

The miscellaneous finds

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The worked bone

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Introduction

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In addition to the very large amounts of animal bone recovered from the excavation (see The environmental remains), more than 80 pieces of bone which could be described as worked were also recovered. Of these, the majority were probably of medieval date.

The worked bone assemblage included some of the most interesting and exotic finds recovered from the site. The corpus was also noteworthy for its chronological spread, from the early 12th to the 14th centuries. The earliest three pieces, mounts designed to decorate a casket, may all originally have come from one object, discarded no later than the 12th century (Phase Ib). In total, 15 of the worked bone finds were recovered from the South Sector deposits which had been laid down during the 12th century. Of these, nine probably came from layers that had been deposited before 1150, based on dendrochronological dates (see Table 39).

The majority of the worked bone artefacts were recovered from the South Sector's stratified medieval deposits, most coming from layers that accumulated during the second half of the 13th and early 14th centuries (see Table 40). The inclusion of a number of offcuts, roughouts and trial pieces within these later deposits is an indication that bone and horn working was being carried out in the vicinity of the site. This was also confirmed by the recovery of a large number of horn cores (1,753 cattle and 722 goat) (see The environmental remains), indicating that horn was being gathered and even imported in a systematic manner (Spearman 1988, 140–1). Unusually, one fragment of worked horn itself, rather than the waste horn core, was recovered from a 12th-century deposit (Cat No 14).

Of the seven worked bone finds from the North Sector, four came from stratified layers. Perhaps significantly, the earliest, a fragment from a casket mount (Cat No 76) was similar to a piece (Cat No 10) recovered from the southern part of the site (Area 1). Both probably dated to the 12th century.

Of all the worked bone artefacts, one is of especial note. It has a good claim to be recognised as being the most aesthetically pleasing of all the many thousands of artefacts recovered during the excavation. The anthropomorphic ivory handle (Cat No 45) is by any standards a remarkable piece (Hall 2001).

Bobbins

<i>Cat/Accession</i>	<i>Area</i>	<i>Rig</i>	<i>Feature</i>	<i>Phase</i>
South Sector				
24/A05–0202	7	VII	B18 (Phase 1/2)	IVaa, IVb
33/A5369	3	VI	M1.4d	IVb, IVc
59/A1353a	4	VI	M3b	Vd
60/A1353b	4	VI	M3b	Vd
65/A2498	2	V, VI	M4a	Vaa–Vc (VI)

Within this inhomogeneous group, tentatively identified as bobbins, there is a marked difference between the two more formalised examples with the collared ends (Cat Nos 24 and 33) and the simple cylindrical types (Cat Nos 59, 60 and 65). The first type (Cat Nos 24 and 33) may be compared with two carefully turned wooden bobbins from the site (The worked wood, Cat Nos 91/A11403, 94/A10570) and also with examples in bone from York, Goltho and Norwich (MacGregor 1985, 183–5). They have been interpreted as reels for fine thread and the central cavity may have been used for holding sewing needles (MacGregor et al 1999, 1968–9). In Cat No 33, the small piece of associated wood may therefore have served as a plug, or could conceivably have been used to wedge the end of a line or yarn in the end of the bobbin.

Other, more elaborate solid bobbins are in the Norwich Castle Museum (Green 1973, 287–9) and the British Museum (OA543).

The second group (Cat Nos 59, 60 and 65) consists of items which are less certainly bobbins: handles, needle-cases, or even potters' stampers might be considered as possibilities, though there is even less evidence to support any of these alternative identifications. The all-over polish noted on two of them would not be inconsistent with a function as bobbins. Cat No 59, a rectangular section cut from a sheep metatarsal, decorated all over with a pattern of close-set incised dots may be a tally stick, and is similar to examples found at Kirk Close and Meal Vennel, Perth (Ford 1987a, 151 fig 82, no 159; Cox 1996, 786 Illus 27, no 597).

It is perhaps noteworthy that the first group (Cat Nos 24 and 33) was found in deposits which were laid down during the second half of the 13th century, Cat No 24 coming from a feature which appeared to be associated with the destruction of Building 18 (Phase 1) and its reconstruction as Building 18 (Phase 2); both buildings of some pretension, probably burgesses' houses despite their backland position. Cat No 33 came from a potentially contemporary backland midden, albeit on the adjoining property (Rig VI).

Table 39 *Worked bone artefacts by Phase and type.***South Sector Periods**

Period I	pre 1150
Period II	1150–c1200
Period III	c1200–c1250
Period IV	c1250–c1300
Period V	c1300–1350>
Period V1	Post-medieval and/or modern

phase	cat no	object type
South Sector		
Ia(Ib)	1	casket mount
Ib	2	casket mount
Ib	3	casket mount
Ic	4	playing piece
Ic	5	comb
(Icc)Id	6	pin-beater?
Id	7	die
Ie(If)	8	toggle
If	9	pin
If,IIa	10	casket mount
IIa–IIc	11	handle
IIc–IIg	12	?bead
IIe–IIg	13	whorl
IIi	14	horn terminal
IIi	15	pin-beater?
IIIa–IIIc	16	perforated bone
IIIc	17	toggle
<IIIc–IVaa	18	whorl
<IIIc–IVaa	19	toggle
IVa,IVaa	20	perforated bone

phase	cat no	object type
IVa–IVb	21	offcut
IVa–IVb	22	offcut
IVaa,IVb	23	comb
IVaa,IVb	24	bobbin
IVaa,IVb	25	perforated bone
IVb	26	perforated bone
IVb	27	forked implement
IVb	28	whorl
IVb	29	needle
IVb	30	perforated bone
IVc	31	whorl
IVb,IVc	32	comb
IVb,IVc	33	bobbin
IVb,IVc	34	comb
IVb,IVc	35	die
IVc,IVcc	36	whorl
(IVc–)Va	37	needle/bale pin
IVcc,Va	38	pin
IVcc,Va	39	comb
IVcc(Va)	40	perforated bone
Va	41	offcut
Vaa	42	needle?
Vaa	43	roughout?
Va,Vaa	44	pin-beater?
Va,Vaa	45	ivory handle
Va,Vaa	46	rough–out
Va,Vaa	47	?skate
Va,Vaa	48	die

phase	cat no	object type
Va,Vaa	49	comb
Va,Vaa	50	toggle
Vbb	51	die
Vbb	52	die
Vbb	53	pin
Vbb	54	pin
Vbb	55	whorl
Vbb	56	needle
Vb–Vc	57	handle
Vc	58	?burnisher
Vd	59	bobbin?
Vd	60	bobbin?
Vd	61	toggle
Vd	62	die
(Va–)Vd(Vdd)	63	die
Vd,Vdd	64	offcut/trial piece
Vaa–Vc(VI)	65	bobbin?
VI	66	whorl
VI	67	roughout?
u/s	68	comb
u/s	69	antler offcut
u/s	70	toggle
u/s	71	comb
u/s	72	comb
u/s	73	trial piece
u/s	74	infant's teether
u/s	75	sawn horn core

phase	cat no	object type
North Sector, Area 5		
4–6	76	casket mount
6–12	77	pin-beater
14–16	78	toggle?
u/s	79	umbrella handle
u/s	80	pin-beater?
u/s	81	offcut/trial piece
North Sector, Area 6		
G	82	toggle

The second group (Cat Nos 59, 60 and 65) came from early–mid 14th-century middens, which probably relate to one property as there is reason for thinking that Rigs V and VI were combined from Phase IVb onwards.

Casket mounts

<i>Cat/Accession</i>	<i>Area</i>	<i>Rig</i>	<i>Feature</i>	<i>Phase</i>
South Sector				
1/A10074	1	VI	M0; Pit 3789	Ia (Ib)
2/A9815			1/2	VI
MC006			Ib	
3/A9843			1/2	VI
MC006			Ib	
10/A1880	1	VI	P5.3b	If, IIa
North Sector				
76/A5431	5	n/a	CG008	4–6

Mounts from two or, more probably, three caskets appear to be represented. Cat Nos 1, 2 and 3 all came from early 12th-century deposits. Cat Nos 10 and 76 are similar to one another and may both date from the mid-12th century, but they are unlikely to have come from one casket as the latter piece was recovered from the North Sector (Area 5) and the former from the South Sector (Area 1) of the site. Notwithstanding that they appear to fall into two groups which can be distinguished from each other by their incised ornament, by the shapes of their cut-out ornament and by their raw material, it may be that quite dissimilar decorative motifs could occur within the scheme of a single casket. Mounts cut from scapulae have the advantage of having large flat surface areas and may be found in combination with conventional strips cut from ribs or antlers.

Table 40 *Total number of bone artefacts by Period.*

date	century	period	number of bone objects
pre-1150	12c	I	9
1150–1200	12c	II	6
1200–1250	13c	III	2
1250–1300	13c	IV	19
1300–1350	14c	V	30
>1350	14c or later	VI	2
u/s (South Sector)		u/s	10
North Sector		all	7
total			85

The practice of applying decorative bone mounts to small wooden boxes or caskets has a long history in Britain, stretching from the late Roman period to about the 12th century. Continental examples are also known, principally in the Germanic area. The later British examples, all of about 11th/12th-century date, include the following: groups of unattached mounts from South Cadbury Castle (Greene, in Alcock 1970, 22–3) and York Minster (MacGregor 1995, 420, fig 158); a group of mounts from Ludgershall Castle from the lid of a box, the wood of which had decayed leaving the mounts in their original disposition (Wilson and Hurst 1966, 192, Plate XV); a partially surviving wooden lid with some strips still fixed in position, found in Coppergate, York (Benson 1906, 73, Plates II, III; Waterman 1959, 86) and, from more recent excavations at 16–22 Coppergate, a complete wooden lid from the same street, found with all the strips intact (MacGregor 1979, 6–8; MacGregor et al 1999, 1954–9, Fig 913).

Incised decoration in the form of lines and concentric circles is common to all but the last mentioned of the above mounts and, indeed, to most of their predecessors. The use of decorative cut-outs is also common among the later caskets, in some cases combined with a sheet-metal backing. The mounts on one of the York caskets have large circular and elliptical perforations through which shows a backing of gilt bronze sheeting (Waterman 1959, 86), while the Ludgershall mounts were backed with lead. A richer example from Emden, Ostfriesland, which features cruciform cut-outs within multiple incised circles, was backed with sheet gold (Schmidt 1969, 273–4). Other caskets with perforated mounts seem to have had no metal backing, and no trace of any can be seen on the Perth mounts.

The surviving small diameter fixing holes are also free from staining by metallic salts, raising the possibility that some at least of the mounts were

never utilised, a hypothesis that would, in turn, imply that they had been manufactured on or near the site. Alternatively, the mounts may have been stripped from the lid before they had been stained by corrosion. Bone fixing pegs were used with some mounts, but they tend to be of larger diameter than the peg holes represented here.

No Christian significance need be attached to the cruciform cut-outs; they are also commonly found on secular combs of the period (cf Cat No 49).

