expedient tools

Most of the artefacts recovered are débitage (*Table 3*): four are chips, twelve are flakes, three are indeterminate pieces, and one platform rejuvenation flake was found. One chip and one indeterminate piece are quartz, the remainder are flint. The average dimensions of the intact flakes are 25mm × 24mm × 8mm; and the average dimensions of the indeterminate pieces are 22mm × 15mm × 8mm.

Two of the flakes are bipolar, with four having been detached by the application of hard percussion; in six cases it was not possible to determine the applied percussion technique. A flint platform rejuvenation flake (*illus 14.2*) is a partial core tablet from a large regular platform core, and was recovered from Pit 004 (004/5).

Only two plain flake tools were recovered. One of these is an unburnt piece (*illus 14.3*) with a concave truncation at the proximal end, most probably representing blunting. Fine macroscopic use-wear along the right lateral side, proximal end, suggests use as a knife. This implement was made on an indeterminate flake (27 × 18 × 8mm). The other flake tool is a fragmented indeterminate flake (58 × 25 × 14mm) with fine retouch along one lateral side (*illus 14.4*). It is heavily burnt. The unburnt piece (*illus 14.3*), was recovered from a level between topsoil and subsoil and does not relate to any cremation burials, whereas the burnt piece was retrieved from Pit 004 (004/2).

The finds from Skilmafilly combine a number of technological approaches, such as hard platform technique, bipolar technique and bifacial knapping (only the knife, see below). In general, the relatively low quality of the débitage and the flake tools define this industry as an expedient one, but the presence of core tablet (from a regular platform core) and foliate knife (produced by the application of invasive retouch) adds elements of control and sophistication. Blades and blade tools are absent.

#### 4.3.4 The foliate knife

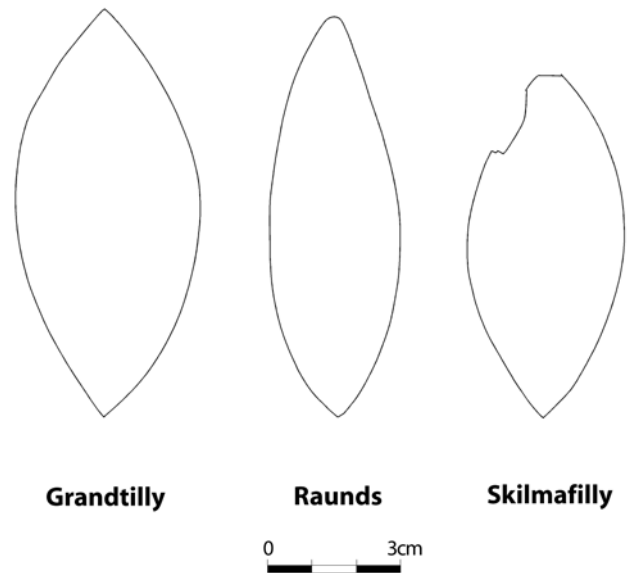
The lithic object from urned burial 034 is best characterised as a foliate (or bifacial) knife, which measures 79 × 35 × 12mm (illus 14.1). Its outline is a pointed oval, with the broadest point approximately central to the piece, and the cross-section is bi-convex, distinguishing it from plano-convex knives. One end (the tip) is acutely pointed, the other (the base) blunt. One corner of the base has broken off, but this probably happened during production, rather than during use; without this damage, the piece may have been double-pointed, as similar pieces tend to be (illus 15). Both faces are completely covered by scars from invasive retouch, with no cortex surviving. The lateral edges are regularly serrated, with three to four teeth per cm. It is not possible to say whether the serrated edges represent the end status of a reduction process aiming at producing an implement for sawing, or whether the piece is an unfinished implement for cutting, which has not yet had its edges ‘smoothed out’ by final fine retouch. There is no visible edge damage or other indication that this implement was used.

If the object had been recovered during field-walking it would most probably have been characterised as a leaf-shaped point, but the discovery of the piece inside a Collared Urn rules this out. Leaf-shaped points were produced during the Early Neolithic, after which period they were replaced by chisel-shaped and oblique points (cf Harding & Healy 2007).

