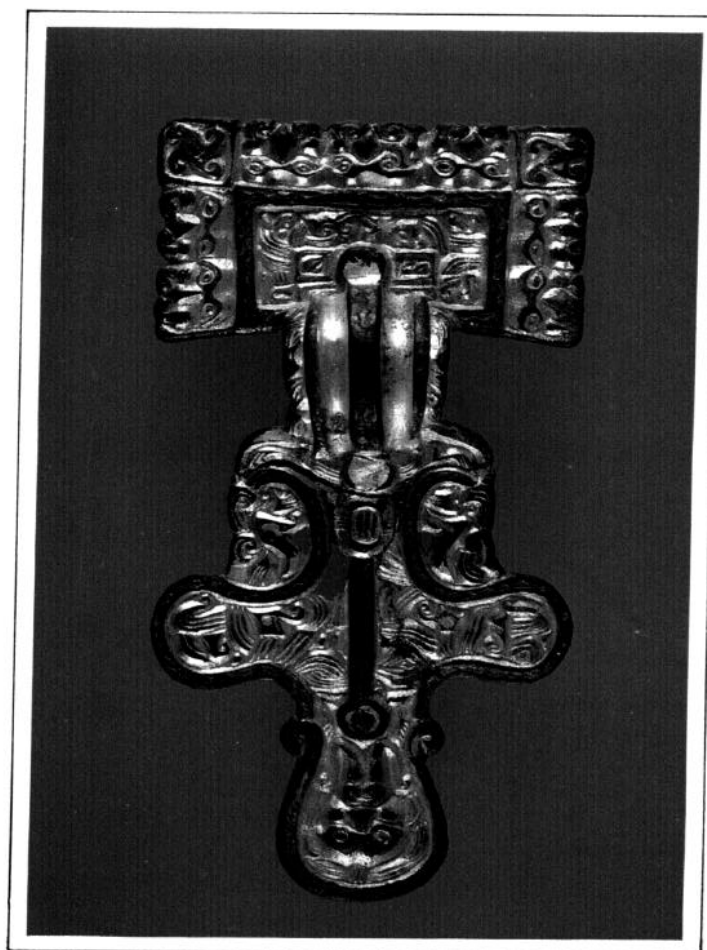




# **AN ANGLO-SAXON CEMETERY AT GREAT CHESTERFORD, ESSEX**

**VERA EVISON**



# **An Anglo-Saxon cemetery at Great Chesterford, Essex**

Vera I Evison

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*Front cover* Gilt bronze square-headed brooch from grave 126

*Buck cover* Light green cone beaker with drawn white trails from grave 128

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## Summary

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Destruction by commercial gravel-digging in the fields north-west of the Roman town of Great Chesterford, Essex in 1952 produced evidence of Anglo-Saxon graves near the known position of one of the Roman cemeteries surrounding the town. As a result of subsequent excavation on behalf of the Inspectorate of Ancient Monuments 161 inhumation graves, 33 cremation graves, 2 horse graves and 2 dog burials were uncovered, and the positioning of some of the graves, together with other evidence, indicated

the earlier presence of tumuli. The adult female graves were well furnished with a variety of jewellery. Some of the men were provided with weapons as usual, but a large percentage of the graves were without weapons, and as some of these graves contained other items of some interest the identity of these men comes into question. There was an unusually large percentage of children's graves, probably reflecting a more accurate picture than usual of the normal mortality rate in Anglo-Saxon times.

---

## Résumé by *Charlette Sheil-Small*

---

La destruction par l'exploitation commerciale de gravier en 1952, dans les champs situés au nord-ouest de la ville romaine de Great Chesterford, Essex, révéla des restes de tombes anglo-saxonnes près d'un site que l'on savait être celui d'un des cimetières romains entourant la ville. Les fouilles effectuées par la suite pour le compte de l'Inspectorat des Anciens Monuments révélèrent 161 tombes contenant des inhumations, 33 tombes contenant des cremations, 2 tombes de chevaux et 2 tombes de chiens; le positionnement de certaines tombes, ainsi que d'autres documents, indiquait qu'il y avait eu des

tumulus. Les tombes de femmes adultes étaient bien équipées de bijouterie variée. Certains des hommes étaient pourvus d'armes, comme d'habitude; par contre, un grand pourcentage de ces tombes ne contenait pas d'armes mais, comme certaines de ces tombes contenaient d'autres articles d'intérêt, l'identité de ces hommes pose un problème. Il y avait un bien plus important pourcentage de tombes d'enfants que d'habitude, ce qui reflète sans doute un tableau plus exact du taux de mortalité normal à l'époque anglo-saxonne.

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## Übersicht by *Annette Kirk*

---

1952 wurden infolge industriellen Kiesabbaus in den Feldern nordwestlich der Römerstadt Great Chesterford, Essex, Spuren angelsächsischer Gräber entdeckt. Die Fundstelle lag in der Nähe eines der bereits bekannten römischen Friedhöfe, die rund um die Stadt angelegt waren. Die in der Folge vom Aufsichtsamt für Kulturdenkmäler (Inspectorate of Ancient Monuments) durchgeführte Ausgrabung umfaßte 161 Körpergräber, 33 Urnengräber sowie je zwei Pferde- und Hundegräber. Die Auslegung der Gräber deutete, zusammen mit anderen Hinweisen, auf das frühere Vorhandensein von Grabhügeln hin.

In den Gräbern erwachsener Frauen fand sich ein Reichtum an verschiedenartigem Schmuck; manche der Männer hatten Waffen als Grabbeigaben, wie es bei angelsächsischen Bestattungen üblich ist, doch waren viele ohne Waffen bestattet, was die Frage nach der Identität dieser Männer aufwirft, um so mehr, als diese Gräber Beigaben anderer Art aufwiesen. Kindergräber stellten einen ungewöhnlich hohen Anteil, was vermutlich die durchschnittliche Sterberate in der angelsächsischen Zeit besser widerspiegelt, als dies normalerweise bei Friedhöfen der Fall ist.

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# Acknowledgements

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A large number of colleagues have assisted in the production of this report, and my grateful thanks must be recorded here. The first season of excavation was a cooperative effort with F K Annable, who dealt with the Roman features of the site. A great deal of assistance was forthcoming over the years from members of the staff of the Inspectorate of Ancient Monuments, beginning with the late G C Dunning: administrative staff include Sarnia Butcher, Alison Cook, John Hurst, Elizabeth Nicholls; drawing office: Margaret Etherington, Dawn Flower, Sue Heaser, David Neal, Helen Riley, Jim Thorn, and Frank Gardiner always ready with advice regarding the illustrations; in the laboratory: Glynis Edwards,

M Heyworth, Jacqui Watson. Apart from the major contributions made by Valerie Cooper, her attention to detail has reduced the number of mistakes and inconsistencies in the text. Access to the objects in the British Museum was made possible by Angela Care Evans, Leslie Webster, and Susan Youngs.

Photographs published by permission of the Trustees of the British Museum are: plates 7a-d, 9b-d, 10a-f, 11a-k, 12a-1, 13a, c, d. The photographs on plate 8 are by J Wild, Birkbeck College, and plate 9a by English Heritage. Figure 10 is based on part of the *Map of Britain in the Dark Ages* (1966) with the permission of the Ordnance Survey.

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# 1 Excavation

---

The site of the Roman town of Great Chesterford is known from present traces in field boundaries, from earlier records, and from excavations (Brinson 1963). It lies on the gravel terrace of the east bank of the River Cam, south of Cambridge (TL 501435, fig 1). The site of the Roman town and its environs are scheduled as an Ancient Monument. Nevertheless, commercial digging of gravel in 1952 to the north-west of the town considerably extended the lake which had resulted from the earlier removal of gravel, and in this operation about 100 Anglo-Saxon graves must have been destroyed (fig 2). A few objects found their way into private possession and were recorded by Cambridge Museum (fig 69). In February 1953 excavation on behalf of the Inspectorate of Ancient Monuments was carried out by F K Annable just outside the north-western border of the site of the Roman town, and a report on this excavation has already been published (Draper 1986). In this area Annable came across Anglo-Saxon graves, and the author was called on at intervals to excavate these graves as they appeared. Some Anglo-Saxon objects, listed as 65/1-5 (fig 34) were found by the gravel diggers just before this date. Grave 1, cremations 1-5 and 14, and various infant graves were excavated by Annable. Otherwise, excavation of the graves was continued by the author until June 1953, by which time a total of 68 graves had been dealt with as well as five cremations.

In October 1953, in view of the fact that the imminence of further commercial work had been notified, the author resumed excavation on behalf of the Inspectorate of Ancient Monuments with a brief to concentrate on the rescue excavation of the Anglo-Saxon graves only, and the work went on at intervals until April 1954. The fields were under cultivation, but some commercial excavation had already taken place since the close of archaeological activity in June 1953, some graves had been destroyed and others were lying partly exposed. A strip of land was made available for archaeological examination to the south of Annable's excavation, and another strip along the east side of the earlier excavation (fig 2). Investigation of the Roman pits and other features was not allowed as the ground was to be left as level as possible for the convenience of the machines used in gravel digging. Baulks left in the previous excavation were removed, resulting in the discovery of graves 87, 118, 120, 123, 125, and 132, and cremations 9 and 21.

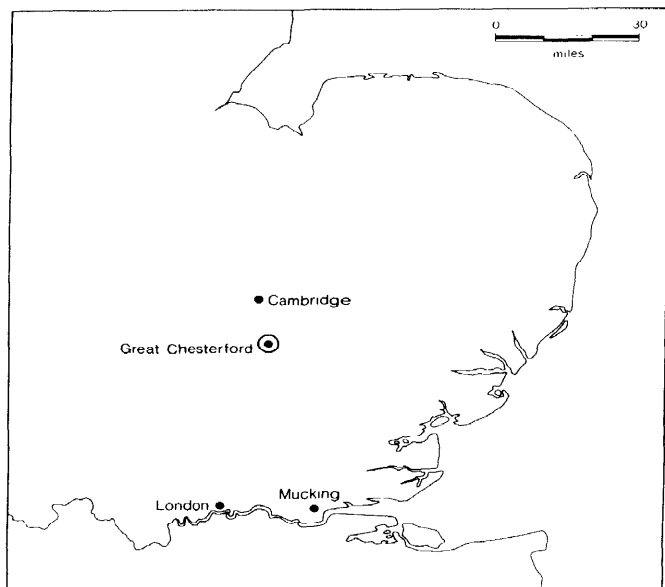
Subsequently, when further imminent commercial work was notified, arrangements were made on 7 February 1955 for excavations to be resumed by the author on behalf of the Inspectorate of Ancient Monuments. A baulk 6ft (1.8m) wide had been left

untouched by the gravel diggers along the edge of the last excavation, beside which a track 3ft (0.91m) deep and 21ft (6.4m) wide had been mechanically scraped out for about 50yds (45.72m), destroying all the graves in its path. Between 7 February and 10 February, when excavation actually began, this track had been further bulldozed to a length of 150yds (137.25m) metres (pl 1a). Permission was given to excavate the remaining baulk, but no activity was allowed on the track, not even the removal of visible human bones. By April 1955 the total of graves excavated had increased to 160 and cremations to 33, and no further excavation was permitted. The areas of the three periods of excavation are shown on figure 2. The route of the M11 motorway built in 1977 passed through the northern part of the known cemetery area, and must have destroyed further graves or buried them under the road's built-up ramp, although no graves were noticed by those keeping a watching brief. The excavation of this limited part of an important Anglo-Saxon cemetery in an area scheduled as an Ancient Monument was made possible by the permission of the then owner of the land, G W King, and the tenant, J Prime of the Great Chesterford Sand and Ballast Company.

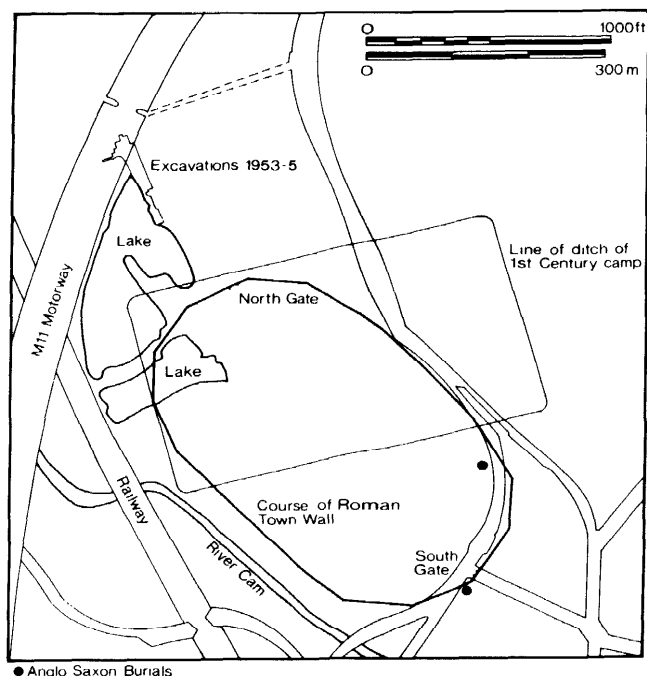
Some of the burials had been damaged by gravel digging, and some by ploughing. The area in which permission was given for excavation in the three separate periods was strictly limited each time. Below the topsoil was a mixture of sand and gravel, extensively dug into by numerous pits of Roman date, so that detection of the outline of graves was often difficult or even completely impossible in the emergency conditions of that time, especially when the grave was completely dug into a large Roman pit. Detection was further hampered by the fact that the depth of graves was extremely varied, ranging from just under the topsoil to 6ft (1.83m). Where the outline of the grave was visible on the ground it is shown on the grave plan, but on the cemetery plan (fig 2) estimated grave outlines are supplied where they were not visible on the ground. The part of the cemetery plan which covers graves 1 to 68 has been based on the plan of the skeletons of the first excavation supplied by F K Annable. As these were emergency excavations, mostly without archaeological assistance (except for a few weeks by Jean Cook, then a student at Birkbeck College), and because of possible interference by unauthorized diggers, it was necessary to complete the excavation of each grave the same day that it was started, even the horse graves.

No conservation or drawing of objects was possible immediately after the excavation. However, the objects were eventually transferred from the custody





*Figure 1a Site location: Great Chesterford in eastern England*



*Figure 1b Site Location: excavation site in relation to the Roman town (after Draper 1986, with additions and omissions)*

of the Department of the Environment to the British Museum in 1964, and were later conserved in the British Museum Laboratory. Drawing of the objects was not begun until much later, and was not completed until 1989.

The remaining drawing-office work was completed by April 1990 but as the manuscript had been completed by December 1988 no account could be taken of publications which appeared after that date. As the measurements of the excavations were origi-

nally in feet and inches these are given in this report with metric equivalents. The measurements of the objects in the catalogue are in metric only. Most of the objects are now in the keeping of the Department of Medieval and Later Antiquities of the British Museum, but, as may be seen from the concordance (below, p 128), some are in the Department of Prehistoric and Romano-British Antiquities. They were given by Mrs Doris E King in the memory of her husband Geoffrey W King.

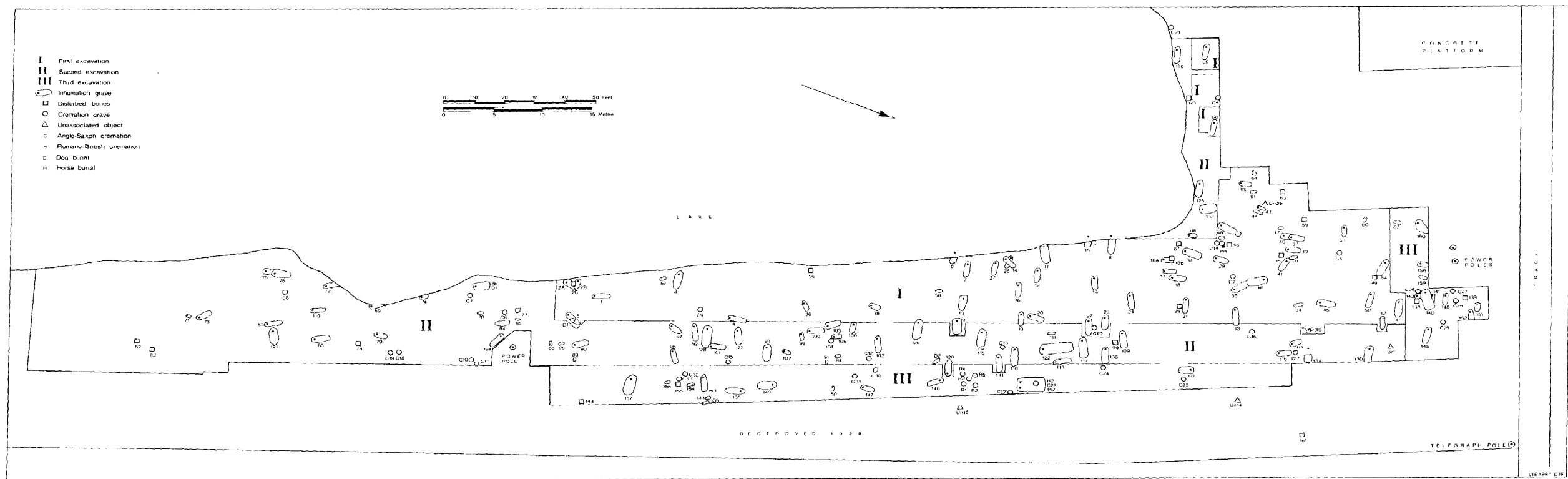


Figure 2 Plan of the excavation of the Anglo-Saxon cemetery at Great Chesterford

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## 2 Grave goods, discussion of types

---

### Weapons

#### Swords

Two swords were found in this cemetery. The sword found before the excavation, 65/1 (fig 34), is long and broad, 90.3cm x 5.6cm. A radiograph shows no sign of pattern-welding. The bucket, bronze bowl, spearhead, and shield boss found at the same time suggest that this was a grave of phase 3 (see below, p 43).

The other sword, 122/7 (fig 47), is shorter and narrower, 84.4cm x 5cm, and a radiograph shows three rows of diagonal pattern-welding. A bronze strip binding the mouth of the scabbard has a diagonal cross decoration in the middle, like the small plaque with diagonal cross on the back of the sword from Petersfinger grave 21, which extended into a loop to hold a thong (Evison 1967, fig 3e). When found, there were the remains of bronze sheet about 8cm deep on the underside of the top of the scabbard, which must originally have continued round the upper side. The shape of a small boss, covered with brass sheet, (see below, p 89) with a central hole near the middle of the blade on the upper surface, shows that it was a button for attachment of the sword to the baldric, and that there was probably originally a metal button in the centre like those from Wickhambreux, Sutton Hoo, etc, although probably not of gold (Evison 1976, 312, pl.LXVI, a, b).

Both sword tangs showed traces of a horn grip. On sword 122/7 there were scabbard remains, thin alder boards lined with fleece (identifications by J Watson).

#### Spears

The spears were in bad condition, but the junctions between blade and socket were usually well enough preserved to show whether the blade had an angular shape. Some of the spears were included by Swanton in his corpus (1974, 54), and in these cases his classifications are quoted here. Swanton allocated four spears to his type H1, ie angular with an S-profile to the blade above the angle: 16A/1, 22/1, 2 and 86/1 (figs 20, 25, and 39). To the longer type H2 he allocated 96/1a and 99/1 (figs 40 and 41). Spearhead 142/1a (fig 54) is also an H2 type. Swanton also considered 2A/1 (fig 15) to be type H2, but when first excavated its blade was better preserved and more clearly lozenge-shaped, ie type E2. Also type E2 are 122/4a and Un 9 (figs 47 and 66). Spearhead 51/1 (fig 30, pl7a) was noted by Swanton as group H3, many of which are ornamented. This one also is ornamented, with possibly four ring-and-dot inlaid motifs on each side of the blade. The rings are a gilded red

metal, and, although the central dots are not now visible, they showed up denser on the radiograph, and many have been of a different metal (Evison 1955, pl IIIC). The band at the junction with the socket appears to be gilt bronze. The decorative ring at the bottom of the socket appears to be bronze, gilded only in the chip-carved panels. There are four Style I animals (fig 3), all progressing towards the



Figure 3 Design on spearhead 51/1 (scale 1:1)

left, separated from each other by three vertical beaded bars and one of triple lines. The head of each animal is different, three with a right-angled back profile and one curved; two have pointed beaks, one a shorter nose, and one a curled beak. Each has a front claw and triple-line body, and each has a back leg, one with a curled claw and one upside down.

Swanton allocated 76/1 (fig 37) to group F2, but with a length of 19cm it should belong to his group F1. A long, leaf-shaped blade, 101/1 (fig 42), he allocated to group C3, a 6th-7th century type which even continued later.

Swanton allocated 115/1a (fig 44) to group L, but the section shows no sign of being corrugated, so that the spearhead belongs to group H2, and it seems to bear traces of ring-and-dot inlay. Also attributed to group L by Swanton are 50/1 and 19/1 (figs 30 and 23), both with stepped section with the left-hand side lower, and the blade of 19/1 showing possible traces of inlaid rings. Spearhead 4/1 (fig 17) was put in group H2 by Swanton, but as it has a stepped section and more rounded angles, it matched the characteristics of his group K1.

A spearhead with lunate fullering on the left-hand side of each face at the lower part of the blade, 65/2 (fig 34), belongs to group I1, which, according to Swanton, is otherwise confined to the chalk downlands of Hampshire. A well-made spearhead of group J in good condition is 157/1 (fig 57, pl 7b). The blade is fullered on each left-hand side, leaving a neat reserved margin on the blade edge. Ring-and-dot motifs were inlaid on the blade, and there is iron binding at the junction with the blade and another at the end of the socket.

Spearhead 140/2 (fig 53) has a short, closed socket, a leaf-shaped blade with pronounced mid rib, narrowing to a long, four-sided point, and there appear

**Table 1 Shield boss characteristics, measurements in centimetres**

Grave nos										
	4	8	16a	22	65	76	86	122	142	Un 14
Convex dome		1	1	1		1				
Straight dome	1				1		1	1	1	1
Flange rivets	5	5	6	5			5	? 5	5	5
Upturned grip			1					1	1	
Strap grip		1		1		1	1			
Rivets, appliqués	3					4	2			
Buckle	1	1								
Height	8.2	7.5	8.5	7	5.5+	7	7	8.8	8.5	9
Diameter	16.8	15.8	16	14.7		16	14.6	16.2	16.5	18

to be traces of inlaid ring-and-dot motifs on the widest part of the blade. The group is B2, of invasion date, cf the spear in grave 56 at Guildown, Surrey, found with an early type of Kempston cone beaker (Swanton 1973, fig 58a, b; Evison 1972, 55, fig 2). Another was found at Croydon, Surrey (BM Reg No 95 3-13 17).

A number of spears were provided with iron ferrules of conical shape: 8/2, 22/3, 4, 96/1b, 122/4b, 134/1 and 142/1b (figs 18, 25, 40, 47, 51 and 54). One of these, 96/1b, and an unassociated ferrule Un 12 (figs 40 and 66), were decorated with incised lines. One ferrule was made of antler (identified by J Watson), 115/1b (fig 44). A ferrule in grave 8 (8/2) and one in grave 134 (134/1) (figs 18 and 51) showed that a spearhead had been lost in each when the head of the grave was destroyed. The five spearheads with ferrules were all angular types, E2, H1, and H2. There were three more ferrules unstratified, Un 11, 12, and 13 (fig 66), a spear and a spear fragment, Un 9 and 10 (fig 66). In grave 22 there was an iron ring by the left hand (fig 25), half way between the spearheads and the ferrules, so that it must be a marker on one of the spear shafts. Most spearheads were fixed to the shaft with a rivet through the socket, eg 2A/1, (fig 1).

In grave 157 a pin (fig 57) was found outside the left humerus, a few centimetres away from the spearhead, and was probably used to fasten a cloth wrapped round the spear as in some of the Dover graves (Evison 1987, 29, 82). It is possible that the same function was performed by the pin fragment next to the ferrule in grave 122 (fig 47, 122/5). Traces of a fine cloth were found on spearhead 2A/1 (pp 71, 73).

The position of the spearhead was always by the skull, five to the right, eight to the left. Exceptions are two graves where the body was in an unusual position. In grave 2A it was on its right side with the spear behind the shoulders. In grave 86 the boy was prostrate on his right side, and the spear was behind the skull.

Eighteen sockets of spearheads and ferrules were examined by J Watson, and it was possible to recognize that the wood remains in eight were of ash (*Fraxinus* sp): 8/2, 19/1, 22/1, 2, 122/4, 142/1a, b, Un 9.

### *Shield bosses*

There were only ten shield bosses in this cemetery, unless a small iron fragment in a woman's grave 14/2 (fig 20) can be recognized as a mending patch from a shield boss (table 1). All of the bosses finished in a button top. On two bosses, 86/2a and 122/9a (figs 39 and 47), this was wide and sturdy, the dome low and the waist sharply incurved. Traces of two decorative parallel lines appear on the dome of 122/9a, and 86/2a is also unusual in having been mended with two iron patches. With boss 122/9a (fig 47) was a grip with bifurcating, curled terminals, and with 86/2a (fig 39) a strap grip, no doubt a replacement on this old and mended boss which was buried with a boy.

The other eight bosses, 4/2, 8/1a, 16A/2a, 22/6a, 65/3, 76/2a, 142/4a, and Un 14 (figs 17, 18, 20, 25, 34, 37, 54, and 66) are all of similar shape with a small button top and domes ranging from straight, 65/3, to definitely convex, 16A/2a. The flanges of six or seven bosses are sufficiently well preserved to show that there were five disc-headed rivets, but one, 16A/2a, had six. The proportions of all of them are much the same, with diameters ranging from 14.6cm to 16.8cm, and heights from 7cm to 8.8cm, with the exception of Un 14 which is extra large, diameter 18cm, height 9cm.

There were two pairs of disc-headed rivets 15cm each side of the boss 76/2a, iron fragments and a rivet each side of boss 8/1a, and two rivets with 86/2a (figs 37, 18, and 39). There was also the remains of a iron buckle probably associated with the boss 8/1a (fig 18), and there was one in better condition, 4/3 (fig 17) (cf Evison 1988, 8, fig 27.7g). While the button tops were beaten out in one piece with the boss, one was of unusual construction as the knob was a separate piece inserted in the top of the dome, 65/3 (fig 34). The unusual grip 142/4b (fig 54) shows traces of transverse wood grain at each end and lengthwise wood grain along a strip of the interior; it was bound with leather strapping.

The position of the boss was different in each grave, but in three of them – grave 4 on the right humerus, 16A on the lower face, and 76 on the left shoulder – the shield boards would have covered the face (figs

70, 71, and 77). In grave 22 (fig 72) the boss was on its side near the top of the skull, suggesting that it was leaning upright against the head of the grave. In grave 8 it was on the pelvis, in grave 86 at the back of the body, in grave 122 on the feet, and in grave 142 on the left knee (figs 70, 78, 81, and 83).

At Dover shield bosses only appeared in phases 3 and 4, AD 575–650, the types had domes which sometimes reached a height of 10cm of more convex shape, and some had a narrow flange with knob rivets. All but one of the bosses at Great Chesterford were below 9cm in height, and all had wide flanges with disc-headed rivets. A date before AD 575 is therefore likely for them. The wood of two of the shields was identifiable as willow or poplar, 8/1 and 122/9. The shield in grave 4 was covered with leather (identifications by J Watson).

## Jewellery

### *Square-headed brooches*

The square-headed brooch in grave 2B (fig 15, pl 10a) belongs to the type B1 which Leeds noted was a large group of brooches, and which he regarded as beginning in the 5th century (Leeds 1949, 34ff). It is placed in group XVI by Hines in his phase 3 of square-headed brooches (Hines 1984, 157ff, 180, map 3.6).

The brooch in grave 126 (fig 49, pl 10b) also has a divided foot, but otherwise is much more ornate. Various of its elements can be matched in other groups of square-headed brooches, but it has most in common with group B3 (Leeds 1949, nos 71, 74, 77, 78, 79, 80), and Hines's groups I, IV, and VIII, which he puts in his phase I and beginning of phase 2 (Hines 1984, 180).

Brooches 145/3 and 4 (fig 55, pl 10c) are copies of Kentish types of medium size, elegantly shaped and less overburdened with decoration than usual. Other similar examples come from the Cambridge area, Barrington A (Fox 1923, pl XXX, 1), and Linton Heath (Leeds 1945, distribution map fig 34a, fig 35). Some have more distant find spots — Ilchester, Somerset, and Glaston, Rutland. The accompanying pot with pendent triangle decoration and the bronze bucket mount indicate the middle of the 6th century for the grave.

The pair 62/1 and 2 (fig 33, pl 10d) are a smaller type of square-headed brooch of Kentish type of the first half of the 6th century (cf Leeds 1936, pl XV, middle row).

### *Radiate brooches*

The small bow brooches 9/2, 3 (fig 18, pl 10e), with three-knobbed head, lateral animal heads, and lozenge-shaped foot, belong to the 'Bifrons' type as named by Kuhn (1965, 172-4, Taf 82, 161-4). It occurs at Krefeld-Gellep in graves 336 and 968 and as a loose find, where it is dated to the middle of the 5th century (Pirling 1966, 1, 166-7, 2, Taf 27, 9; Taf 78, 17-18; Taf 112, 1; Böhme 1974, 31, Taf 79, 9-10).

The distribution is limited to Krefeld-Gellep in the Rhineland, the north coast of France, and to Kent (Kuhn 1965, Karte 16; Seillier & Leclercq 1972, 25, fig 6). Another brooch of this type has been found in grave 115A at Vron, northern France. One was included in the Diergardt Collection, where there are also similar small brooches with triangular foot (Werner 1961, Taf 16, 73, cf Taf 16, 69-72 and distribution map Taf 52 below). Although an early date at Krefeld is certain, other contexts belong to the beginning of the 6th century.

The radiate brooch 37/2 (fig 28, pl 10f) is an import from the Continent, the 'Hahnheim' type, found mainly in the Rhineland, Belgium, and northern France (Kuhn 1965, 151ff). The nearest designs to the Great Chesterford brooch, ie geometric pattern on the head and half-round knobs without garnets, are from northern France (Kuhn 1965, Taf 79, 12, 16, 20, and 25). A coin of Teja found with the Hahnheim brooch is dated to 552-3 (Werner 1935, 39, Taf 4A).

### *Cruciform brooches*

Two types occur in this cemetery. Three, 27/1, 153/3, and 81/1 (figs 26, 56, and 38, pl 11a, b, c), belong to Reichstein's type Foldvik-Empingham, ie with Norwegian connections, produced between the middle of the 5th and the beginning of the 6th century (Reichstein 1975, Abb 4, Taf 68, 7-10, Taf 100). A date of c AD 475-525 is suggested by Hines (1984, 28). The fourth and larger brooch, 20/1 (fig 23, pl 11d), has lappets and horse's head foot with scroll nostrils, Reichstein's Little Wilbraham type, a later Anglo-Saxon development belonging to the first half of the 6th century (Reichstein 1975, Abb 14, Taf 105, 2; Hines 1984, 28).

### *Small Long brooches*

There are 13 identical pairs of small long brooches and 14 single brooches, and most of them are a square-headed type. With a square head and widening foot are: 66/1, 2, 153/2, and 92/2, 3 (figs 35, 56, and 40, pl 11e), the latter decorated with stamps, and in addition, Un 3 (fig 66), decorated with stamps and missing its foot. The quincunx arrangement of stamps on the head of 7/2 (fig 17, pl 11g) might indicate a connection with cross pattee types such as the square head with four perforations in the same grave (fig 17; cf Leeds 1945, fig 15a), 135/2 (fig 52; cf Leeds 1945, fig 13a), and with a type with more distinct cross arms, 108/1, 2 and 160/4, 5 (figs 43 and 57).

There are three variants of the panelled square-headed type, 116/1, 2, 1/1, 2 (figs 45 and 15), and 81/2 (fig 38), which has lost its foot and been given a slight reshaping in an attempt to produce a substitute terminal. Some of the square heads have developed upper corners: points on 55/1, 2 (fig 31, pl 11i; cf Leeds 1945, fig 18j), hooks on 37/3 (fig 28, pl 11j; cf Leeds 1945, fig 22f), and lobes on 21/2, 2 (fig 24; cf Leeds 1945, fig 22b). The last two types also have lappets

and 21/1 and 2 in addition have a single perforation in the head and a square knob on the bow.

Brooch 148/2 (fig 55, pl 12a), with its square head, lozenge-shaped foot, ribbed finial, ring-and-dot decoration and long narrow bow is similar to the brooch from Holzbalge, Hanover (Leeds 1945, fig 3c), and may be as early as mid 5th century (Evison 1969, 164). Another small square-headed brooch, 69/2 (fig 36, pl 12b), with lozenge foot, has a disc-shaped finial beyond the ribbing, a feature noted by Leeds on brooches from Bidford-on-Avon, Newham, Northants, and ?Huntingdonshire (Leeds 1945, 38, fig 23d).

Two small square-headed brooches with lozenge-shaped foot, 114/1, 2 (fig 44, pl 12c), are similar but not a pair, and the heads seem to have been influenced by the basal notches on the heads of other types of small long brooches, trefoil, cross potent, or cross pattee. They have the early characteristics of a fairly long bow and a lozenge-shaped foot with traces of a moulded finial. Brooch 114/1 had ring-and-dot stamped decoration on the head which seemed to retain some white material inlay, but examination by S La Niece, British Museum Research Laboratory, found no inlay. If this visible white material is enamel, the brooch is associated with a group of trinkets ornamented in this way, in the Cambridge-Suffolk area (fig 7). Similar brooches have been noted from south Cambridgeshire (Leeds 1945, 36, fig 23a).

The pair of small long brooches 45/1, 2 (fig 29, pl 12d) have a superficial resemblance to two larger brooches which Leeds included in his CI category of square-headed brooches (Leeds 1949, nos 127 and 128). Similar is the sparse decoration, by stamping only, a short bow and triple projections below. These projections no doubt represent a pair of lappets, the distorted lozenge-shaped foot and rectangular terminal of a type A3 square-headed brooch, and Leeds did note a possible connection between his types A3 and CI (Leeds 1949, 78). An almost identical brooch to the Great Chesterford pair comes from Bifrons, where the presence of other, similar brooches suggests that Kent may be the place of origin (Leeds 1945, 40, fig 25a). Leeds, however, did not make the connection between the Bifrons brooch and his type CI.

Brooches 73/1, 135/1, 135/6 and Un 44 (figs 36, 52, and 69) resemble brooches considered to be cross potent types by Leeds (1945, fig 8c, d). The large small long brooches 40/1, 2 (fig 29, pl 12e), with their panelled, trefoil heads with rectangular top knob, lappets, and bilobed side knobs and foot, may be compared with brooches from Cambridgeshire and Suffolk (Leeds 1945, 14, fig 5d-f. Another variant of a trefoil-headed brooch with crescentic foot is 20/2, 3, (fig 24, pl 12f; cf Leeds 1945, fig 4c, d). The trefoil-headed type he distinguished from the cross potent and cross pattee types, although it is probable that all have their origins in the cruciform series.

No more precise dating of these has been achieved since the study by Leeds. Some must have been produced in the 5th century, eg 148/2 and 69/2 (figs 55 and 36). Some could belong to the late 5th or early 6th century, but others with lappet developments must belong to the first half of the 6th century: 40/1,

2, 21/1, 2, and 37/3 (figs 29, 24, and 28, pls 11k, j). Some show traces of tinning on the upper surface, and two of these have been examined by the Department of Conservation and Technical Services of the British Museum (Oddy & Bimson 1985, 37, figs 38 and 39).

### *Saucer brooches*

There are two pairs of brooches decorated with five chip-carved spirals, 2B/2, 3 and 126/1, 2 (figs 16a and 49, pl 12g, h), a type which began on the Continent in the 5th century (Evison 1987, 47-8, distribution map fig 112). These two pairs at Great Chesterford each appear in a grave also containing a great square-headed brooch of the first half of the 6th century. Another early form of saucer brooch is the pair 120/1, 2 (fig 46, pl 12i), with a four-leg centre and egg-and-dart border. The pair 97/1, 2 (fig 41, pl 12j) is a larger size of saucer brooch, and the design of central roundel surrounded by keystone shapes and a zigzag border may have been inspired by the design of Kentish jewelled disc brooches. This would give them a date c AD 575-625, when the Kentish jewelled disc brooches flourished (Evison 1987, 39ff, text fig 7).

### *Applied brooches*

Grave 113 contained a pair of small brooches with a pattern of a floriate cross (fig 43). This is a design already in use by the Saxons on the Continent before the migration, and was in vogue in Anglo-Saxon England in the first half of the 5th century (Evison 1978, 263-4, 272, fig 2b).

The two brooches 103/1, 2 (fig 42) are larger. The decorated plates are fragmentary and the design not clear, but it can be seen that there is a ribbed outer and inner border between which the field is divided into quarters containing Style I animal ornament, cf a brooch from Hauxton, Cambs (Leeds 1912, pl XXVII, 1). The date is probably the first half of the 6th century.

Larger still are the brooches found before the excavation began (Un 39-43, fig 69). Two backplates have a diameter of 5.9cm. One backplate has a diameter of 5.3cm, and there are two fragmentary decorated plates, one of which was probably attached to this backplate. The design is a cruciform arrangement of human masks, with intervening animal legs and a border of Style I animal ornament. A brooch of this type from Hauxton, Cambs, was illustrated by Leeds (1912, 179, pl XXVII, 1), and he quoted 11 others from East Anglia and 8 from Kempston.

### *Disc brooches*

There are three pairs, 18/1a, 2a, 127/2, 3, and 132/4, 5, of which 18/1a, 2a (fig 21) are decorated with ring-and-dot stamps, 132/4, 5 (fig 51) with ring-and-dot stamps and concentric circles, and 127/2, 3 (fig 49) with perforated centre, concentric circles, dot stamps, and nicked edge. Similar forms at Rhenen and Krefeld-Gellep in the Rhineland of the second

half of the 5th century have similar decoration but also the slightly up-turned edge of a saucer brooch (Böhme 1974, 28-31, Taf 64, 3, 4, Taf 79, 3, 4). Subsequent production of the type is mainly limited to England, in the upper Thames valley, Cambridgeshire, and some south of the Thames. A recent study allocates to them dates ranging from the mid 5th to late 6th century (Dickinson 1979), but a number can be allocated to the 5th century (Evison 1988, 11), and the three Great Chesterford graves can be so dated. Others have been found in northern France. In grave 111 at Nouvion-en-Ponthieu there was a tinned bronze disc brooch with ring-and-dot ornament, and in the same grave an applied brooch with what appears to be a bronze pin and most of the plate missing, so that an early 5th century date is probable (Piton 1985, 63, pl 25). Disturbed by grave 236 there were the remains of a cremation with a pair of burnt disc brooches with perforated centres and ring-and-dot ornament. Others have been noted in France (*ibid*, 1985, 247).

### *Annular brooches*

The annular brooch 124/1 (fig 48) was found at the chin with the fragment of a second brooch. It is a narrow, flat bronze band decorated with irregular transverse lines, with a perforation for the iron pin, and opposite the perforation was a riveted overlap with a length of yarn across the band.

The brooch 62/5 (fig 33) is decorated with ring stamps, and a semicircular notch is cut in the inner edge for the pin, not present. It was not on the dress, but was found by the left femur with a knife and iron rings, possibly in a bag. The type mostly occurs in Anglian areas and the latest distribution map of narrow-band annular brooches, after Leeds, is to be found in Ager 1985, 34, fig 2. The brooch 16B/2 (fig 21) was found with an infant in connection with keys, possibly used for suspension. A small iron ring brooch occurred with a pair of small long brooches and a pin in grave 92 (fig 40). The single bronze annular brooches 62/5 and 16B/2 were apparently used for suspension of keys (Evison 1987, 49), and the significance of grave 124 where they were worn as a pair at the neck is discussed below (p 43).

### *Penannular brooches*

An iron penannular brooch with rolled terminals, 79/1 (fig 37), was worn on a girl's shoulder. As the skeleton's jaw was stained green by this brooch, it is possible that some bronze decoration has been lost. Brooch 29/1 (fig 26) was also an iron penannular brooch with rolled terminals and three square projections on the face at equidistant points. The fragmentary 29/2 could have been of identical shape, and the pair was worn at the shoulders.

### *Bird brooch*

Most bird brooches belong to the large series of Germanic eagle brooches which began with the Visigothic brooches in Spain and Italy, and continued as various forms of bird brooch in Frankish territories in France and Germany. However, there are important differences in the bird brooch 68/1 (fig 35, pl 12k), as in the main series there is usually decoration such as chip-carving or inlaid garnets, the bird almost always has a wing and triangular tail, it is almost always without a neck, and the beak is always hooked as is proper to an eagle (Thiry 1939). In contrast, the Great Chesterford bird has no decoration save a ring-and-dot eye, it has no wings or feet, it has a long, curved neck, and the beak is quite straight. Add to this the fact that the pin at the back is of bronze, not iron, and our attention is instead directed to bronze animal brooches of the Roman period (eg Bushe-Fox 1949, 116, no 44, pl XXIX). It may be compared with a plain bronze brooch in the shape of a ?galloping horse found in a Saxon context in Dover town centre (Willson 1988, 33 and figure on cover). A similar bird shape occurs in the form of a stamp on a pot with three neck and shoulder cords and swastika, duck, and animal stamps (Hills *et al* 1987, 2642A, figs 53 and 87). Dale Serjeantson has suggested that the shape of the bird is closest to that of the eider duck (pp 70-71, below). This bird would have been a familiar sight on the shores of the North Sea, and no doubt provided some of the feathers mentioned as being traded by the Norwegian Ohthere in the 9th century.

Two duck brooches found at Chessel Down in the Isle of Wight, graves 3 and 40, must represent a later version as they are chip-carved, and grave 40 also contains an early 6th century small square-headed brooch (Arnold 1982, 20, 26, fig 9, 3iv, fig 9, 40v). These three ducks must constitute an insular development of the continental bird brooch series. The Great Chesterford duck brooch provides a direct parallel in metalwork to the bird and animal figures on pots found in Süderbrarup, Angeln, in the late 4th and early 5th centuries, which no doubt gave rise to the later animal stamps on pottery in East Anglia (Capelle 1987). The connection is emphasized by the fact that the peculiar bird from Süderbrarup, which looks more like a turkey (Capelle 1987, fig 1, middle right column), has the distinctive triangular tail which appears on the Great Chesterford duck and the eagle brooches, but not on the stamped birds.