Of those found within the South Sector of the site, all came from Rig VI and were found relatively near the High Street frontage. In fact it seems likely that Cat Nos 1, 2 and 3, which all come from one casket, may be associated with the occupants of B17 (East), a street frontage structure dating from the early 12th century. Although Cat No 1 was recovered from a pit and Cat No 2 from a nearby deposit, they evidently originally formed part of one piece, along with Cat No 3; these have now been conserved and reconstructed at Perth Museum and Art Gallery.

Cat No 10 was recovered from the ‘occupation’ of a path which linked a number of backland structures, Building 6 (Phase 2), Building 16 (Phase 2) and Building 16a, with the High Street frontage.

Combs

None of the combs recovered is likely to have been manufactured any later than the 13th century when the production of antler composite combs seems finally to have been abandoned in the British Isles in favour of one-piece combs of bone, horn, or wood. (see Fascicule 2, The wood, Cat No 541/A05–0042). Stylistically, the single-sided combs appear to be the earliest among the group, an impression which finds some corroboration in the stratigraphically early position of comb Cat No 5 (LMMC, 291). Unfortunately, the other examples

Arabic numbers in brackets, following the Accession Number, indicate whether the comb is single or double.

Cat/Accession	Area	Rig	Feature	Phase
South Sector				
5/A9124 (1)	1/2	V, VI	M2.1b	Ic
23/A11-0024 (2)	7	VII	MC126, Pit 7402	IVaa, IVb
32/A4885 (2)	3	V	MC155	IVb, IVc
34/A5397 (2)	2	VI	M1.4d	IVb, IVc
39/A5365 (2)	3	VI	P6	IVcc, Va
49/A11-0019 (2)	7	VII	M8a	Va, Vaa
71/A11-0002 (1)	7-10	VI-VIII	unstratified	unstratified
72/A0493 (1)	7/10	VII, VIII	Sondage 2003	unstratified

of single-sided combs (Cat Nos 71 and 72) came from unstratified deposits.

The slightly concave ends of the double-sided combs from Perth are similar to Continental examples dating from the 12th to 14th centuries (Anderson et al 1971, 153; Blomquist 1942, 158; Chmielowska 1971, 98; Wiberg 1977, 209). The widely spaced side plates and pierced ornament of Cat No 49 can be compared with certain combs of this period, from Oslo (Wiberg 1977, fig 27) and Lund (Blomquist 1942, figs 73-4). Parallels from the British Isles have been found at Coppergate, York (MacGregor et al 1999, 1932, fig 892).

The stratified double-sided combs from Perth all appear to have been recovered from deposits which date from the mid-13th to very early 14th centuries. Although they are too few in number to permit generalisation, the double-sided combs show a number of common features (such as the alternation on opposite side plates of saw cuts from the cutting of the teeth) which may suggest a common origin. There is no reason to doubt that they were made locally; although no unfinished combs were found on the site, the presence of two antler offcuts (Cat Nos 21 and 69) may indicate the presence of a workshop within the near vicinity of the site: a focus of antler working has been recorded in Perth, at the site of St John's Square/South Street (Perry and Coleman forthcoming). Three other composite antler combs, two double-sided and one single-sided, were recovered from excavations at King Edward Street, Perth (Ford 1995, 968, Illus 26). The single-sided example was found in association with pottery of 12th-century date.

Decorative terminal

Cat/Accession	Area	Rig	Feature	Phase
South Sector				
14/A8684	3	VI	M1.3	Ili

Although this was the only example of worked horn found, the very large number of horn cores recovered during the excavations led to the suggestion that they were the waste from a horner's workshop (see The

environmental remains). Cat No 14 was recovered from a backland midden dating to the 12th century.

Dice

The Arabic number in brackets indicates the class to which the dice belong.

Cat/Accession	Area	Rig	Feature	Phase
South Sector				
7/A7187 (2)	2	V	M14b(a)	Id
35/A5838 (1)	3	V	M1.4g	IVb, IVc
48/A11-0017	7	VII	M8a, T7193	Va, Vaa
51/A11-0006 (2)	7	VII	B53 (Phase 2), South Area, occupation (7a)	Vbb
52/A11-0008	7	VII	B53 (Phase 2), South Area occupation (7a)	Vbb
54/A11-0012 (1)	7	VII	B53 (Phase 2), North Area, occupation (7b)	Vbb
62/A3055 (2)	4	VI	P1a	Vd
63/A11-0009 (1)	10	VIII	MC174 Pit 7013	(Va-) Vd (Vdd)

Two principal groupings can be recognised among the eight cuboid dice recovered: on some of them (Class 1), the opposed faces are marked with values which always total seven (hence one is opposite to six, two is opposite to five, three is opposite to four), while on the others (Class 2) the values are arranged sequentially (ie, one is opposite to two, three is opposite to four, five is opposite to six). The first of these conventions (Class 1) is the one which was favoured during the Roman period, when cuboid dice were first introduced into the British Isles, and which is now normally observed on modern dice. The second (Class 2) is found predominantly from the 13th century until the end of the medieval period. One 13th-century example was found in Southampton (Platt and Coleman-Smith 1975, 271, fig 247). Nine dice of 13th- to 15th-century date are known from Winchester (Brown 1990). Thirteen were found in Dublin for which precise dates are not stated (NMI 1973, 13). One 16th-century example is known from Streatley, Bedfordshire (Dyer 1974, 19-20, fig 4). Twenty-four dice, of which twenty-one are of bone, one of antler and three of ivory have come from Anglo-Scandinavian and medieval excavations in York (MacGregor et al 1999, 1982-5).

Of the eight dice recovered from the excavation, one (Cat No 48) was an unfinished blank, another (Cat No 52) belongs to neither class and the remaining six can be equally divided between the two classes. Interestingly, the Perth dice confirm that the original method of numbering (Class 1) was never entirely displaced by the alternative practice (Class 2). Particularly noteworthy was the extraction of a Class 2 die from deposits which are dated to the mid-12th century. This (Cat No 7), the

earliest of the dice recovered on the site, was something of an exception in that the remaining seven examples were all recovered from the upper, more recent, layers. With the exception of Cat No 48, which was found in a late 13th-century midden, they were all recovered from 14th-century deposits. Three (Cat Nos 51, 52 and 54) came from Building 53 (Phase 2), a structure which may have been used as a metalworker's workshop. Cat No 63 was recovered from a pit associated with the destruction of Building 50, the earliest of the stone buildings.

The frequency with which dice were found on this site, when compared with other gaming pieces, suggests that they were used in simple dice games rather than for determining the moves in board games. The comparative ease with which small dice could be lost, and the fact that unworked pebbles, bones or other commonplace objects could also have been used as playing pieces should, however, be borne in mind.

Playing piece (see also Dice)

<i>Cat/Accession</i>	<i>Area</i>	<i>Rig</i>	<i>Feature</i>	<i>Phase</i>
South Sector				
4/A8517	1/2	V, VI	M2.1b	Ic

This piece belongs to a type which was introduced around the time of the Norman Conquest and which became widespread in the early medieval period. Two sources of raw material were, normally, red deer antler and, as here, the mandibles of cattle. Numerous mandibles with discs excised from them have been found in excavations at Schleswig, West Germany (MacGregor 1985, 136).

Decoration is usually limited to the obverse surface and commonly consists of the motifs displayed on this piece. These are the poor relations of the elaborately carved discoid playing pieces of elephant and walrus ivory (and occasionally, cetacean bone) which are well known on the Continent and found more infrequently in this country, as in the 19th-century finds at Melrose Abbey and Leicestershire (ibid, 137).

Cat No 4 was found within a midden which lay immediately to the north of Building 15, an early street frontage structure. Wooden gaming pieces were also recovered from the site (see Fascicule 2, The wood).

Handles

<i>Cat/Accession</i>	<i>Area</i>	<i>Rig</i>	<i>Feature</i>	<i>Phase</i>
South Sector				
11/A11401	1	VI	MC065	Ila–IIc
45/A11–0013	7	VII	M8a	Va, Vaa
57/5368	4	V, VI	M3a	Vb–Vc
North Sector				
79/A0011	5, A	n/a	unstratified	19

Although only three medieval antler/ivory handles were recovered during the excavation, two of these are of particular interest (cf Clarke and Carter 1977, fig 143). Cat No 57 is unfinished, indicating that the manufacture of items of imported walrus ivory was being carried out on, or near to, the site. In the absence of other finds however, the scale of this activity cannot be gauged. The anthropomorphic walrus ivory handle (Cat No 45) was one of the most remarkable finds made during the excavation (Hall below and 2001, 169–88). One modern handle (Cat No 79), probably from an umbrella, was recovered from the North Sector.

It should be noted that a number of the iron artefacts recovered (eg blades, awls, etc) still had their wooden handles intact (see Fascicule 2, The wood, The metal-work). This was however not true of the bone examples.

Anthropomorphic ivory handle (46)

Mark A Hall

<i>Cat/Accession</i>	<i>Area</i>	<i>Rig</i>	<i>Feature</i>	<i>Phase</i>
45/A11–0013	7	VII	M8a	Va, Vaa

The history of ivory carving in medieval Europe has been outlined by Williamson (1982), Lasko (1984), MacGregor (1985, 38–41) and others. Until the 12th century, ivory was principally used to depict religious subjects. The trade in elephant ivory was intermittent, hence the principal raw material in northern Europe was walrus ivory. However, from the 13th century onwards there was a switch to elephant ivory, the major workshops being based in Paris. From this period onwards, subject material shifted from religious themes to increasingly secular motifs, on such objects as mirror-cases, writing tablets, combs, caskets and knife handles.

Since the Perth handle is secular in design rather than religious, but is made from walrus rather than elephant ivory, there are thus important implications for its place of manufacture. Continental (particularly Parisian) production is unlikely. Walrus ivory manufacture remained popular in Scandinavian countries in the 14th century and while there is a possibility of trade between Perth and Scandinavia at this period, there are other alternatives. One is that the small-scale nature of the evidence (only two other handles, one unfinished, from this excavation) is consistent with ivory recovered from walrus strandings or accidental catches from Scottish fishing boats. Another is that the ivory may have been brought by a skilled itinerant craftsman (Lasko 1984, 210).

The most likely artefact to which the handle related is a knife of the whittle-tang variety, the tang of the knife being inserted into the cylindrical socket of the handle. Knife production was apparently an important industry in Perth; on this excavation 17 leather knife sheaths (see Fascicule 3) and over 20 metal knives (see

Fascicule 2) were recovered, while elsewhere in Perth, at Meal Vennel, 44 knives, 19 of which were whittled, were recorded, 11 dating to the 14th century (Cox 1996).

In its imagery, this handle does not conform to the general depiction of foliate heads hitherto described as Green Men, in which leaves spill from the eyes, ears and mouth. In the Perth example, foliage is present on the sides of the hood covering the head but does not emanate from the head. Instead, the Perth handle should probably be seen as representing a fully human figure indulging in the May festivities that were common across Britain in the medieval period. The leaves, possibly rowan or hornbeam on the right side and hawthorn on the left side of the hood in which the figure of the Perth handle is cloaked, are probably representative of the May celebrations. In Scotland these involved a mock king, queen or lord who presided over the May games in which all of society participated. In the later medieval period this figure was occasionally replaced by that of Robin Hood or the Abbot of Unreason. Green branches, often of hawthorn (also known as may), were brought from the hedges 'to bring the summer into town' as in Edinburgh in the 15th and 16th centuries, (Livingstone 1997, 30). Such seasonal celebrations were part of a wider dramatic culture, which included mumming, morris dancing and pageantry. After the Reformation in Scotland such practices were seen as superstitious and were successfully suppressed.