A close parallel to the Skilmafilly piece is the foliate knife from a Collared Urn inserted in Barrow 5, near Raunds in Northamptonshire (ibid). This implement is, however, slightly narrower (90 × 30 × 7mm) and double-pointed, and as the broadest part of the piece is shifted slightly towards one end, it displays the shape of a miniature dagger (illus 15).

A similar object (Simpson & Coles 1990, 40–41, illus 10), classified as a Bronze Age leaf-shaped point, was recovered from a Collared Urn (Pit 1) near Grandtully in Perthshire. It is relatively broad (86 × 39 × 10mm) and double-pointed. Unlike the Skilmafilly piece, this object had been burnt before deposition in the urn.

In terms of formal development, the foliate knives clearly do not derive from the Early Neolithic leaf-shaped arrowheads, though they are morphologically similar to double-pointed leaf-shaped points. Leaf-



Illus 15 Comparison between the Skilmafilly knife and other foliate knives from the British Early Bronze Age.

shaped arrowheads are an entirely Early Neolithic artefact type, and the Late Neolithic period and the initial parts of the Early Bronze Age constitute a hiatus, during which time leaf-shaped forms were not produced. The foliate knives are thus more likely to have developed from plano-convex knives; alternatively, they may have developed as a form of ‘miniaturisation’ of Early Bronze Age daggers (eg the piece from Raunds). At present, the evidence links the foliate knives with Early Bronze Age Collared Urns.

#### 4.3.5 Conclusion

This lithic assemblage makes an important contribution to the understanding of lithic artefacts in Early Bronze Age ritual or burial contexts. It appears that some selection took place prior to deposition in the Skilmafilly cremation pits.

More than 90% of the lithics are flint, and over 80% of those from the cremation pits are burnt. The quartz appears not to have been exposed to fire. Some of the unburnt lithics found in the pits, including the quartz, may have been incorporated during back-filling.

It is quite likely that an elegant piece such as the apparently unused foliate knife may have been produced specifically for deposition in Pit 034. Foliate knives are quite rare, but the few known specimens are from burial contexts. It is thought that the best of the known plano-convex knives, a related type, may have been manufactured for immediate deposition in burials rather than domestic use (Finlayson 1997, 311), as they usually show no or little use-wear.

Though it is thought that some of the simpler unburnt pieces may have entered the cremation



pits as part of the back-fill, the Skilmafilly foliate knife is evidence that unburnt as well as burnt lithic artefacts were deposited as a component of the funerary ritual. If the unburnt lithic items can be discounted as residual, almost all the lithic burial goods had accompanied the deceased onto the funeral pyre, and the foliate knife clearly represents an exception, having been deposited after the pyre. The fact that some plano-convex knives recovered with 'sepulchral deposits' had been burnt and others not (*ibid*, 309), suggests that some degree of choice may have existed as to how burial goods were treated and deposited in the Early Bronze Age.

#### 4.4 *Worked bone and antler objects, by Dawn McLaren*

##### 4.4.1 Burnt pins, probably of bone

A curved and calcined incomplete pin was recovered as three conjoining fragments from context 004/5 (*illus 16*). The fragments are from the head, shaft and point, and their overall length is 148mm, and weight 7.8g. The head and shaft are oval-sectioned, measuring 7.5 × 5mm and 6.5 × 5mm respectively, and the pin tapers to a fine narrow point 0.5mm in diameter. The pin's original length is unknown but in size and shape it conforms to Longworth's definition of a Type 1 skewer pin (Longworth 1984, 63). The pin's surfaces, particularly its edges and inner surface, are covered in fine striations, resulting from abrasion during manufacture. Despite comparing the artefact with skeletal specimens derived from modern animals it was not possible to determine the raw material with certainty, other than to say that it is composed of burnt mammalian bone or antler (C Smith, pers comm); it is likely to be bone, since a slight concave bevel on the inside surface towards the head of the pin may be the remains of an original articular surface like that seen in a more pronounced fashion at Burnfoot Plantation, Dumfries and Galloway (Cowie et al 1981, 34), Brackmont Mill, Fife (Mears 1937, 266) and Kirkbean, Dumfries and Galloway (Bishop 1919, 46), suggesting that the pin was made from a splinter of long bone. Areas of slight polish remain on the shaft, indicating that the pin was originally highly finished.