### *Positions of brooches*

Brooches occurred in 36 female graves; they were often in pairs, either identical or similar, and were placed one on each shoulder. Where the brooches were long brooches, the foot was pointing upwards except for 37/2 and 8 1/2. Pairs of two similar brooches occurred in 23 graves. Various kinds of long brooch, ie, small long, cruciform, square heads and radiates, were found in graves 1, 2B, 7, 9, 20, 21, 37, 40, 45, 55, 62, 66, 73, 81, 92, 108, 114, 116, 135, 145, 153, and

160. Circular brooches, ie disc, saucer, applied, penannular, and annular, were found in graves 2B, 16B, 18, 29, 62, 92, 97, 103, 113, 120, 124, 126, 127, and 132. Single small long brooches on one shoulder occurred in graves 27, 69, and 148, while a single iron penannular brooch occurred in grave 79.

Brooches were in unusual positions in seven graves. In grave 92 one small long brooch was lying foot downwards at the middle right-hand side of the chest, but the other one was placed by the edge of the grave to the right of the skull. In the same way, in grave 126, one saucer brooch was to the right of the neck, but the second one was at the edge of the grave to the right of the skull. In neither of these graves could the outlying brooch have been pinned to the clothing, and it must have been deliberately placed in that position. In grave 66 one small long brooch was found under the skull, presumably on the right shoulder, and the other was at the right waist. In grave 135 there were three small long brooches, all similar but not exact matches, where two of them were near the shoulders, but the third was under the right hand outside the left pelvis. In grave 160 two small long brooches must have been in a pocket or bag with a knife and iron rings at the right waist. In grave 103 a woman was buried prone, and her brooches, beads, and other belongings were placed beside her in the head of the grave. Two annular brooches, 16B/2 and 62/5, were found with keys, no doubt used as girdle hangers. Only one male burial had a brooch; this was the unique duck brooch found outside the left humerus in grave 68.

There were two great square-headed brooches, each one in a west-east grave, 2B and 126, both containing an adult female. They both wore their square-headed brooch horizontally just below the neck, with the foot pointing to the left. In grave 2B a chip-carved, five-scroll saucer brooch was on each shoulder, and in grave 126 one similar was under the chin and another 150cm above the floor of the grave to the right of the skull. In addition there were beads near the square-headed brooch in both graves, but more numerous and varied in grave 2B, where there was also a ring girdle-hanger and more beads by the right pelvis. As the square-headed brooch in grave 2B was lying on top of one of the saucer brooches, it seems clear that it was fastening the neck of a cloak or overgarment, while the saucer brooches and beads decorated the dress beneath.

### *Beads (tables 3-6, figs 4-6)*

Beads occur in the majority of female graves, adults, juveniles, and infants, 45 out of a total of 63 (plus one cremation). In every adult female grave where there was a necklace there were also brooches. In grave 13 there was a single metal bead outside the left arm and no brooches. The other exception, grave 48, was also unique in the cemetery because of the post-marker at its foot. The woman was apparently carrying the two beads in a purse or pocket at her right waist, along with a fossil shell and a lead spindle whorl. The lead spindle suggests Roman

connections, and the woman is thus marked out by both possessions and grave shape from the other women in the cemetery, who normally wore a pair of brooches supporting a string of beads. Amber and monochrome glass beads occur throughout the cemetery, with most to the north. Polychrome glass beads and female graves without beads occur more consistently in the northern part (figs 91-4).

There is a total of 868 beads with some fragments, and about half of this total (431) consists of amber beads of a variety of shapes and sizes (table 2). A number of graves contained only 1 or 2, but seven graves contained totals larger than 17, most occurring in grave 55 where there were 104. The other graves with high totals were 2B, where there was also the highest number of polychrome beads (21), grave 18, grave 20 which had the highest number of drawn glass globular beads (68), grave 37, grave 62, and grave 97. Four of these graves were in a group of south-north graves (18, 37, 62, and 55) in the north-western section. There was a single amber bead only in graves 36, 81, and 124, in grave 108 there were four amber beads only, and in grave 111 two amber beads only. Some graves which had other types of beads also had a single amber bead: graves 1, 27, 114, 116, 126, 135, 136, 145, and 150.

The rest of the beads are of glass, except for a few crystal, one calcite, 1 ?shale, 1 bone, and 7 bronze (table 3). One large, faceted crystal bead occurred in grave 116 with one amber bead (fig 45). Rarely is more than one of these found in any grave. A full discussion, with lists, is to be found in Meaney 1981, 77. Smaller and more simple shapes of crystal bead occurred in graves 2B, 45, and 145.

The calcite bead in grave 55 (fig 31) is white and cylindrical, a type of bead which occurs in various white materials. At Dover there were two, consisting of magnesium carbonate and apatite respectively, occurring in graves 14 and 20 of phase 1, AD475-525, and other examples can be cited (Evison 1987, 60-1).

There was a single bronze tube, length 1.3cm (fig 20), by the arm of the woman in grave 13 and six silvered bronze tubes in grave 45, each length 3.8cm (fig 29). These are rather similar to the bronze tubes soldered on to the wrist clasps in grave 66 (fig 35). They are, however, a different size, for those on the wrist clasps are 2.9cm in length. The function of the single tube in grave 13 is not immediately obvious from its position, but the six tubes in grave 45 were strung in the middle of a necklace of glass, crystal, and amber beads. Two similar silver beads were found in grave 843 at Mucking, and another such silver bead occurred in a grave at Tranum Klit, Denmark (Vierck 1970, 372).

The rest of the beads are mainly of monochrome glass (253+), plus 68 drawn glass beads in grave 20, and a few drawn glass beads in other graves (tables 4 and 5). Out of a total of 253+ the largest number are dark blue translucent (115). Possibly to be included in this class as a variant are the blue translucent beads (10), some of which occur in the same graves as the dark blue. They seem to occur throughout the period of use of this section of the cemetery. Rust red and yellow beads were fairly





Figure 4 Non-glass bead types (scale 1:1)



Figure 5 Monochrome glass bead forms and polychrome glass bead types (scale 1:1)

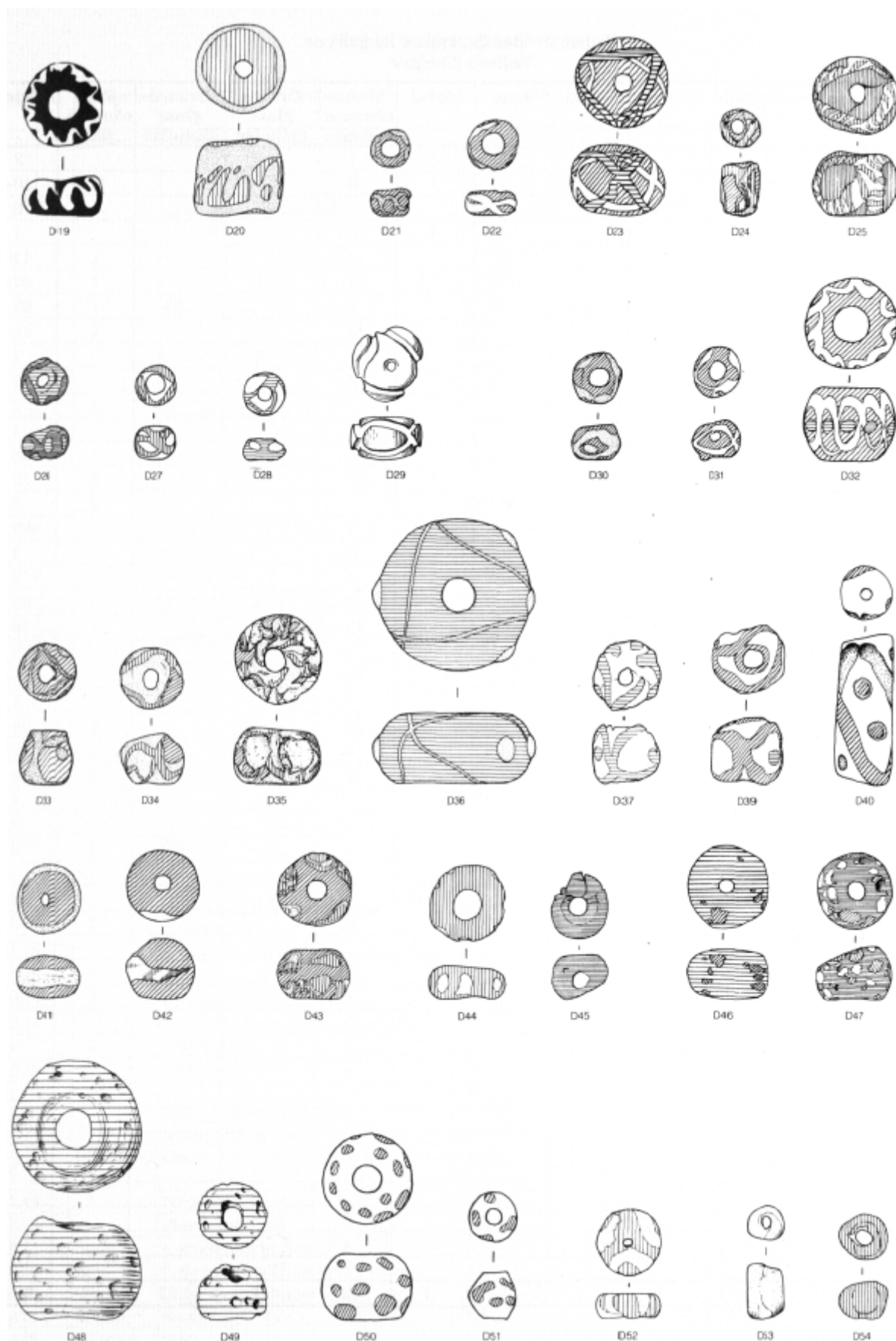


Figure 6 Polychrome glass bead types contd (scale 1:1)

**Table 2 Beads, Types in graves**  
**Valerie Cooper**

Grave no	Amber	Crystal	Calcite	?Shale	Bone	Metal	Mono-chrome glass	Drawn glass cylinder	Drawn glass globular	Poly-chrome glass	Total
1	1						1				2
2B	81+	2					6			21	110+
9	5									4	9
13						1					1
16B	7+						3			1	11+
18	55+						4	1		7	67+
20	18						5		68	1	92
27	1						13			4	18
29	2			1			1	3			7
31							7				7
34							1			1	2
36	1										1
37	56						8	3		1	68
45	9	2				6	27			8	52
48										2	2
55	104		1				2				107
56							3				3
57							2				2
62	55						18	2	5	2	82
66							15			1	16
69							1				1
79							16+				16+
81	1										1
92							22			2	24
97	17+						3			2	22+
103							39			2	41
108	4										4
111	2										2
113							2			6	8
114	1						5			1	7
116	1	1									2
120							4			2	6
124	1										1
126	1						4				5
127							4			6	10
132	4+						5				9+
135	1									3	4
136	1						1				2
141					1						1
145	1	1					8			1	11
148							7			1	8
150	1						1			1	3
153										7	7
154							3				3
159							4				4
C5							7				7
TOTAL	431+	6	1	1	1	7	252+	9	73	87	868+

+ indicates fragments

18/1a, amber bead adhering to back of brooch, and 111/2, one lost amber bead, are included here but not in table 3. Un 18 is included in table 4. but not here.

**Table 3 Non-glass beads**  
**Valerie Cooper**

Type no	Material	Shape	Catalogue no	Quantity in each grave	Totals	
A01	Amber	very small roughly-shaped	18/3a	6	57	429+
			62/4a	25		
			55/3a	26		
A02		small roughly-shaped	2/B/4Ba, 16B/1a, 111/2, 124/5	1	149+	
			97/3a	3		
			132/6a	4+		
			37/4Aa	8		
			20/4a	15		
			18/3b	16+		
			2B/4Aa	18		
			62/4b	21		
			55/3b	60		
A03		roughly-shaped	16B/1b	6+	139+	
			97/3b	12+		
			18/3c	26		
			37/4Ab	43		
			2B/4Ab	52+		
A04		large roughly-shaped	97/3c	1	4	
			2B/4Ac	3		
A05		small disc	62/4c	1	3	
			45/3a	2		
A06		large semi-spherical	45/3b	1	1	
A07		wedge-shaped	37/4Ac, 45/3c, 114/3a, 116/5a 126/5a, 145/5a	1	40	
			2B/4Ad, 18/3d, 20/4b	3		
			9/4a	4		
			62/4d	6		
			55/3c	15		
A08		large wedge-shaped	1/3a, 9/4b	1	15	
			37/4Ad, 108/3	4		
			45/3d	5		
A09		flat	27/2a, 36/2, 81/5, 135/3Aa	1	6	
			29/5a	2		
A10		large flat	18/3e	1	1	
A11		very small flat, lengthwise perforation	18/3f	1	3	
			62/4e	2		
A12		small flat, lengthwise perforation	150/1a	1	4	
			55/3d	3		
A13		flat, lengthwise perforation	136/2a	1	1	
A14		large flat rectangular, lengthwise perforation	97/3d	1	1	
A15		4-sided cylinder	18/3g	1	3	
			2B/4Ae	2		
A16		small triangular section	2B/4Af	1	1	
A17		triangular section	2B/4Ag	1	1	
A18	Crystal	disc	145/5b	1	3	6
			45/3e	2		
A19		large disc, faceted	116/5b	1	1	
A20		almond-shaped	2B/4Ah	2	2	
A21	Shale	4-sided cylinder	29/5b	1	1	1
A22	Bone	flat square with incurved sides	141/1	1	1	1
A23	Calcite	large short cylinder	55/3e	1	1	1
A24	Bronze	small tube	13/4	1	1	1
A25	Silvered bronze	tube	45/4	6	6	6

**Table 4 Monochrome glass beads**  
**Valerie Cooper**

Type no	Colour	Shape	Catalogue no	Quantity in each grave	Totals			
B01	Rust red	small disc	C5/2a, 56/2a	1	15	25		
			79/2a	2				
			3 1 / 4	4				
			103/3a	7				
B02		disc	29/5c, 148/1a	7	7			
			C5/2b	2				
			20/4c	3				
B03		melon	79/2h	1	1			
B04		short cylinder (straight-sided)	2b/4bE	1	1			
B05		cylinder	120/3b	1	1			
B06	Brown translucent	small annular	159/1b	1	10	23		
			55/3f	2				
			62/4h	7				
B07		Annular	159/1c	1	11			
			45/3f	10				
B08		Annular (double)	45/3g	2	2			
B09		Yellow	small disc	C5/2c	1		8	18
				31/4b	2			
				103/3b	5			
B10			disc	2B/4Bb, 56/2b, 79/2b, 103/3c, 126/5b	1		5	
B11	small fluted disc		103/3l	1	1			
B12	short cylinder (rounded)		79/2i	1	1			
B13	fluted short cylinder		27/2g	2	2			
B14	pentagonal short cylinder		159/1d	1	1			
B15	Yellow-green		small disc	154/1Aa	2	2	4	
B16			cylinder	62/4j	1	1		
B17		fluted 4-sided cylinder	62/4l	1	1			
B18	Olive green translucent	disc	79/2c, 103/3d	1	2	5		
B19		melon	16B/1c	2	2			
B20		fluted 4-sided cylinder	27/2h	1	1			
B21	Dark olive green translucent	coiled cylinder	62/4k	5	5	5		
B22	Very light green translucent	disc	Un 18	1	1	2		
B23		melon	16B/1d	1	1			
B24	Light green	disc	C5/2d	1	1	1		
B25	Green	disc	27/2b, 97/3e	1	2	5		
B26		short cylinder (rounded)	1 / 3 b	1	1			
B27		fluted cylinder	154/1Ab	1	1			
B28		pentagonal cylinder	97/3g	1	1			
B29	Dark green	disc	27/2c, 103/3e	1	3+	3+		
			79/2d	1+				
B30	Blue-green	disc	97/3f	1	1	1		
B31	Very light green-blue	disc	20/4d	1	1	1		
B32	Very light green-blue translucent	disc	148/1b	1	1	1		

**Table 4 Monochrome glass beads (contd)**

Type no	Colour	Shape	Catalogue no	Quantity in each grave	Totals	
B33	Light green-blue (faience)	melon	18/3i	1	1	1
B34	Light green-blue translucent	disc	127/5a	2	2	3
B35		fluted cylinder	18/3k	1	1	
B36	Green-blue	disc	103/3f	1	1	1
B37	Green-blue translucent	annular triple	31/4c	1	1	1
B38	Light blue	short cylinder (straight-sided)	2B/4Bf	1	1	1
B39	Light blue translucent	Annular	148/1d	1	1	1
B40	Blue swirled	disc	18/3h	1	1	1
B41	Blue	disc	2B/4Bc, 103/3g	1	2	3
B42		biconical	37/4Ag	1	1	
B43	Blue translucent	annular	27/2e, 148/1e	1	10	10
			45/3h, 79/2f	2		
			103/3n	4		
B44	Dark blue translucent	disc	27/2d, 62/4f	1	14	115
			126/5c, 132/6b			
			103/3h			
			92/4a			
B45		small annular	C5/2e	1	1	
B46		annular	34/2a, 56/2c 136/2b, 150/1b	1	98	
			57/1, 62/4i 126/5d, 148/1f	2		
			120/3a	3		
			132/6c	4		
			79/2g, 114/3b	5		
			27/2f, 37/4Ae 103/3o	6		
			145/5c	8		
			45/3i	13		
			66/3a, 92/4b	15		
B47		short biconical	C5/2f	1	1	
B48		cylinder	18/3j	1	1	
B49	Blue-white	fluted disc	103/3m	1	1	1
B50	White	small disc	2B/4Bd	1	1	5
B51		disc	159/1a	1	3	
			103/3i	2		
B52		Short cylinder (straight-sided)	2B/4Bg	1	1	
B53	Black	disc	62/4g	1	4	7
			103/3j	3		
B54		annular	127/5b	2	2	
B55		barrel	37/4Af	1	1	
B56	Colourless	4-sided folded cylinder	113/3a	2	2	2
B57	Decomposed	disc	20/4e, 69/3, 103/3k, 148/1c	1	6	7
			79/2e	2		
B58		short cylinder (rounded)	103/3p	1	1	

**Table 5 Drawn Glass Beads**  
**Valerie Cooper**

Type no	Colour	Shape	Catalogue no	Quantity in each grave	Totals	
C01	Blue-green translucent	cylinder	37/4Ah	2	2	2
C02	Dark blue translucent	cylinder	18/31, 37/4Ai	1	4	7
			29/5d	2		
C03		cylinder twisted	29/5e	1	3	
			62/4m	2		
C04	Colourless	globular	62/4n	3	37	72
			20/4f	3 4		
C05		globular (double)	62/4o	1	16	
			20/4g	1 5		
C06		globular (triple)	20/4h	17	17	
C07		globular (quadruple)	20/4i	2	2	
C08	Colourless (gilt)	globular (double)	62/4p	1	1	1

numerous, totalling 25 and 18 respectively, there were 23 brown translucent, and a few each of a wide variety of other colours.

A total of 1–8 polychrome beads occurs in many of the graves, with a higher total of 21 in grave 2B (table 6). The decorative patterns include stripes, zigzags, crossing trails with and without dots, and marvered dots, as at Dover. There are none of the cylindrical reticella beads as at Dover (Evison 1987, fig 12, D66–8), but reticella threads occur on a different kind of cylindrical bead, D08, D09, and D10, and on disc D06, D25 and barrel shapes, D07 (figs 5 and 6). The colours of the reticella threads are: dark green translucent and yellow, 9/4c–e etc; rust red, dark green translucent and yellow, 135/3Ad; olive green translucent and yellow, 150/1c. Sometimes the twisted treads have degenerated into swirling, 127/5e. The most unusual type is the large disc bead found with an infant, D36 (fig 6), green-blue translucent with yellow crossing trails and unmarvered dots. Most of the decoration, trails and dots, on beads of this period is marvered, but there are a few beads with unmarvered decoration. Three of the beads at West Stow, for instance, had unmarvered dots (West 1985 (2), fig 276, 22–4).

There are two types which also occurred at Dover which were probably Roman survivals, and were there found to contain antimony (Evison 1987, 70). These are a black disc bead with a white zigzag trails, Great Chesterford 18/3n and 2B/4Ai (figs 21 and 16), and a white disc with dark blue translucent spirals, 135/3Ab (fig 52) (Evison 1987, 63 and 70). The analysis report (below, p 79) states that no use of antimony as an opacifier was detected among the beads analysed at Great Chesterford, but the number of glass beads selected in the laboratory for analysis was small, 28 from a total of 422, and these two bead types were not among those analysed.

The range of types of bead found at Great Chesterford is modest and similar to that found at Alton (Evison 1988, fig 4), but lacks the later or more exotic

types present at Dover, orange barrel, millefiori, mosaic, composite metal, amethyst, and shell. Graves without beads are confined almost exclusively to the northern half of the cemetery (fig 94). Numerous bead threads were preserved, some twisted round the springs of brooches. One was wool, but most were flax (see below, p 72).

### *Positions of beads*

Beads accompanied many brooches, and were apparently strung from one to the other of a pair in the following graves, although in some there were only one or two beads, hardly constituting a necklace: 1, 2B, 9, 18, 20, 29, 37, 45, 55, 62, 66, 81, 97, 108, 113, 116, 120, 124, 132, 135, 145, and 153. In grave 27 (fig 73), where there was one small long brooch on the left shoulder, the beads were near the brooch and at mid right chest, so that it is possible that the other brooch had been lost. There were no bones in grave 69 (fig 76), but the single small long brooch was to the right of the probable skull position and a single bead was in the middle, so that again a brooch may be missing. This also applies to graves 79 and 148 (figs 77 and 84), where the bones of a child exist, with a brooch on the right shoulder and beads mid chest. As to the two graves where one of a pair of brooches was placed near the edge of the grave, in grave 92 (fig 78) the beads were with the small long brooch on the chest, and in grave 126 (fig 82) the beads were between the other saucer brooch and a large square-headed brooch on the chest. Beads at the child's neck and beside its arm in grave 31 (fig 73) were not pendent from brooches, and this seems to be a general custom for infants as only 1–4 beads were found with each of the infants without brooches in graves 34, 36, 57, 111, 136, 141, 154, and 159 (figs 73, 73, 76, 80, 83, 83, and 84). A single bead occurred with brooches on adults in graves 81 and 124 (figs 77 and 81), and two beads were carried at the waist with other objects in grave 48 (fig 74).



**Table 6 Polychrome glass beads**  
**Valerie Cooper**

Type no	Pattern	Colour	Decoration	Shape	Catalogue no	Quantity in each grave	Totals	
D01	Swirls	rust red	rust red, dark green translucent and yellow	cylinder	27/2i	1	1	6
D02		olive-green translucent	white	disc	103/3q	1	1	
D03		blue translucent	Dark green	annular	62/4q, 66/3b, 92/4c	1	3	
D04		blue-white	dark olive-green translucent	disc	103/3r	1	1	
D05	Stripes	rust red	dark green translucent and yellow swirled	disc	120/3c	2	2	18
D06			dark green translucent and yellow reticella	disc	9/4c	1	1	
D07				barrel	9/4d	1	1	
D08				short cylinder	34/2b	1	1	
D09				cylinder	113/3b	3	3	
D10				4-sided cylinder	9/4e	2	2	
D11		white	light green-blue translucent	disc	97/3h	1	1	
D12			dark blue translucent	disc	135/3Ab	1	1	
D13			blue translucent	barrel	135/3Ac	1	1	
D14			blue translucent and dark green swirled	barrel	18/3m	1	1	
D15		decomposed	dark	barrel	127/5c	1	1	
D16			blue translucent and rust red	4-sided cylinder	113/3c	3	3	
D17	Stripes and blobs	light green-blue translucent	rust red trails over yellow blobs	4-sided cylinder	27/2j	1	1	1
D18	Zigzag trail	dark blue translucent	rust red	annular	153/4a	1	1	4
D19		black	white	disc	18/3n 2B/4Ai	1 2	3	
D20	Zigzag and circumference	olive green translucent	yellow	large short cylinder	97/3i	1	1	1
D21	Crossing trails	rust red	yellow	disc	2B/4Bh	1	1	15
D22			white	disc	2B/4Bi	5	5	
D23			dark blue translucent crossing white	disc	153/4b	1	1	
D24			dark green translucent on yellow	cylinder	62/4r	1	1	
D25		olive green translucent	dark green translucent and yellow reticella	disc	27/2k	1	1	
D26		very light blue	blue translucent	disc	2B/4Bj	1	1	
D27		blue-white	light blue-green translucent	short cylinder	48/1	2	2	
D28		Decomposed	blue translucent	disc	2B/4Bk, 18/3o	1	2	
D29			missing	disc	153/4c	1	1	
D30	Crossing trails and dots	rust red	yellow	disc	2B/4Bl	1	1	18
D31			white	disc	2B/4Bm	1	1	
D32			white trails and green-blue translucent dots	disc	2B/4Aj	2	2	
D33			yellow	barrel	2B/4Bn	5	5	
D34		yellow	dark olive translucent trails, rust red dot and random trails	disc	114/3c	1	1	

**Table 6 Polychrome glass beads (contd)**

Type no	Pattern	Colour	Decoration	Shape	Catalogue no	Quantity in each grave	Totals	
D35	Crossing trails and dots (cont.)	dark green translucent and yellow reticella	rust red, dark green translucent and yellow reticella trails and blue translucent	disc	135/3Ad	1	1	
D36		green-blue translucent	yellow trails and unmarvered dots	large disc	16B/1e	1	1	
D37		white	blue translucent	disc	45/3j	2	2	
D38		decomposed	blue-translucent		20/4j	1	1	
D39			rust red trails and blue	barrel	127/5d	1	1	
D40			rust red crossing missing trails rust red dots in yellow rings	cylinder	153/4d	2	2	
D41	Circum- ference trail	rust red	dark green translucent and yellow swirled	disc	153/4e	1	1	2
D42			olive green translucent and yellow reticella	barrel	150/1c	1	1	
D43	Circum- ference trail and swirls	rust red	dark green translucent, rust red and yellow swirls, rust red circumference rail	disc	127/5e	1	1	1
D44	Marvered dots	dark blue-green translucent	white	disc	127/5f	2	2	6
D45		dark blue translucent	white	disc	45/3k	4	4	
D46	speckled	dark blue translucent	rust red	disc	127/5g 153/4f	1	2	9
D47			rust red and white	disc	disc	1	1	
D48			rust red, light blue and white	disc	92/4d	1	1	
D49			dots missing	disc	37/4Aj 145/5d 148/1g 2B/4AK	1	3	
D50		white	rust red	disc	2B/4Bo	1	1	
D51			rust red	biconical		1	1	
D52	Rings	olive green translucent	yellow	disc	45/31	2	2	2
D53	Folded	yellow trans- lucent on yellow core		cylinder	18/3p	2	2	4
D54		olive green translucent on yellow core		disc	18/3q	2	2	

### *Pendant*

Pendants in the form of a shield have been discussed independently in two recent sources (Hines 1984, 221ff; Evison 1987, 55–6). While some pendants with a cross design may be Christian and dated to the 7th century, others such as Un 1 (fig 66, pl 121) at Great Chesterford with star design, and another similar from Kempston, Beds (Hines 1984, 402, fig 4.6), no doubt belong to an early date.

### *Bracelets*

There are two bracelets, each with an infant. Item 31/1 is a Roman strip bracelet with hook-and-eye

fastening, an undecorated version of some found at Lankhills (Clarke 1979, fig 37). The other, 154/2 (fig 56), is simply a length of wire bent into a ring with ends overlapping. A typical Anglo-Saxon bracelet was found with another infant 34/3 (fig 27). It consists of wire with the ends twisted on to the loop, but it was worn on the child's right ankle. Six of this type of bracelet were found at Dover (Evison 1987, 85) in contexts of AD 525–675.

### *Wrist clasps*

According to Hines (1984), wrist clasps arrived in this country in the last quarter of the 5th century from

Scandinavia. The clasps in grave 66 (fig 35) consist of plates with serrated edges, and to each plate was soldered a bronze tube. This places them in Hines's category B17b, which appears to derive from Gotland (Hines 1984, 87, fig 2.61).

In grave 100 there were two bronze fragments (fig 41), probably broken parts of a wrist clasp similar to that from Linton Heath, Cambs (Hines 1984, 78, fig 2.42), classified as a B12 type by Hines and dated to the mid 6th century. The position in grave 100 was at the neck, with the wrists nowhere near, and it seems probable that a broken wrist clasp had been adapted for use as a fastener at the neck.

The most common type of wrist clasp is form B7 (Hines 1984, 72-5), distribution map 2.10), and at Great Chesterford there are five graves where there are such rectangular plates with simple decoration in repoussé dots, 20/6, 18/6, 7, and stamps 29/7, 8, 124/3, and 160/1, 2 (figs 24, 22, 26, 48, and 57) (Hines 1984, 73). The form may have started in the 5th century (Hines 1984, 75, 107).

Grave 124 contained the eye half of a Form 13a clasp (fig 48, 124/3c), a rectangular plate with dotted stamped decoration and a soldered strip where a decorative bar would have been applied. In the same grave are the hook-and-eye parts of a wrist clasp which are copies, for the stamped decoration is a more simple jab and there is a repoussé bar instead of an applied bar (124/3a, b, fig 48). 124/3d is a folded bronze strip, presumably replacing a missing hook half. Form 13c, which has an applied plate, is represented in grave 135/4 where the repoussé design is of running spirals with beaded borders (fig 52). Form 14b also has an applied repoussé sheet, but this shape has a pair of perforated lugs for attachment. One of the eye halves in grave 55 shows the repair of solder and a repoussé plate, but although the other hook-and-eye pieces are of the same shape, there is no evidence of an applied plate (fig 31, 55/4, 5). In grave 9 remains of solder on each piece show traces of the presence of an earlier applied plate (fig 18, 6, 7).

Hines named a subgroup of Form C1 the 'Great Chesterford' type, after the silver-gilt eye section 54/4 (fig 31, pl 13d) (Hines 1984, 96, pl 2.2). This is perhaps the most expert example of jeweller's craft from this cemetery. The design consists of two birds' heads with long curving necks and a profile animal head within each curve. Along the back edge is a pair of Style I animals with beaks facing each other. One of the type is dated by associations to the first half of the 6th century.

With one exception, the graves containing wrist clasps also contain beads, and they occur mostly in the northern half of the cemetery (fig 99). Hines's study (1984, 107) shows that some of these wrist clasps could be as early as the 5th century, but 135/4, 5, 9/6, 7, 55/4, 5, and 54/4 belong to the 6th century.

## Pins

The bronze pin 116/3 (fig 45) was found at the left shoulder of a woman who was also wearing brooches and beads. It was in two pieces, giving a total length of 14cm. As the flat, circular head is thin, it differs

from the bronze pins found at Dover, which had thick disc heads and a much shorter shaft, and a date range of AD 575-700. A similar pin 112/1 (fig 43) had a perforated head which was folded over. Four of these disc-headed bronze pins were loose finds, Un 5-8 (Un5, fig 66), and it is possible that some, or all, were originally Roman ear-probes (Henig 1986, 11, fig 4, 15, and 16).

There were two iron pins with shepherd's crook shape head: 62/3 and 127/6 (figs 33 and 49). Although these are slightly smaller than the keys with crook terminal (eg 18/12a-c, fig 22), fragmentary pieces of pins and keys could be confused and the function mistaken. Neither of these two examples, however, was in the usual position for keys at the left hip; 62/3 was on the right shoulder near a brooch, and 127/6 was at the right waist. The iron pin 157/2 (fig 57) was near the spearhead, and it is probable that it was used to fasten cloth wrapping the spear as happened at Dover (Evison 1987, 82). In grave 122 a bronze pin fragment (fig 47, 122/5) was with the spear ferrule, no doubt performing the same function.

## Buckles and strap mounts

The iron buckle 115/2 (fig 44) with kidney-shaped loop and rectangular plate has not been cleaned, but its ornamentation of inlay of other metals was discovered by means of a radiograph some time ago (Evison 1955, 41, pl III). It is one of a considerable number of such buckles, closely connected with objects in the Quoit Brooch Style which occurred mostly south of the Thames. Abroad they occurred in the Rhine and Meuse valleys, northern France, Thuringia, and Switzerland (Evison 1958; Evison 1965, maps 2 and 3). There have been many subsequent discoveries of this type of buckle, but the distribution has not altered greatly. The most significant addition to the distribution in England consists of eight iron inlaid buckles at Mucking, Essex. The beginning of the Quoit Brooch Style and these iron inlaid objects has been established as the first half of the 5th century by the inlaid bronze buckle from Mucking grave 117 (Evison 1968; Evison 1981a, 132-4), by reason of its late Roman form, techniques, and patterns combined with the insular Quoit Brooch Style animals. There are also traces of inlay on the iron buckle loop 140/3 (fig 53). The iron buckle C8/2 (fig 59) is decorated with transverse grooves on the loop and tongue. It is therefore closely connected with the series of inlaid iron buckles, and it is even possible that the grooves once held silver strips. Transverse grooves are also visible on 96/3 (fig 40).

There are seventeen other iron buckles at Great Chesterford, some simply a loop and tongue, and the only buckles with any attempt at ornament consist of an iron buckle loop and tongue and a single, long rectangular plate, 18/5 and 10, 20/5a, and 51/2 (figs 22, 24, and 31), except for 128/4a (fig 50) which has a sub-rectangular, tinned bronze plate. The two buckles 24/3 and 4 (fig 25) were both in a position indicative of a waist-belt, one on the left and one on the right. It is remarkable that there was no buckle at all in the sword grave 122. Buckles were therefore

not a very common or important part here of either male or female dress, occurring in only 1 infant, 2 juvenile, 9 male, and 8 female graves.

These were waist-belt buckles, but others performed other functions. The only bronze buckle was H1/2 (fig 32), for use on the horse harness. An iron buckle was found next to the shield boss in graves 4 and 8 (figs 17, 4/3, and 18, 8/1e), no doubt used on the shield suspension strap. In graves 101 and 124 (figs 42, 101/3, and 48, 124/7) there was an iron buckle at the feet, although 101/3 was circular with a long pin, and alternatively might be regarded as a ring brooch, possibly belonging to a disturbed burial. The second buckle in the grave, 18/10, and a strap end 18/15 (figs 22 and 23), were with other objects by the left knee, and could have been inside a purse or container, or have functioned as its fittings.

Strap-ends were of double plates usually squared at one end and rounded at the other. 115/6 (fig 44) has a top plate of silver. The top plate was missing from 100/1 (fig 41) and decorated on 9/9, 33/5, 18/15, and 157/3 (figs 18, 27, 23, and 57, pl 13b), the latter with the design of a crouching animal. All of these belong to a 5th century type, 157/3 calling to mind the Quoit Brooch Style animal also in a rectangular panel on the inlaid Bifrons strap-end (Evison 1965, pl 11a). The Great Chesterford strap-end appears to be a rare example of a stage of development between Quoit Brooch Style and Style I. The small strap-end 96/4 (fig 40) was found by a man's ankle, no doubt connected with shoes or hose.

## Containers

### Pottery (fig 97)

#### Undecorated

Some of the pots are wide-mouthed with vertical sides, the base flat or rounded: 107/1, C2/1, and C4/1 (figs 43 and 58); while two are practically cylindrical, 140/8 and Un 33 (figs 53 and 68), and there are two with finger impressions below the rim: C1/1 and Un 31 (figs 58 and 68). Pot C5/1 (fig 58) is a shallower, basin shape, and 43/1 (fig 29) narrows towards the base. Four narrow slightly towards the rim: 75/1, 93/1, 98/1, and C11/1 (figs 36, 40, 41, and 60).

Six are biconical or sub-biconical with near vertical rims: C30/1, C31/1, C17/1, 121/1, 6/1, and 149/2a (figs 63, 63, 60, 46, 17, and 56). Some are globular with slightly everted rim: 13/1, C9/1, C12/1, 92/1, C32/1a (figs 20, 59, 60, 40, 63), and possibly the rim, Un 32 (fig 68). Larger and shouldered pots are 80/1 and C1911 with rims missing (figs 38 and 61), and with slightly everted rim C16/1 and horse grave 1/1 (figs 60 and 32). There are also fragments, several of bases, which are undecorated. One base is decorated with a cross, C27/1 (fig 63, cf Myres 1977 (2), figs 47.1149, 82.805). Pots with perforated lugs are C18/1 and C29/1 (figs 60 and 63). Of these C18/1 has a footring (cf Myres 1977 2, fig 75.4143), and C29/1 is a larger and taller pot. The footed beaker 24/1 (fig 25) is biconical and high-shouldered.

#### Decorated

There are two decorated footed beakers: pot 33/1 (fig 27, pl 7c) is also biconical with a raised, grooved collar and vertical bosses decorated with vertical lines and groups of stamps at the top of each (Evison 1969, 158, fig 2, 1; Myres 1969, 169; Myres 1977 2, fig 206.3684). The pot 10/1a (fig 20, pl 8a) also has vertical bosses but with framing lines, and there are intervening bosses with diagonal and horizontal lines and a row of dots. These footed beakers must belong to the 5th century, probably the first half.

Line decoration is used on a wide-mouthed pot, 153/1 (fig 56), which has an everted rim and a single groove above the shoulder. Pot 128/1 (fig 50) has a narrow mouth with everted rim and a wide conical body with eight grooves on the shoulder. This is a 5th century product (Evison 1969, 160; Myres 1969, 169; Myres 1977 2, fig 88.3683).

The narrow-necked pot C25/1 (fig 62) has a form of arcades on the shoulder, delineated with rows of dot impressions, and there is a row of diagonal slashes on the carination. A very similar pot occurred at Caistor-by-Norwich (Myres 1977 2, fig 128.1636) in a series which Myres attributed to the early or central years of the 5th century (Myres 1977, 1, 24).

An Anglian pattern of horizontal lines at the neck and bosses or hollows alternating with vertical lines below occurs on three pots. One is 122/1 (fig 46, pl 8c) (cf Myres 1977 2, figs 230.3921 from Newark, Notts, and 281.2564 from Sancton, Yorks, pots with bosses with similar framing lines). Regarding the second, C10/1 (fig 59, pl 8f), the feathered pattern appears elsewhere; Myres 1977 2, fig 277, especially at Caistor-by-Norwich, Norfolk, but there seems to be no parallel to the triangular shape of the bosses. Pot C15/1 (fig 60) follows the same pattern but with depressions instead of bosses (cf Myres 1977 2, fig 208.2386, North Elmham, Norfolk).

Pot C13/1 (fig 60) is decorated with two vertical bosses alternating with diagonal, curving bosses, and the same basic pattern occurs on a stamped pot from Baginton, Warwicks (Myres 1977 2, fig 194.365). There is a fragment with vertical bosses and horizontal, as well as vertical lines between the bosses, Un 22 (fig 67). There are also two fragments of bossed pots: 158/1 and Un 20 (figs 57 and 67).

Amongst the stamped pots there is an unassociated example of a *Schalurne*, Un 19 (fig 67), where the facets on the carination are framed by undulating, crossing lines. It also has a slashed, corded collar and a row of flat-iron-shaped impressions on a second raised collar. Its hard, grey fabric is visually different from the fabric of most of the other pots. It must belong to a date of about AD 400, and, in view of the difference of fabric, might have been brought over the sea by settlers.

A *Schalurne*, 148/1 (fig 55; Myres 1977 2, fig 327.3687), with stamped decoration has three different stamps arranged in groups of three below the horizontal lines on the shoulder. The arrangement of the stamps probably depends on the arrangement of three dots in this position on earlier pots, but the rounded contour of the bowl suggests a date in the

second half of the 5th century, later than the carinated *Schalenurne*. The accompanying brooch supports this date (Evison 1969, 164; Myres 1969, 171).

Following on the same theme of decoration, there are two identical pots in two graves next to each other, grave 37 containing a woman of 35-45 and grave 118 a child of 4-6 years. The shape is globular, horizontal lines at the neck with a row of cross-in-circle stamps below and groups of three stamps in triangular formation (37/1, 118/1, figs 28, 45; Myres 1977 2, fig 327.3685). The radiate brooch in grave 37 indicates the second half of the 6th century (Evison 1969, 167; Myres 1969, 171). The globular pot C6/1 (fig 58) has a horizontal row of cross-in-circle stamps in rosette or arcade formation at the neck.

The small bowl 123/1 (fig 48) has a row of rosette stamps below horizontal lines at the neck, and is unusual as the decoration continues on the lower half of the vessel in the form of vertical rows of stamps or zigzags from carination to base. A bowl of similar design in line, chevron, and dot was found at Barrington, Cambs (Myres 1977 2, fig 131.3024). A few other pots have line groups carried to the base (Myres 1977 2, 145, figs 215, 238). There is probably also a connection with the 'long-boss style', where vertical bosses, lines and rows of stamps on bowls reach from carination to base (Myres 1977 2, fig 260).

Six pots are decorated with both stamps and long bosses. The earliest is no doubt Un 21 (fig 67), which has long bosses and vertical lines in between, and a row of stamps of rosette type on a raised collar. The sherd Un 23 (fig 67) has vertical lines on the boss, and a vertical row of cross-in-circle stamps. Sherd Un 23 (fig 67) has vertical lines on the vertical boss, and a vertical row of cross-in-circle stamps. Sherd Un 23 (fig 67) has a vertical boss with a horizontal row of circular stamps above. The other three, C2/2, C20/1, and 142/2 (figs 58, 61, and 54, pl 8e, 8d) have more elaborate decoration of triangles and stamps and belong to the 6th century. The conical neck form of C20/1 and 142/2, and also in particular the design of 142/2, fall into place among the pots from the Girton/St John's/Barrington workshop (Myres 1977 2, fig 331), with probably identical stamps.

Pendent triangle decoration occurs on three other pots. Two different stamps are used on 69/1 (fig 36), but on 145/1 (fig 55; Myres 1977 2, fig 314.3686) the triangles consist of lines and stab marks from a pointed tool, and the middle of the 6th century is indicated by the accompanying brooches (Evison 1969, 166, 171). On 69/1 (fig 36) the triangles are, unusually, delineated by the stamps instead of appearing as a block (cf Myres 1977 2, figs 327-30). A carinated pot with rounded base 136/1 (fig 53) is decorated with cross-in-circle stamps and an uneven impression of a triple-ended implement; on the lower half are pendent triangles. The pot C8/1 (fig 59) is decorated with horizontal lines on the shoulder, with a line of cross-in-circle stamps above a row of zigzags; below is a trace of further stamped decoration.

The fact that there is only one example of rusticated ware, Un 30 (fig 68), as opposed to the large number found in the settlement site of West Stow,

Suffolk, suggests that they are regarded as domestic utensils unsuited for burial ritual. There were only two rusticated vessels in the West Stow cemetery (West 1985 1, 135), while there were 618 rusticated sherds in the settlement.

The pot holding cremation 32 was covered with the base of a Roman pot (see below, fig 63).