Other examples of May festivities exist in church carvings and misericords, for example in Norfolk, Exeter Cathedral, Lincoln Cathedral and Worcester Cathedral; the last being in the form of a 'man wearing a cap with a hood drawn over his ears and a cloak and sword, and bearing in each hand a large branch of foliage' representing 'May' (Remnant 1969, 168 no 6). Most tellingly in *Les Très Riches Heures* of the Duc de Berry, the illumination for the month of May show the nobility dressed in green, their horses and themselves garlanded with leaves (Longnan and Cazelle 1969, pl 6; 176). As a knife handle, complete with blade, this object would not have been out of place sheathed in the belt of one of these noblemen. It is a skilfully executed and expensive piece of art, intended perhaps for the high table of a wealthy burgh merchant or commissioning dignitary. Its clear signs of wear indicate it was a well-used, prized possession.

Pins

Decorated pin

<i>Cat/Accession</i>	<i>Area</i>	<i>Rig</i>	<i>Feature</i>	<i>Phase</i>
South Sector				
9/A7079	2	VI	MC044b	If

This example should perhaps be compared with the metal pins which were also recovered from the site (see Fascicule 2, The metalwork). It should also be noted that some of the bone needles (Cat Nos 38 and 53) may have been utilised as dress pins. Cat No 9 was discovered within a midden/occupation layer which should probably be associated with the occupants of Building 6 (Phase 2).

Pig fibula pins

<i>Cat/Accession</i>	<i>Area</i>	<i>Rig</i>	<i>Feature</i>	<i>Phase</i>
South Sector				
38/A10000	3	VI	P6	IVcc, Va
53/A11-0010	7	VII	B53 (Phase 2), South Area, occupation (7a)	Vbb

The two pig fibula pins belong to a tradition which is much in evidence on sites dating to the Iron Age and Viking periods. These are mundane, everyday objects which require no great degree of modification to the original bone (MacGregor 1985, 121). Some pins of this type have perforated heads (presumably for the attachment of a cord); others are unperforated, for example, the large collections from Cahercommaun (Hencken 1938, 38), Lagore Crannog (Hencken 1950, 194) and York (Waterman 1959; MacGregor et al 1999, 1951).

Needles

<i>Cat/Accession</i>	<i>Area</i>	<i>Rig</i>	<i>Feature</i>	<i>Phase</i>
South Sector				
29/A11-0021	7	VII	B18 (Phase 2b), Hall and Hall South, occupation (12a)	IVb
37/A5757a	1	V, VI	M5c	(IVc-)Va
42/A11-0018	7	VI	M1.5b	Vaa
56/A11-0007	7	VII	B53 (Phase 2), North Area occupation (14)	Vbb

This concentration of bone needles and pins (which should be associated with the metal examples also recovered from the site, see Fascicule 2, The metalwork) may be taken as a further facet of the textile industry on the High Street, although this point cannot be insisted upon. The longest example, Cat No 37, may be interpreted as a bale pin, similar to wooden examples from the site, which may have been used to hold sacking coverings around bales of raw wool (see Fascicule 2, The wood). Other bale pins in wood have been recovered from sites in Perth at the Horse Cross (Cox and Smith 2007), King Edward Street and 1-5 High Street (Ford 1987b, 145).

Whorls

<i>Cat/Accession</i>	<i>Area</i>	<i>Rig</i>	<i>Feature</i>	<i>Phase</i>
South Sector				
13/A9510	4	VI	B12, occupation (2a)	Ile–IIg
18/A5455	1	VI	B20 occupation (1a)	<IIId–IVaa
28/A11–0022	7	VII	B18 (Phase 2b), Hall and Hall South, occupation (12a)	IVb
31/A11–0023	10	VIII	M9b(a)	IVc
36/A05–0119b	9	VII	M9a	IVc, IVcc
55/A11–0011	7	VII	B53 (Phase 2), North Area, occupation (9b)	Vbb
66/A11502	2	VI	Building T Well 3819	VI

Femur heads were commonly utilised in the manufacture of whorls from the late Iron Age until the early medieval period (Carver 1979, 24–5; Waterman 1959, fig 7); their natural shape recommended them for this purpose, a straightforward saw-cut being all that was required to detach the naturally domed epiphysis from the femur. In immature bones the epiphysis would not even be fused to the femur neck, but most of those utilised at Perth come from mature animals in which fusion of the epiphysis had already taken place.

Of the seven bone whorls recovered, six came from medieval levels. A number came from features from which stone whorls were also retrieved (see The stone objects). The location and chronology of all the whorls (stone, bone and wood) are discussed in Fascicule 3, The textiles.

Although it was only fragmentary and appeared to have been burnt, Cat No 36 is noteworthy for it was found with a spindle (see Fascicule 2, The wood, Wood Cat No 374).

Pin-beaters

<i>Cat/Accession</i>	<i>Area</i>	<i>Rig</i>	<i>Feature</i>	<i>Phase</i>
South Sector				
6/A8104	1/2	VI	B8, occupation (2)	(Icc) Id
15/A9895	3	VI	M1.3	Ili
44/A11–0015	7	VII	M8a	Va, Vaa
North Sector				
77/A0339	5, A	n/a	lade (4)	6–12(b–e)
80/A0021	5, A	n/a	unstratified	unstratified

All these pointed implements appear to be pin-beaters for use in conjunction with a warp-weighted loom (Clarke and Carter 1977, 311–13). Variations on this type of beater are known in the British Isles from the late Roman period until the early medieval period when the warp-weighted loom and its associated tool-kit were

replaced by the horizontal loom. For an account of these looms which survived until comparatively recently in Scandinavia, and of the methods of beating up the warps which were used on them, see Fascicule 3, The textiles; Clarke and Carter 1977, 311–12; Hoffman 1964. The possibility that some of the numerous wooden points also recovered during the excavation were used for the same purpose should be borne in mind (see Fascicule 2, The wood).

It is noteworthy that of the four-pin-beaters recovered from the South Sector, three may have come from Rig VI, albeit they were recovered from deposits of greatly different date.

Together with the bobbins of bone and wood, the spindle whorls identified above, and certain of the metal and glass artefacts, these pin-beaters indicate a significant involvement in textile production on the site; seemingly more than would have been necessary to fulfil domestic needs (see Fascicule 3, The textiles).

Toggles

<i>Cat/Accession</i>	<i>Area</i>	<i>Rig</i>	<i>Feature</i>	<i>Phase</i>
South Sector				
8/A12486	3	V	MC043a	Ie(1f)
17/A11–0028	9	VII	P8.1c	
			PH9458	IIlc
19/A5367	1	VI	B20, occupation (4)	<IIId–IVaa
50/A11–0027	7	VII	M8a	Va, Vaa
61/A3486	4	VI	M3b	Vd
70/A11–0025	7–10	VI–VIII	unstratified	unstratified
North Sector				
78/A0238	5, A	n/a	CG024	14–16
82/A3127	6	n/a	garden	G

All are made from pig metapodia, perforated through the bone at midshaft, with the exception of Cat No 78, a goat horn core. Items of this type are well-known from the Viking period and early medieval settlements both in the British Isles and on the Continent. None of them show any more elaboration than that accorded to these Perth examples. Their function has never been decisively identified; it is possible that they served as bobbins of some sort although they all lack the fine polish which is frequently to be found on items associated with textile working. They may, as was surmised from the group from Freswick, Caithness (Curle et al 1954, 51–2) and the example from Durham (Carver 1979, 21, fig 14), have functioned as toggles or dress fasteners, though the roughly cut perforations show no sign of wear from abrasion by a cord. Alternatively, they may simply have been toys, mounted in doubled and twisted cord and caused to spin by pulling on the ends of the cord, as was suggested for similar bones from Moravia by Hruby (1957, fig 29).

Two of the Perth examples (Cat Nos 17 and 19) date from the mid-13th century; two (Cat Nos 50

and 61) came from 14th-century middens; another is unstratified (Cat No 70). The identification of the perforated goat horn core (Cat No 78), as a toggle is, at best, tentative. Although sheep were sometimes tethered in Scotland by a rope attached to the horn, the lack of wear around the hole, or indeed, any signs of healing of the bone, indicates that this was not so in this instance and that the hole was drilled post-mortem.

Forked implement

<i>Cat/Accession</i>	<i>Area</i>	<i>Rig</i>	<i>Feature</i>	<i>Phase</i>
South Sector				
27/A11-0031	7	VII	P8.2b, levelling	IVb

Implements of this class are being recognised in increasing numbers from archaeological sites covering a considerable time span. One of the earliest examples comes from the Iron Age fort at Close ny Chollagh, Isle of Man (Gelling 1958, 59), followed by one from a Roman sewer at York (MacGregor 1976, 13). Two were noted from excavations at Lochlee Crannog, Ayrshire (Munro 1879, 215) and several come from Viking or early medieval levels at York (MacGregor 1981).

Although their form has been little changed from that of the natural bone, the smoothing noted on this and other examples is indicative of some utilisation. Such wear as has been noted (MacGregor 1985, 175–6) is usually confined to the tips, both of which are damaged in this example from Perth. No wear ever appears in the bottom of the terminal U-notch as might be expected if they had been used as netting implements or bobbins. A possible use as forks has been suggested (MacGregor 1981).

Cat No 27 was recovered from the construction layer of a path which served and adjoined Building 18 (Phase 2), probably a burgess's house despite its backland position.

Miscellaneous worked bone

<i>Cat/Accession</i>	<i>Area</i>	<i>Rig</i>	<i>Feature</i>	<i>Phase</i>
South Sector				
12/A9504	4	V	M10	IId–IIg
47/A02-0267	7	VII	M8a, T7193	Va, Vaa
58/A11-0035	7	VII	M7	Vc

Little can be said of this disparate group. Cat No 12, which was probably a bead, came from a midden (M10) from which a glass bead was also recovered (The glass, Cat No 3). Although M10 lay within Rig V, there is reason for thinking some, at least, of its finds may relate to a backland building (B12) in the adjacent Rig VI. It seems likely that the backland parts of Rigs V and VI may have been combined during the late 12th century.

Cat No 58 may have been a burnisher. It was recovered from an early 14th-century midden. Cat No

47, a trimmed horse tibia, may be part of a broken ice skate, although metapodia were more commonly used in the manufacture of these items, as at King Edward Street, Perth (Ford 1995, 968, Illus 26) and 80–86 High Street, Perth (Cox 1997, 746, Illus 18, 751).

Offcuts, roughouts and trial pieces

All bone unless otherwise stated.