That the pin had passed through the pyre, probably as a fastener for a shroud or garment worn by the deceased, is clear from its calcined appearance: it is white, brittle, and has transverse crescentic cracks near its point (as seen elsewhere, for example on the aforementioned pin from Burnfoot Plantation and on pins from Cairnpapple Hill, West Lothian: Piggott 1948, 110). Its curvature is also almost certainly a result of heat distortion. The head has lost some of its surface through flaking, and it may be that, being more exposed during the conflagration than the rest of the pin (which would mostly have been covered by the funerary garment), it has suffered greater heat damage.

A fragment of the point of another probable bone pin was found in urn 013, spit 5. It is circular sectioned, measuring 19mm long by 3mm thick, tapering to a blunt point which appears to have a slight bevel on one side. The pin's original length is unknown. The surface of the fragment appears to have been polished. Like the example from context 004, the pin is calcined and so has also passed through the pyre, again probably on the shroud or garments of the deceased. It is white and brittle and has a long crack present running along the shaft of the pin from where it has broken. Some abrasion and surface loss around the break indicates that it was broken in antiquity, perhaps during its cremation. Although the object is broken at both ends, its small diameter indicates it may have been made from a pig fibula (C Smith, pers comm). Although it could feasibly have originated from a long bone splinter from any large mammal, a pig fibula is ideal raw material because of its long, slim shaft and solid structure.

##### 4.4.2 Burnt perforated object (short pin, toggle or pendant) of bone or antler

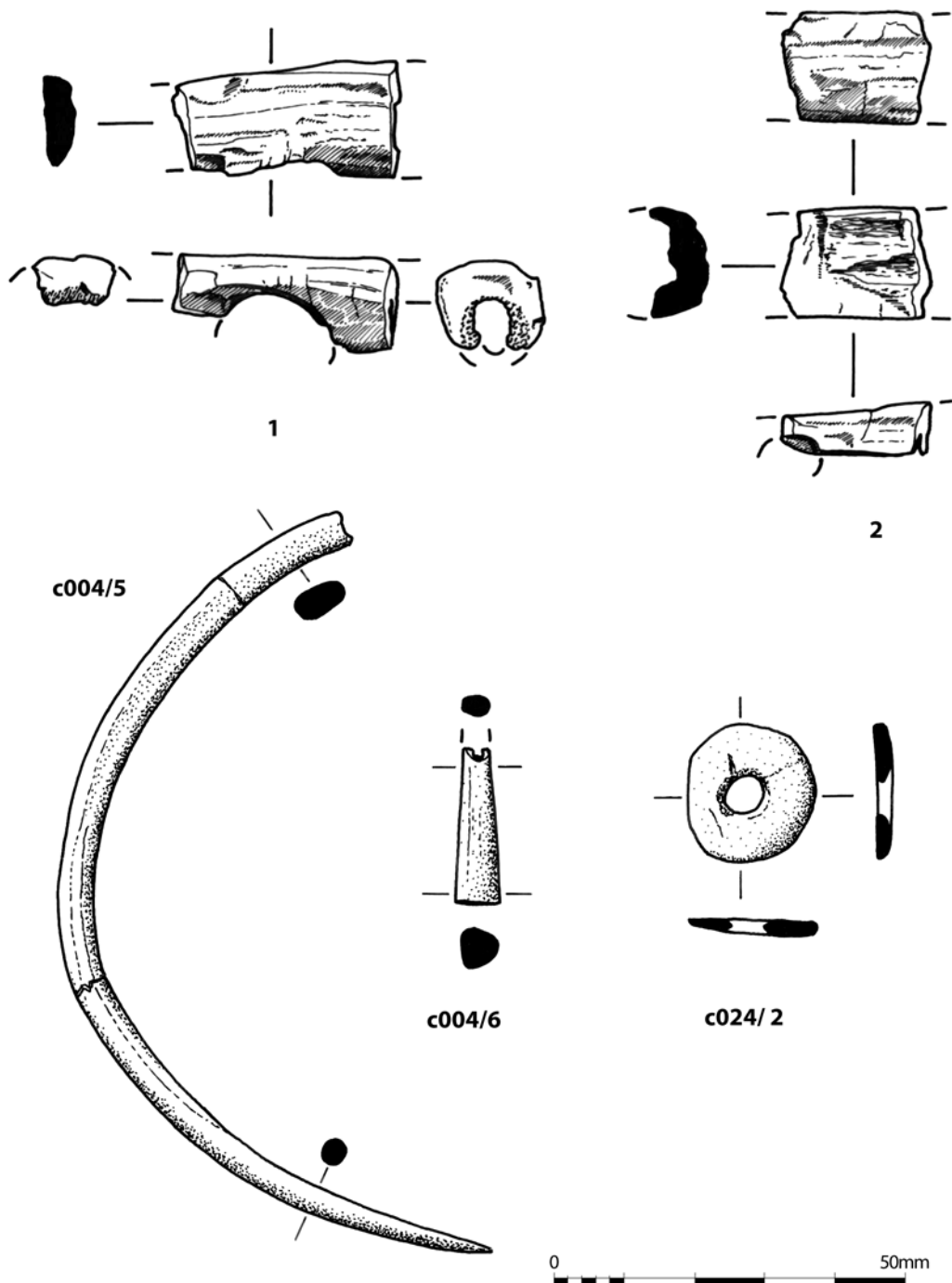
An incomplete, tapering object of bone or antler, burnt, broken across its narrow transverse perforation, was found in context 004/6 (*illus 16*; length 23mm, width 6mm, tapering to 3.5mm, thickness 6.8mm, tapering to 3mm; diameter of perforation 1.2mm; weight 0.8g). The wide end has been squared off, leaving a smooth, slightly rounded surface; the shaft is triangular in section. The surface does not appear to have been polished, and faint striations resulting from the process of abrading it to shape are visible. As none of the original surfaces of the parent material remain it is not possible to determine with certainty whether this item is of bone or antler.