There was very little visual difference in the fabric of the pots, most of which were sand-tempered, with only occasional evidence of vegetable tempering. A petrological study of many of the pots is given below, p 81. The five categories noted in that study show no obvious relationship to specific forms or decorated types.

Twenty-eight pots were deposited in inhumation graves, and 1 in a horse grave. Of these, 10 were with men, 7 with women, 3 with juveniles, 7 with infants, and 1 with a foetus. It may be that all contained food, but this is only evident from grave 121, where the pot contained three eggs, and graves 10 and 13, where the pots contained animal bones. In grave 69 the pot was placed near the foot of the grave, but in all other graves the pot was near the skull. Thirteen of the pots in inhumations were decorated and 14 undecorated, plus 1 of which not enough remained to show whether there was decoration or not; and 1 undecorated pot was in horse grave 1. There were 12 decorated cremation pots if perforated lugs are included in this category. Sixteen were undecorated, and of 3, only sherds or base remained.

## Glass

The thin glass bowl in grave 33 (fig 27, pl 9b), with a cupped rim, sharp and unsmoothed, is a very common late 4th century type, which often occurred in taller shapes as well. There are coin-dated examples from Mayen (Haberey 1942, 256, Abb 18a, AD 364-375, Abb 11c, AD 383-408). A similar bowl in grave 147 at Krefeld Gellep is coin-dated to after AD 337 (Pirling 1966 1, 97, 2, Taf 17, 2). Another such bowl was found in an Anglo-Saxon grave at Bifrons, Kent (Harden 1956a, pl XVe), and some occurred in the West Stow village in a variety of thicknesses (Evison 1985, 75; West 1985 2 fig 277, 14-19). The thicker cups belong mostly to the 5th century (Koch 1987 1, 53-4, Abb 15). This thin bowl therefore is a Roman survival at Great Chesterford, and probably older than the rest of the goods in grave 33.

The tip of a cone beaker (132/11, fig 51) was found in grave 132 lying under the right shoulder of the skeleton. This position shows that it cannot have been a deliberate deposit in the burial, and must have been loose in the soil when the grave was dug. It could belong to the late 4th or 5th century (cf Harden 1956a, fig 25, III, d, 9; Harden 1978, pl 1, Burgh Castle). The rest of the grave contents are not much later as they belong to the 5th century.

The cone beaker in grave 128 (128/2, fig 50, pl 9d) is light green with white marvered trails, closely related to a type produced in northern France during the second half of the 5th century and the beginning of the 6th century (Koch 1967, Taf 92, 16, distribution

map). The Great Chesterford beaker was considered in 1969 (Evison 1969, 160ff), when it was pointed out that it differs from the general type in various ways: the form is much less pointed at the tip, the rim is everted and not thickened, there are no horizontal trails below the rim, and the marvered trails covering the body are drawn in two opposite directions. On most vessels trails are dragged in one direction only, resulting in arcade and rosette patterns, while on this vessel the trails were pulled alternately in opposite directions, giving a feathered appearance. The vessel was then given a twist in blowing near the rim, which gave the trails a diagonal slant. Similar rounded cone forms often appear in France, eg in the cemetery of Herpes (Delamain 1890-1, pl XXIII, 134). The trail pattern is rather rare, but occurs on bottles (Fremersdorf 1955, Abb 1, 13; 1956, Taf 13, 1) and on later Italian drinking horns and squat jars (Evison 1975a, fig 17). There are, however, two vessels with much the same shape and decoration, one without known provenance but acquired in Cologne (Corning 1957, no 434), and one from a 5th century grave at Oberöblingen, east Germany (Schmidt 1961, 115, Taf 28c). The Great Chesterford glass, therefore, is likely to have been produced in the Rhineland in the 5th century.

The claw beaker 122/3 (fig 46, pl 9c) belongs to type 3c, which is in the middle stage of development where the claws, two rows of five each, are confined to the lower half of the vessel. There are 25 claw beakers of type 3c, of which 10, including the Great Chesterford beaker, share a common characteristic of a curl at the top of some of the nicked trails on the claws (Evison 1982, Table 1). Six more possible examples of type 3c have been detected in the cremation fragments at Spong Hill, Norfolk, and the West Stow claw should be added to the table (Evison 1982, 76). Few of this type were found in Kent, most of them appearing north of the Thames (Evison 1982, figs 6 and 7). This could mean a production centre in that area, but as this type was particularly well made and also occurred abroad, it could be that the production was in Kent, as for most other forms, but was a luxury item for trade (Evison 1982, fig 8). A date of mid 6th century is provided for the type by associated finds (Evison 1982, 48). The three complete vessels, 33/2, 122/3, and 128/2 (figs 27, 46, and 50) were deposited in male graves, two of which were weaponless, and one with a sword.

A fragment of a folded rim of a vessel, 154/1B (fig 56), possibly a palm cup, was found at the neck of an infant with beads, where it must have functioned as part of the necklace.

### Bronze bowls

The bowl which has been allocated to grave no 65 (fig 34) is the same type with foot and beaded rim as occurred in the grave of a six-year-old girl at Dover (Evison 1987, fig 13, 17). This was well furnished with bracteate, square-headed brooches, a Frankish garnet brooch, a glass claw-beaker, etc, and belongs to the end of the first quarter of the 6th century. The

bowl is one of the few imports from the Continent at Great Chesterford, and fits in with the distribution in England, which is mainly Anglian with some in Kent (Evison 1987, fig 116).

Fragments of two bronze bowls occurred in cremations 19 and 23 (figs 61 and 62). The rim C19/2 is deformed by heat, but might have been part of a 'Westlandkessel' (Evison 1965, 25-6, map 7, fig 13b).

### Turned wooden bowl

The wooden vessel itself has not survived, but its presence is indicated by bronze plates and clips, 36/1a and b (fig 27). It was beside the head of a child, no doubt containing food. These bronze clips and plates have been found in other cemeteries, and a diameter of 13cm was obtainable from the traces in two graves at Mucking, Essex (Evison 1987, 105). The wood remains were identified as probably *Acer* sp (Maple) or *Prunus* sp (cherry) by J Watson.

### Bronze-bound buckets

Jean M Cook

The two buckets (9/1 and 65/5) are both bronze-bound. When 65/5 (fig 34, pl 9a) was reconstructed in 1953, sufficient wood remained to show that there were originally 15 staves of yew, and marks on these suggested that there were certainly 3 and probably 4 hoops. There are 4 bifurcating bronze mounts, 2 of which project above the rim of the bucket to take a bronze handle. This bucket was found before excavation began, but with objects which suggest that it came from a grave group.

Figure 19a shows the components of 9/1 reassembled. There are 4 hoops and 4 bifurcating bronze mounts, 2 of which project above the bucket rim to support a handle, of which no trace now remains. Rectangular bronze strips are riveted on to these mounts: the strips are each decorated with two marguerite motifs reserved against yellow and red enamel, the yellow surrounding the upper marguerite motif and the red the lower in each case (visual judgement following cleaning by J Bayley). There is no obvious reason why one rivet hole goes right through one of the marguerite motifs, but presumably it indicates a repair. Between the mounts are sheet bronze triangles with a repoussé Style I animal design in which only a leg and a head are discernible. This bucket was found in grave 9 in association with objects of late 5th or early 6th century date.

Triangular mounts occur on a number of buckets found in England. The only others decorated with Style I animal ornament come from a bucket found in a man's grave at Little Wilbraham, Cambs (Deck 1851, 173 fig). The design includes two human arms and hands, two animal legs, and possibly an animal head. The bucket was found in association with spearhead, knife, and shield boss, and the Style I decoration suggests a date in the first half of the 6th century. There is a single bucket mount from grave 145 at Great Chesterford which also has Style I

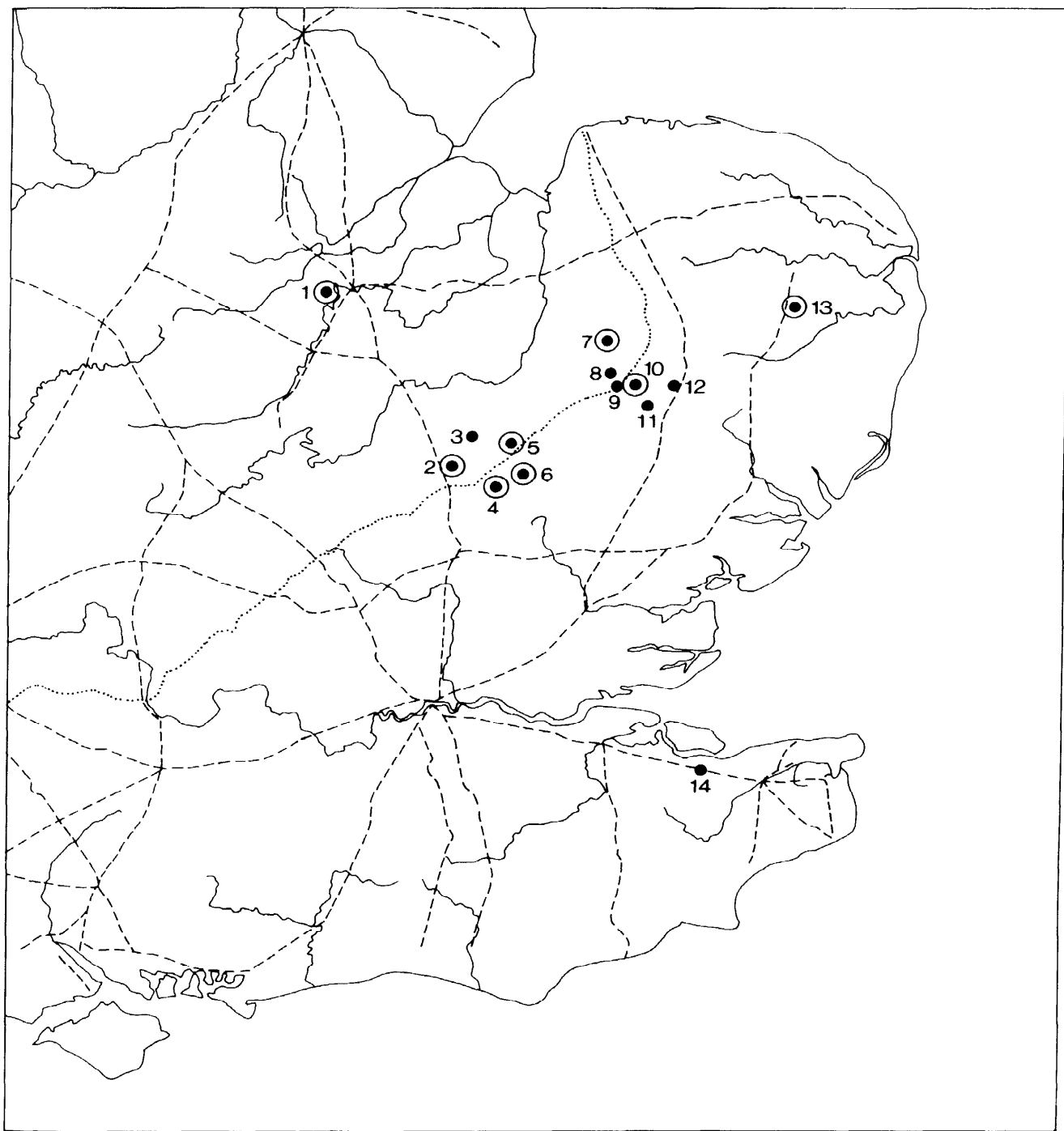


Figure 7 Distribution: ● 6th-century Anglo-Saxon dress objects decorated with enamel (after Brown 1981, with additions). ○ Anglo-Saxon bucket mount(s) with bifurcating bird's head terminals. 1 Nassington; 2 Barrington; 3 St John's, Cambridge; 4 Great Chesterford; 5. Little Wilbraham; 6 Linton Heath; 7 Lakenheath; 8 Icklingham; 9 Lackford; 10 West Stow; 11 Bury St Edmunds; 12 Ixworth; 13 Morning Thorpe; 14 Faversham.

decoration, but this includes a face mask (fig 55, pl 13c).

The closest continental parallel comes from grave 159 at Junkersdorf (La Baume 1967, Taf 10). Three repoussé bronze mounts were found in association with a glass beaker, a bronze bowl, a two-sided bone comb, and four beads. Two of the mounts carry a face mask with staring eyes and oval, open mouth, but the third carries Style I animal ornament. The design as reconstructed by Egil Bakka (La Baume 1967, 76, Abb 2) shows a head and three legs and the mount has been dated to the 6th century. The Great Chesterford bucket can possibly be dated as early as AD 500 because of its association with the early bow brooches.

There are two features of the buckets which are worth more detailed comment: the bifurcating bronze mounts which occur on both 9/1 and 65/5 and the bronze strips with the marguerite motifs reserved in enamel which occur on 9/1 only. The bifurcating mounts belong in general terms to a large group of bucket mounts with animal-head terminals, but they also belong to a much smaller subset within the main group which has bird's head terminals with rivet eyes. Close parallels have been found in England at Barrington A, Cambs, grave 6 (Smith 1868, 6, pl 31, fig 4); Linton Heath, Cambs, graves 17 and 72 (Neville 1854, figs IX and X); Little Wilbraham, Cambs, grave 32 (Neville 1852, pl 17); Morning Thorpe, Norfolk, grave 200 (Green *et al* 1987, 1, 87 and 2, 260-1). Other parallels are detached mounts from Lakenheath, Suffolk, unassociated (unpubl; in Cambridge Museum); Nassington, Northants, grave 32 (Leeds and Atkinson 1944, pl 30); West Stow Heath, Suffolk, unassociated (Tymms 1853, pl 1). With the exception of the Morning Thorpe example, these are not recent finds; the associated material for those found in graves has, in general, been dated to the 6th century.

The ornamented and enamelled bronze plates on the bucket from Grave 9 are of considerable interest. Recent published work on enamel on Anglo-Saxon objects is by Evison (1977), Brown (1981), and Scull (1985). There is also unpublished work by Brown, Hughes & Bimson on Dark Age enamel, and I am grateful to David Brown for allowing me to look at this prior to its publication. Christopher Scull's paper looks again at the question of how far Anglo-Saxon craftsmen can be said to have assimilated the Romano-British or Celtic tradition of enamelling, and points out that the lack of 5th century enamelled Anglo-Saxon objects detracts from the hypothesis that enamelling skills were maintained through that century and into the 6th century. The Great Chesterford enamelled mounts confirm the suggestion, first made by Cyril Fox (Fox 1923, 283) and convincingly demonstrated by David Brown (1981, 230), that the use of opaque red enamel, as shown by the distribution of 6th-century dress objects decorated with it, seems to have been a localized phenomenon, centred in the north Suffolk/Cambridgeshire area. Not only is the site of the Great Chesterford cemetery itself well within the area in question, but the distribution of the parallels for the bird's head mounts is an

almost exact overlay of some of the known sites producing examples of objects decorated with red enamel (fig 7).

In these two respects the mounts serve to reinforce the general hypothesis, but they also contribute new evidence as they contain yellow as well as red enamel. This, as David Brown has pointed out (1981, 230), is not common on Anglo-Saxon objects before the 7th century, so the Great Chesterford bucket mounts are probably the earliest examples of the use of yellow enamel known so far.

### *Cofins or biers*

There were no indisputable traces of coffins such as wood or discolouration indicating decomposed wood, or metal coffin fittings. Nevertheless, a number of graves contained nails in the fill which might have fastened coffin boards or other wooden structures such as biers or covers. Some confusion might arise, however, as the area in which the graves were dug contained debris from the adjacent Roman town which included nails. The nails in table 7 all appeared to be associated with a burial, lying on the floor of the grave or a few centimetres above, sometimes symmetrically placed or near the edges of the grave. They seem to indicate that there were wooden features in 40 inhumation graves. There is also a possibility that three iron strips found in grave 17 between the femurs and outside the left femur and left knee may have been connected with a wooden feature.

A nail was found in each of cremation graves 3, 5, 10, 20 and 21; there were some nails in the vicinity of Romano-British cremations RB1-5, and a nail fragment was found with the bones of dog 2. Some or all of these may be remains of the bier or container in which the body was placed to be burnt. The nails are distributed throughout the cemetery and do not seem to be limited to one particular area or orientation (fig 98).

## **Personal equipment**

### *Knives*

Knives occurred in many graves, but were often so badly preserved that the original shape was not discernible. There were 48 knives, ie one in little more than half of the adult graves, and of these the shape could not be distinguished of 23. As disintegration is so severe, it is possible that some knives had disappeared completely. It can be seen that both the back and the cutting edge curved to the point in 19 of them, ie they belonged to the most common type found at Dover, Type 1 (Evison 1987, 113ff, text fig 22): Great Chesterford 19/2, 20/7, 33/4, 37/5, 68/3, 75/3, 80/2, 96/2, 101/2, 118/2, 122/8, 127/1, 128/3, 135/7, 140/6, 142/3, 147/1, 157/5, 160/6. Another distinguishable shape was 76/3 (fig 37), with a straight back and curved cutting edge, Type 2 at Dover. Type 1 occurred throughout the period of



**Table 7 Nails in graves**

<b>No</b>	<b>Quantity</b>	<b>Positions</b>	<b>Fig nos</b>
1/5	1	By L shin. Black wood among ribs and to L of skeleton	15, 70
2B/6, 7	2	13cm above ribs, under L femur	16, 70
3/1a-c	3	outside & inside R femur	16, 70
5/1,2	2	7cm above ribs, between femurs	17, 70
9/12a-c	3	R of upper jaw, outside L humerus, outside L humerus at edge of grave	18, 71
10/2a, b	2	2.5cm above jaw, 2.5cm above mid chest. Small black wood fragments throughout	20, 71
13/3	1	R chest c 5cm above level of humerus	20, 71
14/3ab	2	Outside L arm, above body level, above R femur. Traces of black wood	20, 71
22/8a,b	2	15cm above ferrules at left foot	25, 72
23/1a-c	3	R chest, outside L humerus, R pelvis	25, 72
24/5a-b	2	Above face, outside R knee	25, 72
27/4	1	Above and to L of skull	26, 73
28/2a-e	5	R skull 15cm above floor, 15cm above R pelvis, 15cm above L pelvis, on top R femur, outside top L femur	26, 73
29/11	1	Outside R humerus	26, 73
31/6	1	Mid chest, 15cm above bones	27, 73
32/3	1	In front of L tibia	27, 73
33/7	1	Outside L wrist	27, 73
37/7,8	2	By L pelvis, above skull	28, 74
41/2	1	15cm above top L femur	29, 74
44/1	1	15cm above floor, lower R quadrant of grave	29, 74
51/7	1	Outside R knee	31, 75
53/2a-c	3	Outside L pelvis, R of lower spine, outside R pelvis	31, 75
55/7	1	Outside R humerus	31, 75
56/1a-b	2	Amongst the bones	33, -
69/6a-c	3	Near head of grave, at L side of grave, chest area	36, 76
80/3,4	2	In pelvis on skull	38, 77
81/8	8	Around and above body	38, 77
86/4	2	By L wrist	39, 78
117/1	1	Mid chest	45, 81
121/2a-c	3	At edge of head of grave, mid chest, edge of grave by R knee	46, 81
124/6a-c	3	Behind scapula, behind back, on R foot	48, 81
127/8	1	Between ankles	49, 82
135/9a-c	3	Iron strip at edge of grave beside L elbow, outside R pelvis, edge of grave outside L pelvis	52, 83
140/1	1	R skull	53, 83
143/1	1	Top of skull	55, 83
146/1a-d	4	R of jaw, 2 behind skull, by L foot	55, 84
148/6a-d	4	R of jaw, 2 behind skull, by L foot	55, 84
149/3a-e	5	Head of grave, mid chest, by R pelvis, between R foot and edge of grave, R foot of grave with iron fragment	56, 84
153/5	1	L of skull	56, 84
158/2a,b	2	Behind skull	57, 85
C3/2	1		58
C5/3	1		58
C10/2	1		59
C20/4	1		61
C21/4	1		62
RBC1-5/6	3		65
Dog 2/1	1		57

existence of the Dover cemetery, and Type 2 from AD 475 to 700.

An exceptional shape is that in grave 54 (fig 31), the line of the tang continues without interruption to the back, which curves at the point to a slightly hooked cutting edge. It is quite small, length 6.5cm, and must have had a specialized function. The continuous line from tang to back is to be found in Roman rather than Anglo-Saxon knives (Manning 1985, pl 55, Q43), and the curved blade suggests a razor (Manning 1985, pl 53, Q12-15). The knife 19/2 (fig 23) has a rivet through the tang. Two parallel incised lines are visible along the middle of the blade of Un 15 (fig 66).

As usual for Anglo-Saxon females, the knife was mostly found by the left femur, presumably in a bag or pocket, with keys or other objects (1/2, 9/11, 18/11, 21/4, 29/10, 37/5, 45/6, 62/6, 135/7, figs 70, 71, 72, 72, 73, 74, 74, 76, 83), and sometimes at the waist (20/7, 24/2, 32/2, 129/1, 160/6, figs 72, 72, 73, 82, 85). In graves 124 and 127 (124/4, 127/1, figs 81, 82) it was the shoulder. In male graves they occurred more often at the waist, graves 16A/3, 19/11, 33/4, 50/2, 51/3, 68/3, 76/3, 96/2, 101/2, 122/8, 128/3, 140/6, 142/3, 157/5 (figs 20, 23, 27, 30, 31, 35, 37, 40, 42, 47, 50, 53, 54, 57), and sometimes it is clear from the position of the knife under the bones that it was carried at the back of the body, eg 2A/2, 22/7, 86/3, 102/1 (figs 15, 25, 39, 42). The small knife or razor in grave 54 was not on the body but probably in a corner or the head of a grave of which the outline was not visible (figs 31 and 75, pl 3c). The knife in male grave 80 (fig 77) was unusually by the left femur, as it would have been for a woman.

Seventeen knives were examined and of these 13 had the remains of horn handles: 1/4a, 12/1, 18/11, 19/2, 24/2, 37/5, 45/6, 55/6, 86/3, 97/5, 115/3, 140/6, and 145/7; on three there were the probable remains of a leather sheath: 12/1, 37/5, and 145/7 (identified by J Watson).

### *Girdle hangers*

This is a traditional term for bronze or silver key-like objects that occur in pairs, adopted on the assumption that articles were suspended from the hooked or perforated terminals. This subject has been discussed recently by Hirst (1985, 87), and a discussion covering both Anglo-Saxon and continental 'decorative keys' is by Steuer (1982). The distribution is fairly widespread, with concentrations in Thuringia, the Rhineland, and Anglian England in the late 5th and 6th centuries. It appears that they were normally without practical use and were decorative amulets. A connection with fertility and the goddess Freyja is suggested by the comic occasion reported in the Old Norse poem *Thrymskuitha*, when Thor appears in disguise as the goddess Freyja, wearing bridal veil, necklace, and keys to deceive a prospective giant husband at their wedding ceremony (Steuer 1982, 205).

The broken, decorated shaft of a bronze girdle-hanger was found at the hip of the girl in grave 79

(79/3, fig 37). Another broken girdle-hanger is 9/10 (fig 18), where one of the two shafts remains complete, as well as the suspension arc and rod at the top. Similar parts of T-shaped bronze keys were found at Bergh Apton, Norfolk (Green & Rogerson 1978, fig 82; Steuer 1982, Abb 23), and in a 5th-century grave at Glen Parva, Leics (Steuer 1982, Abb 6).

Many other contraptions were used by Anglo-Saxon women to suspend objects from the waist (cf Evison 1987, 49, 117). The bronze ring 2B/5 (fig 16) is not an annular brooch, for it is decorated on both sides, and a strap would have been accommodated by the notch which occurs at one point. Its position in the grave with a cluster of beads by the right hand and pelvis suggests that it supported a bag. Two bronze annular brooches found singly functioned as a suspension ring for keys, 16B/2 and 62/5 (figs 21 and 33).

### *Hone*

The hone 115/4 (fig 44) is a sand-silt greywacké, probably found locally in the glacial drift (Ellis 1969, 161-2). It is small and neatly shaped, in contrast to most of the hones found in Anglo-Saxon graves which are larger and less well shaped. Those which were found in dated graves belong to the 7th century, so that this hone in a 5th century grave is so far unique (Evison 1975b). It is possible that it might be a Roman survival, but as all the other objects in the grave seem to indicate Frankish origin (inlaid spear and buckle, a knife, fire steel, and strap-end) it is probable that the hone was also brought into this country by its owner from the Continent.

### *Fire steels*

None of the fire steels or purse mounts are very well preserved, and none of them, except possibly 126, 4 (fig 49) appears to have been inlaid with another metal. The buckle in the middle is preserved on 18/16 and 33/3 (fig 23 and 27), with an indication of this on the radiograph of 68/4a (fig 35). Three are in the graves of men with unusual spears: 115/5, 140/5, and 157/4 (figs 44, 53, and 57). The two 68/4 a, b and 33/3 were also with a man, but 18/16 and 126/4 belonged to women.

A curling animal head is visible on the radiograph of 115/5 (fig 44), but the shape of 18/16, 33/3, and 68/4a, b (figs 23, 27, and 35) suggests bird's heads (Evison 1987, 110; Brown 1977). The fragments 81/7 and 103/6 (figs 38 and 42) may be part of fire steels with long returned ends, like a type found at Lavoye, France (Joffroy 1974, fig 20, 287).

### *Ivory ring*

Fragments of an ivory ring were found in grave 18 (fig 22, 18/13a), and it was strengthened or mended by means of small bronze plates (18/13b-e, fig 22). A

bone ring and an iron ring nearby (1804 a, b, fig 23) may have been part of the same purse. The distribution in England is mainly Anglian (Evison 1987, 118, fig 118), and the range of date is very wide, from the 5th to the 7th century.

### *Combs*

There were the remains of three combs. The double-sided comb C12/2 (fig 60) has lost its connecting plate, and is a type in use from the 5th to the 7th century (West 1985 1, 128, table 50). A similar comb found before the excavation, Un 45 (fig 69), has some decoration on the connecting plate, longitudinal lines on one side and a cable design on the other. The single-sided, triangular comb 132/9 (fig 51) is ornamented and nearly complete. 5th century parallels from Issendorf in Germany and Little Wilbraham, Cambs, have been quoted by Dickinson (1979, 45; Janssen 1972, 78, Urn 42, Taf 7; Myres 1977 2, fig 45.2624), but the most recent survey shows that at West Stow these, too, were in use from the 5th to the 7th century (West 1985 1, 127, table 48).

### *Roman objects*

There were a few Roman objects in the graves, but the number was astonishingly low, amounting only to 21 objects: glass bowl 33/2 (fig 27), pin ?ear probe 116/3 (fig 45), hobnails 58/1, 98/2, 117/2, C12/3 (figs 33, 41, 45, 60), bracelet 31/1 (fig 27), lead spindle whorl 48/2 (fig 30), finger ring 71/1 (fig 36), razor 54/1 (fig 31), ?annular brooch 127/4 (fig 49).

This list may be compared with the number of objects of the Roman period found in the earth of the cemetery above and between the graves. The number of Roman unstratified small finds from the second and third excavations, as listed below (p 119), is 152, and the number from the first excavations of all the layers and pits published in 1987, excluding pottery, is 124 (Draper 1986). There can therefore have been no lack of opportunity for the Anglo-Saxons to acquire Roman coins and other objects from the area of the town and its immediate environs. Their absence from graves must mean either a positive rejection of Roman possessions or that they were not considered suitable for burial in a grave. There were small sherds of Roman pottery in the fills, but no substantial pieces except for the mortarium base fragment used as a lid in cremation 32 (below, p 85, fig 63), and an amphora fragment at the head of grave 4 (fig 70). A bracelet, a finger ring, and three hobnails were with infants and a juvenile. Useful objects found with adults were limited to a glass bowl, a lead spindle whorl, a razor, and one hobnail.

It is difficult to arrive at a satisfactory identification of object 127/4, which was found in a female grave mid chest between a pair of disc brooches and near some beads. It is not complete, but if the broken ends of the band are extended it forms an oval, and the joining of the two broken pin stumps proposes a pin across the middle (127/4, fig 49). The metal of which it is made, an alloy of lead and tin in the proportions of 60:40, is too soft for service as any

dress accessory such as a brooch, but it is a composition which was frequently used for a pattern for making moulds for metal objects. Although it looks as though it might have been part of the pattern for an annular or penannular brooch, this is not likely as the ring would be cast as a separate item and the pin added later. It might be that this pattern was made from a brooch with pin, with the intention of nipping off and removing the pin before actual use as a pattern. Also, as the material is malleable it could be that the oval shape is the result of distortion. It is not a normal pattern for an Anglo-Saxon annular brooch, and although some quoit brooches are decorated with rows of punched triangles, the band is usually of sheet, not cast metal. I am grateful to Sarnia Butcher who was considered possibly comparable Roman objects, and has suggested that the triangles might have been intended to hold enamel, as for example on a buckle loop from Richborough (Bushe-Fox 1949, 123, pl 33, no 73). The triangular cavities are not very deep, but the soft surface had no doubt lost its sharp edge because of the friction caused by dangling on a bead necklace. Miss Butcher has also noted the similarity of late Roman penannular brooches with zigzag chip-carved decoration as from Colchester (Crummy 1983, 18, fig 16, no 102).

A coin presumably intended as a Charon's obol was placed in various graves. In the well-furnished male adult grave 122 the coin was placed at the edge of the grave in the middle at the head (fig 81). In the male grave 149 a small coin was placed on the skull (figs 56 and 84), where, apart from nails and sherds, it was the only object in the grave. In grave 132 a large coin was placed in a well-furnished female grave beside the body (figs 51 and 82). A girl in grave 29 had a large coin in her left hand. A coin was placed near the infant in grave 71 and near the adult cremations 26 and 29. A group of coins were placed near the juvenile in grave 136. A coin and a fragment of glass were found 45cm above the body of dog 2. This last occurrence was probably fortuitous, but in all the human burials mentioned above great care was obviously taken to place an unperforated coin in a carefully selected position, and a number of coins were deposited with the infant 136. The custom of putting a coin in the hand or mouth was followed in 25 graves at Lankhills, Winchester, most of them dating from the end of the 4th century (Clarke 1979, 357), and the custom of placing a charon coin in the grave was followed occasionally in the Anglo-Saxon period.

Three graves contained a perforated coin: 29/4 (fig 26) with beads worn by a girl of 10-12 years, 34/1 (fig 27) with beads at the neck of an infant, and 111/1 (fig 43) with beads on an infant. Items 29/4 and 111/1 had double perforations. These were obviously amulets or for decoration. In other cemeteries Anglo-Saxon women often wore a perforated Roman coin on a necklace, and also sometimes carried unperforated coins in a purse or pocket along with other trinkets (Evison 1987, 49 and 122). The custom was rather different at Great Chesterford, where three fairly small perforated coins were worn on the necklaces of children only.

# 3 Discussion

## Graves

### Inhumation graves

The depth is not known of all the graves, for the top layers had been removed in places, either in commercial excavations or in the earlier excavations of Roman features. The depth is known of 122 graves which ranged from 10 to 175cm (table 8). Most of them were between 50 and 160cm deep, with the largest number, 21, between 90 and 100cm. The sword grave 122 was 122cm deep, and women's

graves with square-headed brooches and radiate brooch - grave 126 (119cm), grave 145 (175cm), grave 62 (104cm), and grave 37 (107cm) - were all amongst the deeper graves. The four shallowest graves, below 50cm, belonged to two infants, a man over 45 with pot, buckle, and knife, and a younger man with spear, boss, and knife. The deepest grave was grave 145 with the square-headed brooches, but the six graves next deepest were not well furnished. There was therefore no consistent habit of digging the deepest graves for the most important persons. The cremation depths were less wide-ranging, extending from 38cm to 122cm.

There were 65 infant and foetus inhumations, and in the area nearest the lake some of them had been disturbed. A few were rather shallow, and the shape of the grave could often not be discovered. The greatest depth was 152cm. One grave, 104, was a circular hole in the ground 31cm in diameter at a depth of 84cm.

Above some of the graves there was a small pile of large stones (graves 14 and 24), and occasionally one or two large stones were placed in the graves (graves 9, 28, 32, 53, 124, and 142). There was a large amphora sherd at the edge of grave 4. Sometimes a row of stones delineated part of the edge of a grave, presumably to prevent loose earth falling in, where one grave had disturbed the pit of an earlier grave (graves 10 and 20, 140 and 141, 32 and 40, figs 71, 72, 83, 73, and 74). Grave 28 was dug into the soft fill of a Roman pit, and this is no doubt the reason for the large stones at the head and right side. From these examples one may assume that the stones in graves 24, 33, 50, 51, and 131 (figs 72,72,75,75, and 82) were also to firm up the edge of the pits.

Where the edges were discernible it is evident that most graves were the minimum size necessary to receive the body, and it looks as though some bodies could have been bent to fit a short grave, eg 84, 90, 93,112, 158 (figs 77,78,78,80,85), unless it was the other way round and *rigor mortis* had determined the size and shape of the grave. This certainly seems to have happened with grave 160, where the torso was at an angle with the legs and the grave outline bends accordingly on one side only (fig 85). One grave was much larger than strictly necessary for the preserved remains; the sword grave 122 was 11ft 6in x 4ft x 4ft (3.51m x 1.22m x 1.22m) (fig 81) and the only other single roomy grave, 128 (fig 82), 7ft 9in x 3ft 3in x 4ft 5in (2.36m x 0.99m x 1.35m) was also male with a pot and glass vessel. Grave 48 narrowed suddenly towards the foot, then opened out into a circular post hole containing a more red-coloured fill (fig 74). The toes of the skeleton were not turned sideways as usual, but were pointing upwards so that the soles of

**Table 8 Depths of graves**

Depth in cm	Inhumations	Cremations
0-10	75	
10-20		
20-30	76	
30-40	38	17
40-50	71	2,8, 15, 23, Rl-5
50-60	61, 66, 86	3, 7
60-70	38, 43, 47, 56, 60, 64, 72, 74, 80, 83, 88	13, 16, 18, 19, 20, 21, 28, 30, 31
70-80	3, 30, 32, 44, 70, 73, 77, 79, 82, 84, 85, 89, 118, 120, 124, 129	10, 12, 22
80-90	31, 48, 53, 54, 55, 63, 69,104,106,107,116	5, 9, 11, 24
90-100	1, 81, 93, 94, 95, 96, 97,105, 109,111, 112,113,114,117, 119,123,130,135, 136,150,157	6,26, 32
100-110	33,37, 41,50,62,9&i, 99, 101, 102, 110, 115, 121, 149, 154, 155,156,159	iii
110-120	28,45,68,90,108, 125,126,131,132, 139, 144,146,147	25
120-130	8, 9, 11, 29, 103, 122, 138,142	29
130-140	92, 127, 128, 137, 141,143,158,160	
140-150	51,140,148	
150-160	52,100,151,152,153	
160-170	134	
170-180	145	

the feet must have been placed against a vertical pillar, which, however, cannot have been a wooden post for the consistently red fill of the circular feature at the foot of the grave has been identified by J Bayley as 'burnt sandy clay, ?daub' (below, p 98).

Grave 86 (fig 78, pl 4) contained the body of a boy buried face downwards on his right side at a depth of 56cm, and 30cm above his feet was the skeleton of a long-legged dog (see below, p 67), its spine fitted against the curved end of the grave. One other complete dog skeleton was found (dog 2), much the same size but with short legs (p 70 and fig 85), but this did not have such a clear connection with any grave. It was in a large pit containing much Romano-British material, with two horse skulls, one ox skull, and other bones nearby. Immediately to the south and below were large stones, which on this site were usually associated with a grave, on top or placed at the edge, but no grave was found. However, the skeleton of the dog was complete and neatly laid out at a depth of 3ft (0.91m). Nearby was grave 129 at a depth of 2ft 9in (0.79m), which contained a female of 15-25, and grave 146 at a depth of 3ft 9in (1.14m), which contained a child. It would seem, therefore, that this is more likely to be a second burial in the cemetery of an Anglo-Saxon dog, possibly associated with one or both of the nearby graves of young people (see below).

### *Horse graves*

Grave 142 (fig 83, pl5b) was extremely large, 9ft x 5ft 6in x 4ft (2.74m x 1.68m x 1.22m), and it contained remains of the long bones and teeth of a man, and beside him a horse. The horse was on its left side, its hind legs doubled up, probably fettered, and the forelegs separate and bent. There was one other horse grave (1, adjoining grave 55), but this was rather different (fig 75). It was lying on its right side, and some of the skull, right foreleg, and left hind leg had been lost by ploughing. Grave 55 and horse grave 1 were excavated separately at different times. First the broken pot HGI/1 was found, standing on a depth of 2-4cm of black wood, most of the grain running in a north-south direction, but some at right-angles. Weeks later Annable's excavation discovered that this was part of horse grave 1. Later still, grave 55 was discovered. According to VE's notes at the time, based on a report in the field, the pot had been situated approximately in the south-east corner of the grave. According to KA's cemetery plan, however, the pot was placed in front of the horse's belly. As may be seen from the grave plan (fig 75), the disposition of bones allows either placing to be possible, although the south-east corner is more likely as there it would be next to the horse's equipment.

More important is the question of whether the horse can be seen to belong to any specific human burial. When grave 55 was discovered, the foot of the horse grave, easily discernible by its black, burnt contents, was seen to cut the foot of grave 55. The human right foot had completely disappeared, cut

away in the digging of the horse grave. Had grave 55 been open at the same time as HGI, there would have been at least some spreading of the black fill found throughout the horse grave. It is certain that the body of the woman in grave 55 was *in situ* when the burning took place in the horse grave as at least one remaining human toe was charred. Apart from grave 55 there is no other inhumation in the vicinity of the horse grave. The next nearest burial is cremation 2, which was unusual in that it consisted of a small, decorated pot placed inside a plain bowl. However, neither this cremation, nor grave 55, nor any other burial in the vicinity can claim any sort of remarkable contents which might indicate an occupant of sufficiently high standing to merit being accompanied by a horse. It would appear, therefore, that the horse was not attached to any particular human burial.

The horse was presumably buried as a complete body, and, although much of the grave fill was black, the only bones burnt were parts of the hind legs next to the bronze strip (see below, p 68). The horse was therefore probably killed at the graveside, and the tackle, indicated by the bronze strips, was placed at the foot of the grave and burnt there. Burning of the horse's legs was not the primary intention, but simply the result of setting light to the tackle in the grave. The bronze strip mounts were mostly about 7.5cm above the floor level of the grave, and as they were above remains of burnt wood with grain running in two directions, they probably represent ornamentation on a wooden saddle. In the position as found (fig 75, pl 1b) strip d was lying across c, and it is possible that this bronze X-shape ornamented the front bow of the saddle. More expensive versions of wooden saddles with metal mounts and garnets or gold are to be found in Theodoric's grave, in graves of the Huns and at Krefeld Gellep grave 1782 (Pirling 1974 1, 133-5, Abb 12, Farbtafel D).

Horse burial is a custom which was in use from the Roman to Viking periods in Europe and as far north as Iceland (Muller-Wille 1970-1). In England in the early Anglo-Saxon period there are burials of a complete horse at nine sites, all apparently associated with human burials. At other places there are also burials of parts of horses, and some horse bones have been identified in cremations. The complete skeleton horse burials are confined to the Anglian areas surrounding the Wash. Some were buried with a bit, but only one is of the same type as the bit in Great Chesterford grave 142, horse grave 2, ie Little Wilbraham grave 44 (Vierck 1970-1, 218, no 270; Evison 1967, 83, fig 2g), and that grave also contained a sword with sword bead, spear, and shield. Great Chesterford grave 142 contained a spear, shield, knife, and pot. Cremation 28, the remains of a pot with bones of a juvenile, which was deposited 61cm above the horse, may or may not be connected with the burial below.

Little Wilbraham is not far distant from Great Chesterford, but even closer horse burials were found in 1971 within the walls of the town of Great Chesterford itself. They were discovered in the digging of a sewage-pipe trench in the gardens of

Crown Cottages, just inside the south-east corner of the town limits (fig 1b; Hooper 1971). There were the bones of two females and an eight-year-old child, two of them orientated SE-NW and the third NW-SE. Nearby were two horse burials, presumably complete but only partly retrieved. Other human bones found in the vicinity suggest the existence of a cemetery. The only find was a penannular brooch, but the position within the town walls at least postulates a post-Roman date.

### *Cremation graves*

The cremations were all in pots, at depths varying from 1ft 3in to 4ft (0.38 to 1.22m), but usually on the surface of the natural g-ravel or sand. There was no evidence of any other form of cremation such as burnt bones without a durable container. Cremation 2 was unique as it consisted of two pots, one inside the other.

Cremation 21 consisted of three wheelthrown pots (fig 62), one containing the bones, accompanied by two other pots - all Roman, evidently a Roman cremation. Five Roman cremations were arranged in a quincunx: Romano-British cremation 1 consisted of two pots, cremation 2 four pots, cremation 3 three pots, cremation 4 three pots and cremation 5 five pots (p 117 and figs 64, 65, 85, pl 6a). There were burnt bones in the largest pot of each group except cremation 5 where there were no traceable bones. A few objects were found on the same level as these cremations and within the square formed by them: a lion-headed stud-and-ring fitting from a casket of the first to mid 2nd century AD, and three nails and sheet bronze probably from a casket, as well as a 1st century scabbard chape, a bone pin fragment, and an iron fragment (pp 84-5 and fig 65). These objects may have been connected with these cremations or perhaps with earlier burials disturbed by them.

The base of a large wheel-thrown pot (lost, pl 6b) with a base diameter of 23cm and a wall remaining to a height of 19cm, was found very near to the Saxon cremation 3. A posthole 35cm wide and 38cm deep with two vertical flat stones inserted each side of the post was also nearby (pl 6c). These are not marked on Annable's plan of the first excavation, but the approximate positions are inserted on the plan, figure 2. The probable significance of this large Roman pot base *in situ* was not realized until detected from records in 1988. It was given the number cremation 14.

An explanation of this group may be that the wheel-thrown pot contained a Roman cremation, marked by a post which later attracted Saxon burials, cremation 3 and the infant burial, grave 46. It may be noted that the post was only a short distance from the ?pillar at the foot of grave 48, and it could be that both monuments were erected in the Roman period. Three postholes only are mentioned in the report of the Roman features of the first excavation (Draper 1986, 4), one in the middle of trench X2, and two in trenches M5 and M6. They were all cut about 30cm into the gravel and were c

25cm in diameter. Trench X2 was in the western part and contained cremation 5, trench M6 contained the posthole near cremation 14, and the posthole in M5 would have been fairly near, to the north of grave 29, possibly in the vicinity of the group of graves 30, 31, 35, and 41. These were probably grave markers, perhaps all of the Roman period.