<i>Cat/Accession</i>	<i>Area</i>	<i>Rig</i>	<i>Feature</i>	<i>Phase</i>
South Sector				
21/A11-0029 offcut (antler)	7	VI	P3.3	IVa–IVb
22/A11-0030 offcut (horn core)	7	VI	IVa–IVb	P3.3
41/A11-0020 offcut	7	VI	B34, courtyard	Va
43/A11-0026 roughout?	7	VI	M1.5b	Vaa
46/A11-0016 roughout?	7	VII	M8a	Va, Vaa
64/A1178 offcut / trial piece	2	V	M4c MF2713	Vd, Vdd
67/A11-0003 rough-out?	7/9	VII	modern, T7014	VI
69/A11-0004 offcut (antler)	7–10	VI–VIII	unstratified	unstratified
73/A02-0280 trial piece	7	VII	unstratified	unstratified
75/A110001 offcut (horn core)	3/4	V, VI	unstratified	unstratified
North Sector				
81/A0217 offcut / trial piece	5, A	n/a	unstratified	19

The presence of these pieces confirms the impression given by some of the unfinished pieces listed above (die, Cat No 48; handle, Cat No 57; bobbin Cat No 60) that the manufacture of ivory, bone and antler implements was being carried out on, or near, the High Street site during the early 12th century and the second half of the 13th and early 14th centuries. The antler beam fragment (Cat No 21) is of particular interest, demonstrating as it does the same routines of antler utilisation as has been noted elsewhere (MacGregor 1978, 48), which savours of a professional, rather than a haphazard, use of this material. Too little material was found to demonstrate the presence of a workshop dealing exclusively with skeletal materials. If a related activity that might have been practised in parallel were to be sought, then the working of horn as suggested by the presence of numerous horn cores (see The mammal bone) and the single decorated horn point (decorated terminal Cat No 14) would constitute an appropriate possibility. It should be noted that most of the pieces from the South Sector came from Area 7, in particular, Rig VI.

Perforated bones

<i>Cat/Accession</i>	<i>Area</i>	<i>Rig</i>	<i>Feature</i>	<i>Phase</i>
South Sector				
16/7918	4	VI	M1.4a(a)	IIIa–IIIc
20/A02–0925	9	VII	B18 (Phase 1b), South Room, occupation (2b)	IVa, IVaa
25/A02–0634	9	VI	B18 (Phase 1/2), MF9194	IVaa, IVb
26/A02–0745	9	VII	B18 (Phase 2a), Hall and Hall South, construction (3)	IVb
30/A?	7	VII	P8.2b	IVb
40/A4381	3	VI	M1.4e	IVcc

A number of perforated sheep/goat long bones, five metapodia and one tibia, were recovered from the site. The perforations were cut into the proximal articulation, extending into the marrow cavity. Examples are known from elsewhere in Perth: King Edward Street (metatarsal) and Meal Vennel (two metacarpals, one metatarsal; two proximal radii). The explanation for the perforations is not clear, and it is likely that the bones are not strictly speaking artefacts. Bigelow (1993) has reviewed the occurrence of bi-perforated sheep metapodials from Norse sites on Shetland. These bones are usually pierced twice, once in the anterior or posterior surface just above the distal articulation, and again in the proximal articulation, as in the medieval examples from Perth (*ibid*, 441). The author suggests that these holes have been made in order to extract marrow, the hole near the distal end being used to create a draught when sucking out the marrow. If this is indeed the reason for most of the perforations in medieval sheep bones, it would also explain why the holes occur in not only the metapodia but also in the radius and distal tibia.

All of the perforated bones from the excavation came from 13th-century features, from Phase IIIa–IIIc to Phase IVcc.

Teether

<i>Cat/Accession</i>	<i>Area</i>	<i>Rig</i>	<i>Feature</i>	<i>Phase</i>
South Sector				
74/A11–0001	7–10	VI–VIII	unstratified	unstratified

Cat No 74 is an infant's teether or soother, probably of late Victorian or Edwardian date. Such items were designed to help cool babies' gums while the painful process of teething took place, and while earlier versions, in the form of sticks, are known in coral from at least the 16th century, ivory or bone versions were commonly available in the mid-19th century (Kevill-Davies 1991, 55–61). Ivory teethers took the form of rings, due to the natural form of the original material. By the later 19th century, the stick form typified by the coral examples

was replaced by a flattened pad shape and was also being manufactured in rubber. A rubber teether similar to Cat No 74 in its tear-drop shape, with suspension loop, but in 'dark pure gum rubber: the infants' delight' is illustrated in the Montgomery Ward & Co catalogue for 1895 (Emmet 1969, 107).

Catalogue

South Sector

1 Casket mount Bone

Length 32mm; width 26mm; thickness 1.5mm. (part of Cat No 2)

Cut from a scapula. Obverse decorated with incised ornament comprising part of a large motif consisting of multiple concentric circles, the interval between one pair of circles filled with ring-and-dot ornament; the centre of the circular ornament cut away in a complex of cruciform motifs. Broken. Early medieval.

A10074; C3835–1; M0, Pit 3789; Phase Ia(Ib); Rig VI
Not illustrated

2 Casket mount Bone

Length 122mm; width 54mm; thickness 1.5mm.

Cut from scapula, perforated by two small fixing holes. Obverse surface is decorated with incised ornament comprising a double border line; triangular groups of ring-and-dot ornament in two corners and in the cube; two large motifs consisting of multiple concentric circles, the interval between one pair of circles filled with ring-and-dot ornament. The centres of the large circular motifs are each cut away in a complex of six cruciform shapes, possibly originally with a seventh in the centre. Broken. Early medieval–12th century? A9815; C3770–1/2; MC006; Phase Ib; Rig VI
Illus 50

3 Casket mount (probably part of 2/A9815) Bone

Length 29mm; width 27mm; thickness 1.5mm.

Cut from a scapula. Obverse decorated with incised ornament comprising part of a large motif consisting of multiple concentric circles; around the outermost of those surviving are traces of incised ring-and-dot decoration; the centre of the circle is marked with a dot, around which are disposed four complete or partial cruciform cut-outs. Broken. Early medieval – 12th century?

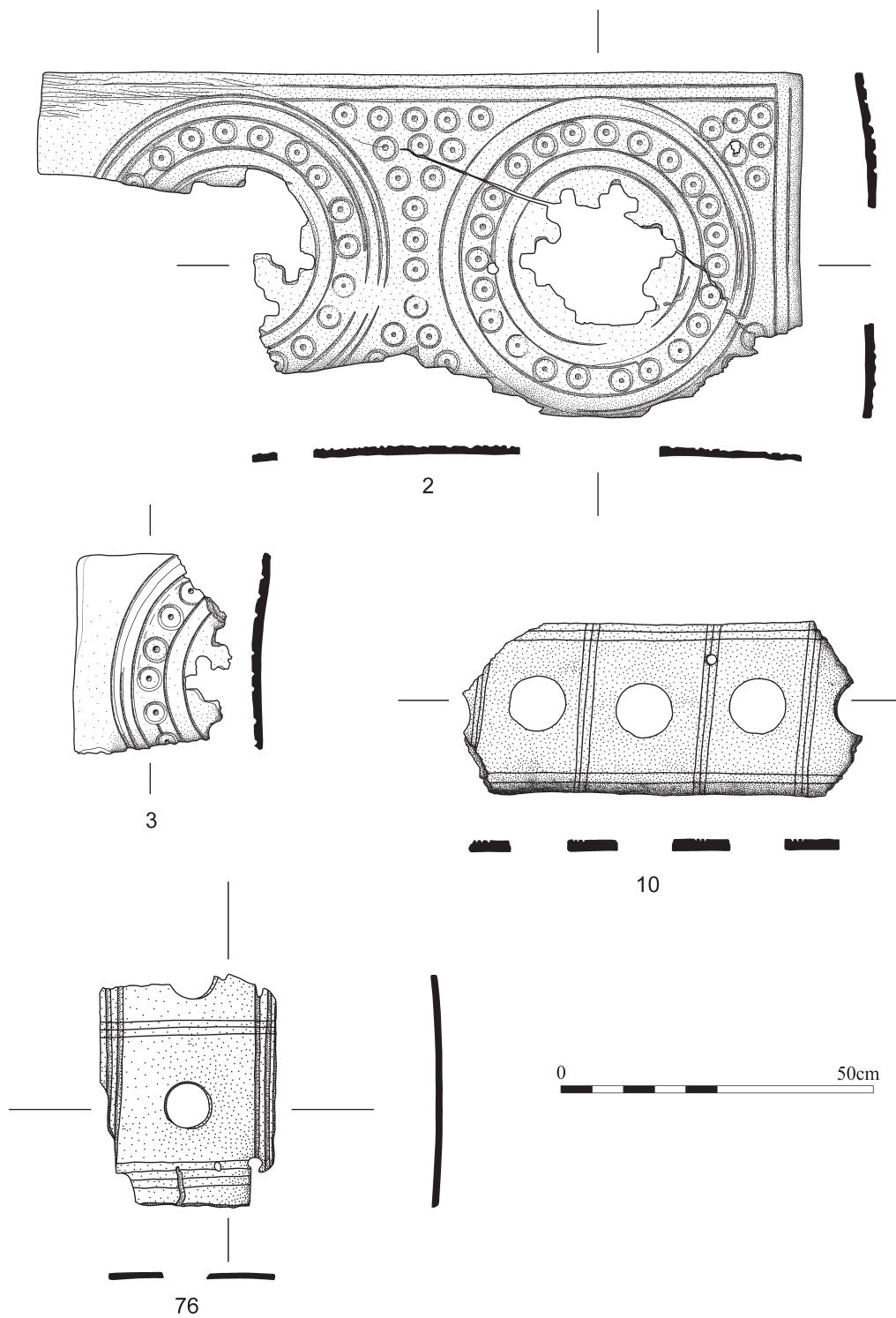
A9843; C3770–1/2; MC006; Phase Ib; Rig VI
Illus 50

4 Playing piece Bone

Diameter 53mm.

Discoid playing piece cut from a bovine mandible. Obverse decorated with incised concentric circles, the central area and the space between the outermost pair of rings filled with incised ring-and-dot motifs. Early medieval – 12th/13th century.

A8517; C3742–1/2; M2.1b; Phase Ic; Rigs V and VI
Illus 52



Illus 50 Worked bone. Casket mounts Cat Nos 2, 3, 10, 76.

5 Comb (single) Antler and iron

Length (to break) 95mm; height 25mm; thickness 8.5mm.

Single-sided composite comb with close-set iron rivets. Five tooth-plates with evenly-sized teeth survive, including one end plate with teeth of graduated length. Side plates have flat edges and curved faces; decorated with incised marginal line on upper edge and two rows of ring-and-dot motifs linked by tangential lines. Both side plates marked intermittently on lower edge by saw cuts from cutting of teeth. Broken. Early medieval.

A9124; C3767–1/2; M2.1b; Phase Ic; Rigs V and VI

Not illustrated

6 Pin-beater? Bone

Length (to break?) 92mm.

Point, unperforated; broken? cf Clarke and Carter 1977, 311–13. Early medieval.

A8104; C3728–1/2; B8, Occupation (2); Phase (Icc)Id;

Rig VI

Not illustrated

7 Die (Class 2) Bone/antler

Dimensions 6.5mm by 7mm by 7.5mm.

Values marked in ring-and-dot motifs. 1:2, 3:4, 5:6.

Medieval.