This artefact is difficult to parallel but it is likely to have been a garment fastener – a short pin or a toggle – worn by the deceased on the pyre. One other possibility is that it was a pendant; a burnt, polished bone object of roughly similar shape but larger, rounder and more bulbous, was found in a barrow cemetery at West Ashby in Lincolnshire (Field 1985, 123, 125, fig 13:1). Unfortunately, the West Ashby example was not in situ.

##### 4.4.3 Antler toggles

Six fragments of burnt antler from up to four artefacts, including two probable toggles, were found in 012/3:

1. Half of a toggle with transverse and longitudinal perforations, both with crescentic heat-cracks around their edges; length 31.5mm; width 16.5mm; thickness 12.6mm (original thickness estimated at c 24mm); diameter of perforations 13.5mm and 5mm respectively. The



*Illus 16 Antler, bone and stone artefacts*

object's width suggests that it was manufactured from the tip of an antler tine. The shape of the material has been heavily modified, with its ends and sides squared off and with little of the original surface remaining. The central porous arterial channel has been deliberately hollowed out to create the longitudinal perforation (A Kitchener, pers comm). This may have been done when the spongy channel was still soft but there is no way of confirming this. The larger, transverse perforation has been bored horizontally through the tine. Its interior surface is smooth towards the edges, perhaps through wear but

more likely as the result of tooling during manufacture. Although of less elaborate shape, and of antler rather than bone, this object is reminiscent of the barrel-shaped collared bone toggles from Seggiecrook, Aberdeenshire (Callander 1908, 218), Dalmore, Highland (Jolly 1879, 257), Mains of Carnousie, Aberdeenshire (Longworth 1984, 305), Over Migvie, Angus (Callander 1930, 30–31), and two tubular bone objects from New Kilpatrick, East Dunbartonshire (Callander 1908, 218) and Brackmont Mill, Leuchars, Fife (Waterson 1941, 205–8), all with transverse and longitudinal perforations (illus 16).