### **Skeleton positions**

By far the greatest number of skeletons were lying on their backs, ie 76 out of a total of 106 which had bones sufficiently preserved to provide the necessary evidence. There was, however, a great variety in the positions of the skull, arms, and legs, and very few actually lay supine with arms and legs straight. Amongst the few exceptions may be noted the man in grave 122 buried with arms and legs straight and his head turned left, his sword along the left side of his body, shield on his feet, and spearhead and glass vessel each side of his head (fig 81). Comparison may be made with the Dover cemetery, where in a number of the sword graves the bodies were laid out straight in this fashion, and in that cemetery there was less variety of position in general (Evison 1987, 129ff) It may be that a weaponed man was laid out in this fashion as an equivalent to a 'to attention' posture in life.

There were two prostrate burials, one being the boy of about eight years in grave 86, whose dog was buried above his feet (fig 78, pl 4). This prostrate position could be regarded as ignominious in other contexts (Evison 1987, 133-4), but this can hardly have been the significance here as the boy was fondly provided with his pet dog, a spearhead, and mended shield. The other prostrate burial was the woman in grave 103 (fig 79, pl 5a), and this grave was unusual in other ways as well, for instead of the brooches and beads being in place on the dress they were separate from the body and together between the back of the skull and the corner of the grave. The fact that the woman was prostrate and not actually wearing her finery does suggest some form of disapproval on the part of the burying party.

Twelve were buried with their legs crossed: grave 4 (M 15-25), 29 (F 10-12), 68 (M 45+), 72 (Ju 10-11), 100 (F 25-35), 101 (M 45+), 102 (M25-35), 115 (M adult), 128 (M 25-35), 132 (F 35-45), 152 (F 35-45), 154 (F infant), 157 (M 35-45) (figs 70, 73, 76, 76, 79, 79, 79, 80, 82, 82, 84, 84, 85) - ie both male and female. The head or upper part of the body was propped up against the end of the grave in 80, 84, and 152 (figs 77, 77, and 84). The legs were bent with the knees quite high in the grave pit in grave 84. The child buried on its side in a small grave 158, ten inches (25cm) deep in the gravel and 3ft 6in (1.07m) below present ground level, had its lower spine, pelvis, and foot on the floor of the grave but its head on the top of the gravel at the side of the grave, and arms and knees at a similarly high level (fig 85). Twenty-eight were placed on their sides, usually with legs drawn up (graves 2A, 14, 20, 32, 38, 53, 57, 62, 66, 67, 73, 79, 84, 93, 97, 105, 106, 107, 111, 112, 121,

124, 135, 136, 137, 149, 154, 158, (figs 70, 71, 72, 73, 74, 75, 76, 76, 76, 77, 77, 77, 78, 78, 79, 79, 79, 80, 80, 81, 81, 83, 83, 83, 84, 84, 85), and the old lady in grave 112 had her knees nearly up to her chin (fig 80).

## Human bones

The information on sex and age based on the bones (see below, p 52) has been incorporated in the catalogue together with any additional information afforded by the grave plans, photographs and finds. It appears that some post-excavation confusion of identity must have occurred regarding the human bones as a few of the groups of bones reported on cannot belong to the grave to which they are allocated. The discrepancies occur with three non-adults, and in these cases an estimate of age, based on the plan and photograph of the grave, is entered in the catalogue (see also table 10). The graves in question are as follows:

Grave 38, according to the bone report (p 60), is a foetus 24-32 weeks, but the plan (fig 74) shows a skeleton similar in height and size of bones to grave 106, which is entered in the bone report as juvenile 4-6 years.

Grave 36 is said to be an infant 1-2 years, but this again is a similar size (fig 73), much larger than, for example, the infant 1-2 years in grave 34 (fig 73). Graves 38 and 36 are therefore catalogued as juveniles. Grave 62, according to the bone report, is an infant, but the plan (fig 76) shows a body of an adult or juvenile size.

Abnormalities noticed *in situ* and not noted in the bone report were commented on by Dr Waldron as follows:

The skeleton in grave 33 (pl 3a) had a very protuberant occiput and also had many wormian bones in the lambdoid suture. However, it was not pathological and not significantly abnormal for this population; in many of the skeletons the occiput was protuberant.

In Grave 51 the skeleton had an exostosis on the femur (pl 3b); this is new bone which develops in response to a muscular or tendinous injury and is a common finding. It was not a malignant growth and thus of rather little pathological interest.

In grave 54 the left ulna was broken and the radius was bent (pl 3c). These were missing when the skeleton was examined for the bone report.

All comparisons must be affected by the fact that data on the complete cemetery is not available, for the area of graves excavated represents only a slice through the middle of the cemetery. Inhumations at Great Chesterford consist of 42 male burials, 63 female burials, plus 51 of unknown sex and 15 foetuses, total 171 (table 9, figs 86 and 87). There were 31 Anglo-Saxon cremations, plus 7 Romano-British cremations. Of the Anglo-Saxons, 1 was female, 2 probably male, 19 adults, 2 juveniles and 1 infant. The grand total of Anglo-Saxon inhumations and cremations is therefore 202.

There were 83 non-adult inhumations and 3 non-adult cremations, 86 in all. The age is not known

of 7 cremations (table 10). Taking the inhumations alone, 83 non-adult deaths out of a total of 171 represents 48.5%. Most of the cremations are of adults, however, bringing the total non-adult deaths to 86 out of 202 or 42.5%. Both non-adult totals are considerably in excess of percentages in other cemeteries, eg c 20% at Dover. At Dover the age groups of the bone report were divided at 18, so that accurate comparison cannot be made with Great Chesterford where the division was made at 15 years. If some of the young people in the Great Chesterford adult category, 15-25 years, were under 18, this would increase the proportion of young deaths.

The number of female inhumations and cremations, 64 including juveniles and infants, is considerably higher than the number of males, 44, compared with Dover, also not fully excavated, where there were 66 females and 54 males. At Great Chesterford 8 males and 6 females survived to the age of 45, and 23 males and 36 females died between the ages of 15 and 45, so that, as at Dover (Evison 1987, 128), the child-bearing period inflicted a higher death rate on the women.

In Anglo-Saxon cemeteries there are usually very few graves of juveniles. At Dover out of 172 inhumations 35 died before the age of 18, a proportion comparable with that at Polhill in Kent (Evison 1987, 128). Infant burials were absent from these two cemeteries, as they are from most other Anglo-Saxon cemeteries. Great Chesterford, however, is remarkable in that there were as many as 86 non-adults below the age of fifteen, of which 15 were foetuses, plus two found in the pelvises of females. It appears that this is a cemetery where all the dead of the community were buried without exception, and it must reflect the normal high infant mortality of the early Anglo-Saxon population. How infant bodies were disposed of in other localities remains a mystery.

The infant burials were often undisturbed, so that it was clear that there was a single body and a plan was drawn. There were two burials together once only, grave 39, where the grave of a foetus of 24-28 weeks was cut into by grave 42, an infant of 0-2 months (fig 74). Three lots of disturbed bones, graves 83, 95, and 150 were therefore assumed at the time of excavation to represent one body each. According to the bone report, however, grave 83 consisted of at least 6 foetuses, all 36-40 weeks, grave 95 consisted of at least 2 infants each 0-2 months, and grave 150 consisted of at least 2 infants each 2-4 months. It is possible that graves 95 and 150 might represent burials of twins or even triplets, but it is difficult to imagine how six or more foetuses of the same age can be buried in the same spot, unless the grave was marked and reopened each time for the burial of a full-term stillborn.

## Animal bones (see below, p 66)

There was a considerable amount of animal bones in the area, debris connected with the Roman town and reported on by Serjeantson (1986 and below, p 66).

**Table 9 Totals of graves according to sex and age****Inhumations**

<b>Sex</b>	<b>Age</b>	<b>Grave nos</b>	<b>Totals</b>
	Adult	12 28 41 131	4
M	Adult	2a 3 4 5 8 11 15 19 22 33 50 51 54 65 68	
		75 76 80 84 90 93 96 101 102 109 115 117 121	
		122 125 128 130 134 137 140 142 149 157 161	39
F	Adult	1 2B 7 9 10 13 14 18 20 21 23 24 26 27	
		32 37 40 45 48 55 62 66 73 81 92 97 100 103	
		108 110 112 113 114 116 120 124 126 127 129 132	
		135 145 152 153 160	45
	Ju	6 17 30 38 52 53 72 106 118 119 146 147	12
M	Ju	16A 86	2
F	Ju	29 36 79 148	4
-	Infant	25 42 44 46 47 49 58 59 60 61 63 64 67 70 71	
		74 77 78 88 89 91 94 95(2) 98 105 107 123 139	
		143 144 151 155 156 158	35
M	Infant	99	1
F	Infant	16B 31 34 56 57 69 87 111 136 141 150(2) 154 159	14
-	Foetus	2C 35 39 43 82 83(6) 85 104 133 138	15
		Total	171

Totals: adults 88; non-adults 83; males 42; females 63; not sexed 66.

**Cremations**

<b>Sex</b>	<b>Age</b>	<b>Grave nos</b>	<b>Totals</b>
-	Adult	2 3 4 6 7 8 9 11 13 15 18 19 20 24 25 26 29 30 31	19
M	Adult	?1 10	2
-	Ju	12 28	2
F	?	5	1
-	Infant	32	1
Not sexed or aged		16 17 22 23 27 33	6
		Total	31

Totals: adults 21; non-adults 3; not aged 7; males 2; females 1; not sexed 28.

**Romano-British cremations**

Not sexed or aged C14 C21 RI-5

**Inhumations and cremations: totals**

Adults 109; non-adults 86; not aged 7; males 44; females 64; not sexed 94.



**Table 10 Sex and age from bone report and from grave goods and records***Inhumations*

Grave	Sex and age from bones	Sex and age from grave goods and records	Discrepancy	Grave	Sex and age from bones	Sex and age from grave goods and records	Discrepancy
1	F35-45	F adult		38	Foetus 24-32 wks	Ju	X
2 A	M25-35	M adult		39	Foetus 24-28 wks	Infant	
2B	F adult	F adult		40	F15-25	F adult	
2C	Foetus 40 weeks	Infant		41	Adult 25-35	Adult	
3	M25-35	Adult		42	Infant 0-2 months	Infant	
4	M15-25	M adult		43	Foetus 24-32 wks	Infant	
5	M35-45	Adult		44	Infant	Infant	
6	Ju	-		45	F25-35	F adult	
7	F25-35	F adult		46	Infant 0-2 months	Infant	
8	M35-45	M adult		47	Infant 0-2 months	Infant	
9	F15-25	F adult		48	F25-35	F adult	
10	F35-45	Adult		49	Infant 0-2 months	Infant	
11	M adult	Adult		50	M15-25	M adult	
12	Adult 25-35	Adult		51	M45+	M adult	
13	Adult 35-45	F adult		52	Ju 8-10	Ju	
14	F35-45	Adult		53	Ju 6-8	Ju	
15	Probably M	Adult		54	M45+	M adult	
16A	Ju 8-9	M ? Ju		55	F35-45	F adult	
16B	Teeth missing	F infant, milk teeth only		56	Infant 4-6 months	F infant	
17	Ju 8-10	?Ju		57	Infant 2-4 months	F infant	
18	F15-25	F adult		58	Infant 2-4 months	Infant	
19	Adult, probably M	M adult		59	Infant	Infant	
20	F15-25	F adult		60	Infant 0-2 months	Infant	
21	F15-25	F adult		61	Infant 2-4 months	Infant	
22	M25-35	M adult		62	Infant	F? ju or adult	X
23	F15-25	Adult		63	Infant 0-2 months	Infant	
24	F35-45	Adult		64	Infant 0-2 months	Infant	
25	Infant 0-2 months	Infant		65	No bones	M unass finds	
26	F45+	Adult		66	F25-35	F adult	
27	F45+	F adult		67	Infant 2-4 months	Infant	
28	Adult	Adult		68	M45+	Adult	
29	Ju 10-12	F ju		69	No bones	F ?infant	
30	Ju 6-8	Ju		70	Infant 0-2 months	Infant	
31	Infant 12-18 months	F infant		71	Infant 0-2 months	Infant	
32	F15-25, foetus 32 weeks	F adult, skull of foetus in pelvis		72	Ju 10-11	Ju	
33	M15-25	Adult		73	F25-35	?F adult	
34	Infant 1-2	F infant		74	Infant 0-2 months	Infant	
35	Foetus 24-32 wks	Infant		75	M45+	Adult	
36	Infant 1-2	F ju	X	76	M35-45	M adult	
37	F35-45	F adult		77	Infant 0-2 months	Infant	
				78	Infant 0-2 months	Infant	
				79	Ju 6-8	F ju	

Grave	Sex and age from bones	Sex and age from grave goods and records	Discrepancy	Grave	Sex and age from bones	Sex and age from grave goods and records	Discrepancy
80	M35-45	Adult		122	M25-35	M adult	
81	F35-45	F adult		123	Infant	Infant	
82	Foetus 36-40 wks	Infant		124	F35-45	F Adult	
83	At least 6 foetuses 36-40 wks	Infant		125	M35-45	Adult	
84	M45+	Adult		126	F25-35	F adult	
85	Foetus 36-40wks	Infant		127	F25-35, foetus	F adult, foetus skull in pelvis	
86	Ju 7-8	M ju		128	M25-35	Adult	
87	Infant 0-2 months	F infant		129	F15-25	Adult	
88	Infant 2-4 months	Infant		130	M15-25	Adult	
89	Infant 0-2 months	Infant		131	Fragmentary leg bones lost	Adult	
90	M35-45	Adult		132	F35-45	F adult	
91	Infant 0-2 months	Infant		133	Foetus 36-40 wks	Infant	
92	F35-45	F adult		134	Adult	M adult	
93	M25-35	Adult		135	F45+	F adult	
94	Infant 0-2 months	Infant		136	Infant 12-18 months	F infant	
95	At least 2 infants 0-2 months	Infant		137	M adult	Adult	
96	M15-20	M adult		138	Foetus 36-40 wks	Infant	
97	F25-35	F adult		139	Infant 0-2 months	Infant	
98	Infant 0-2 months	Infant		140	M45+	M adult	
99	Infant 1-2	M infant		141	Infant 2-3	F infant	
100	F25-35	F adult		142	Adult 25-35	M adult	
101	M45+	M adult		143	Infant 2-4 months	Infant	
102	M25-35	Adult		144	Infant 0-1 month	Infant	
103	F35-45	F adult		145	F35-45	F adult	
104	Foetus 36-38 wks	Infant		146	Ju 6-8	Ju	
105	Infant 2-4 months	Infant		147	Ju 6-8	Ju	
106	Ju 4-6	Ju		148	Ju 3-6	F Ju	
107	Infant 6-12 months	Infant		149	M15-25	Adult	
108	F35-45	F adult		150	At least 2 infants, 2-4 months	F infant	
109	M45+	Adult		151	Infant 1-2	Infant	
110	F25-35	Adult		152	F35-45	Adult	
111	Infant 12-18 months	F infant		153	F15-25	F adult	
112	F45+	F adult		154	Infant 1-2	F infant	
113	F45+	F adult		155	Infant 0-2 months	Infant	
114	F45+	F adult		156	Infant 0-2 months	Infant	
115	M adult	M adult		157	M35-45	M adult	
116	F35-45	F adult		158	Infant 2-3	Infant	
117	M35-45	Adult		159	Infant	F infant	
118	Ju4-6	JU		160	F35-45	F adult	
119	Ju8-10	? Ju		161	Bones missing	Bones found after excavation ? one man	
120	F35-45	F adult					
121	M15-25	Adult					

## Cremations

Grave	Sex and age from bones	Sex and age from grave goods and records	Discrepancy
1	Adult, probably M		
2	Adult		
3	Adult		
4	Adult		
5	-	F	
6	Adult		
7	Adult		
8	Adult		
9	Adult		
10	Adult, probably M		
11	Adult		
12	Ju		
13	Adult		
14	No bones		
15	Adult		
16	-		
17	-		

Animal bones in the fill of graves may be residual Roman debris of domestic catering (graves 55, 62, SO), but bone fragments inside a pot in graves 10 and 13 are more likely to be the remains of a stew provided for post-mortem consumption. A similar intention is indicated by the three eggs still *in situ* in the pot in grave 121 of a young male (fig 46, 121/l). Eggs have been found elsewhere in Anglo-Saxon graves; for example, at Holy-well Row, Cambs, grave 69, several duck's eggs were found in a pot with a child (Lethbridge 1931, 33-4, pl V). Eggshells were also found in grave 43 at Barfriston Down, Kent (Faussett 1856, 142).

The two horse graves are clearly Anglo-Saxon, one by reason of its position amongst Anglo-Saxon inhumations, and the other by its position in the grave of an Anglo-Saxon male (p 29, figs 75 and 83, pls 1b and 5b). A dog was buried with a boy in grave 86 at the foot of the grave and at a higher level (fig 78). The date and association of the dog burial (fig 85) next to grave 129 is not so certain, as both were dug into a pit which contained animal bones, and, between the dog burial and grave 129, two complete horse skulls and one complete ox skull. The pit is no doubt of the Roman period, and, as the skulls are near the five Roman cremations there may be some ritualistic connection (pp 40-41). Burial of a dog with a man was noted in an Anglo-Saxon barrow at Cockmarsh, Berks (Parker 1888-9, 339).

A boar's tusk was found in a female infant's grave, 31, (fig 27) presumably an amulet, and a dog or wolf tooth was perforated for use as a pendant in a woman's grave, 37 (fig 28). Similar occurrences in

Grave	Sex and age from bones	Sex and age from grave goods and records	Discrepancy
18	Adult		
19	Adult		
20	Adult		
21	Bones missing		
22	-		
23	-		
24	Adult		
25	Adult		
26	Adult		
27	-		
28	Ju		
29	Adult		
30	Adult		
31	Adult		
32	Infant		
33	-		

Anglo-Saxon graves are discussed by Meaney (1981, 132ff).

In graves 1 and 9 there were the bases of horn cores of oxen, and the suggestion that these might still have been attached to the hide (below, pp 6-67) gives rise to the possibility of a hide used as a groundsheet or even as a stretcher. The position of the horn under the right shoulder in grave 1 and by the right foot in grave 9 would suit either use, but the presence of one nail in grave 1 and four in grave 9 might be taken to support the latter view. Comparison may be made with a grave at Lapwing Hill near Brushfield, where traces of light-coloured hair below the remnants of bone led Thomas Bateman in 1861 to suspect the presence of hide (Bateman 1861, 69; Evison 1986, 210-12, fig 2a, b). Some important graves of the period contained iron fittings, which indicate a coffin or bier, and it is probable that hide was used in some of these for lining or for a stretcher type of construction.

## Stratification

There was very little disturbance of one grave by another, so that it must be assumed that surface markings were mainly efficient. This does not seem to have been the case with graves 114 and 115. A male skeleton (115, fig 80) was lying undisturbed on the floor of a W-E grave at a depth of 3ft 6in (1.07m). At a depth of 3ft 1in (0.94m) the top of the skull of 115 was visible, with the tip of his spear alongside and a bone ferrule at the foot, and at that level and

above the fill contained a chaotic distribution of the bones of a female of over 45, as well as brooches, beads, and a bone pin. One explanation is that the female grave 114 was disturbed when 115 was dug in the same place on the same orientation, and all the contents were shovelled back in the fill. None of the debris of 114 appears to have occurred on the floor of grave 115 or in the lowest five inches (0.13m), however, so that there is also the less likely possibility that the upper grave 114 was a subsequent grave deposited on top of 115 and that this one only was disturbed, the disturbance not reaching as far as the lower grave. There is not a great deal of difference in the dates of the contents of these two graves, both probably belonging to the 5th century.

Grave 2B (W-E) was dug at an angle into grave 2A (S-N), but in order not to disturb 2A further, the legs of the woman 2B were folded up at an acute angle (fig 70, pl 2a). The remains of an infant (2C) in the fill of 2A about 0.3m above the floor might have been disturbed by 2A, or it could have been a subsequent and plough-scattered burial.

When grave 76 (S-N) was dug, it was on the same axis as grave 75 (S-N), and completely destroyed that grave from the pelvis to the foot (fig 77). Similarly, the lower part of a foetus burial, grave 39, was disturbed by an infant grave, 42 (fig 74). Only the skull and a few ribs remained of the infant grave 141 (W-E), for grave 140 (W-E) cut through it at an acute angle and completely destroyed the rest of it (fig 83). Grave 140 also cut through the infant grave 143 (S-N) on the other side. A row of stones was placed along the edge of grave 140 and 141 to prevent the loose fill falling in, and two stones at the edge of 140-143.

Grave 128 (W-E) was about 33cm deeper than grave 101 (S-N), which overlapped it at one corner. Grave 14 (S-N) was dug over grave 28 (W-E), depth 3ft 8in (1.1m), both of them in the dark soil of a Romano-British pit. Grave 32, depth 2ft 6in (0.76m) (S-N) destroyed the lower half of grave 40 (S-N), and some of the bones of grave 40 were found in the fill of grave 32 (fig 2). The lower half of grave 16A (S-N) may have been removed when the infant grave 16B was dug (fig 71), and the infant body deposited on the left forearm of 16A. Two cremations were later than a S-N inhumation: cremation 1 was on top of grave 5 (S-N), and cremation 28 was 2ft (0.61m) above grave 142 (S-N).

Other less definite indications of stratification are as follows. The skeleton in grave 73 (fig 77) was female, but the only objects in the grave were found in peculiar places. The iron fragments behind the knees might be explainable, but a small long brooch was upside down underneath the right ankle. This suggests that grave 73 (S-N) had disturbed an earlier grave to which these finds belonged. There were two small bones under the middle of the left femur of the man in grave 101 (S-N) (fig 79), and two more beside his left tibia. It is possible that the iron ring brooch beside his left heel was connected with shoes or hose, but these small bones and the brooch may have belonged to a disturbed burial. Grave 101 did, in fact,

slightly overlap grave 128, but had not disturbed its contents at all.

The total result is that two S-N graves, 14 and 101, are later than W-E graves 28 and 128; one S-N grave, 73, appears to have disturbed a grave of unknown orientation containing a small long brooch; and one S-N grave may have disturbed a grave containing a ring brooch. However, two W-E graves, 2B and 140, are later than S-N graves 2A and 143. Two W-E graves 115 and 140 cut W-E graves 114 and 141, two S-N graves 32 and 76 cut S-N graves and one N-S grave, 42, cut a N-S grave. Horse grave 1 (fig 75) and an infant grave, 16B, each cut a S-N grave, 55 and 16A respectively. It appears that grave 10 (W-E) must have been in existence when grave 20 (S-N) was dug, because a row of stones was placed at the head of grave 20, presumably to stop the loose earth falling in from grave 10. From the point of view of stratification, therefore, the W-E and S-N graves appear to have been more or less contemporary, and the only possibly significant sequence is that some cremations were later than some S-N graves.

## Limits of the cemetery

The graves were more widely spaced in the southern part of the cemetery, and as the last 30ft (9.14m) investigated showed no sign of burials it is probable that graves 82 and 83 signify the southern limit. A possible straight edge to the cemetery can be visualized from a line drawn from grave 82 through 71 to 75. There was no indication of a limit anywhere else, however. Grave 120 and cremation 21 were situated at the western extent of the excavation, suggesting not only that the cemetery continued further westwards, but that the whole area between cremation 21 and graves 82 and 83 had been covered with inhumations and cremations which had been destroyed. There were also burials as far north and east as the excavations were permitted. The cemetery plan, therefore, represents a narrow strip cut north to south through the middle of the burials.

## Orientation and layout of the cemetery

The orientations of the graves cannot be regarded as more than approximate because the outlines of many graves were not visible, and the precise middle axis of a grave, without or even with a visible outline, is a matter of subjective decision. As in many other Anglo-Saxon cemeteries, most of the graves at Great Chesterford lie in one of two main directions, some with head to the south, S-N graves, and some with head to the west, W-E graves. The angle of variation of the S-N graves is 308-43°, although most of the graves are between 308 and 360°, with only a few between 1 degree and 43°. The angle of variation of the W-E graves is 51-100°, with most of the graves lying between 60° and 79° (tables 11 and 12, figs 99-101).

**Table 11 Grave orientations from True North in orientation order**

<b>Orientation group</b>	<b>Orientation in degrees</b>	<b>Grave no</b>	<b>Orientation group</b>	<b>Orientation in degrees</b>	<b>Grave no</b>
South-north	308	55	South-north	350	49
	310	73		351	32
	319	136		351	40
	321	103		351	158
	322	74		352	4
	322	112		352	47
	322	133		354	29
	324	69		355	67
	324	90		356	79
	326	72		357	37
	329	57		357	147
	330	81		360	20
	330	95		360	43
	330	119		360	44
	331	80		360	71
	331	86		1	107
	331	94		1	159
	331	132		3	38
	332	34		9	48
	332	70		15	2A
	332	113		15	97
	332	156		22	5
	333	84		24	64
	333	122		25	14
	334	105		34	160
	334	111		43	36
	335	31	West-east	51	96
	335	100		54	140
	336	1		57	121
	336	143		60	99
	337	116		60	109
	340	142		61	11
	341	61		61	24
	342	17		62	92
	342	101		62	117
	343	30		62	127
	345	16A		62	152
	346	18		63	102
	346	58		63	153
	347	75		64	33
	348	76		66	19
	349	62		67	9
	349	118		67	22
	350	45		67	131

Orientation group	Orientation degrees	Grave no	Orientation group	Orientation in degrees	Grave no
West-east	67	151	West-east	78	106
	68	23		79	7
	68	52		79	66
	69	10		79	68
	69	93		79	145
	69	108		82	27
	70	53		83	3
	71	8		83	157
	71	15		84	2 B
	71	110		85	50
	71	120		89	6
	72	12		90	28
	72	21		95	54
	72	26		100	41
	72	134	North-south	117	124
	73	141		121	39
	74	60		121	42
	74	128		142	146
	74	130		153	154
	74	148		156	149
	75	51		161	135
	76	114		161	137
	76	115		166	85
	76	126	East-west	239	88
	76	150		248	89
	77	13		248	129
	77	125		250	91

There are some reverse direction graves, which, although regarded as E-W and N-S, are, in fact, NE-SW (239-250 and NW-SE (117-166) respectively. The angle of variation of the S-N and W-E groups is fairly wide, and while the angles of variation of the reverse groups are narrower and they are not precisely N-S and E-W, it can be seen (fig 8) that they are, in fact, diametrically opposite to the direction of the main concentrations of S-N and W-E graves. It may be noted that there are three graves with orientations halfway between the W-E group and the N-S group, ie graves 39, 42, and 124 with orientations 121° and 117°. As their positions in the cemetery correspond more closely to the positions of the reverse direction graves, they are included in the N-S group.

Some infant graves were disturbed so that the position of the skeleton was lost, but the orientation is known of 142 graves in all. The numbers of S-N and W-E graves are fairly well balanced, 70 and 59 respectively (table 11), while N S graves total 9 and E-W 4. Most infants were buried S-N (25 of a total of 40), but there were a few in each of the other

directions. In fact, of the reverse directions, 4 out of 9 N S burials and 3 out of 4 E-W burials were infants. Of the 49 female burials, most were S-N and W-E (22 and 24 respectively). Out of 32 males, 20 were buried W-E and 10 S-N. The N-S graves include males, females, a juvenile, infants, and foetuses, but only infants and one female were buried E-W.

At first glance the cemetery plan does not show very definite groupings of the various orientations. All that can be distinguished is a certain amount of clustering of S-N graves at the south end and another cluster in the north-west part. Most of the W-E graves avoid the southern area and show a certain amount of regular spacing.

Graves in reverse directions, N-S and E-W, appear to have been positioned in some relation to each other, for although they are not in a group, they are strung out at intervals to the south and east of the main concentrations of graves. Near together in the southern area are 124 and the infant graves 85, 88, and 89. All the others occur in a narrow strip along the eastern limit of the excavation: graves 154, 135,

Table 12 Grave orientations from True North in grave order

Grave	Orientation in degrees	Grave	Orientation in degrees	Grave	Orientation in degrees
1	336	54	95	108	69
2A	15	55	308	109	60
2B	84	56	-	110	71
3	83	57	329	111	334
4	352	58	346	112	322
5	22	59	-	113	332
6	89	60	c 74	114	76
7	79	61	341	115	76
8	72	62	349	116	337
9	67	63	-	117	62
10	69	64	24	118	349
11	61	65	-	119	330
12	72	66	79	120	71
13	77	67	355	121	57
14	25	68	79	122	333
15	71	69	324	123	-
16A	345	70	332	124	117
17	342	71	360	125	77
18	346	72	326	126	76
19	66	73	310	127	62
20	360	74	322	128	74
21	72	75	347	129	248
22	67	76	348	130	74
23	68	77	-	131	67
24	61	78	-	132	331
25	-	79	356	133	322
26	72	80	331	134	72
27	82	81	330	135	161
28	90	82	-	136	319
29	354	83	-	137	161
30	343	84	333	138	-
31	335	85	166	139	-
32	351	86	331	140	54
33	64	87	-	141	73
34	332	88	239	142	340
35	-	89	248	143	336
36	43	90	324	144	-
37	357	91	250	145	79
38	3	92	62	146	231
39	121	93	69	147	357
40	351	94	331	148	74
41	100	95	330	149	156
42	121	96	51	150	76
43	360	97	15	151	67
44	360	98	-	152	62
45	350	99	60	153	63
46	-	100	335	154	153
47	352	101	342	155	-
48	9	102	63	156	332
49	350	103	321	157	83
50	85	104	-	158	351
51	75	105	334	159	1
52	68	106	78	160	34
53	70	107	1	161	-

- indicates disturbed.

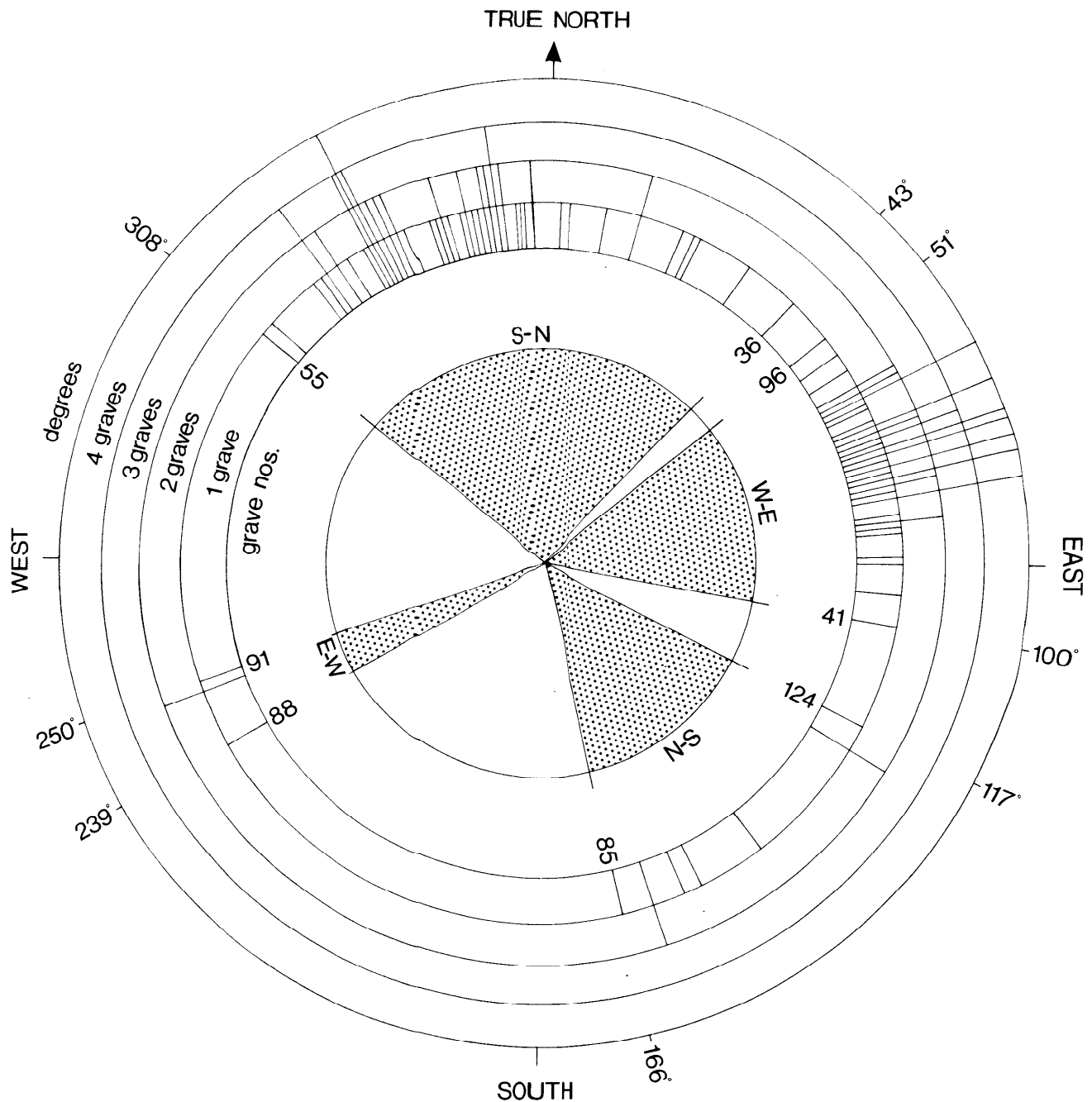


Figure 8 Orientation chart

149, 91, 146, 129, 137, 39 and 42. This is also the area favoured by most of the cremations.

In addition to the Saxon graves there are three separate examples of Roman cremations. At the north-western extremity of the excavation, cremation 21, consisting of three wheel-thrown pots, was revealed on the edge of the quarry. The lower half of a wheel-thrown pot, cremation 14, was found near to cremation 3 and grave 46. A considerable distance away, on the eastern limit of the excavation, there were five Roman cremations consisting of seventeen pots arranged in groups in a quincunx (fig 85). It must be assumed that these are outliers of the Roman cemetery located by Neville north of the Roman town (Brinson 1963, 87). No excavation was permitted

round the area where cremation 21 was found, but the two graves which are nearest to it, 120 and 66, were normal W-E graves of Saxon women. There is therefore no indication of any other Roman burials in this area, or any effect of the Roman cremation on the Saxon burials. However, near cremation 14 was a posthole which may have marked that burial and attracted the Saxon cremation 3 and grave 46 to the spot.

Further, it appears that the Saxons were aware of the existence of the cremation quincunx, for although the Saxon burials are fairly close together in this area there is no disturbance of the Roman burials. Also, the positions of the two most important male Saxon graves, the grave with a horse, 142, and the swords-



man's grave 122 on the same alignment and not far away, suggest that there was a visible monument over the cremations which attracted these important Saxon burials.

The five Roman cremations, the E-W grave 129, the N-S grave 146, and dog 2 were all close together. The graves were dug in a large area of dark brown, fine earth containing animal bones and oyster shells, and just south of grave 129 the skulls of two horses and one ox. Below and to the south of the dog were some large stones. A glass fragment, a coin, and a nail were found above the dog, and a number of Roman objects were with the Roman cremations (fig 65).

It is noticeable that these unusual graves were surrounded by a few cremations and a half-circle of W-E graves with a S-N grave to the south and the S-N grave 142 of man and horse to the north. This formation of a half-circle suggests that, in addition to the monument over the five Roman cremations already postulated, there was also a tumulus; and also it suggests that the Anglo-Saxon graves were positioned mainly on its perimeter (fig 2).

This phenomenon invites investigation for similar elements in the vicinity, and a search for repetition of this pattern does, in fact, yield further results. Immediately to the north of this group, parts of the top layers of soil had been destroyed, but enough remained to show a similar arrangement. Again there was a N-S grave, 137, and a cremation in the centre, with other cremations and mostly W-E graves (117, 22, 23, 24, 21, and 33) on the perimeter, with two more within the arc, 108 and 109, but including the S-N graves 113 and the sword grave 122.

Further to the north, at the limit of the excavation, there is enough to show another semicircular formation of W-E graves, 130, 52, 51, 140, 141, 148, 151, and 152, together with cremations, and there was another W-E grave, 145, and a cremation nearer the centre. Returning to the Roman cremation tumulus and turning our attention to the south, a similar pattern again occurs. Near the centre were three N-S graves, 154, 135, and 149, together with two S-N graves, 133 and 136, one W-E grave, 153, and some cremations. On the perimeter were W-E graves 157, 96, 92, 128, 127, and 93.

It is to be noted that there were no cremations in the immediate vicinity of these circles outside them to the west. In these areas also there were spaces without burials. With few exceptions the S-N graves avoided these circles, but between two tumuli were graves 100, 103, 105, 94, and 38; between the next two, graves 20 and 111; between the last two, graves 34, 45, and 112. There may also be some significance in the fact that at regular intervals between the tumuli, and in a fairly straight line, six of the S-N graves had similar orientations: grave 5, 22°; grave 97, 15°; grave 4, 352°; grave 38, 3°; grave 20, 360°; and grave 45, 350°. Two of these, 97 and 20, were graves which contained large numbers of beads. Apart from these groupings, as noticed above there was a group mainly of S-N graves in the south, another group in the north-west with orientations

similar to the six just mentioned, and a group of mainly W-E graves in between.

It appears, therefore, that the visible traces of a row of at least four Roman tumuli were in existence at the time of the arrival of the Anglo-Saxons. Those of the newcomers who favoured W-E burial and cremation deposited their dead on the barrows, and particularly on their perimeters. Those who used a S-N burial opted for the spaces in between the barrows, and two important male graves were on perimeters. The few for whom a reverse burial was appropriate were placed in the centre of the barrows.

The identification of the tumulus over the five Roman cremations as Roman of the 2nd century AD seems certain, although these cremations are not located in the exact centre of the circle, and the main original burial may have been lost. In fact, bronze fittings from a casket may represent the remains of a Roman burial disturbed by the Roman cremations (fig 65).

In the light of these observations it is necessary to consider another nucleus connected with a Roman burial. This is the Roman pot base, cremation 14, with a posthole nearby (pl 6c), another posthole to the north of grave 29, and a post or pillar which was in situ when grave 48 was dug (fig 74). This nucleus seems to have attracted Saxon cremation 3 and infant burial 46, and they were surrounded by a group of inhumation graves, almost exclusively of women and children in S-N orientations. The only exceptions are grave 125, a W-E male grave with no finds, grave 41, a W-E adult grave with only a nail and iron object, and g-rave 16A, a S-N g-rave of a boy aged 8-9 years with a spear, shield boss, etc. Again, the group is roughly circular and might delineate the contour of a tumulus over the Roman cremation and posts which was chosen by a group of eight Saxon women who required a S-N burial, with their sixteen children, possibly two slaves, and one horse. There were also two cremations. The group is separated from surrounding graves by a narrow circular strip without burials.

A relationship had already been noted between the woman in grave 37 and the child aged 4-6 years in grave 118 because of the side-by-side position, same orientation, and a practically identical pot in each grave. The woman was important enough to possess a fine radiate brooch imported from the Continent. The woman in grave 62 was also distinguished by her brooches, gilt bronze square-headed brooches from Kent. The women in graves 40 and 55 each had a pair of small long brooches, grave 55 also containing wrist-clasps and beads. The women in graves 18 and 132 wore disc brooches and had other possessions as well. Four of these graves contained some of the largest totals of beads: grave 18 with 66, grave 37 with 68, grave 62 with 82, and grave 55 with 107. Even the two cremations were quite distinctive: C3 was in a large, decorated pot, and C2 consisted of two pots, a decorated one inside a plain one. Some of the children were also well provided with grave goods 16A, 16B, 29, 31. The only two graves noted above as containing Roman coins and not connected with the four aligned tumuli, graves 29 and 132, are part of

this group. The area of the tumulus appears to have been in use from the 5th century to the second half of the 6th century.

Further examinations of grave patterns draws attention to the fact that south of the four aligned tumuli there is no semicircle of W-E graves as surrounds the tumuli, but there are reverse direction graves in the middle, graves 85, 88, 124, as well as cremations 6, 7, 10, 11, 18, and 19; and there are two graves which possibly follow the outline of a tumulus, graves 5 and 86. On the analogy of the other tumuli, there seem to be sufficient identical characteristics to propose a sixth example of a tumulus in this position, slightly out of alignment with the other four. The probable positions of these tumuli are shown on figs 99-105. Cremation 21, consisting of three Roman pots, and with a posthole in the vicinity, give a slight suggestion of a possible seventh tumulus.

The study on Roman barrows published by Dunning and Jessup in 1936 showed that the distribution was limited to the south-east of England and to Belgium, the average diameter was 80ft (24.38m), usually a cremation was the central burial, and they occurred singly or in groups of three or four, sometimes in a row. The majority belong to the first half of the 2nd century. An example not far from Great Chesterford was given at Linton Heath, Cambs, where a large tumulus with a primary Roman cremation was covered with the secondary burials of a Saxon cemetery. As may be seen, the Great Chesterford example fits well into this framework: it is in the normal area of the south-east of England, the diameters of the tumuli were between 50 and 85ft, there were five in a row with another off alignment, and three cremation pots belong to the first half of the 2nd century. An explanation put forward was that in general these mounds were the burial places of well-to-do merchant settlers from Belgic Gaul, and their British connection, who together were responsible for the vigorous commercial development of the south-eastern part of Britain during the first half of the 2nd century AD (Jessup 1954, 1).

At the time of the excavations at Great Chesterford there was nothing remaining of the conical barrows, and there was no sign of surrounding ditches on the surface of the sand and gravel which contained numerous pits. As excavation was not allowed of any features other than graves, it is just possible that there were other traces there to be uncovered.

As the centres of four of the tumuli were selected for reverse orientation inhumations and cremations, the contents of these graves must be subjected to special examination in case any represent the original 2nd century burial. Roman burials in the centres of five of the barrows could, however, have been completely destroyed by the commercial action of excavating a track in February 1955 (p 1 and pl la), which cut away half of each circle.

To take first the tumulus with the five Roman cremations: graves 129, 146, and the dog appear to have been positioned near the centre, while respecting the position of the quincunx. Grave 129 is a

female between 16 and 19 years with a knife and other iron fragments, apparently a normal Saxon burial apart from its orientation E-W. Grave 146 contained a child, accompanied only by nails which probably fastened a bier or coffin. Again, it is in a reverse direction, N-S, and the possibility of it being Roman is slightly stronger.

There were three reverse burials N-S near the centre of the tumulus to the south. Grave 154 contained an infant wearing beads and a bronze bracelet. Grave 135 contained a woman over 45 who was wearing all the normal local Anglo-Saxon finery, small long brooches, wrist clasps, beads, etc. Grave 149 was a young man between 19 and 25 years with Anglo-Saxon sherds, nails of a bier or coffin and a bronze coin on his skull. Also near the centre were two infant graves, S-N. One, grave 133, was unfurnished, but grave 136 contained an Anglo-Saxon pot and beads. The outline of the grave was not visible, but about 37cm from the foot of the infant and at the same level were nine Roman coins placed in four lots. They were of various dates, the latest belonging to the 3rd century AD.