A7187; C3620–2; M14b(a); Phase Id; Rig V

Not illustrated

8 Toggle Bone

Length 59.5mm; width 14.8mm; thickness 16.6mm.

Pig metacarpal (right metacarpal IV). Hole bored through anterior and posterior midshaft. Diameter of hole on anterior 3.3mm, on posterior 4mm. Proximal articulation intact, distal epiphysis unfused. cf Cat Nos 8, 17, 19, 50, 61, 70, 82.

A12486; C5067–3; MC034a; Phase Ie(If); Rig V

Illus 54

9 Decorated pin Bone

Length 106mm.

Irregularly-cut thistle head and tapering shank. cf Clarke and Carter 1977, 314, Illus 143. Early medieval.

A7079; C3604–2; MC044b; Phase If; Rig VI

Illus 53

10 Casket mount Bone

Length 64mm; width 27mm; thickness 1.5mm.

Cut from a rib. Perforated with one fixing hole of diameter 2mm and five complete or partial decorative holes of diameter 9mm. Incised decoration on obverse comprising a pair of border lines along the longer edges and groups of three transverse lines alternating with the ornamental perforations. Broken. cf Cat No 76. Early medieval.

A1880; C3062–1; P5.3b; Phase If,IIa; Rig VI

Illus 50

11 Handle Antler

Length 100mm; diameter 15mm.

Cylindrical in form, but with a slight 'keel' along one side. Ovoid axial perforation 30mm deep. Early medieval.

A11401; C3886–1; MC065; Phase IIa–IIc; Rig VI

Not illustrated

12 Miscellaneous, ?bead Bone

Fragments of bead? Broken.

A9504; C2314–4; M10; Phase IId–IIg; Rig V

Not illustrated

13 Whorl Bone

Diameter 58mm; internal diameter 9mm.

Spindle whorl made from proximal head of a femur (bovine).

No evidence of wear around the internal drilled hole. cf Cat No 18, 28, 31, 66; Carver 1979, 24–5; Waterman 1959, Fig 7.

A9510; C4603–4; B12, Occupation (2a); Phase IIe–IIg; Rig VI

Not illustrated

14 ?Decorative terminal Horn

Length 87mm; thickness c1mm.

Point cut from distal end of a cattle horn. Much of the thickness is shaved away. A series of irregularly spaced holes c2mm in diameter are cut around the open edge. The tip is cut into a series of regular flutings, each terminating in a point and distinguished from the rest of the horn by greater thickness.

A8684; C2462C–3; M1.3; Phase Ili; Rig VI

Illus 54

15 ?Pin-beater Bone

Length (to break) 100mm.

Point, perforated by a hole of diameter 4 mm. Point broken. cf Clarke and Carter 1977, 311–13. Early medieval.

A9895; C2462C–3; M1.3; Phase Ili; Rig VI

Not illustrated

16 Perforated bone Bone

Sheep/goat metatarsal. Hole bored through proximal surface. Marrow extraction?

A7918; C2190B–4; M1.4a(a); Phase IIIa–IIIc; Rig VI

Not illustrated

17 Toggle Bone

Length 62mm.

Consisting of a metapodial of a pig. Unworked except for a transversely perforated hole with a diameter of 4mm. cf Cat Nos 8, 19, 50, 61, 70, 82; Carver 1979, 21, Fig 14. Early medieval.

A11–0028; C9459–9; P8.1c, PH9458; Phase IIIc; Rig VII

Not illustrated

18 Whorl Bone

Diameter 40mm; internal diameter 10mm; weight 12.2g.

Spindle whorl made from proximal head of a bovine femur. cf Cat Nos 13, 28, 31, 66; Carver 1979, 24–5; Waterman 1959, Fig 7. Early medieval.

A5455; C3553–1; B20, Occupation (1a); Phase <IIId–IVaa; Rig VI

Not illustrated

19 Toggle Bone

Length 53mm.

Consisting of a metapodial of a pig. Unworked except for a transversely perforated hole with a diameter of 4 mm. cf Cat Nos 8, 17, 50, 61, 70, 82; cf Carver 1979, 21, Fig 14. Early medieval.

A5367; C3550–1; B20, Occupation (4); Phase <IIId–IVaa; Rig VI

Not illustrated

20 Perforated bone Bone

Sheep/goat metatarsal. Hole bored through proximal surface. Marrow extraction?

A02–0925; C9385–9; B18 (Phase 1b), South Room – Occupation (2b); Phase IVa, IVaa; Rig VII

Not illustrated

21 Offcut Antler

Length 52mm; width 50mm; thickness 20mm.

Fragment of red deer antler beam from junction with a tine; sawn on three sides (above, below and at base of tine). Compact outer tissue has been split off from two sides.

A11–0029; C7364–7; P3.3; Phase IVa–IVb; Rig VI

Not illustrated

22 Offcut Bone

Length 14mm; diameter 29mm.

Cylindrical section of goat horn core; sawn at both ends. cf Clarke and Carter 1977, Fig 143.

A11–0030; C7364–7; P3.3; Phase IVa–IVb; Rig VI

Not illustrated

23 Comb (double) Antler and bronze

Length 80mm; height 24mm; thickness 7.5 mm.

Double-sided composite comb with bronze rivets. Cut with coarse teeth on one side, fine on the other; end plates slightly concave in outline. Side plates D-shaped in section. Most teeth lost or broken. Early medieval.

A11–0024; C7336–7; MC126, Pit 7402; Phase IVaa, IVb; Rig VII

Not illustrated

24 Bobbin Bone (originally identified as wood)

Length 58 mm; diameter (max) 9mm.

Turned, drilled axially with a hole of diameter 4 mm. Expanded centrally and at either end; decorated at both ends with three bands of four (in one instance five) incised circumferential lines; part of a further single line visible at either obliquely-cut end. Early medieval.

A05–0202; C7307–7; B18 (Phase 1/2), MF7307; Phase IVaa, IVb; Rig VII

Not illustrated

25 Perforated bone Bone

Sheep/goat metatarsal. Hole bored through proximal surface. Marrow extraction?

A02–0634; C9159–9; B18 (Phase 1/2), MF9194; Phase IVaa, IVb; Rig VII

Not illustrated

26 Perforated bone Bone

Sheep/goat metacarpal. Hole bored through proximal surface. Marrow extraction?

A02–0745; C9197–9; B18 (Phase 2a), Hall and Hall South – Construction (3); Phase IVb; Rig VII

Not illustrated

27 Forked implement Bone

Length 135mm.

Double pronged implement made from a bovine nasal bone. Retains natural double prong at one end, broken at the other end. cf Gelling 1958, 98; Munro 1879, 215. Early medieval.

A11–0031; C7354–7; P8.2b, Levelling; Phase IVb; Rig VII

Not illustrated

28 Whorl Bone

Diameter 37mm; internal diameter 12mm; weight 9.7g.

Spindle whorl made from the proximal head of a bovine femur. cf Cat Nos 13, 18, 31, 66; Carver 1979, 24–5; Waterman 1959, Fig 7. Early medieval.

A11–0022; C7299–7; B18 (Phase 2b), North Room, Hall and Hall South – Occupation (10); Phase IVb; Rig VII

Not illustrated

29 Needle Bone

Length (to break) 71mm.

Needle with flattened, expanded head pierced by an ovoid eye. Tapering shank, broken at tip. Early medieval.

A11–0021; C7289–7; B18 (Phase 2b), Hall and Hall South – Occupation (12a); Phase IVb; Rig VII

Illus 53

30 Perforated bone Bone

Sheep/goat metatarsal. Hole bored through proximal surface. Marrow extraction?

A?; C7350–7; P8.2b; Phase IVb; Rig VII

Not illustrated

31 Whorl Bone

Diameter 45mm; internal diameter 7mm; weight 11.4g.

Spindle whorl made from the proximal head of a bovine femur.

cf Cat Nos 13, 18, 28, 66; Carver 1979, 24–5; Waterman 1959, Fig 7. Early medieval.

A11–0023; C6162–10; M9b(a); Phase IVc; Rig VIII

Not illustrated

32 Comb (double) Antler

Length 17mm; height 29.5mm; thickness 2.5mm.

Tooth plate from double-sided composite comb. Cut with coarse teeth on one side, fine on the other. Half rivet holes on either side. Three teeth missing. Early medieval.

A4885; C2483–3; MC155; Phase IVb, IVc; Rig V

Illus 51

33 Bobbin Bone and wood

Length 79.7mm; external diameter 9.9mm; internal diameter 7.6mm.

Bobbin, partially broken at one end, with natural axial perforation, slight central expansion and hand cut collar mouldings at either end. Three incised dots disposed axially towards one end, three more arranged circumferentially near the centre, where trace of natural central groove remains. Most probably derived from sheep/goat metatarsal. Found with a small wooden plug in the intact end (dimensions of wood fragment: length 17.3mm, width 5.2mm, thickness 2.7mm). Early medieval.

A5369; C2476–3; M1.4d; Phase IVb,IVc; Rig VI
Not illustrated.

34 Comb (double) Antler

Tooth plate from a double-sided composite comb. Cut with coarse teeth on one side, fine on the other. Half rivet holes on either side. One tooth (coarse) missing. Dimensions not available. Early medieval.

A5397; C2790–2; M1.4d; Phase IVb,IVc; Rig VI
Not illustrated

35 Die (Class 1) Bone/antler

Dimensions 5.5mm by 5.5mm by 5.5mm.
Values marked in ring-and-dot motif. 1:6, 2:5, 3:4. Medieval.
A5838; C2473–3; M1.4g; Phase IVb,IVc; Rig V
Not illustrated

36 Whorl (associated with wooden spindle A05–0119a) Bone

Diameter c41mm; weight 3.8g.
Spindle whorl cut from a proximal head of a femur; burnt and fragmentary. Early medieval.
A05–0119b; C9050–9; M9a; Phase IVc,IVcc; Rig VII
Not illustrated

37 Needle/bale pin Bone

Length 134.6mm; width 12.6mm; thickness 9.2mm.
Bale pin, made from a section of large ungulate long bone shaft. The bony trabeculae from the internal cavity of the bone are exposed on the reverse side of the object at the head of the pin. The wider end of the pin has been pared to form a rounded head. A small hole (diameter 2.5mm) has been bored through the head of the pin. The lower end of the object has been pared to a rough point. The object shows signs of polishing on the shaft, more markedly towards the point. Pins of a similar size, in wood, have been recovered at sites in Perth at the Horse Cross (Cox and Smith 2007) and King Edward Street and 1–5 High Street (Ford 1987b, 145) as well as from PHSAE where about 200 examples were found, mainly dating to the 14th century (The wood). The wooden examples have been interpreted as bale pins, used to hold sacking coverings around bales of raw wool (ibid).
A5757a; C3505–1; M5c; Phase (IVc–)Va; Rigs V and VI
Not illustrated

38 Pin Bone

Length 71mm.

Cut from a pig's fibula, head formed by the natural articular end, perforated. Rounded shank, broken. Early medieval.

A10000; C2481–3; P6; Phase IVcc,Va; Rig VI
Illus 53

39 Comb (double) Antler, iron and bronze

Length (to break) 70mm; height 32mm; thickness 9mm.