2. Possible toggle, with possible transverse and longitudinal perforations; length 20.7mm; width 15.5mm; thickness 8.9mm. One end has been cleanly squared off and the edges may have been modified. A small bevel can be seen on the edge, coinciding with an abrupt stop in the spongy interior surface, which is of similar character to the beginnings of the horizontal perforation on the toggle above, but there is not enough of the artefact remaining to enable clarification. This may be of similar form to 1); the different thickness of the parent material makes it clear that it is a discrete artefact, and not part of 1 (*illus 16*).
3. Three conjoining fragments. Little of the spongy bone interior remains but it is not possible to confirm whether this is the result of deliberate modification. L 29.8mm; W 21.1mm; T 12.9mm.
4. Small elongated narrow fragment of antler with spongy bone interior intact. Width of fragment indicates that this was manufactured from a thin tip of an antler tine. No evidence to indicate perforation. Original ribbed surface of the tine remains over most of the artefact. L 28mm; W 14.9mm; T 8mm.

#### 4.4.4 Discussion

Seven burnt bone/antler ornaments from four burial contexts comprise a large and interesting assemblage. The burnt bone pin was associated with an un-urned adult cremation in the lower deposit of 004/5; this deposit was later re-cut for the deposition of the cremated remains of a child accompanied by a bone toggle/pendant/short pin. Although the relationship between the three individuals within this deposit is unknown it is interesting that, being one of only three re-cut burials in the cemetery, two of the individuals were accompanied by burnt bone ornaments. The association of the possible bone pendant with the nine-year-old child is particularly interesting in light of the recovery of burnt eagle talons from the same deposit (see *below*). This association could suggest that the bone object and the talons formed part of a necklace. However, as the form of the perforated bone object is not definitely known, this interpretation is necessarily conjectural.

The un-urned pit burial (012/3) of a ten-year-old child was accompanied by four burnt antler objects, two of which have been identified as toggles. The bone pins from burials 004/5 and 013 and object from 004/6 can do little more than suggest a simple shroud, but the potential four toggles from 012/3 suggest that the garment worn by the deceased on the pyre may have been far more elaborate.

Identification of these objects as non-human bone was made during skeletal analysis of the cremated remains. It is well attested that in the past a general lack of care and attention was taken to the recovery and identification of cremated bone in burial deposits

which has not only led to the loss of information in regard to the human remains but also the potential loss of similar worked bone artefacts. It is often only through the thorough, systematic analysis of the cremated remains that such artefacts are identified: how many of these objects have been missed in the past?

None of the artefacts from this assemblage are complete, suggesting the possibility of their partial destruction during cremation, or of a lack of care during the recovery of the material from the pyre, with only token or selected items retrieved from the pyre for deposition. Unfortunately, the scope of this report does not allow for further discussion of this topic.

Ornamental objects made from antler are rare in Scottish burial contexts and no further antler toggles are known. The base of an antler from cist 6 at Barns Farm, Fife (*Barnetson 1982*, 100–1) has been rejected as being a fossil coral (*Clutton-Brock & MacGregor 1988*, 27) although late Neolithic antler skewer pins are known from Cairnpapple, West Lothian (*Piggott 1948*, 101). Fragments of burnt antler are known from cremation 2 at Horsburgh Castle Farm, Peeblesshire (*Petersen et al 1974*, 47), worked fragments are noted amongst the remains of an adult within cremation burial 3, cairn 1 at Lairg, Highland (*McKinley 1998*, 119) and a burnt antler pin came from a cremation deposit at Seafield West cemetery, Highland (*Cressey & Sheridan 2003*, 66, *illus 13:1*).