In the centre of the tumulus to the north was grave 137, N-S, an adult male with only a hobnail and iron fragment. In the tumulus to the north-west there was a central Romano-British cremation and postholes, but the other graves were all Anglo-Saxon with the possible exception of two W-E graves, 125 findless and 41 with only nail and iron object. Apart from the quincunx of Roman cremations and cremation 14, all the other cremations were in Anglo-Saxon pots.

All of the graves occupying the centres of three of the tumuli therefore appear to be Anglo-Saxon graves, normal except for their orientation. Only graves 133 and 137 were without Anglo-Saxon grave goods. One of them, however, 149, had a Roman coin placed on his head, and one infant, 136, was provided with nine coins, possibly to be associated with a Charon's coin which demonstrates affinity with Roman beliefs.

Perforated and unperforated Roman coins appeared in a number of other graves, and most of these are also connected with the barrows. An unperforated coin was placed with cremations 26 and 29, both on the northernmost barrow. In grave 122 a coin was placed in the middle of the head of the grave, and the infant in grave 111 next to it has a perforated coin, both graves being on the periphery. Grave 34, an infant with a perforated coin, was between two tumuli. Graves 29 and 132 in the tumulus of women each contained an unperforated coin. It appears that there is a definite connection between inclusion of Roman coins in the burials and choice of position on or near the tumuli.

In late 4th century inhumation cemeteries, as at Lankhills, Winchester, a W-E orientation is normal, but at Lankhills there were a few late 4th century graves in different directions, 15 with head to the east, 12 at right-angles to the rest of the graves, and 5 completely askew (Clarke 1979, 132). Whether the Great Chesterford reverse orientations are due to Roman or Anglo-Saxon practice cannot be decided. These funeral arrangements may be compared with

those at Alton, Hants, where the evidence of a partially excavated cemetery suggested that regular W-E or S-N orientations were denied to those people who could not be regarded as fully-fledged members of society in that area, ie infants, children, adolescents, women from another part of the country, and possibly slaves (Evison 1988, 41). At Great Chesterford there were also in irregular orientations two fetuses, six infants, a child, two young people between 15 and 25, one of whom had a bronze coin on his head (grave 149), an adult without possessions except for a hobnail and iron fragment (grave 137), and a female who might be regarded as a stranger in the area as her brooches were bronze annular brooches, the only pair in the cemetery (grave 124). The only other bronze annular brooches occurred singly, 62/5 which was not worn but carried at the left hip, and 16B/2 which was with an infant. It was clearly not the custom for the local women to wear a pair of bronze annular brooches. All of these graves fit into the same categories as those at Alton. There is one exception, however, in grave 135, where a woman of over 45 was buried in a N-S grave, wearing a full set of the typical local jewellery, small long brooches, wrist clasps, and beads.

In the area of each of the two northernmost tumuli there was an unusual loose find. Near the middle of the northernmost tumulus was a silver pendant (Un 1, fig 66/l), and in the destroyed area of the adjoining tumulus was a shield boss of extra large size (Un 14, fig 66/14), each indicating the destruction of an important grave.

## Social status

Two swords were found at Great Chesterford. Before the excavation one of them was found at the same time as other objects, a bronze bowl, bronze-bound bucket, a spear, and shield boss. There is no firm evidence that they were all part of a single male burial, but as it is possible that they were and they form a credible grave group, they are grouped together and allocated grave number 65 (fig 34). The other sword grave was 122 (figs 46, 47). This grave pit was extra large and, as well as a sword, spear ferrule, and a shield boss, it also contained a pot and glass vessel. These two graves were therefore unusually well furnished and in a class above the other male graves (table 13, fig 88).

There were five other adult male graves with a shield boss, 4, 8, 22, 76, and 142, and each of these also contained a spear, although only the ferrule

remained in the damaged graves 8 and 134. There were ten adult male graves with a spear (and/or ferrule), but no boss, 2A, 19, 50, 51, 96, 101, 115, 134, 140 and 147. In addition, two unassociated spearheads, three ferrules and one shield boss indicate the presence of further male burials. Furnished male graves without weapons were graves 3, 5, 33, 54, 68, 75, 80, 93, 102, 109, 117, 121, 128, 137, and 149. Four of these contained only nails - 3, 5, 117, and 137 - and one, 109, only a bronze fragment; but others were provided with finer possessions. There was a pot in five of these graves, 33, 75, 80, 121 and 128, and sherds in 93 and 149. In some of these graves, too, there were other items of greater rarity, a glass vessel in 33 and 128, a duck brooch in 68, a razor in 54, and a coin on the skull in 149. In view of the probable value of some of these goods, the weaponless men cannot be regarded as of lesser worth than the men with weapons. Five were buried with no possessions at all - 11, 84, 90, 125, and 130; and one part grave, 15, was without finds. There was therefore a total of 17 male adults with weapons, but as many as 21 without weapons. This is unusual for the 5th and 6th centuries, when most men were buried with arms, and at Dover no man was buried without arms before AD 650 (Evison 1987, 147). At Westgarth only one man was without spear or boss, and he was buried in a prone position, grave 32 (West 1988, 28). In addition, at Great Chesterford a spear and a shield boss were placed in two graves of boys, 16A and 86, and the infant in grave 99 was supplied with a spear, knife, and buckle.

As may be seen from table 14, five graves contained an inlaid spear, two of which, graves 115 and 140, also had an inlaid buckle, and two an iron buckle. In three of these there was a fire steel, 115, 140 and 157, and in two a knife, 19 and 51; in two there were tweezers, 51 and 140, and in two a strap-end, 115 and 157. A similar pattern is to be seen in three weaponless graves, 33, 68, and 128, where there were knives, three fire steels (two in one grave), two buckles, and one strap-end as well as glass vessels and a duck brooch. These eight graves seem to form a homogeneous group. Pots and nails occurred mainly in weaponless graves.

Shield boss graves are different in that none of them contained inlaid material, fire steels, strap-ends, or tweezers, and only two contained a buckle, 4, 8, 16A, 22, 76, 86, 122 and 142. The remaining five complete spear graves, 2A, 50, 96, 99, and 101, had no bosses, fire steels or tweezers, only knives, three buckles, and one shoe tag, so not associating themselves closely with either group.

Table 13 Male graves classed according to grave goods

	Spear and boss	Spear	Weaponless	Findless
<i>Adults</i>	4, 8, 22, 65 sword, 76, 122 sword, 142 horse	2A, 19, 50, 51, 96, 101, 115, 134, 140, 157 93,	3, 5, 33, 54, 68, 75, 80, 102, 109, 117, 121, 128, 137, 149	11, 15, 84, 90, 125, 130
<i>Juveniles</i>	16A, 86			
<i>Infants</i>		99		

Table 14 Groups of male graves classed according to grave goods

*Male graves with weapons*

Grave	Spear type	Boss	Fire steel	Buckle	Strap-end	Tweezers	Knife	Pot	Nails	W-E	S-N	Other finds
<i>Inlaid spears</i>												
19	L			X			X			X		
51	H3			X		X	X			X		pin etc
115	H2		X	X	X					X		hone
140	B2		X	X		X		X	X	X		
157	J		X		X				X	X		
<i>Spears and shield bosses</i>												
4	K1	X		X							X	
8	fer	X		X						X		
16A	H1	X					X				X	
22	H1(2)	X					X			X		
65	I1	X									?	sword, bucket, bronze bowl
76	F1	X					X				X	
86	H1	X							X		X	
122	E2	X					X	X			X	sword, coin, glass, pin
142	H2	X					X	X			X	horse
<i>Spears only</i>												
2A	E2						X				X	
50	L						X			X		
96	H2			X			X			X		shoe tag
99	H2			X			X			X		
101	C3			X			X				X	
134	fer									X		

*Males graves without weapons*

Grave	Spear type	Boss	Fire steel	Buckle	Strap-end	Tweezers	Knife	Pot	Nails	W-E	S-N	Other finds
33			X		X		X	X	X	X		glass
68			2	X			X			X		duck brooch
128				X			X	X		X		glass
3									X	X		
5									X		X	
54							X			X		iron
75				X			X	X			X	
80							X	X	X		X	
93								X		X		
102				X			?			X		
109										X		bronze fragment
117									X	X		
121								X		X		eggs
137									X		NS	
149								X	X		NS	coin

Table 15 Female graves classed according to grave goods

	Brooch, beads, wrist clasp	Brooch, beads	Brooch, wrist clasps	Brooch only	Beads only	Other finds	Findless
<i>Adults</i>	9, 18, 20, 55, 66, 124, 135	1, 2B, 27, 37, 45, 62, 69, 81, 92, 97, 103 108, 113, 114, 116, 120, 126, 127, 132, 145, 153	160	7, 21, 40, 73	13, 48	10, 13, 14, 23, 24, 32, 100, 112, 129	26, 110, 152
<i>Juveniles</i>	29	79, 148			36		
<i>Infants</i>					16B, 31, 34, 56, 57, 111, 136, 141, 150, 154, 159	87	

The orientation of all the graves with inlaid spears and the three similar weaponless graves 33, 68, and 128, was W-E. The orientation of the majority of the rest of the weaponless graves and of the spears-only graves was also W-E, ie a total of 11 W-E to 7 S-N or N-S. The shield boss graves, on the other hand, were mostly S-N, ie six S-N to two W-E. Only part remained of one of the W-E graves, 8, but grave 22 was unique in having two spears. The shield boss graves, therefore, by reason of contents and orientation, form a separate group.

The five inlaid spear graves and three weaponless graves have enough in common to mark them out as a distinct group. The grave finds would suggest Roman and continental Frankish connections. Most were on the periphery of tumuli, two were side by side, 51 and 140, and only one, 68, was more distant to the north-west. The fact that grave contents include Frankish or Roman objects makes it unlikely that the common factor was ethnic, but the W-E orientation does suggest that it might be religious and that these could be Christian graves. It is noticeable that none of them contains a Charon coin, and, in fact, it can be seen that the six graves that do contain a Charon coin, graves 122, 129, male, grave 132 female, grave 29 female juvenile, grave 136 juvenile, and grave 71 infant, are oriented S-N with one N-S. The theory of religious difference therefore has much to recommend it, and it could be that one of these grave groups shows the influence of Christians, either Romano-British or Frankish, and the other of Romano-British pagans.

There were 45 female adults at Great Chesterford, 4 juveniles and 14 infants (table 15, figs 89-95). Thirty-six of these wore brooches, 8 of them also wore beads and wrist clasps, and 23 wore brooches and beads but no wrist clasps. One wore a brooch and wrist clasps and there were beads in every grave with wrist clasps except that one. It is probable that greater importance was attached to women with three brooches, especially those with the two fine square-headed brooches, 2B/1 and 126/3. Two women and one juvenile wore beads only, and 11 infants wore beads only. Nine women and one infant had

none of this jewellery but had other goods, such as pots; three women had no grave goods at all.

Female graves containing small long brooches were distributed widely throughout the area, but circular brooches, disc, applied, saucer, annular, and penannular, were confined to the middle section, avoiding the southern and northern limits completely (figs 89, 90). They were mainly on the female tumulus, the quincunx tumulus, and the next one to the south. Of the three female graves without finds (fig 95), 26 and 110 were fairly near each other, and 152 was at the north end, all three with similar W-E orientations. These, and all female graves without beads but one, are in the north-eastern part of the excavation, most with W-E orientations.

There is a certain amount of irregular clustering of male graves and female graves, and a definite group of women and children on one tumulus, but no obvious family groups or pairing of male-female (but see below, p 49). Graves 122 male and 113 female do lie parallel to each other, but there is a gap of more than 50 years in their dates of burial. The sex is not known of 4 adults, 12 juveniles, 36 infants, and 14 fetuses.

## Chronology

Few unassailable aids to dating present themselves at Great Chesterford. The area excavated is a slice through the middle of the cemetery, so that if there was a gradual spread of burials from one point to another it is not clearly visible. Nor are there any post-Roman coins, and clearly datable objects of continental origin are few. Stratification does not give much dating evidence either, as no particular orientation is consistently earlier or later than another, nor is there any consistent sequence between cremation and inhumation graves. Forty-five of the inhumations are undatable as they contained no grave goods at all, and about another 30 contained only commonplace objects which are not datable, such as nails. Few graves contained more than one object which can be used for dating purposes.

**Table 16 Chronology (figs 102-105)**

Phase 1	AD 450 500	Graves 10, 18, 24, 29, 33, 68, 113, 114, 115, 120, 127, 128, 132, 140, 148, C13, C15, C25
Phase 2	AD 475 525	Graves 1, 7, 9, 27, 45, 55, 66, 73, 79, 81, 92, 108, 116, 124, 135, 153, 157, 160, C8, C10
Phase 3	AD 500 575	Graves 2B, 4, 8, 16A, 19, 20, 21, 22, 40, 51, 62, 69, 76, 86, 103, 122, 123, 126, 136, 142, 145, C2, C3, C20
Phase 4	AD 550 600	Graves 32, 37, 97, 100, 101, 118

At the beginning of the existence of the cemetery there are some objects which may be dated to the 5th century by reason of continental parallels, eg pedestal pots, small long brooches with lozenge-shaped foot, inlaid spear and buckle, glass cone beaker, applied brooch with floriate cross design, and saucer brooch with egg-and-dart border. A second phase is indicated by most of the small long brooches, an inlaid spear and strap-end with animal ornament, and a bucket. Next a general 6th century date must apply to cruciform and small long brooches with lappets, Style I-ornamented applied brooches, and square-headed brooches, together with most of the shield bosses and some pots. The continental radiate brooch 37/2 allows that woman's grave to be dated in the second half of the 6th century. As the child's grave beside it contained a duplicate of the pot in grave 37, it is allocated to the same phase. A late type of spear and saucer brooch belong here also, and one grave which disturbed another.

The phases are therefore assigned tentative and overlapping dates as shown in table 16.

In the first phase W-E graves and some cremations were deposited (fig 102) on four tumuli, S-N graves appeared on the north-west tumulus and three W-E graves outside in the northern sector. In the next phase (fig 103) one or more graves appeared on each of the six tumuli and in outer areas throughout the cemetery. Orientations were W-E, S-N and N-S. There were two cremations, one on a tumulus. In the third phase (fig 104) more W-E and S-N graves and cremations appeared on five of the tumuli and in other areas. In the last phase (fig 105) there were two new graves on one tumulus, three on another, and one grave between tumuli, all S-N. As such a large proportion of the graves cannot be dated, this study can give only a sketchy picture of the system of use of the cemetery. It is enough to show, however, that graves were added to various tumuli in each phase, which suggests that individual tumuli were adopted for use for family burials, the north-west tumulus being reserved mostly for women. It also shows that W-E and S-N graves and cremations were all in use from the beginning, and continued until the last phase when only S-N graves were in evidence.

### **Comparison with the cemetery at Westgarth Gardens, Bury St Edmunds, Suffolk**

A recently published cemetery at Westgarth Gardens (fig 9; West 1988) is closely comparable with the Great Chesterford cemetery. The distance between

the two sites is only about 25 miles (40km), and the Westgarth cemetery is situated at the southern edge of the group of cemeteries in the Lark valley in the same way that the Great Chesterford cemetery is on the southern edge of the cluster of cemeteries in the Cambridge area (fig 10). Both are on sand and gravel near a river, and only a part of each cemetery was excavated, resulting at Westgarth in a total of 65 inhumations and 4 cremations. The women were dressed in a very similar fashion to those at Great Chesterford, a pair of brooches at the shoulders, both small long and cruciform, with beads between and wrist-clasps on the sleeves. There is also a single great square-headed brooch and an equal-armed brooch, both at mid chest. One difference in fashion is that at Westgarth annular brooches were also worn in pairs at the shoulder (graves 9, 13, 26, and 52), and not relegated to singular and secondary use for suspension as at Great Chesterford (16B/2 and 62/5) and at Dover (Evison 1987, 48).

In the Westgarth cemetery there is a juvenile with a shield boss, grave 50, and it has been pointed out that it is rare for a boy to be provided with a shield boss (Harke 1988, 13). At Great Chesterford, however, there is a spear and shield in grave 16A with a boy of 8-9 years (fig 20). There is also a spear and shield with a boy of 7-8 years in grave 86, where the shield is twice mended (fig 39).

At Great Chesterford every grave with a shield boss also has a spear. At Westgarth it is remarked that there are three graves containing a shield boss but no offensive weapon (Harke 1988, 12). Where this occurs it is most likely that the spearhead has been disturbed and removed, because as the spear was such an awkward size - about 7ft long - it was usually placed last in the grave, often leaning against the head of the grave so that the spearhead was on a higher level. It is therefore often disturbed by such activities as ploughing, while the rest of the grave contents can remain untouched.

As at Great Chesterford, there were two swords only, the sword fittings, glass vessel, and pot in grave 51 indicating the 7th century (West 1988, figs 75 and 83). The two glass vessels at Westgarth in light green with white trails, a cone beaker and a unique bucket shape, were both probably imported from northern France. At Great Chesterford also there was an imported glass vessel.

At Westgarth it was noted that the graves were closest together and partly arranged in rows in the north-west part of the area. Towards the east and south the graves were more widely spaced and irregularly positioned. The graves in the north-west mostly belong to the period before the middle of the

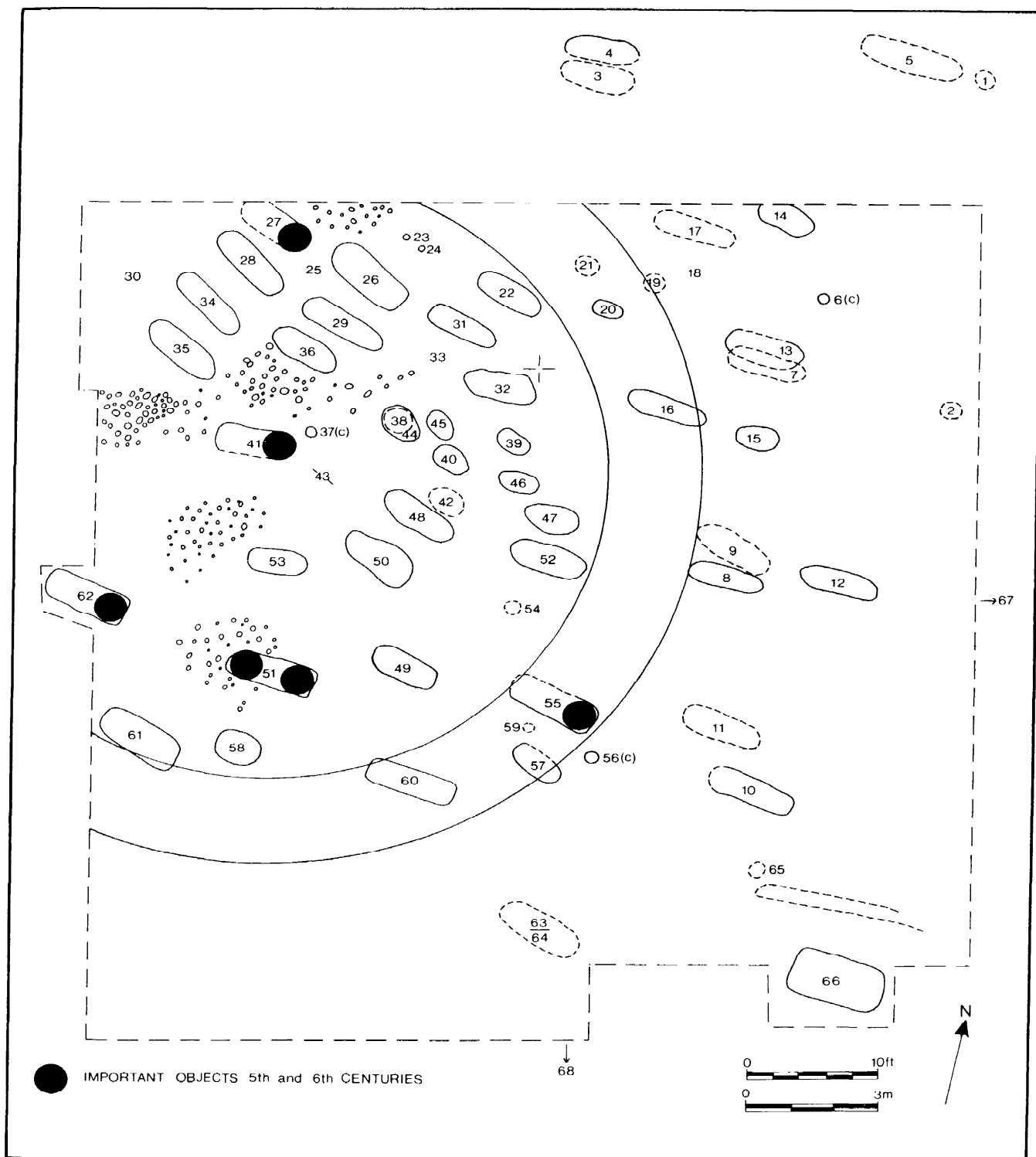


Figure 9 Plan of Anglo-Saxon cemetery at Westgarth Gardens, Bury St Edmunds, Suffolk (after West 1988, with additions)

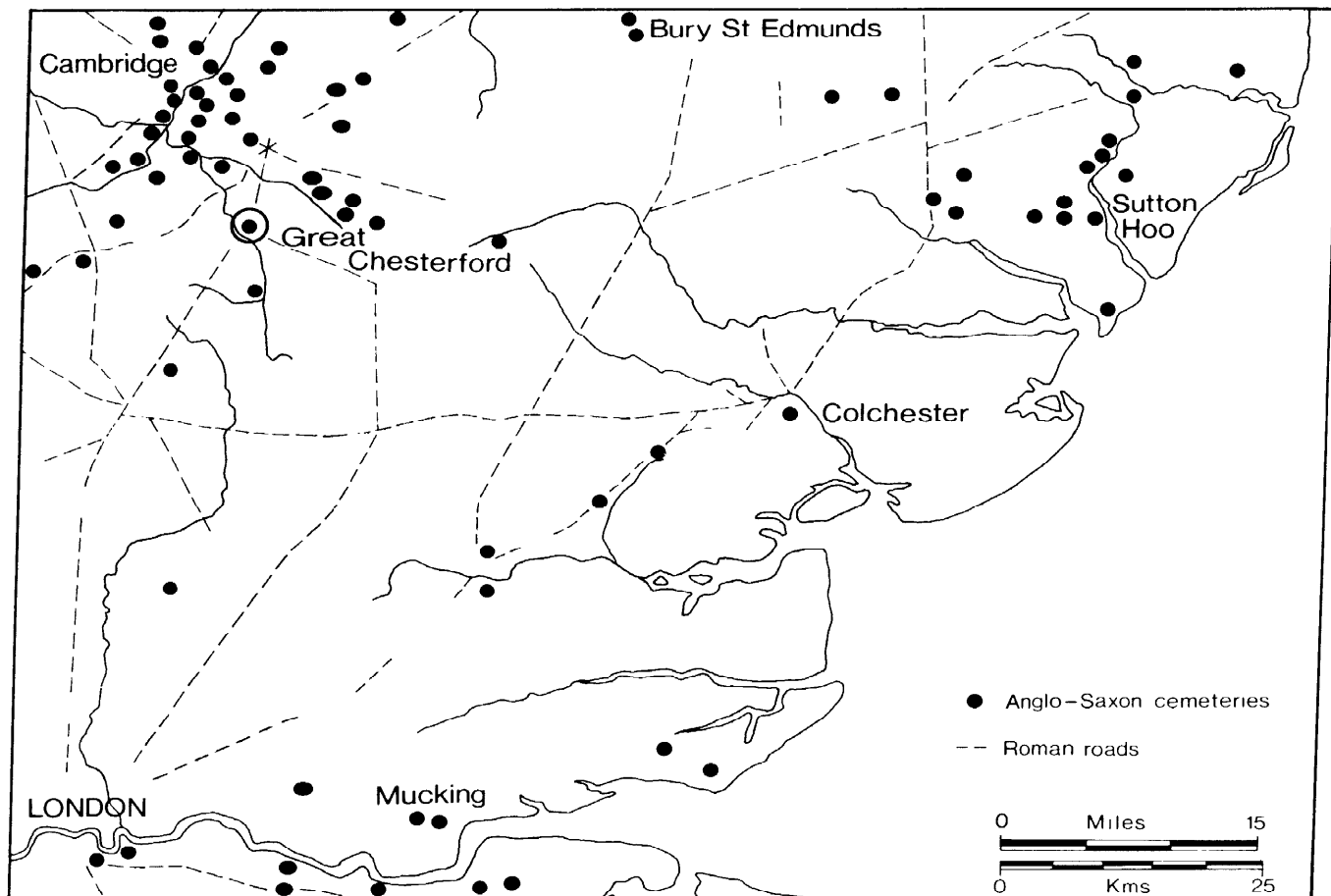


Figure 10 Anglo-Saxon cemeteries in Essex (after *Map of Britain in the Dark Ages*, Ordnance Survey, 1966, with additions and omissions)

6th century, while the later graves, 1,66,67, and 69, belonging to the late 6th and 7th centuries, were further east and south, only 66 being within the organized excavation limits. Also, there were many large stones around, and sometimes inside, the graves in the north-west. Add to this the fact that there was a roughly circular edge to that group of graves, with wider spaces and no stones outside the circle, and it seems clear that the stones must have been part of the build-up of a tumulus, possibly Roman, which was occupied by the early Anglo-Saxon graves (fig 9). Nearest the centre point is grave 41, a well-furnished male grave with spear and ferule, shield boss, iron buckle, knife, bronze tweezers, and two silver-gilt mounts with zoomorphic decoration. There was no sword with this burial, but the importance of the man is signified by the silver-capped rivets on his shield boss and the silver-gilt mounts with zoomorphic decoration, both unique occurrences in this cemetery. There were also two iron clamps beside an oval area to the right of the area indicated for the skull position by the surviving long bones, so that the iron clamps were presumably

associated with the remains of a wooden bowl, and not a misplaced skull as indicated on the grave plan (West 1988, 30, fig 37). The group of graves surrounding it included both the early grave 51 with sword and glass, the grave with the bucket-shaped glass, 62, and the later woman's grave with the square-headed brooch, 27, ie the most important graves, with the exception of the woman with an equal-armed brooch in grave 55, just outside the circle. It is probable that grave 55, as well as graves 60, 57, 59, 16, 20, 19, and 21, was placed on the edge of the tumulus, possibly on the surrounding ditch as suggested in fig 9. Burial on a probable Roman tumulus repeats the pattern found at Great Chesterford, and the tumulus would have been about 60 - 70ft (20-23.5m) in diameter, a similar size to those at Great Chesterford.

## Conclusions

Anglo-Saxon finds made earlier at Great Chesterford were enumerated by Cyril Fox (Fox 1923, 265) as follows:



'Chesterford. One decorated vessel of cinerary urn type is in the Cambridge Museum, together with plain pipkins characteristic of the period; one of these latter was associated with charcoal, a bone spindle whorl and a fragment of bronze. A plain bowl of Anglo-Saxon type 4ins [101.6mm] high, in the Audley End Museum is said to have been found "to the west of Borough Field", and this may have been the site of the cemetery of the settlement. A late sixth century cruciform fibula in the Liverpool Museum from Chesterford is figured by Brown (1915, pl XLV, 7 and p 270).'

This cruciform brooch in Liverpool Museum was found as early as 1819.

A few finds in private possession were reported to Cambridge Museum in 1953, and these must represent some of the results of commercial activity at the site which took place immediately before the beginning of this series of excavations (p 1 and fig 69). These consisted of three bronze back plates of applied brooches, fragments of two repoussé front plates of applied brooches, a small long brooch, and two fragments of a double-sided comb. These finds indicate that more than one female grave was disturbed at that time.

Since the excavations, in 1971 the digging of a sewage-pipe trench some distance away, at the opposite side of the Roman town, revealed the graves of two women and a child and other human bones, as well as two horse skeletons (pp 29-30 and fig 1b). A penannular brooch with one of the skeletons, and the position of the graves within the town walls, shows that this is the site of a second Anglo-Saxon cemetery. It is not far away from a grave containing four skeletons, a coin of Arcadius, Roman objects, an iron hook, two knives, a spearhead, and a grey urn with bosses on sides and shoulders, which was found in 1854 near the churchyard, just outside the south wall of the town (Brinson 1963, 84).

The site of the Anglo-Saxon settlement at Great Chesterford has not been detected. Occupation of the town, which was provided with a wall in the 4th century, is certain to the end of the 4th or early 5th century (Brinson 1963). Communications with other parts of the country were made easy by means of the River Cam flowing northwards just to the west of the town, and by Roman roads converging from London, Colchester, and Cambridge.

The earliest Anglo-Saxon settlers might have arrived either southwards from a landing in the Wash or northwards from the Thames. The section of the cemetery excavated, however, has not produced any distinctive early 5th century Germanic material to illustrate unbroken continuity with the Roman occupation, except perhaps a stray fragment of a faceted-carination *Schalenurne* (Un 19, fig 67) and a few graves which belong to the 5th century. The chronology of the Great Chesterford graves is not clearly established, as there are no post-Roman coins and few closely datable objects, and the area excavated is too small a section in the middle of the cemetery to establish a burial sequence pattern. Much of it appears to belong to the 6th century, and it is possible that early 5th century and 7th century graves were in the destroyed areas on either side. The

Great Chesterford cemetery, however, situated immediately outside a Roman town, has some evidence to contribute in connection with the question of the survival of the Romano-British population into Anglo-Saxon England (White 1988). There was a degree of continuity, for the remains of the Roman town and its wall were there to be seen and appreciated by the new settlers, and the Roman cemetery beside it with its row of five tumuli and at least one other besides, as well as other monuments in the cemetery extending eastwards, must have presented an impressive sight. It is no wonder that the Anglo-Saxons chose to bury their dead on and near the tumuli, one tumulus perhaps being appropriated by a single family.

A number of Roman cemeteries outside the walls of the town were located by Neville in the 19th century. Finds made then about 200 yds (180m) north of the town and 240yds (220m) north-west of the town (Brinson 1963, 87) must have been very near the eastern and northern limits of the excavations reported here, possibly indicating that one large Roman cemetery occupied the entire area between the row of tumuli and the Icknield Way to the east.

It is an unfortunate and extraordinary coincidence that the commercial destruction of a strip through the middle of the entire length of the cemetery (fig 2, pl 1a) happened to cut exactly through the middle of a row of five Roman tumuli, no doubt destroying the original burial in each, along with many secondary Anglo-Saxon burials. The largest number of inhumations on the row of tumuli were in a W-E direction. The single tumulus to the north-west was reserved for the women of a comparatively well-off family buried in a S-N direction with some of their children, two possible slaves, and a horse. Male burials of a similar rank are not to be found near this tumulus, and it is probable that two graves of the husbands of these women, also in a S-N orientation, can be identified amongst W-E graves in the rich, armed male burials 122 and 142 with a horse, positioned between, and touching, two tumuli. The rich contents of graves 37 (imported brooch) and 62 (Kentish brooches) suggest their occupants as the relevant wives. As horse burials are limited to Anglian areas, these S-N graves are presumably Anglian, although two of the women wore disc brooches, and one had an annular and penannular brooch.

An interesting phenomenon of this cemetery is the group of men buried without weapons (see above, p 43). Most of the men with weapons were buried on the periphery of a barrow (pp 42-3 and fig 88), and so were some of the weaponless men, but those without any goods at all were not in the vicinity of the barrows, except for grave 130. Whether a man was buried with weapons or not does not seem to be related to the normal age of military service, as both groups range from juvenile to over 45.

In view of the exotic nature of some of the grave goods with the unarmed men it is possible that these people were strangers, some perhaps merchants, and some connected with the Romano-British element in the population, as witness the glass vessel in grave 128, the razor in grave 54, the coin on the head in grave 149, and the duck brooch in grave 68, coupled

with the fact that in this case a brooch was worn by a man. Their positions would seem to be of comparable prestige within the cemetery with those of the men with weapons.

The idea that Anglo-Saxon graves orientated W-E were dug in that direction because of the influence of Christianity has been resisted of late, and indeed, although some Anglo-Saxon W-E graves appear to have been Christian, there is no evidence that this can be accepted as general practice. Specific indications of Christianity such as cross pendants are absent from Great Chesterford, and indeed, graves of the 7th century, which are most likely to contain converted Anglo-Saxons, do not form part of the section of the cemetery excavated. However, earlier influences of Christianity might be expected from the surviving Romano-Britons of the beginning of the 5th century, and later from Frankish merchants or immigrants after their conversion at the beginning of the 6th century. It has been suggested (above, p 45) that Frankish elements in some graves and Romano-British in others, coupled with a W-E orientation, might indicate Christian influence from these two sources, and further that a Charon coin in S-N graves might indicate pagan Romano-British influences. There is no evidence regarding the religion of the rest of the graves, and the possibility of a Christian motive for general W-E orientation must remain an open question. The findless graves, six male and three female, and a number of other graves which contained little of any consequence, might represent Romano-Britons and/or slaves. Some of these graves present the best evidence for the coexistence of a Romano-British population. Otherwise, in view of the proximity of the Roman town and cemeteries with consequent material remains, it is surprising that the Anglo-Saxon graves contain so few acquisitions from the previous inhabitants.

In most Anglo-Saxon cemeteries there are usually very few children or none at all, and it has been assumed that the bodies of children were not usually buried with their elders, but were disposed of in some other way. At Great Chesterford, however, the non-adult total is about the same as that of the adults, and even fetuses were buried here. This indicates a remarkable diversion from normal custom.

Great Chesterford is clearly part of the nucleus of Anglo-Saxon settlements in the Cambridge area, a group considerably distanced from the other settlements in Essex, which are nearer to the coast (fig 10). The relationship of Great Chesterford to the other population of the Cambridge area is further brought out by the two fine bronze-bound buckets (above, p 22). These are ornamented with escutcheons with bird's head terminals of a type distributed mainly round Cambridge and in Suffolk (fig 7). The bucket 9/1 is further decorated with red and yellow enamel, and 6th century dress objects decorated with red champleve enamel were found at seven of the sites which produced the buckets (fig 7), so suggesting a local production centre. The small brooch 114/1 also has the appearance of being decorated with enamel, and may likewise be associated with the group.

The use of the technique of enamelling by Anglo-

Saxon craftsmen has been traced back from the 10th century through the hanging bowls of the 7th century to these few spots of red enamel in the 6th century (Evison 1977; Brown 1981; Buckton 1986). From there the connection with Romano-British work cannot be made through the 5th century. A five-spiral saucer brooch from Bury St Edmunds quoted in this connection (Scull 1985, 117, fig 1) appears on examination to be a normal Anglo-Saxon brooch of that type which has been burnt and discoloured, but which bears no trace of enamel. Yellow enamel, however, has not been noted before the hanging bowls of the late 6th or 7th century, and the Great Chesterford bucket supplies the earliest example of this, as it must belong to the beginning of the 6th century.

It is likely that the enamelled parts of the Great Chesterford mounts and the bird's head terminals were not made by the same craftsman, for the enamelled parts are damaged and re-used elements and separate from the bird's head mounts which were especially rebated to accommodate them. The marguerite pattern is of Roman origin, and appears frequently on late Roman chip-carved belt fittings, so that, like the enamel technique, it belongs to Roman traditions. Nevertheless, its continuance into the Anglo-Saxon period is illustrated by other similar finds from Anglo-Saxon contexts. The double marguerite motif is to be seen on a lost bronze strip from an Anglo-Saxon cemetery at Great Wigston, Leics. (Smith 1852, pl. XLII, 8), which may also have been part of a bucket type of vessel as the drawing seems to show that it was attached to part of a bronze hoop. The double marguerite motif in red enamel also ornaments two belt mounts from the Anglo-Saxon cemetery at St. John's College, Cambridge (information C Scull). Although, therefore, the enamelled parts of the Great Chesterford bucket must have been made earlier than the bird's head parts, there is no reason to assume a long time lag between them. As the bucket was found on the edge of a Romano-British town and cemetery it provides the closest geographical and chronological link so far to suggest continuity of enamelling technique from Roman to Saxon, but there is still a gap between the two of about 50 years.

As comparison with the Westgarth cemetery shows (p 46), the brooches of the Great Chesterford women were typical of the Cambridge area, and most were either of Saxon or Anglian origin. Square-headed brooches 62/1, 2 and 145/3, 4, and a pair of saucer brooches 97/1, 2 (figs 33,55, and 41) show connections with Kent. Amongst the pottery there are both Saxon and Anglian types. The small bow brooches 9/2,3 (fig 18) indicate connections with Kent, northern France, and Germany, and the radiate brooch 37/2 (fig 28) was probably imported from northern France. Imports from Germany are the glass beaker 128/2 (fig 50) and the bronze bowl 65/4 (fig 34). One male grave, 115, contains an inlaid spear and buckle, a fire steel, knife, strap-end, and hone, an assemblage proper to a Frank rather than an Anglo-Saxon. A sword grave, 122, a rich male grave with a horse, 142, and several rich female graves also with a horse, all in a S-N

direction, suggest that the most powerful family of this settlement was Anglian.

The analysis of the cemetery therefore shows it to be of normal economic status for the local Anglo-Saxon population, with only two swordsmen and a few women richer than most. Unarmed men might

be foreign merchants or Romano-British officials absorbed into Anglo-Saxon life. There is no gold, little silver, and jewellery is mostly bronze, sometimes gilt. As at Dover, position and orientation of graves was of great importance and here again it is associated to some extent with difference of religion.

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## 4 Specialist reports

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### The human remains

*Tony Waldron*

#### *1 The skeletons*

The human remains from Great Chesterford comprised a number of discrete inhumations and some cremations. The inhumations will be dealt with in this section of the report and the cremations in the section which follows.

The site was excavated in the 1950s and the bones have suffered somewhat over the years. Although the bones from each of the inhumations must originally have been kept separate, this is no longer so. Almost none of the skeletons remains discrete and where this is the case, it is true only for some of the infant burials. Instead, most of the bones have been kept together in anatomical groups; that is, all the femurs are together in a number of boxes, all the pelvises, all the scapulae, all the sacra, and so on. A substantial number of the bones have suffered post-mortem breakage and other damage, and it was frequently found that the two (or more) parts of a broken bone were in different boxes. Most, but by no means all, of the bones had been marked with the inhumation number. In some cases the number was indecipherable since it had been written on an unwashed bone surface and had become virtually erased over the years, and several other bones clearly had the wrong number on them. For example, there were a few instances where more than two of the same long bones had the same number, and some juvenile bones were marked with a number which belonged to an adult inhumation. Where there was an excess number of bones apparently belonging to one inhumation, an attempt was made to exclude those which obviously did not belong. No attempt was made to match unmarked to marked bones, however.

The result of the rather poor state of these bones was greatly to slow down the work of examining them and to make several of the skeletons appear less complete than they should otherwise have been. For one skeleton (inh 131), no bones could be identified at all, although the grave plan clearly shows that some bones of the legs were originally present.

Thirty-two of the adult skeletons (all but one judged to be female) and one of the juveniles had a number of bones with green staining on them. This had evidently come from copper or bronze objects which had been buried with them.

#### *Methods of analysis*

For each of the skeletons the age and sex was determined using the methods recommended by the

Workshop of European Anthropologists (1980) or by Krogman & Iscan in their textbook of forensic anthropology (1986). A definite sex was assigned to an adult skeleton if either the pelvis or the skull was present and a probable sex if the determination was based on other criteria such as long bone measurements. Sex was not determined for juveniles or infants.

The age of the skeletons was determined from the pattern of tooth eruption in juveniles or epiphyseal fusion in the immature adults. For very young infants or fetuses the age was assessed from measurements of the diaphyses of the long bones, using the data published by Fazekas & Kósa (1978) and of Maresch (1955) for comparison. Ages obtained by these methods are generally reliable, always assuming that dental eruption and long bone growth were the same as they are for modern comparative groups.

In adults in whom the epiphyses has fused, age was estimated using tooth wear (Miles 1963), the morphology of the pubic symphysis, or from the state of fusion of the cranial sutures. None of the methods of ageing adult skeletons is very reliable, and I have given ages in ten-year bands; even so, these should be considered as approximations.

Stature was determined from the regression equation published by Trotter in 1970. In these equations, the length of one or more long bones is used to calculate height, and each result has a standard error term. For example, the standard error associated with the equation which predicts male height from the maximum length of the humerus is 0.405cm. So if the height is calculated to be 170cm then the true height is likely to lie between 166 to 174cm. In the calculation of heights, the long bone measurement which has the lowest standard error has been used.

#### *The demography of the population*

**Age and sex** A total of 167 individuals was represented at the site, of whom almost exactly half were infants or juveniles (aged 15 or less). Of the adults, 22 were judged to be male, 2 probably male, 43 were female and in 6 the sex could not be determined. The ages of the males were evenly spread but the majority of females were aged between 25 and 45 (see table 17); in eight instances the age of the skeleton could not be determined.

The cumulative percentage distribution for males and females of known sex shows that the men in the population tended to outlive the women, for whereas only 14.3% of the women survived beyond the age of 45, 26.7% of the men did so. The tendency for males to outlive females in the past has been noted by other authors (see Brothwell 1972, for example), and it is

**Table 17 Age and sex of skeletons**

	Male	Female	Unknown
0			67
5			16
15	7 (23.3)*	9 (21.4)	0
25	7 (46.7)	10 (45.2)	3
35	8 (73.3)	17 (85.7)	1
45+	8 (100.0)	6 (100.0)	9
Unknown	5	1	2
Total	35	43	89

\*figures in parentheses show cumulative percentages of skeletons in each age group.

**Table 18 Number of infant and juvenile skeletons by age group**

Foetus	5
Stillborn	12
Neonate (0-2 months)	26
2-12 months	12
2 years -	11
6 years -	10
10-14 years	2

**Table 19 Heights (m) of skeletons by sex\***

	Male	Female
1.45-		1
1.50-	3	3
1.55-	2	9
1.60-	7	14
1.65-	5	8
1.70-	6	3
1.75-	2	
1.80-	3	

\*Figures show number of skeletons within each height range.

only comparatively recently that the converse has been the case, almost certainly as a result of improved obstetric care.

Of the infants and juveniles, 5 were fetuses aged less than 40 weeks; in two cases (inhs 32 and 127) they were found in the pelvis of the mother, who may have died of some complication of pregnancy. A further 12 skeletons were from stillborn children, that is, they were aged around the normal time of delivery, which is 40 weeks. Twenty-six of the infants were in the neonatal period when they died, being less than a month old, and an additional 12 infants died within the first year of life. Most of the other children died before the age of ten; these data are summarized in table 18.