Double-sided composite comb with iron rivets and a bronze pin at one end, possibly the remnants of a suspension loop. Cut with coarse teeth on one side, fine on the other. Surviving end plates are slightly concave in profile and rounded at the corners. Plano-convex side plates marked with a single incised line along the upper and lower edges. Saw-cuts from cutting of one set of teeth mark the lower edge of one side plate and those from the other set mark the upper edge of opposite side plates. Early medieval.

A5365; C2484–3; P6; Phase IVcc,Va; Rig VI
Not illustrated

40 Perforated bone Bone

Sheep/goat tibia. Hole bored through distal surface.
Marrow extraction?
A4381; C2456–3; M1.4e; Phase IVcc; Rig VI
Not illustrated

41 Offcut Bone

Length (to break) 33mm; width 7mm; thickness 6mm.
Fragment cut to tapering outline; rectangular in section. Broken at one end.
A11–0020; C7200–7; B34, Courtyard; Phase Va; Rig VI
Not illustrated

42 ?Needle Bone

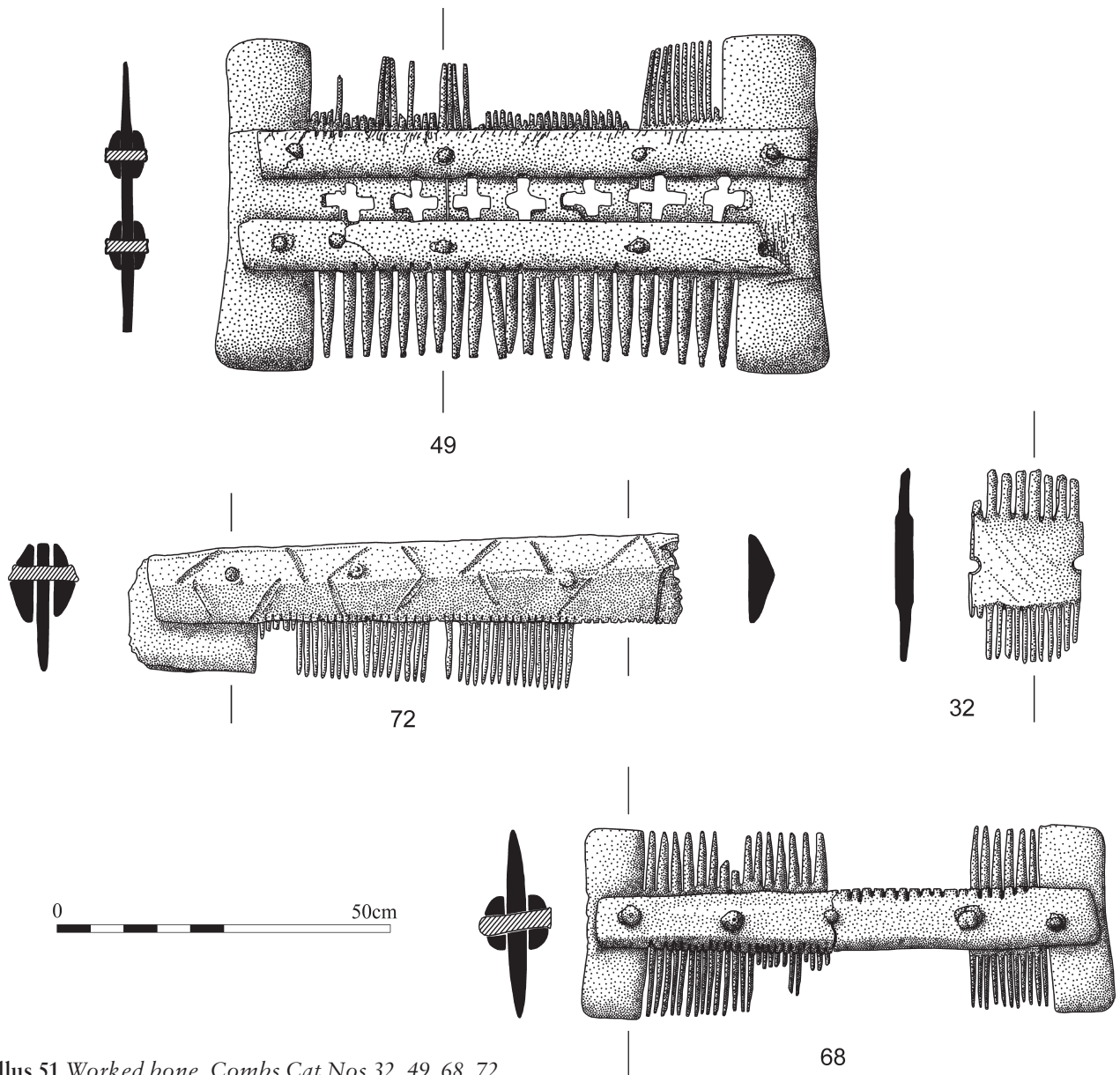
Length (to break) 69mm.
Ovoid shank, broken at the head, but apparently perforated. Early medieval.
A11–0018; C7169–7; M1.5b; Phase Vaa; Rig VI
Not illustrated

43 ?Roughout Bone

Length 74mm; diameter 9mm.
Irregular rod of solid bone, marked with central incised dot at one end.
A11–0026; C7169–7; M1.5b; Phase Vaa; Rig VI
Not illustrated

44 ?Pin-beater Bone

Length 164mm.
Point with roughly-cut irregular head, perforated by a hole of diameter 2mm. Marked over much of its length by oblique grooves. cf Clarke and Carter 1977, 311–13. Early medieval.
A11–0015; C7140–7; M8a; Phase Va,Vaa; Rig VII
Not illustrated



Illus 51 Worked bone. Combs Cat Nos 32, 49, 68, 72.

45 Anthropomorphic handle Walrus ivory

Length 120.5mm; maximum width 22.6mm; minimum width 16.5mm; thickness 14.5mm; weight 35.71g. Socket: internal diameter 9mm by 4.8mm; external diameter 16.4mm by 9.9mm; depth c50.5mm.

Decorated, socketed handle of oval cross-section, derived from walrus ivory. Intricately carved to represent grinning, hooded male face with folds of cloak draped along length of handle. Possible collar arrangement at socket end of handle has phallic appearance. Carved, naturalistic leaves on right and left hand sides of head may be rowan or hornbeam and hawthorn, respectively. Leaves terminate at shoulder of carving, possibly held by very minimally depicted hands. The coarse dentine of the original walrus tooth has been exposed in a band of c3mm width along right side of handle. Object has slight wear damage to left nostril and to rudimentary hands. Handle has a deep, all-over polish, is predominantly rich, translucent dark brown in colour with patches of lighter, buttery colour. Medieval (14th century).

A11-0013; C7159-7; M8a; Phase Va,Vaa; Rig VII

Illus 52

46 ?Roughout Bone

Length 95mm; width 10mm; thickness 6mm.

Fragment cut from the shaft of a cattle long bone, rectangular in section, rounded and tapered at one end, broken at the other.

A11-0016; C7163-7; M8a; Phase Va,Vaa; Rig VII

Not illustrated

47 Miscellaneous, ?skate Bone

Length 170mm; width 28.2mm; thickness 28.4mm.

Split long bone shaft, probably a horse right tibia shaft. Distal end of shaft trimmed with a sharp implement, probably an axe. Trimming marks on anterior, posterior and lateral surfaces. May be a broken ice-skate, although metapodia are usually preferred for this type of object. Unfinished or broken during manufacture.

A02-0267; C7172-7; M8a, T7193; Phase Va,Vaa; Rig VII

Illus 54

48 Die Bone/antler

Dimensions 7mm by 7.5mm by 8mm.

Die blank, squared, chipped at two corners, unfinished.

?Medieval.

A11-0017; C7172-7; M8a, T7193; Phase Va,Vaa; Rig VII

Not illustrated

49 Comb (double) Antler and iron

Length 93mm; height 50mm; thickness 5.5mm.

Double-sided composite comb with iron rivets. Cut with coarse teeth on one side, fine on the other. Two widely-spaced pairs of flat side plates, one set marked on one edge with cuts from sawing of fine teeth, the other set marked on the opposite edge by cuts from coarse teeth; the side plates adjacent to the fine teeth are further marked by fine transverse scratchings. The area between the two pairs of side plates is pierced by a series of seven cruciform perforations. End plates filed thin after assembly? Some teeth missing. Early medieval.

A11-0019; C7196-7; M8a; Phase Va,Vaa; Rig VII

Illus 51

50 Toggle Bone

Length 63mm.

Consisting of a metapodial of a pig. Unworked except for a transversely perforated hole with a diameter of 5mm. cf Cat Nos 8, 17, 19, 61, 70, 82; Carver 1976, 21, Fig 14. Early medieval.

A11-0027; C7196-7; M8a; Phase Va,Vaa; Rig VII

Not illustrated

51 Die (Class 2) Bone/antler

Dimensions 8mm by 8mm by 8mm.

Values marked in ring-and-dot motifs. 1:2, 3:4, 5:6. Medieval.

A11-0006; C7071-7; B53 (Phase 2), South Area – Occupation (7a); Phase Vbb; Rig VII

Illus 52

52 Die Bone/antler

Dimensions 7.5mm (max) by 7.5mm by 7.5mm.

Values marked in incised dots. 1:3, 2:4, 5:6. Irregularly shaped. ?Medieval.

A11-0008; C7071-7; B53 (Phase 2), South Area – Occupation (7a); Phase Vbb; Rig VII

Not illustrated.

53 Pin Bone

Length (to break) 52mm.

Cut from the fibula of a pig. The head is formed by the natural articular end; shank broken. ?Medieval

A11-0010; C7071-7; B53 (Phase 2), South Area – Occupation (7a); Phase Vbb; Rig VII

Illus 53

54 Die (Class 1) Bone/antler

Dimensions 6.5mm by 6.5mm by 6.5mm.

Values marked in ring-and-dot motifs. 1:6, 2:5, 3:4.

?medieval.

A11-0012; C7093-7; B53 (Phase 2), North Area – Occupation (7b); Phase Vbb; Rig VII

Not illustrated

55 Whorl Bone

Diameter 36mm; internal diameter 7mm; weight 17.7g.

Spindle whorl comprising an almost complete proximal head of a bovine femur. cf Cat Nos 13, 18, 28, 31, 66. Early medieval.

A11-0011; C7095-7; B53 (Phase 2), North Area – Occupation (9b); Phase Vbb; Rig VII

Not illustrated

56 Needle Bone

Length 80mm.

Needle with large irregular perforation. Early medieval.

A11-0007; C7077-7; B53 (Phase 2), North Area – Occupation (14); Phase Vbb; Rig VII

Illus 53

57 Handle (knife) Walrus ivory

Length 84mm; width (maximum) 19mm; thickness 9.5mm.

Rectangular in section, tapering towards the blade end. A tapering perforation intended to receive the tang penetrates only 15 mm and is clearly unfinished, perhaps having been abandoned due to a split developing. Each corner on the long sides has a rudimentary scribed moulding; one of the principal faces has additional scribed mouldings, abandoned at an early stage. Early medieval.