The Skilmafilly perforated antler fragments are comparable to barrel-shaped bone examples noted previously and discussed extensively by Piggott (1958). Several functions have been proposed for these objects such as beads (*Callander 1923*, 156), ornaments (*Callander 1930*, 30), buttons (*Callander 1908*, 218) and toggles (*Waterson 1941*, 205): however the second perforation at right angles to the first makes the interpretation of these being simple beads unlikely and the function as toggles is favoured. Multiple burnt bone/antler items are also known from New Kilpatrick, East Dunbartonshire (*Callander 1908*, 218–20) where two tubular bone toggles with transverse and longitudinal perforations, two segmented cylindrical bone beads and five flint arrowheads accompanied a cremation deposit contained within a Collared Urn; all had been burnt. A single grave deposit at Moncreiffe in Perthshire (*Close-Brooks 1985*) is another example: a perforated bone pin and two perforated flat plate bone toggles were associated with a cremation within a Cordoned Urn. Unfortunately the cremated remains were not identified at the time of the original report and have since apparently been lost (A Sheridan, pers comm). Close-Brooks identified the vessel as a Cordoned Urn but noted that aspects are similar to a Collared Urn from Cairnpapple Hill (*Piggott 1948*, 143) and it should perhaps be regarded as a Collared/Cordoned Urn not unlike some of the urns from Skilmafilly. The majority of the collared bone toggles with transverse and longitudinal perforations are associated

with Collared Urns. The Collared/Cordoned Urn from Seggiecrook (Callander 1908, 213, fig 1) and the Enlarged Food Vessel from Dalmore, Highland (Cowie 1978, 133) are notable exceptions. Radiocarbon dates for cremated remains associated with bone toggles from Mains of Carnousie, Aberdeenshire (1960–1690 cal BC at 2-sigma: Sheridan 2003, 218), Lesmurdie Road, Elgin (1890–1680 cal BC at 2-sigma: Suddaby forthcoming) and from Collared Urn cremation burial 1 at Seggiecrook, Aberdeenshire (1940–1680 BC at 2-sigma: Sheridan 2003, 220) show the use of these ornaments to be contemporary with the Skilmafilly antler toggles of which the associated cremated remains have provided a date of 1880–1520 BC (GrA-24021).

Comparable pins to the Skilmafilly example come from Cairnpapple Hill, West Lothian (Piggott 1948, 110), Burnfoot plantation, Dumfries and Galloway (Cowie et al 1981, 34), Brackmont Mill, Fife (Mears 1937), Kirkbean, Dumfries and Galloway (Bishop 1919), Muirkirk, East Ayrshire (Fairbairn 1924, 338), Seafield West, Highland (Cressey & Sheridan 2003, 66, illus 13:1) and from cremation 3 at Lairg, Highland (McCullagh 1998, 92). Fragmentary curved pins come from cremation burials at Aberdour Road, Dunfermline, Fife (Close-Brooks et al 1972, 129), Hill of Doune, Aberdeenshire (Cowie 1978, 113), and an inhumation burial at Beech Hill House, Perth and Kinross (Stevenson 1995, 219). Due to their fragmentary nature it is not possible to be more precise in identifying their form but their general shape and dimensions can be seen to be similar to the Skilmafilly pin. Unfortunately, bone pins of this form are only broadly datable. They are generally, but not exclusively, found in association with Collared Urns. The cremated remains from

Burnfoot plantation have recently been radiocarbon dated to 1880–1630 BC (Sheridan 2007) and those from cremation 3 at Lairg give a date of 1945–1520 BC (McCullagh 1998, 94), indicating that their use is broadly contemporary with the Skilmafilly pin.

Kavanagh (1976, 312) has suggested that the curved form was achieved deliberately by soaking the bone in water to make the material more malleable; however, it may simply be the result of distortion during cremation. The skewer pin from Muirkirk (Fairbairn 1924, 338), although similar in form, is not curved like the other examples noted above, making it impossible at this stage to confirm whether the curvature is a natural feature of the bone, the result of calcination or deliberate modification.

#### 4.5 Perforated stone disc, by Melanie Johnson

A perforated stone disc was found in context 024/2 (illus 16). The disc measures 19mm by 17mm by 2mm thick, and weighs 1.1g. It is circular, with one flattened side. The circular perforation measures 5mm across and lies off-centre. It is made of a light brown, soft stone, probably sandstone, and does not appear to have been burnt. This object is likely to have been a personal ornament, worn on the individual buried in this pit. No ready parallels for this object were found, although an oblong sandstone pendant was recovered from a cremation deposit at the enclosed cemetery at Loanhead of Daviot (Kilbride-Jones 1936) and a decorated oblong pendant of slate was found within a pit containing an upright Cordoned Urn at Seggiecrook (Callander 1905).