**Table 20 Cranial, platymeric, and platynemic indices in skeletons**

	Male	Female
<i>Cranial index</i>		
Dolichocephalic	11	9
Mesocephalic	4	4
Brachycephalic	1	2
Total	16	15
<i>Platymeric index</i>		
Platymeric	24	29
Eurymeric	3	2
Total	27	31
<i>Platynemic index</i>		
Platynemic	4	1
Mesocnemic	25	34
Total	29	35

**Height** Heights could be estimated for 28 of the adult males and 38 of the females (table 19). The males ranged in height from 1.51-1.83m and the females from 1.46-1.71m. The mean heights were 1.66 and 1.61m for males and females respectively. The mean heights of the modern population of England and Wales are 1.73 and 1.61m; thus the men at Great Chesterford appear to be shorter than at present whereas the women are no different from their modern counterparts. Given the small numbers, the difference for the males is more likely to be due simply to chance than to reflect any real biological significance.

### ***Metrical indices***

Cranial, platymeric, and platynemic indices were calculated for the adult skeletons where possible; these define the shape of the head and the upper part of the shaft of the femur and tibia respectively. Relatively few of the skulls were intact enough to measure, but femora and tibiae could be measured in about threequarters of the cases. The results are shown in table 20.

The cranial indices tended to fall into the dolichocephalic (round-headed) category; virtually all the femora were platymeric and the tibiae mesocnemic. That is to say, the femora were relatively flattened from front to back and the tibiae flattened from side to side. The significance of these indices is discussed by Brothwell (1981).

### ***Non-metric characteristics***

Various non-metric characteristics in the cranial and post-cranial skeletons were noted, following the schemes of Berry & Berry (1967) and Finnegan (1978) respectively. Those which were present most frequently are shown in table 21.

**Table 21 Number of skeletons with non-metric characteristics**

	Present	Absent	Not known
Cranial			
Ossicle at lambda	4	56	24
Ossicle in lambdoid suture	24	39	21
Parietal foramina	22	41	21
Metopic suture	9	54	21
Supra-orbital foramen open	49	16	19
Post-cranial			
Plaque	12	56	16
Hypotrochanteric fossa	19	54	14
Exostosis in trochanteric fossa	10	56	18
Third trochanter	7	60	17
Medial squatting facet	8	60	16
Lateral squatting facet	8	59	15
Acromio-clavicular articular facet	23	21	40
Inferior calcaneal facet double	25	39	20
Anterior calcaneal facet double	20	39	25
Anterior calcaneal facet absent	4	53	27
Superior facet of atlas double	4	33	47
Transverse foramen double	7	33	44

Ossicles in the lambdoid sutures were present in more than a third of the skeletons in which the observation could be made, and in a smaller number of cases an ossicle was present at the lambda. Metopism was also relatively common. It has been suggested that a high prevalence of some of the cranial non-metric characteristics is indicative of a high degree of family relationship, and perhaps this is the explanation here.

### **Dental health**

From the sample of 84 adults a total of 2688 (84 x 32) teeth should have been found. In fact almost a quarter of the teeth were unaccounted for because of post-mortem damage to the skulls and mandibles, or because either the skull or the mandible was not present. The number of teeth actually present was 1751; 7 teeth were unerupted, there were 159 sockets from which the teeth had been lost after death, and 204 teeth had been lost during life. Thus 2121 teeth, or 78.9% of the total, could be accounted for.

There was a good deal of dental disease present, including ante-mortem tooth loss, caries, and abscesses. Twelve males and 23 females had one or more of these conditions and there was a marked age

gradient (table 22). Although almost twice as many females as males had dental disease, not too much should be made of this, as it has almost certainly arisen by chance.

The most common observation was the ante-mortem loss of teeth, which was found in 11 of the males and 18 of the females. Four males and 11 females had dental caries, and 4 males and 6 females had dental abscesses.

### *Calculus*

The presence of dental calculus was scored on an arbitrary four-point scale from 0-3, the three grades 1-3 indicating different degrees of severity. The distribution of calculus in the 54 skeletons in which the assessment could be made was as follows:

Grade	No	%
0	18	33.3
1	21	38.9
2	13	24.1
3	2	3.7

These results show that calculus was present in most skeletons to some degree or other and that in well over a quarter of cases it was moderate to severe in degree. This high prevalence is no doubt related to difficulties in maintaining good dental hygiene.

### *Alveolar disease*

Alveolar disease, shown by resorption of the alveolar margin, was also scored on a four-point scale, and the results confirm the poor state of the mouths of this population. Amongst 56 skeletons in which this particular assessment could be made, the distribution was as follows:

Grade	No	%
0	11	19.6
1	17	30.4
2	21	37.5
3	7	12.5

Half the group had moderate to severe alveolar disease, which in many cases was associated with ante-mortem tooth loss.

### *Relationship between tooth loss, alveolar disease and age*

There was no statistically significant difference between the numbers of males and females who had lost teeth, but there was a highly significant association with age and alveolar disease (table 23). In 1964, Calvin Wells suggested in his celebrated book *Bones, bodies and disease* that alveolar disease with tooth loss in Anglo-Saxon or medieval skeletons might have been caused by scurvy. This condition

**Table 22 Dental disease in skeletons by age and sex**

	Male			Female		
	Lost am	Caries	Absc	Lost am	Caries	Absc
15-	0	0	0	1 (11.1)	0	0
25-	0	1 (14.3)	0	1 (10.0)	3 (80.0)	1 (10.0)
35-	4 (50.0)*	0	2 (25.0)	10 (58.8)	6 (35.3)	4 (23.5)
45+	6 (75.0)	3 (37.5)	2 (25.0)	5 (83.3)	2 (33.3)	1 (16.7)
Unknown	1	1	0	1	0	0

lost am = teeth lost during life

Absc = dental abscess

\* Figures in parentheses are percentages of total in each age group.

**Table 23 Number of skeletons with different categories of alveolar disease by age**

Category of alveolar disease	15-	25-	35-	45+
1	8	2	1	0
2	2	12	2	0
3	1	1	14	5
4	0	0	2	4

**Table 24 Pathological changes in skeletons grouped into major aetiological categories\***

Dental	Degenerative	Trauma
39	38	12
Developmental	Congenital	Nutritional
9	4	4
Infectious	Neoplastic	Other
1	1	8
Not known	None	
70	31	

\*Note that numbers in the table exceed the total number of skeletons since some skeletons showed more than one kind of pathological change.

was undoubtedly common at these periods in northern Europe, especially during the winter and early spring months when a supply of fresh fruit and vegetables was unobtainable (Wilson L G 1975). The data from the present group of skeletons does not lend support to Wells's view, however, suggesting rather that the principle cause of the alveolar disease and tooth loss was primary disease of the gums or teeth (due to poor hygiene), and that this increased with age; this in turn led to a concomitant increase in the likelihood of tooth loss. In none of the skeletons examined was there any other sign of scurvy. This is not to say that none of the individuals had any scurvy at any period during their lifetime; but the signs resolve once supplies of the vitamin are restored and none seems to have had active disease at the time of death.

### **Pathology**

Many of the skeletons had pathological changes; in fact, there were only 31 in which none was observed. The major pathological findings are grouped into the major aetiological categories in table 24. From this it will be seen that in 70 cases the skeletons were either too damaged or too incomplete to allow a complete examination, in which case it is not possible to be sure whether there really were any abnormalities present or not. In some of the adult skeletons the hands or feet or large numbers of vertebrae were missing. The majority of skeletons in the not known category were skeletons of infants (42), which tend to survive less well than adult skeletons and also to damage more easily.

This series of skeletons confirms what has been evident from other groups, that is, that where adult skeletons from early periods are sufficiently intact, they almost always show some evidence of disease, even if this is only dental disease. As may be seen from table 25, all the skeletons from individuals aged over 25 had some signs of disease, as did virtually all those over 15 also. By contrast, only a third of juveniles and one of the 25 infants which it was possible to examine had pathological changes in their skeletons.

The most common pathological changes by far were dental disease and so-called degenerative disorders, which include all the joint diseases and other changes such as degenerative disc disease and osteophytosis. This pattern is exactly as one would expect, given that relatively few other diseases affect the skeleton to a very great extent.

**Table 25 Presence or absence of pathological changes in skeletons by age**

Pathological change	Infant	Juvenile	15-	25-	35-	45+
None	24	6,	1	0	0	0
Not known	42	7	8	7	3	1
Present	1	3	7	13	23	13
Total	67	16	16	20	26	14

**Table 26 Distribution of osteoarthritis in skeletons**

Spine	Shoulder	Hip	Wrist
10	6	2	2
Hands	Knee	TMJ	Elbow
1	1	1	1*

TMJ = temporo-mandibular joint

\* Secondary to fractured radius.

### *Degenerative diseases*

Among this group of disorders the most common were osteoarthritis, degenerative disc disease and osteophytosis, quite often two or more coexisting in the same skeleton.

**Osteoarthritis** This is amongst the most frequently observed disease in any group of skeletons (Rogers *et al*, 1985), and it is one which is still extremely common. Twenty of the adult skeletons were affected, ten of each sex, giving a crude prevalence rate of 28.6% and 23.3% for males and females respectively. Allowance has to be made, however, for the fact that six males and ten female skeletons could not be thoroughly examined and so the rates just quoted represented the minimum rate. If we assume that the unexamined skeletons all had osteoarthritis then the maximum rate would be 45.7% for men and 46.5% for women. These two figures represent the range within which the true prevalence lies and they are not dissimilar from the rates in the modern population (Doyle 1986).

The most common sites affected by osteoarthritis are shown in table 26; the spine and shoulder were by far the most frequent seats of the disease, all other joints being much less commonly involved. (In four individuals more than one joint was involved; in two the spine and wrists, and in one each the spine and wrists and spine and temporo-mandibular joints.) This contrasts with the modern condition in which the hands, hips, and knee are most frequently involved. There are two possible explanations for this. The causes of osteoarthritis are not known with much certainty (Nuki 1980), but it is thought that occupational and other activity may be one factor in determining in which joints the disease is expressed in those with the inborn tendency to develop it. Thus, the difference in the pattern of the disease in the Great Chesterford skeletons and the modern population may reflect different patterns of activity. On the

whole, the evidence which links occupational factors with osteoarthritis is not very convincing, except in the joints of the hands, where some forms of spinning do seem to predispose to the development of osteoarthritis (Hadler *et al* 1978).

The second, and perhaps more convincing, argument is that palaeopathologists see a more complete record of arthritic change because they have the opportunity to examine all the joints of the body in much more detail than their clinical colleagues are able to do. Even radiography is unable to detect changes in arthritic joints until the disease process is well advanced. It is known that osteoarthritis which is relatively commonly seen in some sites by palaeopathologists-on the odontoid peg and in the joints between the metacarpals-is unknown to clinicians and radiologists (Rogers & Waldron, forthcoming). Changes at the acromio-clavicular joints, which are commonly seen in skeletal material, are also rarely encountered in clinical practice. Indeed, clinicians are unlikely to see any patient with osteoarthritis unless the changes in the joint cause pain or interfere with some normal activity; they thus see a very skewed part of the population with the disease.

Paleopathologists also deal with non-random material and certainly have no means of knowing the extent to which the changes they see may have affected individuals during life. Sometimes they can make an informed guess, but it is known that radiological and other changes in the joints do not correlate well with impaired function or with pain (Doyle 1986). It is, therefore, not too surprising that the patterns between modern and ancient disease apparently differ. What is certain, however, is that palaeopathological studies are likely to be able to increase our knowledge of osteoarthritis.

In one of the skeletons from Great Chesterford, we can ascertain the cause of osteoarthritis. A female



**Table 27**  
**Distribution of degenerative disc**  
**disease in skeletons**

C1
C2
C 3 XX
C 4 XX
C 5 XXX
C 6 XXX
C 7 XXX
T1 X
L1
L2
L3
L 4 X
L5 XXXXX

C = cervical  
T = thoracic  
L = lumbar

Each cross indicates one affected intervertebral space between the vertebra shown and the one below. Thus C3 indicates that the space between C3 and C4 is affected.

**Table 28**  
**Distribution of osteophytes in skeletons**

T1
T2
T 3 XX
T 4 XX
T 5 XXX
T 6 XXX
T 7 XXXXX
T 8 XXXXXX
T 9 XXXXXX
T10 XXXXXX
T 11 XXXXXXXX
T 12 XXXXXXXX
L 1 XXXXXXXXXXX
L 2 XXXXXXXXXXXXX
L 3 XXXXXXXXXXXXXXX
L 4 XXXXXXXXXXXXXXX
L 5 XXXXXXXXXXXXXXXX
S 1 XXXXXXXXXXX

T = thoracic  
L = lumbar  
S = sacral

Each cross indicates one vertebra with osteophytosis

(inh 160) aged between 35 and 45 had osteoarthritis of the elbow, which was secondary to a fracture of the radius. The fracture has occurred just below the head of the radius, and had healed well but with some angulation of the proximal portion. As a result, the normal mechanics of the joint had become disrupted and this had produced arthritic change in the joint.

**Degenerative disc disease** In this condition, the intervertebral discs and the end plates of the vertebrae undergo pathological change; the latter are evidenced in the skeletons and are commonly to be seen. The condition is exceedingly frequent in the contemporary population (Jayson 1986). As can be seen in table 27, it is the mid to lower cervical and the lower lumbar vertebrae which are most often involved. In this, ancient and modern populations do not seem to differ, although the proportion of the Great Chesterford individuals affected (11 of 85, 12.9%) is considerably lower than has been reported in modern epidemiological studies.

**Osteophytes** Osteophytes are formed of new bone which develops horizontally from the margins of the vertebral bodies. They are amongst the most frequently reported pathological changes in skeletal populations. Their precise cause is not known, but since their preponderance is found to increase considerably with age it is sometimes suggested that they are part of a normal ageing process. This is a somewhat tautologous argument and does little to add to our understanding of their causation.

The Great Chesterford skeletons are no different from other groups in showing a high frequency of osteophytes; 24 of the adult skeletons had them. This distribution of osteophytes within the spine is markedly different from that of degenerative disc disease, as may be seen by comparing Tables 27 and 28. Osteophytes occur with increasing frequency towards the lower end of the spine, which suggests that compressional forces in the spine may be in some way concerned with their production.

**DISH** There was only one case of diffuse idiopathic skeletal hyperostosis (DISH; inh 120). DISH is a disorder in which the anterior spinal ligament calcifies and eventually several vertebrae, mainly but not exclusively in the thoracic spine, may fuse. These spinal changes are accompanied by a calcification in ligaments and tendons and, in extreme cases, in the walls of blood vessels. The condition has generally been found to affect about 5% of skeletons (Rogers *et al*, 1985), and it is equally prevalent in contemporary populations. At Great Chesterford, therefore, DISH seems to be less common than would be expected, although the reasons for this are not clear.

#### *Trauma*

Eleven skeletons had fractured bones and two had suffered from injuries to the head during their lifetime. There were eight fracture sites; the clavicle

(3), rib (2), skull, thoracic vertebra, humerus, radius, fibula, and right third metatarsal (one each). The skull fracture (inh 93) was a small, well-healed depressed lesion such as might have followed a severe blow to the head. In inhumation 9, one of the thoracic vertebrae had evidence of a crush fracture which might have been caused by a fall. The metatarsal fracture (inh 11) was similar to a march fracture, which follows strenuous physical activity. None of the fractures was in any way remarkable; all were well healed and, except for the radial factor of which mention has already been made, none was likely to have given rise to any complications.

**Wounds** Two skeletons had evidently suffered head injuries during life. The first (inh 75) had a large lesion in the right parietal bone which measured about 46 x 37mm. The edges were bevelled over a distance of about 10mm from outside inwards. The wound had healed well and had certainly been incurred a long time before death; the appearance was entirely consistent with the type of injury which might have been made with a weapon such as a sword. In the second skeleton (inh 101), the lesion had rather ragged, depressed edges and measured approximately 27 x 20mm at its widest points. It was located in the left frontal bone just anterior to the coronal suture, and also showed signs of having healed well. The most probable explanation for this injury was that the individual was hit with a blunt instrument.

#### *Developmental conditions*

**Schmorl's nodes** Schmorl's nodes are caused by small herniations of the disc compressing the cortex of the vertebral bodies, and they are an extremely common finding in skeletons. There were eight skeletons from Great Chesterford with them.

**Osteochondritis dissecans** Also in this group were four skeletons with osteochondritis dissecans, which is a lesion generally considered to be due to the interruption of the blood supply to a small area of bone, which subsequently becomes necrotic. The lesions may be secondary to repeated minimal trauma and are said only to occur on convex body surfaces (Kelsey 1982), but they are often found elsewhere in skeletal material. Perhaps on account of this, the authenticity of some so-called cases of osteochondritis dissecans has been called into question (Birkett 1982), but again it may be a case where the palaeopathologist is able to see more than those who deal with the living. Of the four examples here, two were on the proximal joint surface of the first metatarsals, one was on the proximal surface of the navicular, and the fourth was on the lateral plateau of the left tibia.

**Spondylolysis** This is a condition in which the laminae of a vertebra become detached from the body; most frequently a break develops in the pedicles and the vertebral body may slip forwards. The condition is commonly present in adolescents and although its cause is uncertain, there is some evidence that it is secondary to trauma (Jayson 1986). It is frequently present in skeletons from all

periods and most often affects the fifth lumbar vertebra. In all five cases here, this was the vertebra involved.

#### *Congenital disorders*

The four cases with congenital abnormalities all involved the spine and all are amongst the more common of the minor congenital defects noted in both skeletal and modern populations. In one skeleton (inh 51) the laminae of the atlas had failed to fuse; those of the first lumbar vertebra were unfused in another (inh 132), whereas in inhumation 127, the laminae of the fourth and fifth lumbar vertebrae were fused. There was no other abnormality in the spine of this skeleton. Finally, skeleton 100 had six lumbar vertebrae instead of the more usual five.

#### *Nutritional diseases*

There were only four skeletons in which there was any evidence for possible nutritional diseases. There was none with any evidence of rickets or scurvy; the four cases in this category all had bilateral cribra orbitalia. Of the four, one was a neonate, two were juveniles (aged 6-8 and 8-10), and one was a female aged 25-35. The degree of cribra was more severe (grade 2) in the juveniles than in the two other skeletons (both grade 1).

The significance of cribra orbitalia is not entirely clear, but it is widely regarded as being evidence of severe iron deficiency (see Stuart-Macadam 1985, for example). If this is the case, then the low prevalence of cribra, together with the lack of evidence for any other nutritional disorders, suggests that there were not serious dietary deficiencies in the population as a whole.

#### *Infections*

During the period when the people from Great Chesterford lived, there must have been a great deal of infection in the population, but one skeleton only (inh 137) has skeletal changes which might have been the result of a specific infection. This skeleton had erosive lesions on the anterior surface of the third, fourth, and fifth lumbar vertebrae; the fourth and fifth vertebrae had collapsed and were fused. Very little reactive new bone had been formed and the changes were highly suggestive of tuberculosis. At this period the infecting organism was most probably the bovine tubercle bacillus which had been acquired from contaminated milk.

#### *Neoplasia*

Tumours of any kind are met with infrequently in palaeopathological studies and this was no exception. One skeleton (inh 137), however, has a small benign tumour: in the mid-line of the skull, approximately 60mm from the nasion, was a circular osteoma about 12mm in diameter. It is probable that the individual was never aware of it during his lifetime and it was certainly of not importance so far as his health was concerned.

**Table 29 Proportions of deaths at different ages**

	0-	5-	15+
Great Chesterford	40.1	9.6	50.3
Sewerby <sup>a</sup>	3.4 <sup>b</sup>		
Southern England <sup>c</sup>	1.4 <sup>d</sup>		
Egypt, 1980	40.8	3.8	55.4
Peru, 1982	38.0	4.0	58.0
Kuwait, 1982	29.6	3.3	67.1
Brazil, 1980	28.6	2.2	69.2
Venezuela, 1983	22.9	2.3	74.8
Greece, 1984	2.3	0.4	97.3
England & Wales, 1984	1.3	0.2	98.5
Sweden, 1984	0.8	0.2	99.0

a Data from Hirst (1985).

b Children aged less than seven years old.

c Data from Brothwell (1972).

d Children aged less than one year old.

Other data from World Health Organization, World Health Statistics, Geneva, 1984; 1986.

### *Other pathological changes*

A small number of pathological changes could not easily be fitted into an aetiological category. In two cases (inhs 68 and 125) two adjacent vertebrae were fused; and in one (inh 96) there was a small area of periostitis on the fibular surface of the right tibia in its distal third. There were no other lesions in the skeleton which might have given an indication of the cause of these changes and I am unable to give a reasonable explanation for them.

### **Comment**

Perhaps the most interesting feature of this group of burials was the high number of infant and juveniles present, which together accounted for almost half the total population. The large number of foetuses of various ages is also noteworthy.

If we assume that the skeletons are more or less representative of the community from which they came, then it is evident that childbearing was a considerable hazard; two of the females were found with foetuses in the pelvis and the assumption must be that their death had to do with some complication of pregnancy. Moreover, the death rates in infancy, including the stillbirth rates, must have been extremely high, reflecting — presumably — a high level of infection in the community and poor facilities for the care of the newborn and very young.

The proportion of deaths in the younger age groups at Great Chesterford is similar to that seen in some underdeveloped countries nowadays (see table 29). For those dying under the age of five, the figure for Great Chesterford is almost identical with that for modern Egypt and Peru; but substantially more of

those aged between 5 and 15 died than is the case in either of the modern populations of those countries. In the more developed countries of Europe it can be seen how the death rates in the youngest sector of the population has been dramatically reduced. In table 29 I have included some data from the recent account of the Anglo-Saxon cemetery at Sewerby (Hirst 1985), although the data are not strictly comparable. Amongst that, admittedly rather small, group there were only two skeletons aged less than 7 years of age, a proportion of 3.4%. It is extremely unlikely that this population really had a mortality rate for its children which approached those of some modern European countries, and the children at this site must be substantially under-represented. This point is also exemplified in Brothwell's much larger study of Anglo-Saxon skeletons from southern England (Brothwell 1972). Only eight of the 573 skeletons (1.4%) were less than one year of age (see table 29). As Brothwell himself suggests, these data suggest that the child samples are biased and have too few infants. This bias has some consequences for palaeodemography since it will tend to lead to an overestimation of mean lifespan and it will distort the view which one has about infant mortality.

It seems likely that the data from Great Chesterford reflect more accurately the true state of affairs at the time; that is, a population with a short average expectation of life, high stillbirth, neonatal, and infant mortality rates, and a high prevalence of obstetric complications which resulted in a poorer expectation of life for women compared with men.

### *Appendix 1: Catalogue of skeletons from Great Chesterford*

An estimate is given of the amount of each skeleton present. The sex and age (in years unless otherwise stated) and height in metres (with the standard error) are also shown where these could be determined; the methods used in each case are indicated in parentheses.

**1** Substantially complete **but** lacking left clavicle, right fibula and a number of small bones; c 90%. Green staining of left side of mandible and left side of third, fourth, sixth, and seventh cervical vertebrae and right clavicle.

Female (pelvis, skull); 35-45 (dental wear); 1.56±0.0305 (left femur and tibia).

**2A** Lacks both ulnae, sacrum, right pelvis, both patellae, left fibula and almost all bones of both feet; c 80%.

Male (pelvis, skull); 25-35 (dental wear, pubic symphysis); 1.68±0.0299 (right femur and tibia).

**2B** Partial adult skeleton represented by skull fragments, mandible, right humerus, lumbar and two cervical vertebrae, fragments of scapulae and right clavicle, part of sacrum, right femur, fragments of left femur, both tibiae, and some small bones of hands and feet. Green staining on mandible, cervical vertebrae, right coracoid, and right clavicle.

Female (skull).

**2C** Foetus represented by fragments of skull, ribs, and left ulna. 40 weeks (ulnar length).

**3** Virtually complete skeleton lacking sacrum, both fibulae, and some small bones of the hands and feet; c 90%.

Male (pelvis, skull); 25-35 (dental wear); 1.83±0.0327 (both femoral).

**4** Lacks left clavicle, right patella and both fibulae; c 90%. Green staining on upper surface of second cervicle vertebra.

Male (skull); 15-25 (epiphyseal fusion);  $1.55 \pm 0.0299$  (both femora and tibia).

**5** Virtually intact but missing sacrum and some small bones of the hands and feet.

Male (pelvis, skull); 35-45 (pubic symphysis);  $1.63 \pm 0.0299$  (both femora and tibiae).

**6** Juvenile skeleton represented by unfused proximal fragment of left femur and mid-shaft fragment of right femur and both tibiae.

**7** Lacks much of skull and upper vertebral column, both scapulae, right clavicle, right humerus, both ulnae, much of pelvis, right fibula, right foot, and many other small bones. Green staining on left clavicle.

Female (pelvis, skull); 25-35 (dental wear);  $1.62 \pm 0.0355$  (left femur and tibia).

**8** Fragmentary skeleton represented by lower thoracic and lumbar vertebrae, sacrum, right clavicle, and part of right scapula and humerus, substantial part of pelvis, both femora and proximal fragments of both tibiae.

Male (pelvis); 35-45 (pubic symphysis).

**9** Virtually intact, lacking sternum, right patella, both fibulae, right foot and some other small bones; c 90%. Green staining on left radius and right clavicle.

Female (pelvis, skull); 15-25 (pubic symphysis);  $1.56 \pm 0.0355$  (right femur and tibia).

**10** Incomplete skeleton with considerable post-mortem damage. Lacks virtually all vertebral column and sacrum, left pelvis, left clavicle, radius and ulna, both fibulae, right patella, right foot and some other small bones.

Female (skull); 35-45 (pubic symphysis);  $1.50 \pm 0.0366$  (both tibiae).

**11** Adult skeleton lacking skull, both patellae, left fibula, and many small bones, c 85%.

Male (pelvis);  $1.73 \pm 0.0299$  (right femur and tibia).

**12** Very incomplete skeleton represented by skull and mandibular fragments, mid-shaft portions of right femur and tibia, and left talus.

25-35 (dental wear).

**13** Partial skeleton represented by skull fragments and portions of right humerus, left ulna, and both femora and tibiae.

35-45 (dental wear).

**14** Virtually complete but lacking right femur, both patellae, left tibia and fibula, and some small bones; c 75%.

Female (pelvis, skull); 35-45 (pubic symphysis);  $1.70 \pm 0.0366$  (right tibia).

**15** Fragmentary burial represented by right femur only. Probably male (femoral head diameter).

**16A** Incomplete juvenile lacking lower arm bones and all bones of legs and feet except right talus.

8-9 (dental eruption).

**17** Partial juvenile represented by skull fragments, mandible, lower thoracic and lumbar vertebrae, distal fragment of right humerus, right tibia, some rib fragments and small foot bones.

8-10 (dental eruption).

**18** Incomplete skeleton comprising left scapula, distal end of left clavicle, left pelvis, and fragments of right distal epiphysis of left femur, left patella, left tibia and part of right, both tali, left calcaneum and fragments of some ribs and vertebrae. Green staining of left first rib.

Female (pelvis); 15-25 (epiphyseal fusion);  $1.60 \pm 0.0366$  (left tibia).

**19** Fragmentary adult burial represented by part of left scapula, fragment of right pelvis, and mid-shaft fragments of both femora and tibiae.

Probably male (measurement of glenoid length).

**20** Substantial skeleton but with post-mortem damage to skull. Lacks left radius, sternum, right patella and fibula, and some small bones; c 80%. Green staining on right scapula, first and second right ribs, first thoracic vertebra, both clavicles and right radius and ulna.

Female (pelvis, skull); 15-25 (epiphyseal fusion);  $1.56 \pm 0.0372$  (both femora).

**21** Incomplete; lacks cervical and upper thoracic vertebrae, right patella, and both fibulae and many small bones of hands and feet. Many long bones and skull have post-mortem damage; c 75%. Green staining on left first rib and left clavicle.

Female (skull); 15-25 (epiphyseal fusion).

**22** Lacks left humerus, radius and ulna, right ulna, right patella, both fibulae, and several small bones; c 66%.

Male (pelvis, skull); 25-35 (dental wear);  $1.64 \pm 0.0299$  (both femora and tibiae).

**23** Incomplete skeleton which lacks sternum, right radius, sacrum and pelvis, right patella, both fibulae, and many small bones. Lower thoracic and lumbar vertebrae badly damaged post-mortem; c 66%.

Female (skull); 15-25 (epiphyseal fusion).

**24** Lacks left ulna, both patellae, right tibia, both fibulae, and many small bones; c 75%.

Female (pelvis, skull); 35-45 (pubic symphysis, dental wear);  $1.62 \pm 0.0355$  (left femur and tibia).

**25** Substantially intact infant.

0-2 months (long bone measurements).

**26** Partial skeleton represented by skull fragments and mandible, distal end of left clavicle, right arm bones, right femur and distal portion of left, both tibiae and fibulae, and some small bones.

Female (skull); 45+ (dental wear);  $1.57 \pm 0.0357$  (right femur).

**27** Lacks cervical and first two thoracic vertebrae, left clavicle, right scapula, left pelvis, both patellae, right tibia, both fibulae, and both feet. Many bones have post-mortem damage; c 50%. Green staining on right clavicle.

Female (pelvis, skull); 45+ (dental wear);  $1.54 \pm 0.0366$  (left tibia).

**28** Fragmentary adult represented by skull fragments, part of mandible, fragments of left humerus, both tibiae, and right talus.

**29** Virtually complete juvenile.

10-12 (dental eruption).

**30** Substantial juvenile lacking left pelvis.

6-8 (dental eruption).

**31** Virtually complete infant.

12-18 months (dental eruption).

**32** Lacks left ulna, right radius, right femur, both patellae, both fibulae, and some small bones. Some post-mortem damage; c 75%.

Female (pelvis, skull); 15-25 (epiphyseal fusion, dental wear);  $1.63 \pm 0.0355$  (left femur and tibia).

**32A** Foetus represented by some skull bones, both humeri, and both femora. Apparently found in the pelvis of 32.

32 weeks (long bone measurements).

**33** Lacks right scapula, radius and ulna, right patella, both fibulae, and some small bones; c 80%.

Male (skull); 15-25 (epiphyseal fusion);  $1.71 \pm 0.0327$  (right femur).

**34** Substantially intact burial.

1-2 (long bone measurements).

**35** Partial foetal skeleton.

24-32 weeks (long bone measurements).

**36** Substantial infant.

1-2 (long bone measurement).

**37** Lacks mandible, both radii, left ulna, both patellae, left fibula, and some small bones. c 80%. Green staining on left clavicle.

Female (pelvis, skull); 35-45 (dental wear);  $1.611 \pm 0.0355$  (left femur and tibia).

**38** Substantial foetus, lacking skull.

24-32 weeks (long bone measurements).

**39** Substantial foetus.

24-28 weeks (long bone measurements).

**40** Incomplete skeleton lacking lower thoracic and lumbar vertebrae, sacrum and most of right pelvis, both lower arms, and all leg and foot bones except left talus; c 33%. Green staining on left molar bone, left mandibular ramus, and left mastoid.

Female (pelvis, skull); 15-25 (dental wear).

**41** Fragmentary burial represented by skull fragments, part of mandible, proximal ends of both clavicles, fragments of both scapulae, mid-shaft fragments of right humerus, and both femora and tibiae.

25-35 (dental wear).

**42** Substantial infant.

0-2 months (long bone measurements).

**43** Long bones from a foetal burial.

24-32 weeks (long bone measurements).

**44** Four long bone fragments from an infant.

**45** Incomplete and damaged burial represented by more or less complete skull and right mandible, proximal end of left humerus and fragment of right, vertebral and rib fragments, proximal right femur, and mid-shaft fragments of left femur and tibiae and some small bones of the hand. Green staining on some ribs and left clavicle.

Female (skull); 25-35 (dental wear).

**46** Incomplete infant burial.

0-2 months (long bone measurements).

- 47** Partial infant burial.  
0-2 months (long bone measurements).
- 48** Lacks both patella and fibulae and some small bones; c 90%. Green staining on right clavicle.  
Female (pelvis, skull); 25-35 (pubic symphysis, dental wear); 1.69±0.0366 (left tibia).
- 49** Left humerus and femur, right clavicle, and some rib fragments from an infant.  
0-2 months (long bone measurements).
- 50** Substantial but damaged immature skeleton. Lacks cervical and upper thoracic vertebrae, sternum, both patellae and fibulae, and some small bones; c 85%.  
Male (skull); 15-25 (epiphyseal fusion).
- 51** Incomplete and damaged skeleton. Lacks both scapulae, lower thoracic and lumbar vertebrae, sacrum, most of left pelvis, right radius, right patella, both fibulae, both hands, and some small bones of the feet; c 66%. Green staining on costal cartilages, first five thoracic vertebrae, and distal end of left ulna.  
Male (skull); 45+ (pubic symphysis, dental wear); 1.80±0.0299 (right femur and tibia).
- 52** Virtually complete juvenile.  
8-10 (dental eruption).
- 53** Substantially intact juvenile.  
6-8 (dental eruption).
- 54** Incomplete and damaged. Lacks right scapula, lower cervical and lower lumbar vertebrae, sacrum, left radius and ulna, both hands, right patella, both fibulae, and some small bones of the feet; c 66%.  
Male (pelvis, skull); 45+ (pubic symphysis); 1.72±0.0299 (left femur and tibia).
- 55** Substantially intact skeleton. Lacks sacrum, right clavicle, both hands, both fibulae, right patella, and some small foot bones; c 35%. Green staining on left clavicle, right radius and ulna and left radius.  
Female (pelvis, skull); 35-45 (pubic symphysis, dental wear); 1.71±0.0355 (left femur and tibia).
- 56** Substantial infant.  
4-6 months (long bone measurements).
- 57** Substantial infant.  
2-4 months (long bone measurements).
- 58** Substantial infant.  
2-4 months (long bone measurements).
- 59** Few fragments of bone from an infant burial.
- 60** Partial infant.  
0-2 months (long bone measurements).
- 61** Substantial infant.  
2-4 months (long bone measurements).
- 62** Fragmentary infant burial.
- 63** Incomplete infant burial.  
0-2 months (long bone measurements).
- 64** Substantial infant burial.  
0-2 months (long bone measurements).
- 66** Incomplete and damaged. Lacks right scapula, left clavicle, left radius, both hands, most of sacrum and right pelvis, right femur, both patellae and fibulae, and right foot; c 66%. Green staining on cervical vertebrae and both clavicles.  
Female (pelvis, skull); 25-35 (pubic symphysis, dental wear); 1.70±0.0242 (right radius).
- 67** Substantial infant.  
2-4 months (long bone measurements).
- 68** Lacks right clavicle, both scapulae, sternum, right ulna, both hands, patellae, fibulae, and feet. Extant arm bones damaged; c 66%.  
Male (skull); 45+ (dental wear); 1.67±0.0299 (left femur and tibia).
- 70** Substantial infant.  
0-2 months (long bone measurements).
- 71** Substantial infant.  
0-2 months (long bone measurements).
- 72** Incomplete juvenile lacking skull, much of vertebral column, arm bones and right tibia and fibula, and many small bones.  
10-11 (long bone measurements).
- 73** Lacks both hands, patellae, fibulae, and feet. Vertebrae badly damaged post-mortem.  
Female (pelvis, skull); 25-35 (dental wear); 1.65±0.0355 (both femora and tibiae).
- 74** Partial infant.  
0-2 months (long bone measurements).
- 75** Fragmentary skeleton represented by skull and mandible, thoracic and lumbar vertebrae, sacrum and most of pelvis, both clavicles, both humeri, fragments of both scapulae, right radius and fragments of both ulnae, manubrium, right talus, and a few small bones of the hand.  
Male (pelvis, skull); 45+ (dental wear); 1.63±0.0405 (both humeri).
- 76** Substantial skeleton lacking both scapulae and clavicles, both patellae, right fibula, and both hands and feet; c 80%.  
Male (pelvis, skull); 35-45 (pubic symphysis, dental wear); 1.75±0.0299 (left femur and tibia).
- 77** Partial infant.  
0-2 months (long bone measurements).
- 78** Partial infant.  
0-2 months (long bone measurements).
- 79** Partial juvenile represented by skull fragments, right ulna, both pubic bones and fragment of right ilium, and both tibiae.  
6-8 (dental eruption).
- 80** Substantially complete, lacking only both hands and both fibulae, and some small bones of the feet. Some post-mortem damage; c 90%.  
Male (pelvis, skull); 35-45 (pubic symphysis, dental wear); 1.61±0.0299 (both femora and tibiae).
- 81** Lacks both scapulae, sternum, right patella, left fibula, and some small bones of the hands and feet; c 90%. Green staining on both clavicles.  
Female (pelvis, skull); 35-45 (pubic symphysis, dental wear); 1.60±0.0355 (both femora and tibiae).
- 82** Partial foetus.  
36-40 weeks (long bone measurements).
- 83** Mixed burial with at least six fetuses present, all of the same age.  
36-40 (long bone measurements).
- 84** Partial and damaged skeleton. Lacks left radius and right ulna, both hands, both patellae and fibulae, and some small bones of the feet; c 75%.  
Male (pelvis, skull); 45+ (dental wear); 1.73±0.0405 (both humeri).
- 85** Substantial foetus.  
36-40 weeks (long bone measurements).
- 86** Juvenile lacking skull and mandible, many vertebrae and some small bones of the hands and feet, both fibulae, and left tibia.  
7-8 (long bone measurements).
- 87** Incomplete infant.  
0-2 months (long bone measurements).
- 88** Substantial infant.  
2-4 months (long bone measurements).
- 89** Incomplete and damaged infant.  
0-2 months (long bone measurements).
- 90** Virtually intact. Lacks both hands and both patellae, and some small bones of the feet; c 95%.  
Male (pelvis, skull); 35-45 (pubic symphysis, dental wear); 1.60±0.0299 (both femora and tibiae).
- 91** Partial infant.  
0-2 months (long bone measurements).
- 92** Substantial complete skeleton. Lacks right scapula, both hands, patellae, fibulae, and feet; c 90%. Green staining on some ribs.  
Female (pelvis, skull); 35-45 (pubic symphysis, dental wear); 1.57±0.0355 (both femora and tibiae).
- 93** Virtually complete skeleton lacking both hands, patellae, and fibulae, and some small bones of the feet; c 90%.  
Male (skull); 25-35 (pubic symphysis, dental wear); 1.66±0.0299 (both femora and tibiae).
- 94** Incomplete infant.  
0-2 months (long bone measurements).
- 95** Mixed burial with at least two infants of the same age.  
0-2 months (long bone measurements).
- 96** Partial skeleton lacking vertebral column and sacrum, sternum, left clavicle and arm, both hands, left fibula, and most of the bones of both feet; c 66%.  
Male (pelvis, skull); 15-20 (epiphyseal fusion); 1.63±0.299 (both femora and tibiae).
- 97** Incomplete and damaged. Lacks left clavicle and arm, both hands, right ulna, right patella, both fibulae, and some small bones of the feet; c 75%. Green staining on right clavicle.  
Female (skull); 25-35 (dental wear); 1.57±0.355 (both femora and tibiae).
- 98** Partial infant.  
0-2 months (long bone measurements).

**99** Incomplete infant.

1-2 (dental eruption and long bone measurements).

**100** Substantially complete, lacking sternum, sacrum, both hands and fibulae, right patella, and some bones of the feet; *c* 85%. Green staining on lower cervicle and upper thoracic vertebrae and right clavicle.

Female (pelvis, skull); 25-35 (pubic symphysis, dental wear); 1.65±0.0355 (both femora and fibulae).

**101** Incomplete and damaged. Lacks vertebral column and sacrum, sternum, ribs, much of pelvis, both hands, both fibulae, and most small bones of the feet; *c* 50%.

Male (pelvis, skull), 45+ (dental wear); 1.53±0.0299 (both femora and tibiae).

**102** Lacks right scapula and right arm, both hands, sacrum, right patella and fibula, and some small bones of the feet; *c* 75%.

Male (pelvis, skull), 25-35 (dental wear); 1.51±0.299 (both femora and tibiae).

**103** Incomplete, lacking all but first two cervicle vertebrae, both hands, both fibular, and most small bones of the feet; *c* 80%.

Female (pelvis, skull); 35-45 (pubic symphysis, dental wear); 1.64±0.0366 (left tibia).

**104** Incomplete foetus.

36-38 weeks (long bone measurements).

**105** Substantially complete infant.

2-4 months (long bone measurements).

**106** Substantial but much damaged juvenile.

4-6 (dental eruption).

**107** Substantial infant.

6-12 months (long bone measurements).

**108** Partial and damaged skeleton lacking skull and mandible, cervicle vertebrae, sternum, right scapula and humerus, left clavicle, both hands, patellae and fibulae, and many small bones of the feet; *c* 45%. Green staining on right clavicle.

Female (pelvis); 35-45 (pubic symphysis); 1.65±0.0366 (left tibia).

**109** Incomplete and much damaged skeleton. Lacks all vertebrae except for some lumbar fragments, sacrum, both scapulae, left clavicle, sternum, right arm, both hands, pelvis, and most of the bones of both feet *c* 40%.

Male (skull); 45+ dental wear).

**110** Substantial skeleton lacking both ulnae, left radius, both hands, cervicle and upper thoracic vertebrae, sacrum, some small bones of the feet. *c* 80%.

Female (pelvis, skull); 25-35 (dental wear); 1.65±0.0366 (left femur and tibia).

**111** Virtually complete infant.

12-18 months (long bone measurements).

**112** Incomplete and damaged. Lacks right radius and ulna, both hands, tibiae and fibulae, and many small bones of the feet; *c* 50%.

Female (pelvis, skull); 45+ (dental wear); 1.63±0.0424 (left radius).

**113** Substantial but somewhat damaged. Lacks right ulna, both hands, part of pelvis, right patella, both fibulae, and many small bones of the feet; *c* 80%. Green staining on mandible, right ribs and right clavicle

Female (skull); 45+ (dental wear); 1.61±0.0355 (both femora and tibiae).

**114** Substantially complete, lacking right radius, both hands, both fibulae, and both feet; *c* 80%. Green staining on mandible and manubrium

Female (pelvis, skull); 45+ (dental wear); 1.62±0.0355 (both femora and tibiae).

**115** Incomplete and damaged adult. Lacks mandible, both scapulae and clavicles, cervical and thoracic vertebrae, both radii, ulnae and hands, right patella, and many small bones of the feet; *c* 50%.

Male (pelvis, skull); 1.71±0.0327 (right femur).

**116** Partial skeleton lacking lower thoracic and lumbar vertebrae, sacrum, most of pelvis, sternum, right arm, right patella, both fibulae, and most small bones of hands and feet; *c* 45%. Green staining on left first rib, first three cervicle vertebrae and distal end of right clavicle.