A5368; C2176-4; M3a; Phase Vb-Vc; Rigs V and VI

Illus 52

58 Miscellaneous, ?burnisher Bone

Length 75mm; width 32mm; thickness (maximum) 12mm.

Section of rib, broken at one end, rounded at the other as though from prolonged abrasion.

A11-0035; C7035-7; M7; Phase Vc; Rig VII

Not illustrated

59 Bobbin/tally stick Bone

Length 81mm; width (maximum) 10mm; thickness 10mm.

Cut from sheep metatarsal, rectangular in section, with a natural axial perforation, and evidence of some wear at both ends. Decorated overall with close-set incised dots. Broken at one end. cf Ford 1987a, 151 fig 82, no 159; Cox 1996, 786 Illus 27, no 597.

A1353a; C2110-4; M3b; Phase Vd; Rig VI

Illus 53

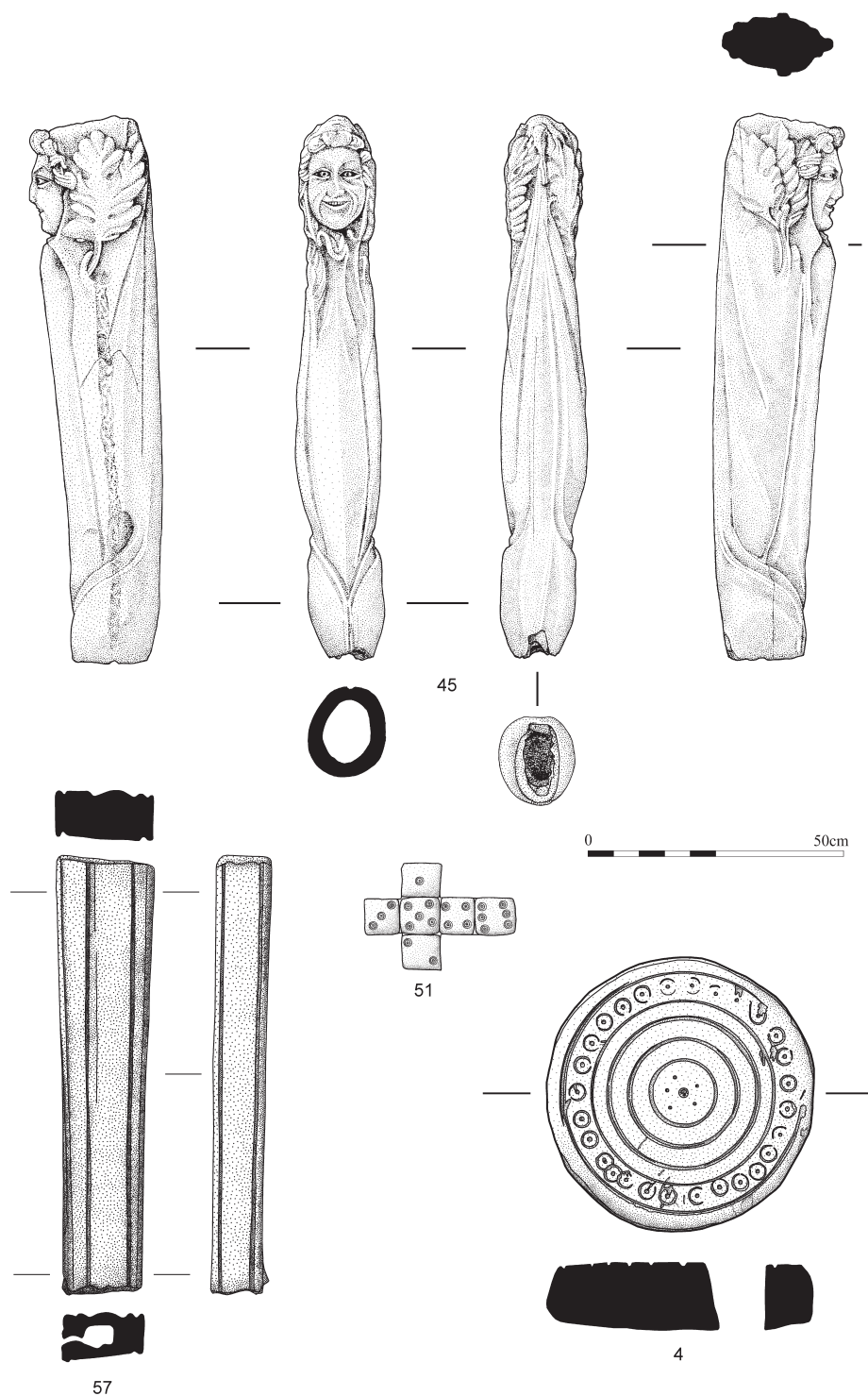
60 ?Bobbin Bone

Length 72mm; width 12mm; thickness 12mm.

Cut from sheep metapodial; D-shaped in section. Some polishing and cut marks; probably unfinished.

A1353b; C2110-4; M3b; Phase Vd; Rig VI

Not illustrated



Illus 52 Worked bone. Handles Cat Nos 45, 57. Playing piece Cat No 4.
Die Cat No 51.

61 Toggle Bone

Length 51.3mm; width 14.1mm; thickness 14.3mm.

Pig metapodial with large perforation (diameter 7.5mm) drilled through posterior and anterior mid shaft. Proximal end of bone chopped across medio-laterally, distal end broken but epiphysis probably unfused. cf Cat Nos 8, 17, 19, 50, 70, 82.

A3486; C2148–4; M3b; Phase Vd; Rig VI

Illus 54

62 Die (Class 2) Bone/antler

Dimensions 7.5mm by 7mm by 5.5mm.

Values marked in ring-and-dot motifs. 1:2, 3:4, 5:6. Not a regular cube; the sides with the smallest area (that is, most difficult to throw) carry values 3 and 4, the largest 5 and 6. The excavators noted evidence of blue pigment on the incised ring-and-dot motifs. No trace of this remains. Medieval.

A3055; C2168–4; P1a; Phase Vd; Rig VI

Not illustrated

63 Die (Class 1) Bone/antler

Dimensions 7mm by 7mm by 6.5mm.

Values marked in ring-and-dot motifs. 1:6, 2:5, 3:4. ?Medieval.

A11–0009; C7013–10; MC174, Pit 7013; Phase (Va–) Vd(Vdd); Rig VIII

Not illustrated

64 ? Offcut/trial piece Bone

Dimensions 34mm by 23mm by 6mm.

Trapezoidal plaque cut from a bovine scapula, marked on obverse surface by saw-cut grid and around each edge by a single saw-cut line.

A1178; C2714–2; M4e, MF2713; Phase Vd,Vdd; Rig V

Not illustrated

65 ?Bobbin Bone

Length 82mm; diameter (maximum) 14mm.

Bobbin made from a sheep metatarsal, with natural axial perforation and slightly expanded ends; decorated on its four principal faces with a line of ten/twelve incised dots.

Polished all over (including the ends) by handling.

A2498; C2737–2; M4a; Phase Vaa–Vc(VI); Rigs V and VI

Not illustrated

66 Whorl Bone

Diameter 39mm; internal diameter 7mm; weight 19.5g.

Spindle whorl comprising of an almost complete proximal head of a femur. Early medieval. cf Cat Nos 13, 18, 28, 31, 55.

A11502; C3848–2; Building T, Well 3819; Phase VI; Rig VI

Illus 54

67 ?Roughout Bone

Length 106mm; width 8mm; thickness 7mm.

Fragment cut from the shaft of a cattle long bone, rectangular in section, broken at both ends. Medieval?

A11–0003; C7001–7/9; Modern, T7014; Phase VI; Rig VII

Not illustrated

68 Comb (double) Antler and iron

Length 81.5mm; height 29mm; thickness 10mm.

Double-sided composite comb with iron rivets. Cut with coarse teeth on one side and fine on the other. End plates ungraduated with slightly concave profiles. Side plates plano-convex in section, tapering slightly towards either end. Each is marked along half of one edge by saw cuts from cutting of coarse teeth and along the other half of the opposite edge with those from fine teeth. One tooth plate missing, some teeth broken. Early medieval.

A0680; C2006–3/4; unstratified; Rigs V and VI

Illus 51

69 Offcut Antler

Length 64mm.

Fragment of ?roe deer tine, sawn at the tip and base.

Utilised.

A11–0004; C7000–7–10; unstratified; Rigs VI–VIII;

Not illustrated.

70 Toggle Bone

Length 50mm.

Consisting of a metapodial of a pig. Unworked except for a transversely perforated hole with a diameter of 5mm. Broken. cf 8, 17, 19, 50, 61, 82; Carver 1979, 21, Fig 14. Early medieval.

A11–0025; C7000–7–10; unstratified; Rigs VI–VIII

Not illustrated

71 Comb side plate Antler

Length 73.5mm; width 13.7mm; thickness 2.7mm.

In two conjoining fragments. Curving, flat plate with fixing hole at unbroken termination. Decorated with single incised lines at each long edge (top and bottom of plate) and ring and dot motifs closely spaced together within central field. Decorated front of plate polished smooth; reverse shows fine pores typical of antler. Iron rivet may have been present when object first excavated but now missing?

A11–0002; C7000–7–10; unstratified; Rigs VI–VIII

Not illustrated

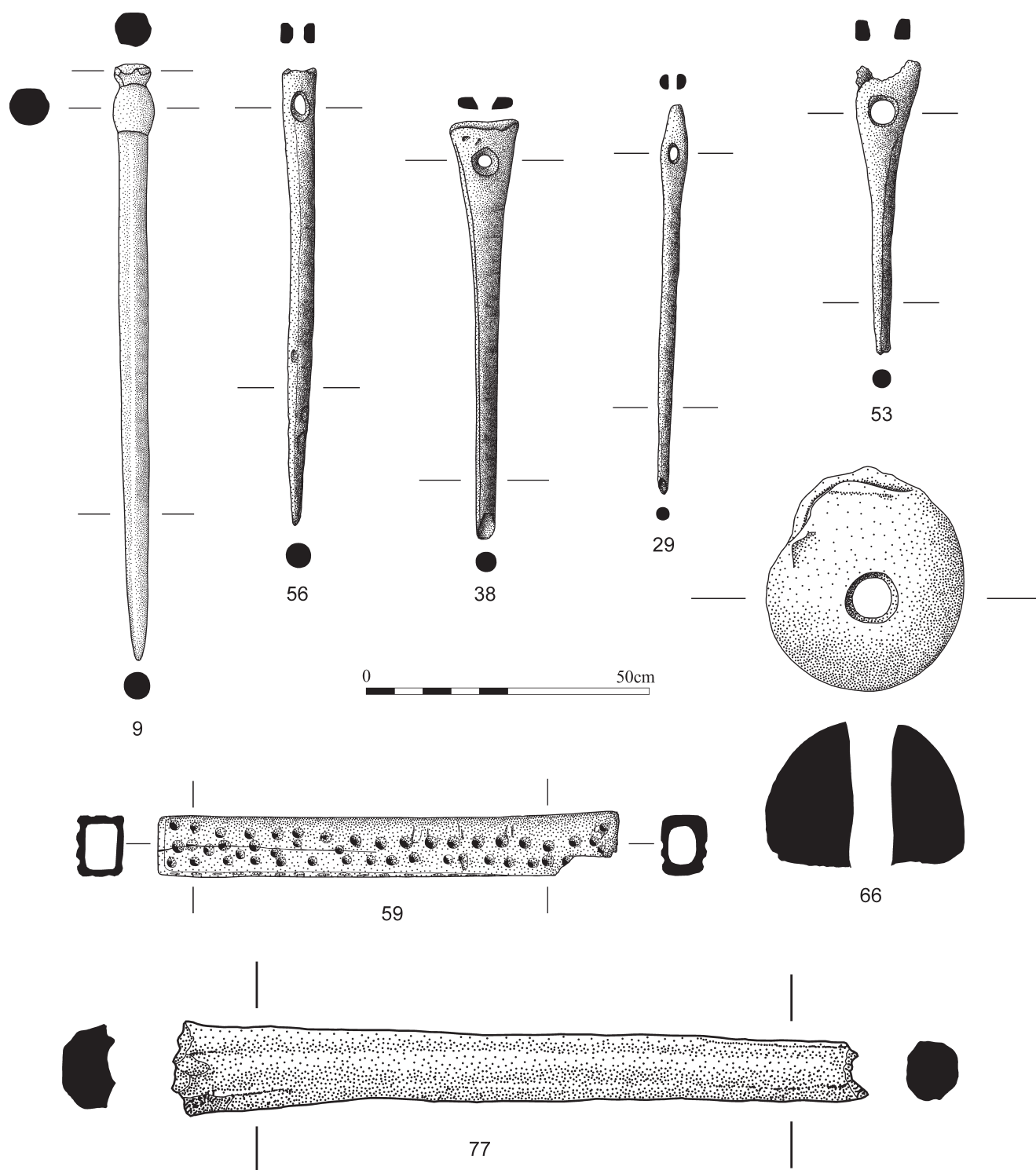
72 Comb (single) Antler and iron

Length (to break) 84mm; height 23.5mm; thickness 11mm.

Single-sided composite comb with iron rivets. Four tooth plates cut with fine teeth survive, including one end plate with two ungraduated teeth only. The side plates have a slight axial ridge marked by a pair of incised lines with the edges of the plates delineated by single border lines; in the intervening spaces are random oblique incisions. The saw cuts from the cutting of the teeth have been carefully extended to mark the lower edge of one side plate, while on the other side plate only occasional cuts are registered in this way. Note irregular teeth at the junction and the thinning of the tooth plates, apparently after assembly. Broken. Early medieval.

A0493; C2003–7/10; Sondage 2003; unstratified; Rigs VII and VIII

Illus 51



Illus 53 Worked bone. Pins/needles Cat Nos 9, 29, 38, 53, 56. Whorl Cat No 66. Tally stick/bobbin Cat No 59. Pin beater Cat No 77.

73 Trial piece Bone

Length 142.5mm; width 28.6mm; thickness 10.1mm.

Split long bone shaft, probably of cattle. Four irregularly spaced ring and dot motifs incised near one end of shaft. Three motifs are cut with same tool, ring diameter 3.2mm. Fourth ring is smaller, measuring 2.1mm and presumably cut using a different tool.

A02-0280; C7085-7; unstratified; Rig VII

Illus 54

74 Teether / infant's soother Bone

Length 70.6mm; width 13.6mm; thickness 5.4mm.

Composed of bone rather than ivory. Probably a long bone shaft of large ungulate. Object is of an elongated tear-drop shape, tapering to a smooth terminal point. Pierced with a tear-drop shaped hole at wider end, probably for a suspension cord. Below suspension loop are three incised grooves, which continue on to the medial and lateral sides of the object. At a further distance are two similar incised grooves. The entire object is polished smooth, although file scratches are present on the front and back and on the inside of the suspension loop. Modern.

A11-0001; C7000-7-10; unstratified; Rigs VI-VIII

Illus 54

75 Offcut Bone

Length 95.3mm; width 42.7mm; thickness 28.7mm.

Sawn left sheep horn core. Base is sawn cleanly across, with small edge lug remaining on posterior aspect. Tip is roughly broken or possibly chopped.

A0686; C2006-3/4; unstratified; Rigs V and VI

Not illustrated

North Sector*Trench A and Area 5***76 Casket Mount Bone**

Length 36mm; width 27mm; thickness 1.5mm.

Cut from a rib, perforated with one fixing hole of diameter 1.5mm and two large decorative holes of diameter 8mm. Incised ornament on obverse comprising four border lines on the intact narrow edge and two border lines on each of the other edges, with three transverse lines across the centre; groups of three lines alternate with the ornamental perforations. cf Cat No 10. Early medieval.

A5431; C0295-5; CG008; Phase 4-6

Illus 50

77 Pin-beater Bone

Length 123.5mm; width 15.3mm; thickness 7.7mm.

Single-ended pin-beater cut from a long bone shaft, probably of cattle. Wider end is roughly chopped, revealing cancellous bone tissue (from internal marrow cavity of bone). Tapered end (now broken) has been smoothed to such an extent that cancellous tissue cannot be seen. Longitudinal striations present on tapered, outer surface of bone. cf MacGregor 1985, 186, fig 101, no 16, 189; MacGregor *et al* 1999, 1967, Fig 923, nos 7033, 7039, 7721).

A0339; C0036-5 and A; Lade (4); Phase 6-12(b-e)

Illus 53

78 ?Toggle Bone

Length 99mm.

Horn core of goat, unworked except for a transversely perforated hole with a diameter of 6.5mm. No wear around the hole.

A0238; C0026-5 and A; CG024; Phase 14-16

Not illustrated

79 Handle Elephant ivory

Thickness 15mm; width (maximum) 61mm.

?Umbrella handle made from a transverse section of elephant ivory. Ovoid in section, with opposed expansions near base, which is threaded internally and narrowed to receive a ferule externally. Modern.

A0011; C0001-5 and A; unstratified; Phase 19

Illus 54

80 ?Pin-beater Bone

Length (to break) 100mm.

Point with slightly expanded head, perforated by a hole of diameter 6mm. Broken at tip, considerably eroded. cf Clarke and Carter 1977, 311-13. Early medieval.

A0021; C0001-5 and A; unstratified; Phase 19

Not illustrated

81 ? Offcut/trial piece Bone

Length 35mm; width 25.5mm; thickness 7mm.

Plaque cut from a bovine scapula or pelvis, rectangular, with a wide notch cut in one end. The corners have been rounded off on the obverse side.

A0217; C0001-5 and A; unstratified; Phase 19

Illus 54

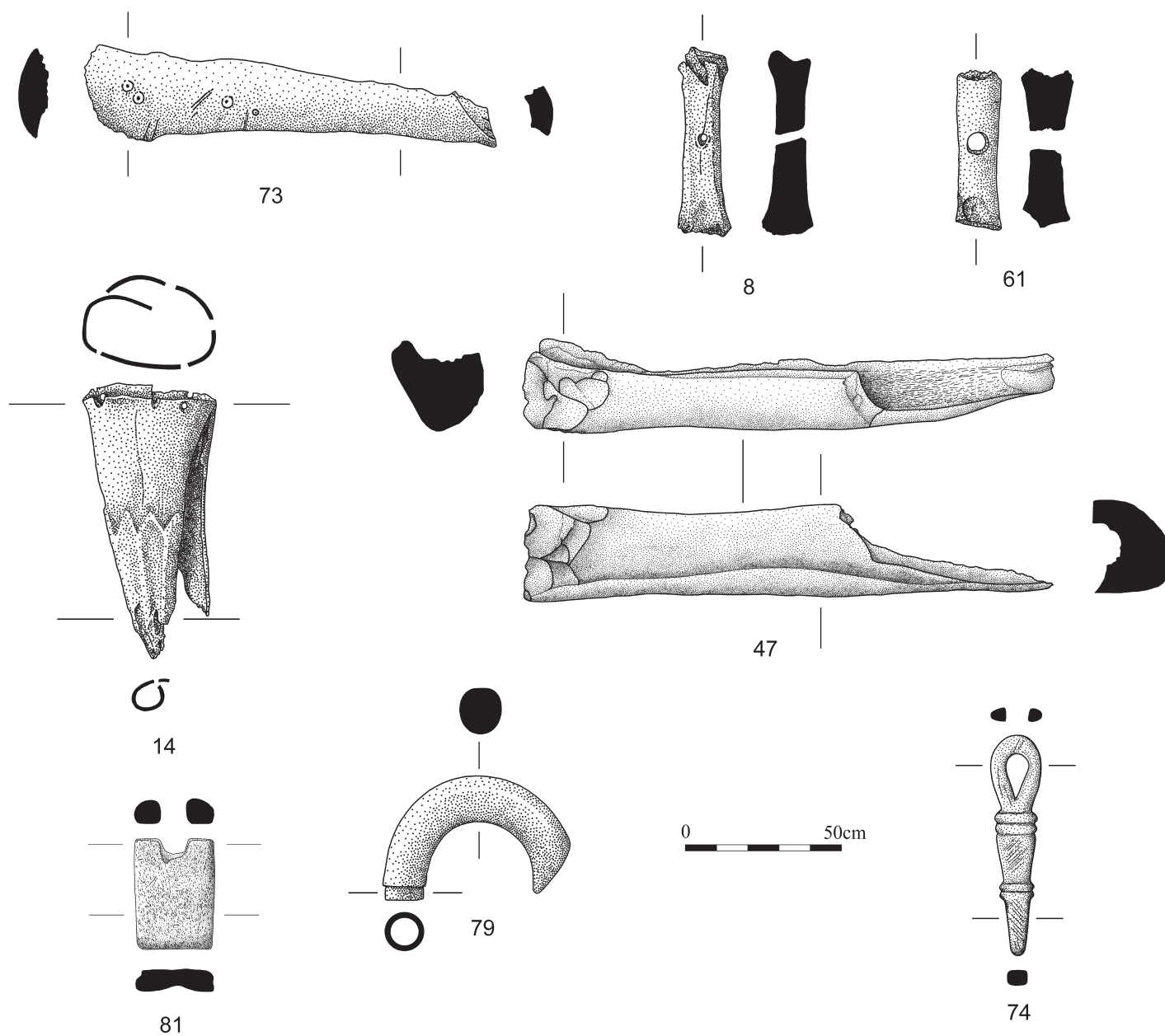
*Area 6***82 Toggle Bone**

Length 73.6mm; width 22.5mm; thickness 18.0mm.

Pig metatarsal (right metatarsal IV). Hole bored through anterior and posterior midshaft. Diameter of hole on anterior aspect 2.2mm, posterior aspect 1.9mm. Proximal articulation intact; distal epiphysis unfused but intact. cf Cat Nos 8, 17, 19, 50, 61.

A3127; C1028-6; Garden; Phase G

Not illustrated



Illus 54 Worked bone. Trial pieces Cat Nos 73, 81. Toggles Cat Nos 8, 61. Horn terminal Cat No 14. Skate Cat No 47. Handle Cat No 79. Teether Cat No 74.

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