Female (skull); 35-45 (pubic symphysis, dental wear); 1.58±0.0355 (left femur and tibia).

**117** Virtually complete skeleton lacking both hands, lower cervicle vertebrae, both fibulae, and some small bones of the feet; *c* 90%.

Male (pelvis, skull); 35-45 (pubic symphysis); 1.56±0.0299 (both femora and tibiae).

**118** Substantial juvenile.

4-6 (dental eruption).

**119** Partial juvenile.

8-10 (long bone measurements).

**120** Incomplete and damaged. Lacks cervical and upper thoracic vertebrae, sternum, left scapula and clavicle, both hands, patellae and fibulae, and many small bones of the feet; *c* 75%. Green staining on right ribs and right clavicle.

Female (pelvis, skull); 35-45 (pubic symphysis, dental wear); 1.56±0.0366 (right tibia).

**121** Lacks skull and mandible, both hands, both patellae, right fibula, and many small bones of the feet; *c* 80%.

Male (pelvis); 15-25 (epiphyseal fusion); 1.521±0.0327 (right femur).

**122** Incomplete and damaged. Lacks both clavicles, sacrum, right pelvis, both hands, patellae and fibulae, and some small bones of the feet; *c* 66%.

Male (pelvis, skull); 25-35 (pubic symphysis, dental wear); 1.82±0.0432 (right radius).

**123** Few skull fragments of infant.

**124** Virtually complete, lacking both hands, right patella, right fibula, and some small bones of the feet; *c* 85%. Green staining on left mandible, right clavicle, right radius, and ulna.

Female (pelvis, skull); 35-45 (pubic symphysis, dental wear); 1.67±0.0355 (right femur and tibia).

**125** Lacks sacrum, both hands, both patellae, right fibula, and most bones of the feet; *c* 85%

Male (pelvis, skull); 35-45 (pubic symphysis); 1.74±0.0299 (right femur and tibia).

**126** Partial skeleton represented by skull fragments, mandible, right clavicle, part of right humerus, right pelvis and right femur, right tibia, and fragments of vertebrae. Green staining on right clavicle.

Female (pelvis, skull); 25-35 (dental wear); 1.67±0.0366 (right tibia).

**127** Virtually intact, lacking sternum, both hands, right patella and fibula, and some bones of the feet; *c* 90%. Green staining on both clavicles and first and second left ribs.

Female (pelvis); 25-35 (pubic symphysis); 1.64±0.0355 (both femora and tibiae).

**127A** Fragments of foetal skull and mandible, apparently found in the pelvis of 127.

**128** Substantial skeleton lacking both hands, right patella and fibula, and some bones of the feet; *c* 95%.

Male (pelvis, skull); 25-35 (dental wear); 1.68±0.0299 (right femur and tibia).

**129** Incomplete and damaged. Lacks right mandible, both scapulae, left clavicle, sternum, sacrum, right radius, both hands, left patella, right fibula, and some bones of the feet. Vertebrae very fragmented; *c* 75%.

Female (pelvis, skull); 15-25 (epiphyseal fusion); 1.63±0.0366 (both tibiae).

**130** Substantial skeleton lacking left scapula, left ulna, both hands, left patella, right fibula, and most of both feet; *c* 90%.

Male (pelvis, skull); 15-25 (epiphyseal fusion); 1.62±0.0299 (left femur and tibia).

**132** Incomplete and damaged. Lacks cervical and upper thoracic vertebrae, both clavicles, sternum, both radii, both hands, left patella, both fibulae, and some bones of the feet; *c* 75%. Green staining on mandible and left ribs.

Female (skull); 35-45 (pubic symphysis, dental wear); 1.66±0.0366 (left tibia).

**133** Incomplete foetus.

360-40 weeks (long bone measurements).

**134** Adult skeleton represented by both tibiae, both tali, right calcaneum and some other foot bones.

**135** Substantial skeleton lacking both hands, both patellae, left fibulae, and many foot bones; *c* 95%. Green staining on mandible, right clavicle, and distal end of right ulna.

Female (pelvis, skull); 45+ (dental wear); 1.57±0.0355 (left femur and tibia).

**136** Incomplete infant.

12-18 months (long bone measurements).

**137** Incomplete and much damaged adult. Lacks left ulna, both hands, most of left pelvis, both patellae and fibulae, and some foot bones; *c* 75%.

Male (pelvis); 1.70±0.0405 (right humerus).

**138** Fragmentary foetus.

36-40 weeks (long bone measurements).

- 139** Incomplete infant.  
0-2 months (long bone measurements).
- 140** Badly damaged and incomplete skeleton represented by skull fragments, mandible, fragments of ribs, vertebrae, right scapula, both humeri, right radius and ulna, right pelvis, both femora and both tibiae; both patellae intact.  
Male (skull); 45+ (dental wear).
- 141** Substantial infant.  
2-3 (dental eruption).
- 142** Scrappy adult represented by skull fragments and fragments of both humeri, femora, and tibia.  
25 - 35 (dental wear).
- 143** Substantial infant.  
2-4 months (long bone measurements).
- 144** Partial infant.  
0 - 1 months (long bone measurements).
- 145** Substantial but somewhat damaged. Lack both hands, left patella, and some foot bones; *c* 90%. Green staining on manubrium some rib fragments, and right clavicle.  
Female (pelvis, skull); 35-45 (dental wear); 1.60±0.0355 (right femur and tibia).
- 146** Fragmentary juvenile represented by damaged skull, right clavicle, and some bones of the feet.  
6-8 (dental eruption).
- 147** Virtually complete juvenile.  
6-8 (dental eruption).
- 148** Substantial juvenile. Green staining on mandibular fragment and distal end of right clavicle.  
3-6 (long bone measurements).
- 149** Virtually complete. Lacks right scapula, right radius, both hands, both fibulae, and many foot bones; *c* 90%.  
Male (skull); 15-25 (epiphyseal fusion).
- 150** Mixed burial containing at least two infants of the same age.  
2-4 months (long bone measurements).  
Incomplete infant.  
1-2 (long bone measurements).
- 152** Substantial skeleton but lacking both hands, femora, patellae, fibulae, and feet; *c* 80%.  
Female (pelvis, skull); 35-45 (pubic symphysis); 1.54±0.0366 (left tibia).
- 153** Damaged skeleton lacking left mandible, both scapulae, sternum, right radius, both hands, right patella, both fibulae, and many foot bones; *c* 85%. Green staining on both clavicles.  
Female (pelvis, skull); 15-25 (epiphyseal fusion); 1.46±0.0355 (both femora and tibiae).
- 154** Incomplete infant.  
1-2 (long bone measurements).
- 155** Substantial infant.  
0 -2 months (long bone measurements).
- 156** Virtually complete infant.  
0-2 months (long bone measurements).
- 157** Substantially complete but lacks sternum, both hands, right patella, both fibulae, and some foot bones; *c* 95%.  
Male (pelvis, skull); 35-45 (dental wear); 1.68±0.0299 (both femora and tibiae).
- 158** Incomplete infant.  
2-3 (long bone measurements).
- 159** Very fragmentary infant.
- 160** Substantial but somewhat damaged skeleton. Lacks left scapula, both hands, left patella, both fibulae, and many bones of the feet; *c* 85%.  
Female (pelvis, skull); 35-45 (pubic symphysis, dental wear); 1.60±0.0355 (left femur and tibia).

## Appendix 2:

### *Catalogue of pathological findings in human remains from Great Chesterford*

This catalogue should be read in conjunction with Appendix 1 so that the extent of each skeleton is known.

**1** (1) Ante-mortem tooth loss (2) Osteoarthritis spine. Pitting and eburnation of left hand facet joint between C3-4 (3) Proliferation of new bone or insertion of both subscapularis muscles, left more

pronounced than right. Also around proximal joint margins on left ulna, proximal and distal joint margins on right femur, and flexor insertions of phalanges of hands. (4) Degenerative disc disease between C4-5. (5) Osteophytes on T3-T11, L2-5, and S1.

**2A** (1) Fracture in proximal third of left clavicle. Well healed with some backward angulation. (2) Proliferative new bone on soleal line of left tibia.

**2B** (1) Ante-mortem tooth loss. (2) Osteoarthritis spine and hands. Proliferation around both facet joints on first sacral segment. Eburnation on proximal end of one phalanx of the hand. (3) Degenerative disc disease between L5-S1

**3** Osteophytes on L3-5.

**4** Osteophytes on L2-3.

**5** (1) Dental crowding in mandible. Both first premolars have been pushed outside the arc made by the remaining teeth. (2) Osteoarthritis of right acromio-clavicular joint. (3) Degenerative disc disease between C3-4 with narrowing of the nerve outlet on the right-hand side. (4) Proliferative new bone around proximal joint margins of both ulnae and along pelvic rim.

**7** Dental caries.

**9** Sixth thoracic vertebra is flattened in antero-posterior direction with degenerative disc disease and osteophytosis. Probably traumatic.

**11** (1) Osteoarthritis spine and wrist. Right-hand facet joint affected between C5-6 and both facet joints between right ulna and radius. Pitting on joint surfaces between left ulna and radius with new bone around margins. (2) Degenerative disc disease between C5-6 and L5-S1. (3) Osteophytes on T4-L5. (4) Fracture of third right metatarsal; healed with much callus and some shortening.

**14** (1) Ante-mortem tooth loss. (2) Osteophytes T11-L5. (3) New bone on antero-inferior rim of both humeral heads and into both subscapularis insertions; also around proximal joint margins of both ulnae and proximal and distal ends of left femur

**16** Ante-mortem tooth loss.

**17** Bilateral cribra orbitalia, grade 2.

**19** Osteoarthritis right acromio-clavicular joint.

**22** Osteophytes on L4-S1.

**24** (1) Ante-mortem tooth loss and dental caries. (2) Osteophytes on L1 and L3-5.

**26** Ante-mortem tooth loss.

**27** (1) Ante-mortem tooth loss and dental caries. (2) Osteoarthritis spine affecting left-hand facet joint between L5-S1. (3) Osteophytes L5-S1.

**30** Bilateral cribra orbitalia, grade 2.

**32** Schmorl's nodes affecting T11, T12, L2, L3.

**37** (1) Dental caries. (2) Osteoarthritis of right manubrio-clavicular and acromio-clavicular joints. (3) Spondylosis of L5. (4) Degenerative disc disease L5-SL. (5) Osteophytes on T&L5. (6) Schmorl's nodes T10-12

**40** Ante-mortem tooth loss, dental caries and dental abscess.

**48** Ante-mortem tooth loss, caries and dental abscess.

**51** (1) Ante-mortem tooth loss and dental abscesses (2) Osteophytes on fragments of lower thoracic vertebrae. (3) Proliferative new bone around proximal joint of left radius and right ulna, left patella, and on soleal line of right tibia. (4) Laminae of atlas vertebra unfused.

**54** (1) Ante-mortem tooth loss. (2) Osteoarthritis of spine and both tempera-mandibular joints. Proliferative new bone on odontoid peg; arthritis changes around right-hand facet joints between C3-4. (3) New bone around right humeral head and on rotator cuff insertions; also around left glenoid, both acetabuli and left patella.

**55** Dental caries.

**66** (1) Overcrowding of anterior lower teeth with second right lower incisor displaced backwards behind adjacent teeth. (2) Bilateral cribra orbitalia, grade 1.

**68** (1) Ante-mortem tooth loss. (2) New bone on lineae asperae of left femur, around right acetabulum, around margins of right sacroiliac joint and soleal line of left tibia. (3) Fragments of T5-6 fused anteriorly on right-hand side. (4) Osteophytes L1-5.

**73** Dental caries.

**75** (1) Large traumatic lesion in right parietal bone measuring about 46 x 37mm. Edges are bevelled from outside inwards over about 10mm. Edges well healed; consistent with a wound such as may have been made with a sword. (2) Healed fracture in middle of left clavicle. (3) Osteoarthritis affecting left acromio-clavicular joint.

**76** (1) Osteophytosis T9-L5. (2) New bone around proximal joint

surface on right ulna and around both sacro-iliac joints, with some new bone on sacral surfaces of the joints.

**80** (1) Ante-mortem tooth loss and dental abscess. (2) Osteoarthritis left shoulder; pitting on inferior surface of left acromion and arthritic change in acromio-clavicular joint. (3) Osteochondritis dissecans proximal joint of both first metatarsals and on proximal joint surface of right clavicular. (4) Osteophytes on T5-S1. (5) Schmorl's nodes T10-12 (6) New bone on soleal line and proximal and distal joint margins of right tibia, proximal joint margins of left ulna, proximal and distal joint margins of right ulna; both patellae; right glenoid.

**81** (1) Degenerative disc disease C3-4 and L5-S1. (2) Osteophytes on T4-L5. (3) Schmorl's nodes T10-12. (4) New bone around distal joint margins of both femora.

**84** (1) Ante-mortem tooth loss and dental abscess. (2) Osteophytes T7-12.

**87** Bilateral cribra orbitalia, grade 1.

**90** (1) Ante-mortem tooth loss and dental abscess. (2) Fracture in upper quarter of right fibula; well healed with no shortening. (3) Osteoarthritis of right acromio-clavicular joint. (4) New bone around left humeral head, proximal joint margin left ulna, right radial head, around both sacro-iliac joints and on obturator foramina.

**92** (1) Ante-mortem tooth loss and dental abscess. (2) Osteoarthritis of left knee. (3) Osteophytes T5-S1. (4) New bone around right humeral head, proximal joint margin of left tibia, and both ischial tuberosities.

**93** (1) Small, well-healed depressed fracture in left frontal bone. (2) New bone around proximal joint margin on right radius.

**96** Periostitis on fibular surface of right tibia in its distal third.

**97** Spondylolysis L5.

**100** (1) Schmorl's nodes T6-12. (2) Osteochondritis dissecans proximal joint surface, left first proximal phalanx of foot. (3) Six lumbar vertebrae.

**101** (1) Ante-mortem tooth loss. (2) Lesion about 20 x 27mm in left frontal bone with depressed edges; suggests a healed wound. (3) New bone over insertions of both subscapularis muscles, around proximal joint margins of right ulna, around left acetabulum, and on left soleal line.

**102** Dental caries.

**103** (1) Ante-mortem tooth loss and dental caries. (2) New bone around both pubic bones and head of right femur.

**108** (1) Osteoarthritis of spine. Left-hand facet joints between L4-5 and both between L5-S1 affected. (3) Degenerative disc disease between L5-S1. (4) Osteophytes L5-S1.

**112** (1) ante-mortem tooth loss and dental abscess. (2) Degenerative disc disease L5-S1. (3) New bone around both humeral heads and both subscapularis insertions.

**113** (1) Ante-mortem tooth loss. (2) Osteoarthritis spine and left wrist. Facet joints between C4-7 affected. Eburnation, deformation of joint contour and new bone on distal ulnar joint. (3) Osteophytes L1-5.

**114** Ante-mortem tooth loss and dental caries.

**115** (1) Osteoarthritis of L5-S1 facet joints. (2) New bone on linea aspera of right femur, around margins of both sacro-iliac joints, both acetabula, both ischial tuberosities, and on left soleal line.

**116** (1) Ante-mortem tooth loss. (2) Osteoarthritis of spine affecting facet joints of C2-3 and C4-5. (3) Degenerative disc disease between C5-T1. (4) New bone around distal joints of both femora and proximal joint of right tibia.

**117** (1) New bone around margins of both sacro-iliac joints. (2) Schmorl's nodes T12-L5. (3) Osteochondritis dissecans head of both first metatarsals

**120** (1) Ante-mortem tooth loss and dental abscess. (2) Disseminated idiopathic skeletal hyperostosis. Right-sided osteophytes on T5-12 with fusion of T8-9 Facet joints normal. Osteophytes on all lumbar vertebrae. Left sacro-iliac joint fused. (3) Schmorl's nodes on L2, L3, and L4.

**121** Partial spondylolysis L5.

**124** (1) Osteophytes T3-S1. (2) New bone around pelvic rim and distal joint of right femur. (3) Schmorl's nodes T8.

**125** (1) Ante-mortem tooth loss. (2) Well-healed fractures of three left ribs (3) Fusion of broken fragments of L3-4. Facet joints are fused and there is fusion across the intervertebral space. (3) New bone around proximal joint margins of left ulna, both acetabula, and sacro-iliac joint and right glenoid.

**127** Lamina of L4-5 fused on right-hand side.

**128** (1) Osteoarthritis of left hip. (2) New bone around distal joint margin of right femur.

**132** (1) Ante-mortem tooth loss and dental caries. (2) Lamina of L1 is unfused on right-hand side.

**134** Proliferation of new bone around and on joint between left talus and calcaneum; proliferation and pitting on base of left second metatarsal.

**135** New bone around left glenoid, distal joint margin of both radii, and around joint margins of both sacro-iliac joints.

**137** (1) Ante-mortem tooth loss and dental caries. (2) Fracture in distal third of left clavicle; healed with considerable backward angulation. (3) Erosive lesions on anterior surface of L3-5. L4-5 collapsed. Little reactive new bone; possibly tuberculosis. (4) Osteophytes L1-2. (5) New bone around left glenoid and on right subscapularis insertion.

**140** (1) Ante-mortem tooth loss and dental caries. (2) Osteoarthritis of spine affecting facet joints C2-4. (3) Degenerative disc disease between C4-T2. (4) Well-healed fracture left rib. (5) New bone around right glenoid and insertion of right rotator cuff muscles.

**145** (1) Dental caries. (2) Spondylolysis L5.

**152** (1) Ante-mortem tooth loss and dental abscess (2) Osteoarthritis of left hip. (3) Osteophytes T3-7 ns L3-5. (4) New bone around right glenoid.

**157** (1) Ante-mortem tooth loss. (2) Small circular osteoma, about 12mm in diameter, in the mid-line of the skull approximately 6cm from nasion. (3) Spondylolysis L5. (4) Osteochondritis dissecans lateral table left tibia. (5) Osteophytes T7, T8-L3. (6) New bone around distal joint 'margins of right radius.

**160** (1) Ante-mortem tooth loss, dental caries and abscess. (2) Fracture just below head of right radius; healed with lateral displacement and production of secondary osteoarthritis. (3) Degenerative disc disease C5-7. (4) Rim of new bone around head of left humerus.

## 2 The cremations

There were 31 cremations from the site, varying in amount from a few fragments totalling less than 100g to remains which weighed over 1kg and must have represented a substantial part of the whole skeleton. (The full catalogue of the cremations is shown in the Appendix below.) As reference to table 30 makes clear, however, less than half the cremations weighed over 200g, suggesting that the collection of the cremated bones was very incomplete.

### *Size of cremated bone fragments*

The bone fragments ranged in size from less than 5mm to 86mm, but the average size tended towards the upper limit in virtually all cases. This suggests that the bones had not been crushed after cremation.

### *Colour and texture*

In virtually every case the bones were white-black in colour and calcined, indicating that the cremation had taken place at a high temperature.

### *Identified bone*

There were relatively few fully identified bones, and the majority of these were cervical and thoracic vertebrae and proximal portions of the femur (see table 31). The dense ends of some of the other long bones also tended to survive relatively well, but it is rather surprising that only one tooth was present. Since the teeth are amongst the hardest structures



**Table 30**  
**Total weights (g)**  
**of cremations**

0 -	XXXXXXXXXX
100-	XXXXXXXXXX
200 -	X
300-	x
400-	xxx
500-	xx
600-	XXX
700-	
800-	X
900-	x
1000-	
1100-	
1200-	
1300+	xx

Each cross indicates a single cremation.

**Table 31** **Number of identified skeletal**  
**elements from cremations**

Cervical vertebra	XXXXXXX
Thoracic vertebra	XXXXXX
Proximal femur	XXXXXX
Distal femur	XXX
Metatarsal	XXX
Proximal humerus	XX
M a n d i b l e	X X
S c a p u l a	X X
Distal humerus	XX
P e l v i s	X X
P a t e l l a	X X
M a x i l l a	X
U l n a	X
T i b i a	X
T a r s a l s	X
Metacarpal	X
Phalanx of hand	X
Phalanx of foot	X
Teeth	X

Each cross indicates one bone.

in the body, it is more likely that they were not picked up after the cremation than that they did not survive the fire.

**Animal bone**

Five of the cremations contained animal bone. In two instances small bird bones were present (crems 1, 19); there was one sheep tooth (crem 6), one sheep metatarsal (crem 20), and one fragment of cattle-sized vertebra (crem 1.2).

**Sex and age of the cremations**

In two cases only could a probable sex be attributed to the cremated body. Both were considered to be male, based on measurements of the diameter of the head of the humerus (crem 1) and of the head of the femur (crem 10).

Eighteen of the cremations were of adults, two were juveniles (that is, individuals aged between five and fifteen: crems 12 and 28), and one (crem 32) was an infant (aged less than five years). In the remaining cases no estimation of age could be made.

**Pathology**

There were two cremations in which pathological changes were noted (crems 2 and 20) In both there was evidence of ante-mortem tooth loss from the

maxilla and the mandible respectively. This was presumably caused by disease of the teeth or gums.

**Appendix: Catalogue of cremations**

In this catalogue the colour and texture of the bones are shown, followed by the length (in mm) of the longest and shortest fragments and an indication as to whether the average size tends to the longest or shortest. The weight (in g) of the different anatomical elements is then given, with the number of bones identified in each element in parentheses. Details of any individual bones identified are next given, with any additional comments, including any pathological changes present. The entry ends with the age and sex of the cremated individual where this could be determined.

- 1 White-black, stony. Longest 73, shortest <5; average tending to longest. Cranial 75 (18), vertebral 80 (20), pelvis 120 (19), ribs 15 (5), long bone 555 (1201, remainder 550. Left humeral head (diameter 47mm), two cervical and two thoracic vertebra. Bird bone present.  
Adult; probably male (humeral head diameter).
- 2 White-black, stony. Longest 63, shortest <5; average tending to longest. Cranial 100 (19), vertebral 15 (7), pelvis 18 (11), ribs 0.5 (1), long bone 140 (505), remainder 650..Distal ends of both radii, left patella, odontoid peg, fragment of mandible and maxilla. Ante-mortem tooth loss from maxilla.  
Adult.
- 3 White-black, stony. Longest 41.5, shortest <5; average tending to longest. Less than 100 fragments, total weight 80. Fragments of four lumbar vertebrae; fragments of petrous temporal bone.  
Adult.
- 4 White-black, calcined. Longest 72, shortest <5; average tending

to longest. Cranial 20 (9), vertebral 10 (4), pelvis 5 (2), ribs 1 (2), long bones 160 (5), metacarpals 0.5 (1), remainder 105. Medial and lateral femoral condyles, proximal end left first metatarsals.

Adult.

**5** Ten fragments of burnt bone; weight c 5g.

**6** White-black, calcined. Longest 68, shortest <5; average tending to longest. Cranial 50 (141), pelvis 20 (8), long bone 115 (29), metacarpals 0.5 (1), remainder 115. Sheep molar present.

Adult.

**7** White-black, calcined. Longest 42, shortest <5; average tending to shortest. Long bone 80 (284), remainder 215. Fragment of humeral head.

Adult.

**8** White, calcined. Longest 63, shortest 5; average tending to shortest. Long bone 100 (341), remainder 580.

Adult.

**9** White-black, calcined. Longest 86, shortest <5; average tending to longest. Cranial 1(3), vertebral 105 (17), pelvis 15 (3), ribs 2 (3), long bone 250 (43), metacarpals 0.5 (1), metatarsals 0.5 (1), phalanges 0.5 (1), remainder 200. First metatarsal head, first metacarpal head, head of proximal phalanx of hand, odontoid peg, one cervical, nine thoracic and one lumbar vertebrae.

Adult.

**10** Grey-black, calcined. Longest 57, shortest <5; average tending to longest. Vertebral 10 (6), long bone 115 (28), remainder 305. Fragments of both femora heads (diameter of left 45mm), three thoracic and one cervical vertebrae, right mandibular head, distal humerus, fragment of right patella.

Adult; probably male (femoral head diameter).

**11** White-black, calcined. Longest 49, shortest <5; average tending to longest. Cranial 0.5 (1), long bone 50 (18), remainder 105.

Adult.

**12** White-black, calcined. Longest 67, shortest <5; average tending to longest. Cranial 75 (16), vertebral 0.5 (1), pelvis 60 (7), long bone 105 (28), remainder 275. Unfused proximal femur, both proximal femoral epiphyses and one proximal epiphysis of humerus, one fragment of deciduous molar. Cow vertebra present.

Juvenile.

**13** Grey-black, calcined. Longest 64, shortest <5; average tending to longest. Cranial 15 (6), pelvis 30 (5), ribs 5 (2), long bone 400 (71), tarsals 1.5 (1), remainder 290. Mid-shaft fragment of femur, fragment of femoral head, navicular.

Adult.

**15** White, stony. Longest 55, shortest 10; average tending to longest. Cranial 30 (10), ribs 1 (2), long bone 90 (17), remainder 30.

Adult.

**16** White, calcined. Longest 59, shortest 18; average tending to longest. 20 fragments, 5 of which are long bone; total weight 60.

**17** Seven small fragments of burnt bone 10-15mm in length; total weight g.

**18** White, stony. Longest 82, shortest <5; average tending to longest. Cranial 10 (7), long bone 315 (57), remainder 100. Right proximal tibia, fragment of left patella.

Adult.

**19** Grey-black, calcined. Longest 81, shortest <10; average tending to longest. Cranial 25 (16), vertebral 15 (5), ribs 1.5 (2), long bone 190 (36), remainder 375. Lateral condyle right femur, left coracoid, one cervical and one thoracic vertebrae. Bird bone present.

Adult.

**20** White-black, calcined. Longest 80, shortest <10; average tending to longest. Cranial 205 (13), vertebral 5 (4), long bone 580 (136), remainder 550. Fragments of parietal and frontal with sutures fusing, two scapular fragments, left mandibular fragments, one cervical vertebra. Ante-mortem tooth loss from mandible. Sheep metatarsal fragment present.

Adult.

**22** Small number of grey-black, calcined fragments, about 5-10mm in length; total weight 50g.

**23** Small number of large grey-black, calcined fragments, length 20-30mm; total weight 115g.

**24** Small number of fragments; mostly long bone; grey-black, calcined. Length 25-40mm; total weight 180g.

**25** Small number of grey-black, calcined fragments; mostly long bone but one cranial fragment with fusing sutures. Length 30-45mm; total weight 125g.

Adult.

**26** Seven grey-black fragments, 20-35mm; weight 25g.

Adult.

**27** Small number of white-grey fragments, mostly long bone. Length 25-40mm; weight 100g.

**28** Black-white, not calcined. Longest 45, shortest <10; average tending to longest. Cranial 25 (1), rib 1 (1), long bone 75 (17), remainder 60. Fragment of unfused proximal femur.

Juvenile.

**29** White-black, calcined. Longest 67, shortest <10; average tending to longest. Cranial 15 (9), pelvis 5 (3), ribs 5 (3), long bone 390 (7), metatarsals 5 (3), remainder 180. Left first metatarsal, distal end right femur, fragment of right ulna, fragments of maxilla.

Adult.

**30** Small number of white-black fragments. Length 15-30mm; total weight 20g.

Adult.

**31** Small number of white fragments; four cranial, remainder mainly long bone. Length 25-40mm, total weight 95g.

Adult.

**32** White-grey; calcined. Cranial 50 (39), vertebral 5 (6), pelvis 5 (2), ribs 5 (3), long bones 35 (31), remainder 80. Left ischium, distal left humerus, proximal left femur, six vertebral bodies.

Infant.

**33** Eleven white-black fragments, mostly long bone. Length 25-55mm; total weight 55g.

## The animal bones

### Dale Serjeantson

#### Introduction

The animal remains from Great Chesterford were originally studied in 1983. In 1987 some bones not previously examined were found and the opportunity has been taken to complete the study. The report here is a list, with comments, of the bones from the Anglo-Saxon graves. In addition c 2200 animal bones were recovered from Roman contexts at the site; layers and pits outside the town of 3rd and 4th century date. The Roman material and some of the animal bones from the Anglo-Saxon burials were described in Ancient Monuments Laboratory Report No 3995 Serjeantson (ND), and an edited account of the animal bones from the Roman levels appears elsewhere (Serjeantson 1986).

The most important animal remains described below are the two horse graves, and two dog burials. Horse grave 1 was near g-rave 55, and horse grave 2 was in grave 142. Two dog burials were found, one without definite association, and the other in the upper level of grave 86.

The animal bones from the other graves fall into three categories. Some are clearly associated with the human burial or cremation, such as the boar's canine from grave 31. Bones found in the fill of others are apparently residual from the earlier dumping on the site in the Roman period (Serjeantson 1986). In a number of the graves the association of the animal bone found with the Anglo-Saxon burials and cremations is not clear; the likely origins of the more important examples are discussed case by case below.

**Grave 1** Animal bone under left shoulder of skeleton

Ox (*Bos taurus*). Part of the right-hand side of the skull of a mature ox with the base of a horn core and part of the frontal bone. The horn core has been sawn off a few millimetres above the base. The

**Table 32 Measurements of the complete long bones of dogs, dog burials 1 and 2**

Length (mm)	Dog burial 1	Dog burial 2
Humerous	-	102*
	185	108*
Radius	180	100
	181	121
Femur	197	-
	-	-
Tibia	-	112
	-	112

\* Bones with diseased epiphyses

edges of the frontal bone are ragged, which is compatible with damage before burial or in the ground. There is no evidence for chopping.

The significance of this piece of bone is enigmatic. Prehistoric hide burials are known in which the skull remained attached to the skull (eg Grigson 1980), and the position of the bone below the left shoulder of the skeleton would be compatible with burial on an ox hide, but for this we have to assume that the rest of the skull had disappeared or was too fragmentary to be recovered, and that the horns were deliberately removed, which would be unusual.

Alternatively, the bone could be residual from the Romano-British levels at the site. Horn cores are the most numerous part of the skeleton of cattle in the Romano-British levels, and the technique of sawing the horn above the base is one known to have been used in hornworking in the Roman world (MacGregor 1985, 51-2). However, none of the other horn cores from the site has been treated in this fashion.

Grave 9 Ox. Right horn core and part of the frontal bone of the skull. The bone is porous, suggesting that it is from a fairly juvenile animal. The length of the outer curve of the horn core is 1350mm. There are no marks on this horn core to suggest whether or not the horn was still attached when the bone was buried.

The significance of skulls and horn cores in the graves at this site is discussed above.

Grave 10 'Bone from pot' Six unburned unidentified fragments. One is from a large animal (cow sized), the others are too small to say.

One small calcined fragment, unidentified.

All are very undiagnostic, and could be human or other mammal.

Grave 13 'Bones from fill of pot' Three small fragments of bone which could not be identified.

'Animal bones near feet'. Sheep or goat. Right M2, worn.

Ox. Neural spine of thoracic vertebra, broken off the vertebra. The tip was apparently gnawed by a dog or other carnivore.

Ox. Fragment of shaft of right distal ulna, broken or chopped off the radius.

Ox. Left distal radius, chopped splinter.

Splinter of limb bone, chopped, from a cow-size mammal.

These resemble bones from the Romano-British pits. The chopped splinters are likely to be from bones which were chopped into pieces for the removal of the marrow, glue or grease.

Grave 31/3 (fig 27) Wild or domestic boar (*Sus scrofa*). Lower right canine tooth (tusk), broken above the root in antiquity. Length of surviving tooth = 110mm. An area of green staining at the base of the tooth indicates that it was in contact with bronze in the ground.

Grave 33 'Contents of glass bowl' Ox. Fragment of mandible without teeth.

Small scraps of bone, not identifiable.

Grave 37/43 (Fig 28) Dog (*Canis familiaris*) or wolf (*Canis lupus*). Permanent lower right canine. It is comparable in size with that of a large dog or a small wolf. The tooth was apparently used as an ornament, as a hole has been drilled in the base for suspension. It has begun to split and there is some post-depositional erosion of the surface.

Grave 55 Goose (*Anser anser*). Synsacrum with no trace of butchery. This bone is probably from a domestic goose: the maximum breadth of body of the lumbosacral is similar to that of a modern domestic goose.

	Grave 55 55	Modern domestic goose ( <i>Anser anser</i> )	Modern wild goose ( <i>Anser anser</i> )
Lumbo-sacral breadth (mm)	11.7	11.9	9.6

Geese were commonly kept in Anglo-Saxon times, more so than in the Roman period.

Grave 62 Roe deer (*Capreolus capreolus*). Complete left metacarpal with no evidence of post-mortem alteration.

Measurements (mm) (after von den Driesch 1976):

Gl	BP	SD	DD	Bd	Dd
183.0	22.0	13.7	11.3	24.9	16.4

Ox. Three first phalanges. The size variation between the bones is too great for them to have come from the same ox.

Measurements (mm) (after von den Driesch 1976):

	GLpe	BP	SD	Bd
1 fore	54.7	27.8	26.0	27.5
2 fore	57.4	29.7	25.5	28.3
3 hind	64.5	30.5	25.8	29.0

Grave 80 'Bones from fill of grave' Sheep or goat. Right mandible.

Sheep or goat. Three loose teeth: P2, left; M1, right; M2 right.

Grave 86 Dog skeleton 1 The dog skeleton found above grave 86 (fig 78, pl 4a) was found in articulation and substantially complete. It was an old male dog. All the bones, including the central epiphyses of the vertebrae are fused. The teeth are very worn and four upper incisors and six lower ones were lost ante mortem. The upper left canine had been broken and the right one is abnormally worn. Three of the upper molars were broken ante mortem and there are associated neoplastic lesions in the maxilla. The mandibular molars are relatively unaffected, with only right M2 lost before death. In addition to the poor state of the teeth, there is evidence of disease in the knee. There is eburnation of the joint surface and lapping of the distal femurs and proximal tibias. A patella has the tendon ossified. Both joints are affected, the right more severely than the left.

The shoulder height is estimated to be 60-62mm, about the size of a large Labrador. These calculations are based on Harcourt (1974) and derive from the length of the principal limb bones (table 32). Measurements of the remaining bones are in the metrical archive of Ancient Monuments Report 3995.

Other bones in grave 86 Fragment of cattle-size vertebra.

Small fragment of mandible, unidentified.

Pig. Occipital condyle, right, broken from skull.

Grave 116 Amphibian, cf *Bufo bufo*. Part of long bones, including a tibia with swelling at the proximal end, a pathological alteration.

These may be from a toad which died in the grave.

Pit by grave 129 Horse (*Equus caballus*). Two complete skulls, broken. One with maxillary teeth worn nearly flat is from a very old animal.

Horse. Pelvis, acetabular region only.

Horse. Distal part of left femur.

Ox. Substantially complete skull of adult animal, dismembered by a chop through the occipital condyles. The horn cores had been removed, apparently with chops. There are examples among the remains from the Romano-British pits of horn cores removed in this fashion.

Ox. Part of a second skull.

Ox. Left horn core.

Ox. Right horn core.

Ox. Horn core fragment, chopped.

Ox. Left mandible of mature ox, chopped.

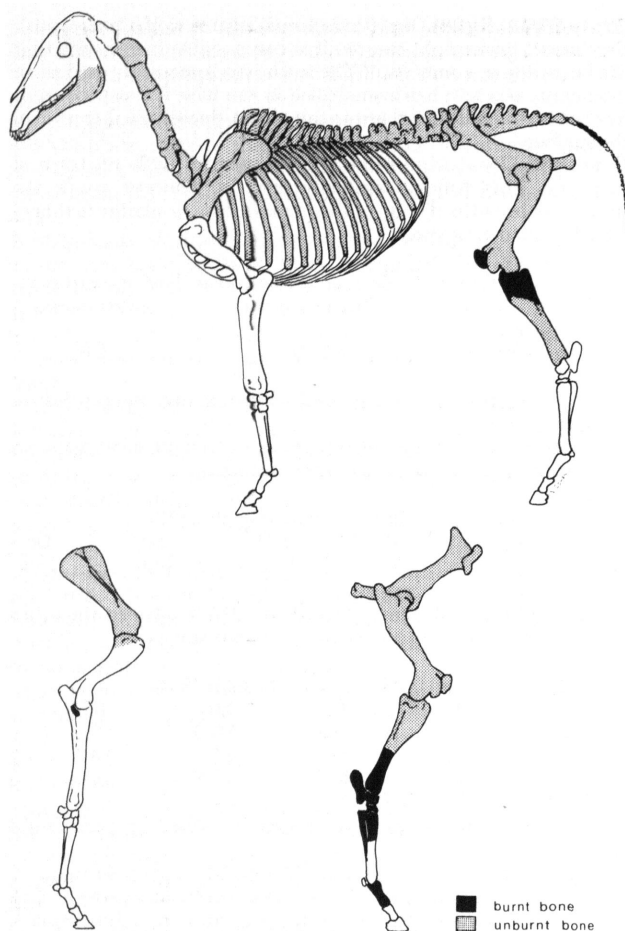


Figure 11 Skeleton of horse showing burnt and unburnt bones present in horse grave 1

**Table 33 Estimated withers height of horse from horse grave 2 based on the factors of Kieswalter and Boesneck (Müller 1955)**

Bone			0.0 mm	Factor	Withers height (m)
Humerus	GL 1	L	2925	4.87	1.42
		R	2880	4.87	1.40
Radius	L1	L	3310	4.34	1.44
		R	3300	4.34	1.43
Tibia	L1	L	3200	4.36	1.40
		R	3250	4.36	1.42
Metacarpal	L1	L	2225	6.41	1.43
		R	2235	6.41	1.44
Metatarsal	L1	L	2650	5.33	1.42
		R	2650	5.33	1.42
				Av =	1.42

Ox. Scapula, right, fused.

Ox. First phalanx, fused.

Ox. Part of right unfused distal metacarpal.

Ox. Part of left humerus of calf, with distal epiphysis just fused.

Ox. Two metacarpal fragments, one gnawed by dog.

Ox. Fragment of unfused distal metatarsal, chopped.

Domestic fow 1 (*Gallus gallus*). Tarsometatarsus.

Four unidentified fragments.

The cattle bones are from at least two individual animals, one fully mature, and one under six months.

This pit contained complete horse and ox skulls, and details of the contents are listed here so that the possibility may be considered whether it is of Anglo-Saxon date. However, it also contained bones which are typical of the Romano-British deposits, such as the chopped horn cores and the gnawed bones.

**Grave 137 'Animal bone from fill'** Sheep or goat. Mandible, right.

Pig. An unburnt fragment of the distal shaft of fibula.

**Horse grave 1** The skeleton of a horse near grave 55 (figs 11, 75) was found articulated and with no traces of cutmarks, and is clearly a horse burial. The skeleton has suffered damage from ploughing, and most of the front limbs are lacking.

The horse was immature. The deciduous incisors and premolars are present but worn and there is considerable resorption of the roots, and the permanent teeth are forming in the jaw. The deciduous teeth are not far from being replaced by the permanent teeth, which indicates an age somewhat younger than two and a half years. The pelvic bones and the tuber scapulae have fused but the epiphyses of the surviving long bones are unfused. The distal tibia, unfused in this animal, fuses by two years in horses. This horse must therefore have been just under two years at death. The pubic bones are robust, indicating that it was male (Sisson 1953). As it was not fully mature it had not necessarily reached full size. The height at the withers, estimated from the lateral length of the unfused femur (358mm), is 1.26m or 12 1/4 hands.

The fire has calcined some bones and heavily charred others. The bones present and the burnt bones are shown in figure 11. The hind limb has been severely damaged by burning, with the limb extremities more severely burnt than the upper part of the leg. The most severely burnt bones are those where there is least cover of flesh on the bones. Exposure to the fire did not continue until the whole carcass was consumed.

**With bronze 3b** Skull fragment, calcined, could be human or other mammal.

Two unidentified fragments, calcined.

**With bronze 3f** Six unidentified fragments of calcined bone, stained green from contact with bronze.

**With bronze 3e and f** Unidentified fragment, calcined, probably from a long bone.

**With bronze fragments at south end** Horse. Three heavily charred vertebrae from the tail. There are two unburned caudal vertebrae with the rest of the skeleton. Three unidentified fragments of calcined bone.

Fragments of calcined bone, 23mm long, probably long bone.

Unidentified fragment of unburned bone.

Sheep or goat. Unburnt broken tooth.

Sheep or goat. DPMs, worn.

**Grave 142. Horse grave 2 (pl 5b)** The horse skeleton found in grave 142 is substantially complete and was found in articulation (fig 83). There are no traces of butchery or skinning on the bones and it is also clearly a horse burial. It was lying on its left-hand side in the grave. The limb bones are in the main complete, but the more fragile skull and many of the ribs and vertebrae were broken in the ground, and there are only two caudal vertebrae among the bones recovered. There is a green stain on the right mandible below P3 where the piece of harness was found.

The bone surface of most of the skeleton is wellpreserved, though there are erosion channels caused by rootlets and soil fauna. The most serious erosion of the bone in the soil has been to the third phalanges, the calcaneum and the dorsal arch of the atlas.

The horse has canine teeth, which indicates that it was a stallion or gelding. (It is not known for mares to have canine teeth, but it is rare). The pubic bone is broad, which confirms that the horse is male. The estimates of withers height, from the complete long bones, using the factors of Kiesewalter and Boessneck (Müller 1955), range from 1.44m to 1.14m, with a mean of 1.42m or 14 hands (table 33). A horse of 14 hands would have been large in Anglo-Saxon times, but not uncommon (Clutton-Brock, 1976).

**Table 34 Measurements after Driesch (1976) of horse bones from horse grave 2 (0.0mm)**

Atlas	BFcd 843	BFcr 814	Axis	Bfcr 803			
Scapula	SLC	GLP	L G	BG			
L	650	930	560	-			
R	667	922	540	483			
Humerus	GLC	Bp	SD	Bd	BT	TT	
L	2868	913	326	765	692	515	
R	2760	911	323	760	695	520	
Radius + Ulna	G L						
L	4050						
R	4095						
Radius	GL	Bp	BFp	SD	C D	Bd	BFd
L	3390	800e	-	379	1100	740	619
R	-	804	728	382	1100	750	628
Pelvis	LAR	LA	SH	S B	LFo	Min. Pubis	
L	634	670	385	243		141	
R		680	395	245	705	135e	
Femur	GL	GLC	Bp	DC	SD	Bd	
L	3870	3530		575	380	930	
R	3900	3550	1125		370	915	
Tibia	GL	Bp	SD	Bd	Dd		
L	3500	930	410	717	473		
R	3500	920	428	710	473		
Astragalus	GH	LmT	GB	BFd	Calcaneum GL		
L	580	590	650	508	1030		
R	574	587	655	507	1060		
Metacarpal	G L	L1	Bp	SD	DD	Bd	Dd
L	2255	2225	490	341	230	510	353
R	2240	2235	502	336	235	512	360
Metatarsal							
L	2670	2650	494	300	263	490	-
R	2700	2650	495	310	262	495	370
Phalanx 1	GL	Bp	B F p	Dp	S D	Bd	BFd
LF	876	560	519	363	365	471	433
RF	877	564	519	362	360	470	440
LH	840	557	500e	385	335	445	425
RH	830	555	510	390	339	450	427
Phalanx 2							
LF	484	534	460	319	455	-	
RF	482	534	460	322	456	-	
LH	470	515	436	328	420	-	
RH	450	525	437	330	429	-	

Table 35  
Crown heights (CH) and mesio-distal diameters (MDD)  
of molar teeth of horse from grave 2 (mm); estimated age  
after Levine 1982, 245, is also shown

	MDD	CHR	Age (years)	MDD	CHL	Age (years)
PWOV2	30	47	6-7	31	48	6-7
PWOV3	26	60	7	25	60	7
PWOV4	25	71	6-7	25	71	6-7
MWOVI	27	67	6	27	70	5-6
MWOV2	29	77	4	28	78	4

Measurements of the bones are in table 34.

The age at death of the horse may be estimated from a number of aspects of the development of the skeleton. All the permanent incisors and molars are present and in wear, and the canines are fully erupted. They are hardly worn, which suggests an age of over four and a half years, but not much above five and a half years (Levine 1982, 245). The roots of the lower and upper third permanent molars are not closed. Age may also be estimated from the crown heights of the molars, and the age range suggested from the molars is between four and seven years (table 35). The articular ends of the long bones are fused, but some of the central epiphyses of the vertebrae are unfused or fusing. There is a good deal of variability in when this skeletal part fuses, but the partly fused state of these confirms the evidence of the teeth that the horse was not old. The pubic symphysis is unfused. There is a small erosion outside the joint capsule at the proximal end of the right radius, with a surrounding area of periosteal new bone. It is not an active lesion. One skeletal variation was noted: the right central and third tarsals are fused.

The various evidence of all parts of the skeleton indicate an age at death of about five to six years. As horses begin to be broken in at the age of about two years, this horse had been ridden for only about two to four years before, presumably, it died with or was sacrificed with its owner.

Unidentified large mammal. Chopped limb bone splinter, found near the right hind leg, is probably residual and was no doubt incorporated incidentally when the grave was filled.

Dog skeleton 2 (fig 85) The second dog burial is also of a mature or old male dog. Bone lengths show that it is a smaller animal, with an estimated shoulder height of 330-380mm, based on the tibia (table 32). Harcourt (1974) shows that remains of dogs of this size are less common than of larger animals.

Right M2 was lost *ante mortem*. This dog also had a diseased joint: there is eburnation and lipping around the joint surface of the left distal humerus and proximal radius, and some exostosis on the left third and fourth metacarpal.

Cremation 2 'Fill of pot' Small scraps of bone, none identifiable. Cremation 11 Sheep (*Ovis aries*) or goat (*Capra hircus*). Left M3 in full wear, charred.

of Sheep or goat. Distal femur fragment, gnawed by dog. Not charred.

Unidentified skull fragment, possibly human, charred.

## Acknowledgements

I am grateful to Tony Waldron and Roger Jones for their observations on the pathology of the dogs and horses, and would like to thank Sebastian Payne for helpful comments. Alan Cohen has kindly drawn figure 11.

## A possible identification of the bird portrayed by the brooch 68/1

Dale Serjeantson

The bird depicted (fig 35) has a wedge-shaped bill, which is large in relation to its head and body size, a distinct neck, a long body and a wedge-shaped tail. No feet are included, which may suggest that the intention is to show a bird swimming or on the nest.

The features which are most distinct are the bill and neck, which are like those of the Anatidae, the family which includes ducks, geese and swans. The carriage of the head fits the mute swan (*Cygnus olor*), but the bill lacks the characteristic knob and the neck is short. If a swan is intended, the bill of the whooper swan (*Cygnus cygnus*) is a better match. Geese and most ducks have shorter necks than swans, but relatively small bills. The best match for the shape of the bill and head is the eider duck (*Somateria mollissima*). The tail, however, is unlike that of any of the ducks. It most resembles that of a fish, or a game bird or some of the birds of prey. In figure 12, the brooch (A) is shown compared with profiles of (B) eider duck, (C) greylag goose (*Anser anser*) and (D) whooper swan.

Domestic geese, descendants of the greylag, were kept by the Anglo-Saxons, and their bones are common among food remains from archaeological sites. Inland today the mute swan is more common than the whooper swan, but the latter was common seasonally nearer the coast. Evidence of ducks and swan is less common on archaeological sites. The eider is a sea duck which today breeds on offshore islands round the northern coasts of Britain, Holland and Denmark. Its breeding range extended further south in England in the past. It was a familiar bird to coast dwellers and sea voyagers. The eider plucks the downy feathers from its breast to line its nest, and these have been gathered from the nests from early time to make eiderdowns and other products. In Anglo-Saxon times feathers were traded (Ross 1940).

The brooch is not an exact depiction, and could fit any of these members of the duck family. If it is not intended as a naturalistic representation of a single creature, it could be an amalgam of a bird and a fish.

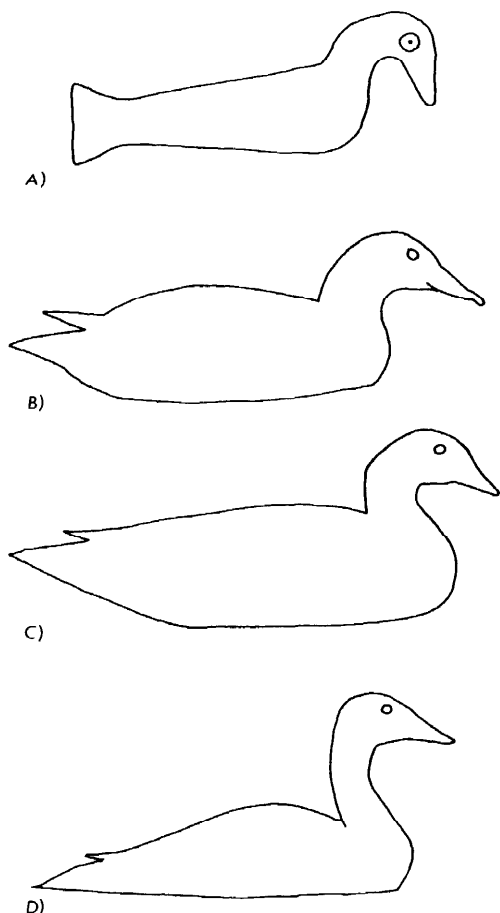


Figure 12 Bird brooch (A) compared with profiles of eider duck (*Somateria mollissima*, B), greylag goose (*Anser anser*, C), and Whooper swan (*Cygnus*, D)

## Textiles

### Elisabeth Crowfoot

#### introduction

Unfortunately the grave goods from this cemetery were excavated at a period when conservation methods were less satisfactory than those now in use. Many iron objects were originally noted as having textile fragments on them, but in most cases their details, and often even their existence, can no longer be seen through the solid coat of shiny preservative (see note to table 36). Recognizable remains surviving from 49 graves are very small and in most cases mineralized.

#### Fibres

Fibres were preserved and identified in six cases, one wool and five flax (see Appendix below), tiny patches often protected by other mineralized layers. Spin-

ning is 2 in all but five fabrics, four twills with mixed spinning, 2 one system (normally the warp) S the other (2B/1, 8/1e, 120/1, 126/3), and possible S threads in one tabby (2A/1).

#### Weaves

The weaves include twills, tabby (plain weave) and tablet weaves. There is the usual high proportion of twill to tabby weaves, here 2:1, characteristic of the Anglian and eastern parts of the country, and the early date of the burials.

#### Twills

All those which are well enough preserved to be identified are four-shed (2/2) constructions. In four cases reverses of the diagonals in the weave are visible, ie the fabric would have had a broken diamond or chevron pattern, though none were clear enough to be drawn (2B/1, 9/2, 16B/2, 114/2). The high proportion of Z-spun yarns in the twills, and the complete lack of coarse fabrics, may be due partly to the loss of evidence from the larger iron goods; mixed spinning, a combination said to make the cloth wind and thorn-proof, was often used for yams in heavier garments, particularly for men. Traces of mineralized twill on keys in a woman's grave (37/6) clearly show some fragments with Z/Z spinning, and others with S-spun threads, in one system; their position and similarity in thread and weave, suggest they come from the same fabric, which may indicate a striped or checked weave (Crowfoot E 1985, 52-3). At least three twills, all from women's graves, were identified as of flax. Flax twills are often associated with coverings or pillows (Crowfoot E 1987, 172), and the medium-grade weave on iron and bronze fragments in grave 16B/2 may suggest a bag; but the position of finer remains underneath brooches are perhaps more likely to come from the woman's under-dress (132/4, 153/2, and possibly 148/2).

#### Tabby weave

Tabby weaves have Z-spun yarns, apart from some possible S threads in a fine cloth that may have been used to wrap a spearhead (2A/1). The appearance and position of some other fine examples suggest head-veils, perhaps folded round the neck and tucked under the brooches (7/1, 97/5, 108/1, 127/2).

#### Tablet weave

Tablet weave is represented, though poorly preserved, in the positions common in the Anglian style of women's dress which the arrangement of the metal jewellery suggests - in one case in a wrist clasp (29/8), and in four from the pairs of brooches on the chest or shoulders (81/2, 97/1, 108/1, 132/4). While those in wrist clasps are normally braids, separately woven and sewn as cuffs to the long sleeves of the under-dress (Crowfoot G M 1950, 26-8; 1952, 190-1), those on the shoulder brooches often, as here, suggest a weave-border on the over-garment. A fragment of

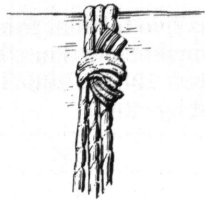


Figure 13 18/5, threads tying buckle-chape, ?mend

selvedge, of the hard-wearing tubular style familiar from other Anglo-Saxon cemeteries (Crowfoot *et al* 1981, 96-8; Crowfoot *E* 1985, 52-3; 1987, 174), comes from a similar position on a brooch (20/2). This agrees with the suggestion that the over-dress was simply a folded rectangle of cloth, in which the length of the garment is given by the length of the wefts, so that it is the side-edges, tubular or tablet-woven, which survive in the brooches (Hald 1980, 364-6).

### Bead-threads

A point of interest in this cemetery is the very good preservation of numerous bead-threads, some probably plyed pairs of threads, again tightly plyed together, others apparently little four-thread cords, which can be plaited with the fingers or made with bobbins (Hald 1980, 240-4; Crowfoot *et al* 1981, 97, 99). Details of the way the ends are knotted (127/3, 160/4), or in one case whipped round with a piece of yarn to stop it unravelling (113/1, fig 14), and the passage of the threads round the springs of the brooch-pins, are unusually clear. In one case the fibre is wool (18/2), but bead-threads are more commonly



Figure 14 113/1, 120/1, whipcord

flax, as in 120/1, where a little cord lying on the saucer of the brooch is still white. It is possible that some soil condition friendly to vegetable fibres accounts for the preservation of both bead-threads and flax weave fragments. Threads are also preserved, mineralized, on the chape of a buckle, in three groups which appear to bind a layer of tabby weave to the metal (18/5, fig 13). This is not a belt weave, and is unlikely to have been decorative, but perhaps something in the nature of a repair or strengthening.

### Appendix: Fibre identification

*H M Appleyard, FTI*

**16B/2** This is a bast fibre. It was possible to find a lumen in some of the fibres, and some cross-markings; fairly certainly flax.

**18/2a** These fibres are very friable, with a lot of degradation; they are of animal origin. There is very little evidence of scale structure, but the general appearance is of wool.

**120/1** The fibres are fine and regular in thickness; in spite of damage some cross-markings are typical of flax.

**132/4** Damage and deposits, but also probably flax.

**148/2** Very much damage, but most likely flax.

**153/2** Flax.



**Table 36: Textile catalogue**

Object no	Object	Position on object		Measurement (mm)	Fibre	Spin	Weave	Thread count (on 10mm)	Comments
1/1	Small, long brooch	back, pinhead		5 × 4	mineralized	Z/Z	2/2 twill	-	broken threads
1/2	Small, long brooch	back, pinhead		-	mineralized	Z	?	-	
1/4b	Fe, Ae rings	on Ae on Fe		- 10 × 7	mineralized mineralized	Z Z/Z	- 2/2 twill	- 10 (5 5mm)/8	very line thread (pres.)*
2A/1	Spearhead	on blade	(a)	20 × 4	mineralized	?/S	tabby	-	fine, some clear S threads
2B/1	Gilt square-headed brooch	back and pinhead	(b)	9 × 5	mineralized	Z/S	2/2 twill, ?broken diamond	c 12/12 (6 5mm)	?reverses
2B/3	Saucer brooch	back, pinhead		-	mineralized	Z/S	?twill	-	?(a), surface damaged
7/1	small long brooch	back, pinhead (clear area) through textile	(a) (b)	15 × 20 5 × 5	mineralized mineralized	Z/Z Z	tabby thread or cord	c 20/18 5/4-5 on 5mm -	even spin and weave plied or whipcord
7/2	Brooch, pair to 1	back, pinhead?	(a)	4 × 5	mineralize	Z/Z	tabby	c 14/16/12 (7-8/6 on 5 mm)	5mm only clear, under skin or bone
8/1e	Fe buckle	on fragment		c 13 × 10	mineralized	Z/S	2/2 twill	est 10/10	rather loose open weave, damaged
9/2	Brooch	back, pinhead		5 × 5	mineralized	Z/Z	2/2 twill, ?broken diamond	c 19-20/16 (9-10/9 on 5mm)	possible reverses, but not clear
9/3	Pair to 2	back, pinhead		-	mineralized	Z/Z	-	-	threads ?coarser
9/11	Knife	traces, blade			mineralized	Z	-		impression, not clear
12/1	Knife	on fragment		c 12 × 10	mineralized	Z?	-	-	open weave (pres.)
16B/2	Fe on Ae ring	Fe fragment round Fe ring, over (a)	(a) (b)	8 × 5 c 30 × 15	flax mineralized	Z/Z Z/Z	2/2 twill 2/2 twill broken diamond	c 10/10, ie 8/5-6 c 24/14-16 (6,2.5/7-8,5mm)	one system tight-spun, other coarser flattened; reverses; both yarns even
16B/3	Fe fragments	going round	?(a)	L 15	mineralized	Z/Z	-	-	coarser threads
16B/3	Fe fragments	in rust	?(b)	-	mineralized	Z/Z	-	-	finer threads
17/1-3	Fe fragments	traces		-	mineralized	Z/?	?twill	-	(pres.)
18/1a	Disc brooch	pinhead round pinhead	(a) (b)	8 × 11	mineralized mineralized	Z, Sply Z/Z	threads -	- -	bead thread confused weave
18/2a	pair to 1a	pinhead	(a)	-	wool	Z, Sply	cord or plait	-	(see p 72)
18/5	Fe buckle	under chape against metal, under (c) over (d)  ?buckle, chape	(c) (d) (e)	10 × 6 c 16 × 10 -  28mm from end	mineralized mineralized mineralized	Z/Z Z/Z Z, Sply 2 Z ply	2/2 twill tabby threads	16/16 (8/8 5mm) 10/10 (5/5 5mm) 3 on 5mm	very even, unlike (b) over chape parallel threads, but not tablet weave; knot one end; second band threads, similar, (p 72). ?mend (fig 13)
18/10	Fe buckle	on ring? under 9c) on ring ?	(c) (d)	c 7 × 9 c 15 × 10	mineralized mineralized	Z/Z Z/Z	2/2 twill ??tabby	10/8 on 5mm 6/6 on 5mm	clear
18/12	Fe ?keys	traces		-	mineralized	Z/?	?tabby	-	(pres.)
20/2	Cruciform brooch	lump, pinhead. and under clasp	(a)	c 25 × 12 L 8	mineralized	Z/Z	?twill tubular selvage	- 6 wefts, 8mm	many broken threads clear fragment, from (a)
20/3	Pair to 2	under clasp	(a)	-	mineralized	Z/Z	?twill	-	similar
20/5a	Fe buckle	on chapter fragment other fragment	(b) (c)	20 × 16 25 × 17	mineralized mineralized	Z/Z z/z	tabby 2/2 twill	12/12 (6 on 5mm) est 20/18	very even, two layers open weave, very pulled
20/5b	Ae and Fe plate	underside	?(b)	13 × 12	mineralized	Z/Z	tabby	-	may be (b), but uneven

Object no	Object	Position on object		Measurement (mm)	Fibre	Spin	Weave	Thread count (on 10mm)	Comments
20/5c	Fe fragments	in layers	?(c)	23 × 25	mineralized	Z/Z	2/2 twill	c 18/16 (9/8 5mm)	clear (pres.)
21/5a.c	Fe chain	on links		c 7 × 6	mineralized	Z/Z	?twill	-	some coarse Z threads
24/3	Fe buckle	over much of ring		-	mineralized	Z/?	-	-	(pres.)
29/1a	Fe fragments	small patch		-	mineralized	Z/Z	-	-	damaged surface
29/9	Wrist-clasp, L	detached fragments  at edge of braid		L 5mm W 3mm full width c 1mm	mineralized  mineralized	Z/?  Z	tablet-weave  thread	-  -	traces, chevron twist near edge, marks full width;  one stitch
33/7	Fe stud	on head		-	mineralized	Z	thread	-	(pres.)
37/2	Radiate brooch	back, pinhead another area same	(a) (b)	- -	mineralized mineralized	Z/Z Z/Z	?tabby ?twill	- -	layers or folds, coarse fiber threads finer
37/6	Fe keys	in one area on other bits	(c)	8 × 4 -	mineralized	Z/Z Z/S	2/2 twill twill	-/5 (on 4 mm)	clear fragment (pres.) probably same weave? (p 71)
38/1	Fe buckle	on surface of loop		10 × 14	mineralized	Z/Z	?twill	-	(pres.)
45/1	Small square-headed brooch	lump, pinhead in circle round pin	(a) (b)	13 × 10 -	mineralized mineralized	Z/Z Z	tabby thread or cord	c 9 on 5mm/- -	along broken edge 4-thread cord, or 2 heavily played threads, Z-plyed together
45/2	Brooch, pair to 1	lump on back	(a)	5 × 4	mineralized	Z/Z	tabby	6-7/7 on 5/4mm	tiny clear area
51/1	Spearhead	fragments  detached fragment on Cu alloy inset	(a) (b) (b) (b)	16 × 10, 10 × 7 9 × 4 25 × 27 15 × 12	mineralized  mineralized mineralized	Z/Z  Z/Z Z/Z	2/2 twill  2/2 twill 2/2 twill	9/8-9  c 16/12 (6 on 5mm) 15/13-14	many broken threads  very close even weave, not likely to be (a) even close weave
51/2	Fe buckle, Ae chape	on the top loop			mineralized	Z/Z	?twill	-	may be (a)
51/5a	Fe fragments			10 × 10	mineralized	Z/Z	?twill	-	
53/1	Fe knife	on fragments		-	mineralized	Z/Z	?twill	-	small patches
55/1	Small long brooch	rounded pinhead		-	mineralized	Z	string or cord	-	coarse threads, tied round, ?breads
55/2	Brooch, pair to 1	lump, pinhead		-	mineralized	Z/Z	?tabby		
55/6	Fe knife	on fragments		-	mineralized	Z/Z	-	-	found in sieving
55/8	Fe fragments			-	mineralized	Z/Z	-	-	(pres.)
62/1	Small gilt brooch	lump pinhead	(a)	13 × 12	mineralized	Z/Z	2/2 twill	c 18/16 (9/8 on 5mm)	surface damaged, weave pulled diagonally
62/2	Brooch, pair to 1	pinhead, detached	(a)	-	mineralized	Z/Z	2/2 twill	7/6 on 5 mm	spin even
62/3	Fe pin	on ring head	(b)	-	mineralized	Z/Z	tabby	c 14/12	folds or layers, fine open weave, broken threads
62/6	Fe knife	on handle, wood	?(c)	-	mineralized	Z/Z	?		coarse weave remains
62/7	Fe clump, ring	on half ring, and fragment	(d)	c 20 × 20	mineralized	Z/Z	2/2 twill	c 14-15/12 (7-8/6 on 5mm)	fine even spin, weave, no reverses; appearance ?flax
66/1	Small square-headed brooch	back, on pin		-	mineralized	Z	?	-	deteriorated, crushed
66/2	Brooch, pair to 1	back, round pin through loop		- -	mineralized mineralized	Z Z	? threads	- -	similar, crushed 7 coarse, together; ?beads
68/2	Fe buckle	all over		-	mineralized	Z	?	-	fairly coarse threads, weave damaged
69/2	Small long brooch	back, pin and pinhead		L 158 × 8	mineralized	Z/Z	2/2 twill	c 14/12 (7/6 on 5mm)	surface damaged

Object no	Object	Position on object		Measurement (mm)	Fibre	Spin	Weave	Thread count (on 10mm)	Comments
73/1	Small long brooch	black, pinhead lying along arm	(a) (b)	- L 10	mineralized mineralizes	Z/Z Z	twill ?whipcord	- -	surface poor second end lying below it., ends similar, round pinhead unravelled
81/2	Small long brooch	pinhead, lump under, on plate remains, above (b)	(a) (b) (c)	15 × 13 5 × 7 -	mineralized mineralized mineralized	- Z/Z.Sply Z/Z	- tablet weave ?twill	- 6 cords, 5 wefts, 5mm -	fine weave, deteriorated cords all lie S badly damaged
92/2	Small long brooch	back, pinhead	(a)	c 4 × 5	mineralized	Z/Z	?tabby	c 8-9/8 on 5mm	2 layers, damaged
92/3	Brooch, pair to 2	back, pinhead under (a)	(a) (b)	- -	mineralized mineralized	Z/Z Z.Sply	- cord or string	- -	similar patch ?for beads
92/5	Fe ring	tiny patch	(c)	-	mineralized	Z	?string	-	coarse, ?knot
96/2	Fe knife	on edge		-	mineralized	Z/?	?tabby	-	fine (pres.)
97/1	Saucer brooch	back, across pin, under ?bone	(a)	10 × 15	mineralized	Z/Z	tablet weave, ?border	10/?	edge, finer thread cords on probably coarser weave
97/2	Brooch, pair to 1	lump, over it	(b)	L 7-8	mineralized	Z	?whipcord	-	broken piece, flattened
97/5	Fe knife	detached piece	(c)	10 × 12	mineralized	Z/Z	tabby	c 20 (10,5mm)/18	2 layers, fine, fragile
98/2	Fe rivet	patch		-	mineralized	Z/Z	tabby	-	tiny scrap (pres.)
103/7	Fragments Fe hook	inside hook		12 × 14	mineralized	Z/Z	tabby	8 (4,5mm)/6	thread coarse
108/1	Small long brooch	lump, back head detached on side plate	(a) (b) (c)	5 × 5 - 2 × 15	mineralized mineralized mineralized	Z/Z Z Z/Z	2/2 twill tablet weave tabby	8/6 on 5mm 6 cords on 3mm 5/3 threads, ie c 20/18	small clear area ?border from twill (a) very fine even weave
108/2	Brooch, pair to 1	fragments, back?	(b)	-	mineralized	Z/Z, Sply	tablet	8 cords on 5mm, 3 wefts on 3mm	?border as above (b)
108/4	Fe buckle	pin end, and all over ring	?(a)	5 × 6, 10 × 7	mineralized	Z/Z	?twill	-	weave surface damaged
112/2	Fe ring	traces on all pieces		-	mineralized	Z/Z	?twill	-	(pres.)
113/1	Applied brooch	back, pinhead threaded through (a)	(a) (b)	c 18 × 18 L 5  10 × 10	mineralized mineralized  mineralized	Z/Z Z  z. Sply	2/2 twill whipcord  thread	8/c 6, 5mm - -	surface damaged (fig. 13) cut end, tied round with thread, protruding; hole entering weave; 2 cords through weave; ?scrap other side; ends on to plate ?sewing thread through weave
113/2	Brooch, pair to 1	on pinhead	(a)	c 10 × 10	mineralized	Z/Z	2/2 twill	c 14-16/12 (7-8/6 5mm)	fragments clear
114/2	Miniature brooch	back head, and on pin		c 20 × 25	mineralized	Z/Z	2/2 twill, ?broken diamond	6/6 on 5mm	weave pulled diagonally; on fragment of pin, ?reverse
115/2	Fe buckle fragments	fragment buckle fragment plate		9 × 6 22 × 10	mineralized mineralized	Z/Z Z/Z	2/2 twill 2/2 twill	9/7 on 5mm 20/15	all traces same weave, spin, weave, both even; appearance ?flax
116/1	Small long brooch	lump, back head along pin, under clasp over (a)	(a) ?(b)	7 × 8	mineralized mineralized	Z/Z Z/Z	2/2 twill 2/2 twill	c 16/16 (8/8, 5mm) 7-8/6 on 5mm	partly hidden ?bone or skin appearance suggests two twills
116/2	Brooch, pair to 1	lump, back head	?(b)	10 × 8	mineralized	Z/Z	2/2 twill	c 14/12 (6 on 5mm)	surface damaged
116/4	Fe pin	on fragments, font and back		25 × 17	mineralized	Z/Z	2/2 twill	-	medium, deteriorated, could be (b)
116/6	Fe ?shoe-tags	on fragments	(c)	6 × 6	mineralized	Z/?	?tabby	-	(pres.)
120/1	Saucer brooch	on pinhead under pin, and on saucer	(a) (b)	- -	mineralized flax	Z/S Z	twill ?whipcord	- -	deteriorated (fig 14 ends under pin, rounded spring; tied; flax still white
120/2	Brooch, pair to 1	on pinhead	(a)	17 × 17	mineralized	Z/S	2/2 twill	-	surface damage
122/7	Sword	traces, and rust on earth area	(a)	c 20 × 20 c 40 × 40	mineralized	Z/Z	2/2 twill	16/12 (8/6 on 5mm)	very fine regular weave, earth soil under rust, ?cloth wrapping sword

Object no	Object	Position on object		Measure-ment (mm)	Fibre	Spin	Weave	Thread count (on 10mm)	Comments
122/10	Fe fragments	with spearhead patches on socket	(b) ?(a)	60 × 25 7 × 25	mineralized mineralized	Z/Z Z/Z	2/2 twill 2/2 twill	11/9-10 14/10 (7 on 5mm)	regular spin, slightly loose weave, no reverses threads much finer
126/1	Sauser brooch	back pinhead		-	mineralized	Z/?S	twill	-	impression, partly gone
126/2	Brooch, pair to 1	detached fragments		-	mineralized	-	-	-	probably same
126/3	Square-headed brooch (With purse mount)	lump, pinhead above (a)	(a) (b)	14 × 8	mineralized mineralized	Z/Z Z/S	tabby 2/2 twill	est 12/12 (6-7/5-6 on 5 × 4mm) c 14/12 (7/6 on 5mm)	only tiny fragment clear near to body
127/2	Disc brooch	on pinhead, back and	(a) (b)	- 3 × 2.5	mineralized mineralized	Z Z/Z	string or cord ?tabby	- 5/5 on piece (ie c 16/20)	round pinhead, knot tiny clear fragment
127/3	Brooch, pair to 2	detached, back	(a)	-	mineralized	Z	cord	-	rusted knot
127/6	Fe key shaft	on lump with it		10 × 10	earth	-	-	-	appearance of weave on earth
132/4	Disc brooch	over pin at edge, and broken fragments	(a) (b)	30 × 27 W 13	flax mineralized	Z/Z Z/Z	2/2 twill tablet weave, ?border	c 16/14 (8/7 on 5mm) cords 4 on 5mm, wetts 6 on 5mm	very even, stretched, fibre only tiny area break between, ?border and twill, welts ?coarse for (a) possibly weave below parts 12 cords, chevrons, ie threaded right, left
135/1	Small long brooch	pinhead, and edge	(a)	15 × 17	mineralized	Z/Z	2/2 twill	16/12	even weave
135/2	Brooch, pair to 1	patch pinhead protruding	?(a) (b)	- -	mineralized mineralized	Z/Z Z	?twill threads	- -	surface deteriorated coarse, ?beads
135/6	Small long brooch	large patch, scrap clear	?(a)	8 × 8	mineralized	Z/Z	2/2 twill	-	deterioated surface
140/5	Purse mount	on Fe, impression on broken fragments		17 × 9	mineralized	Z/Z	?twill 2/2 twill	- 5-6/6 on 5mm	(pres.) even
140/7	Ae loop	traces		-	mineralized	Z?	-	-	not clear, leaf
142/4b	Sheild grip	fragments, with wood		10 × 10	mineralized	Z/Z	2/2 twill	10/9	very even spin and weave
145/2	Gilded square-headed brooch	back, head	(a)	17 × 17	mineralized	Z/Z	2/2 twill	7/6 on 5mm	top surface threads gone
145/4	Brooch, pair to 3	rounded pinhead deteriorated lump	(b) ?(a)	- -	mineralized	?Sply -	threads ?twill	- -	coarse, unravelling, ?beads
145/6	Fe pin	all along shaft	?(a)	20 × 6	mineralized	Z/Z	2/2 twill	12/12 (6 on 5mm)	even
148/2	Small square-headed brooch	back, pinhead under (a)	(a) (b)	15 × 15 -	mineralized flax	Z/Z Z	2/2 twill -	- -	surface damaged thread protruding, ?from (a)
148/3	Fe pin	all over surface	?(a)	19 × 8	mineralized	Z/Z	2/2 twill	c 12/10 (5 on 5mm)	could be (a)
153/2	Square-headed small long brooch; bone	back, pinhead and along pin		c 40 × 20	flax	Z/Z	?twill	9 (5mm)/-	one system only clear, threads protruding
153/3	Small cruciform brooch	back pinhead, and along pin		-	mineralized	Z/?	twill	-	with bone; edge of weave clear
160/4	Small long brooch	lump, pinhead under (a) protruding	(a) (b)	20 × 15 L 10	mineralized mineralized	Z/Z Z	2/2 twill ?cord	7/6 on 5mm -	small area clear, threads broken cord knot one side, 5mm showing other side
160/5	Brooch, pair to 4	similar lump	(a) (b)	- -	mineralized mineralized	Z Z	twill cord	- -	traces fragment, and mark on Ae

\* Heavy preservative on iron objects unfortunately confused, and in some cases completely hid, textile which had been noted at an earlier examination. (pres.) in the catalogue indicates a few items where something could still be described in spite of this, but the following items have had to be omitted: 24/4 (buckle); 28/2d (nails); 29/6 (buckle); 32/2 (knife); 33/4 (knife); 33/6 (Fe fragment), 33/8 (stud); 37/5 (knife); 40/1 (brooch); 73/2 (Fe fragment); 79/4 (Fe fragment); 92/6 (pin); 99/4 (buckle); 101/3 (buckle); 102/2 (buckle); 118/3 (Fe fragments); 124/7 (buckle); 127/4 (ring); Un 3 (brooch).

## Examination and analysis of the glass beads

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### Introduction

Beads from a selection of burials at the Pagan Saxon cemetery site of Great Chesterford were examined. They included beads of non-glass materials such as amber, but only the glass beads were examined in detail and analyzed. The number of beads found in each grave varied considerably and a representative selection was made of the beads, from a number of graves, of various colours and types.

The beads analyzed were both monochrome and polychrome (see table 37). The interpretation of the analyses of the polychrome beads is more complex than that of monochrome beads as the area analysed includes more than one glass colour. The colours of the beads were determined subjectively by eye, but should provide a reasonable basis for comparison with each other and with the analytical results. The opacity of the beads varied from translucent to completely opaque, and, for convenience, these have been divided into two groups, opaque and translucent, based on visual comparison.

### Analysis

The beads were analyzed using energy-dispersive X-ray fluorescence (EDXRF) with an evacuated sample chamber. The elements analysed for (in oxide form) were silicon (Si), phosphorus (P), potassium (K), cobalt (Co), calcium (Ca), titanium (Ti), manganese (Mn), iron (Fe), copper (Cu), zinc (Zn), lead (Pb), strontium (Sr), tin (Sn), and antimony (Sb). No attempt was made to analyze low atomic number elements such as sodium, and therefore the bulk composition of the glass could not be determined. No sample preparation of the surface of the beads was possible due to the necessity for non-destructive analysis, so any results from light elements would have been unreliable. The calcium results may also have been affected by contamination due to weathering and surface leaching. Since silicon is expected to be present at a relatively constant level in the beads, as it is the major constituent of ancient glass, it was used as an internal standard. The results were normalized by taking the ratio of the  $K_{\alpha}$  peak height of each element (except for lead, when the  $L_{\alpha}$  peak height was used) to that of the corresponding silicon  $K_{\alpha}$  peak. The normalized results are listed in table 38. Only cobalt was not treated in this way, as it was present, if at all, in very low concentrations and the peak for cobalt overlaps with the iron  $K_{\beta}$  peak. Cobalt was therefore recorded as detected/not detected.

The method of normalizing results to silicon is not so good when the glass has a high lead content. The lead causes the signal intensity from the light elements, particularly silicon, to be depressed relative

**Table 37 Catalogue of beads analysed by EDXRF**

No	Description	Opacity	Colour
62/4n	globular	translucent	colourless
113/3a	cylinder		colourless
114/3b	annular		blue
92/4b	annular		blue
92/4b	annular		blue
2B/4Bf	cylinder		light blue
148/1d	annular		light blue
127/5a	disc		blue-green
79/2c	cylinder		yellow
127/5b	annular	opaque	black
97/3f	disc		blue-green
97/3e	disc		green
120/3b	cylinder		red
103/3a	disc		red
103/3i	disc		white
56/2b	disc		yellow
126/5b	disc		yellow
103/3b	disc		yellow
62/4j	cylinder		yellow-green
2B/4Aj	disc		red with white and blue-green
2B/4Text	disc		blue and white
2B/4Bo	disc		red with white
27/21	disc		blue with red and white
34/2b	cylinder		red with green and yellow
48/1	cylinder		blue-white with blue-green
114/3c	disc		yellow with green and red
113/3b	cylinder		red with green and yellow
97/3h	disc		white with blue-green

Table 38 Results of EDXRF analysis

N o	Col	Opac	P	K	Ca	Ti	Mn	Fe	Co	Cu	Zn	Pb	Sr	Sn	Sb
62/4n	O	T	0.02	0.08	0.82	0.03	0.47	0.52	-	0.19		0.04	0.16		
113/3a	O	T	0.02	0.05	0.41	0.01	0.02	0.15	-	0.08			0.07		0.06
114/3b	B	T	0.07	0.29	1.42	0.10	0.48	1.47	+	0.25	0.07	0.21	0.32		
92/4b	B	T	0.04	0.12	0.74	0.03	0.27	0.27	-	0.13		0.06	0.17		
92/4b	B	T	0.04	0.17	0.75	0.05	0.33	0.69	+	0.13	0.07	0.07	0.16		
2B/4Bf	LB	T	0.10	0.15	1.01	0.08	0.06	1.53	-	0.32		0.68	0.15	0.18	
148/1d	LB	T	0.08	0.23	1.00	0.05	0.31	0.82	-	0.12		0.08	0.20		0.04
127/5a	B/G	T	0.04	0.15	1.00	0.03	0.23	0.53	-	0.07		0.07	0.21		0.09
79/2c	Y	T	0.04	0.11	0.77	0.14	1.33	1.58	-	0.31		0.04	0.15		
127/5b	Bk	O	0.07	0.23	1.08	0.06	0.61	4.10	-			0.06	0.17	0.10	
97/3f	B/G	O	0.04	0.09	0.79	0.05	0.32	0.72	-	2.98	0.09	0.09	0.09	0.09	
97/3e	G	O	0.13	0.17	1.92	0.09	0.40	1.44	-	2.62	0.09	0.70	0.28	0.10	
120/3b	R	O	0.11	0.18	1.63	0.22	0.68	5.78	-	4.25	0.37	8.16	0.10	0.09	
103/3a	R	O	0.07	0.08	0.69	0.08	0.32	2.92	-	4.18	0.28	3.97	0.05		
103/3i	W	O	0.19	0.16	1.63	0.04	0.74	1.21	-	1.48		3.08	0.17	1.92	
56/2b	Y	O	0.24	0.07	1.40	0.10	0.05	1.21	-	0.23		7.93	0.04	0.24	
126/5b	Y	O	0.09	0.13	0.55	0.09	0.49	0.68	-	0.26		7.51	0.03	0.21	
103/3b	Y	O	0.44	0.09	1.03	0.17	0.48	1.46	-	5.48	0.23	15.84	0.06	0.36	
62/4j	Y/G	O	0.42	0.18	1.26	0.12	0.42	3.37	-		0.27	19.30	0.12	0.23	
2B/4Aj	P	O	0.36	0.21	1.95	0.13	1.01	5.97	-	2.47	0.34	2.58	0.21	0.56	
2B/4Aj	P	O	0.08	0.18	1.20	0.05	0.78	3.42	-	0.21		0.45	0.19	0.24	
2B/4Bo	P	O	0.12	0.28	1.14	0.06	0.60	2.73	-	0.52	0.14	2.08	0.14	0.31	
27/2I	P	O	0.09	0.18	1.51	0.12	0.90	2.87	-	0.83	0.21	1.42	0.32	0.34	
34/2b	P	O	0.11	0.10	0.77	0.07	0.24	2.13	-	2.47	0.16	7.77	0.07	0.10	
48/1	P	O	0.03	0.11	0.75	0.02	0.02	0.27	-	0.77	0.16	0.49	0.07	0.32	
114/3c	P	O	0.10	0.21	1.32	0.09	0.46	4.95	-	0.51		3.37	0.09	0.09	
113/3b	P	O	0.16	0.29	1.88	0.25	0.70	4.07	-	3.53		20.89	0.20	0.16	
97/3h	P	O	0.13	0.10	1.29	0.08	0.33	1.96	-	0.55		2.13	0.14	0.53	

All figures normalized to silicon, except cobalt, which is either detected (+) or not detected (-).

The symbols representing bead colour (in column labelled 'Col') are as follows: B blue, Bk black, G green, LB light blue, O colourless, P polychrome, R red, W white, Y yellow.

The symbols representing bead opacity (in column labelled 'Opac') are as follows: T translucent, O opaque.

to the other elements and this results in a much higher ratio figure for the other elements than in the beads with lower lead contents. This must be taken into consideration when comparing the ratios of high-lead glass beads to other beads.

The ratio figures for each element quoted in table 38 cannot be compared between elements (ie across the table), as the ratio bears little relation to the proportion of that element present. Different elements are excited with varying efficiencies by the primary X-rays, eg tin is excited far less than copper so the ratio will be a lot lower even when the amounts involved are similar. However, comparisons between analyses for a particular element (ie down the table) are valid.

Most of the elements recorded have an effect on the colour or opacity of the glass, the exceptions being phosphorus, potassium, calcium, titanium, and zinc. Titanium is found at low levels in most glass and enters the glass melt as an impurity in the sand (silica) component. Zinc often enters the glass melt as an impurity or deliberate addition in the copper.

### Results

Twenty-eight beads were analyzed by EDXRF; they were of varying colours and types (for full descriptions of the analyzed beads see table 37). These can be divided into eleven colours, some of which are found as both translucent and opaque glass:

Colour	Opaque	Translucent	Total
Blue (B)	-	3	3
Black (Bk)	1	-	1
Blue/green (B/G)	1	1	2
Green (G)	1	-	1
Light blue (LB)	-	2	2
'Colourless'	-	2	2
Red (R)	2	-	2
White (W)	1	-	1
Yellow (Y)	3	1	4
Yellow/green (Y/G)	1	-	1
Polychrome (P)	9	-	9

The analyzed beads could be divided into four broad typological groups based on those types defined for beads from Buckland (Evison 1987, 611:

Type	Total
Disc	14
Cylinder	8
Annular	5
Globular	1

The range of colours and bead types is similar to those from a number of other 6th or 7th century cemetery sites in Britain such as Sewerby (Hirst 1985, 62-85), Buckland, Dover (Evison 1987, 61-82), Mucking (Heyworth 1988), and Wakerley (Heyworth 1987).

## Discussion

The beads are likely to be made of soda-lime-silica glass, and some will have had lead added at levels up to some 20-30%. This major element composition is a standard glass composition in the 1st millennium AD for all types of glass, vessels and windows as well as beads. The main components in the glass melt were sand, which provided the silica and possibly the calcium in the form of shell, and an alkali, either natron or a marine plant ash, which provided the soda.

The bulk composition of the glass beads cannot be determined from the elements recorded; however, the titanium content may be a reflection of the silica source used, as it usually comes into the glass as an impurity in the sand, and variations in the titanium content may therefore equate with variations in raw materials sources. The titanium levels in the Great Chesterford beads vary from 0.01 to 0.25, though only seven beads have titanium levels over 0.10 (and three of these are due to the high lead content in the bead). There are also some variations in the levels of

phosphorus, potassium, and calcium in the beads. This may be an indication of variations in the raw materials used to make the glass, which may reflect multiple sources for the beads; however, it could also be explained by uncontrolled raw material variations within a single source.

The other elements recorded were in the glass melt either as impurities in the main components or as deliberately added elements to achieve colouring or decolouring. Manganese, iron, cobalt, copper, tin, lead, and antimony can all have a colouring effect, even when present in only very small quantities. Manganese and antimony can also act as decolourizers.

The production of coloured glass is extremely complex, with a number of factors to take into account, such as deliberately added colourants or decolourants, the furnace conditions in which it is produced, and the bulk composition of the glass. The colouring effect of different elements can be summarized as follows (for more detailed consideration see Bayley forthcoming; Biek & Bayley 1979). The colour of iron-containing glass is strongly influenced by the furnace conditions; it will appear blue in strongly reducing conditions, green in less strongly reducing conditions, and yellow or brown in oxidizing conditions. This can be complicated by the presence of manganese, which can either produce a wider range of colours including purple, or can act as a decolourizer to produce 'colourless' glass. Cobalt produces an intense blue colour, whereas copper produces a more turquoise blue or green in oxidizing conditions. In reducing conditions copper can produce an opaque red or orange colour, though it may range through to a brown. Tin is usually associated with opaque glass as tin oxide gives an opaque white colour, though if the glass contains lead the lead-tin oxides that form will give an opaque yellow colour. Lead does not actually produce colour but has an effect on the hue produced by colourants, and it plays an important role in the production of opaque glass. Antimony is another decolourizer in its reduced state, though in its oxidized state it produces opacity. Calcium antimonates are white, whilst lead antimonates are yellow.

There seems to be a shift from the use of antimony to manganese as a decolourant in the Roman period (Henderson & Warren 1983, 169), and it would therefore be expected that the Great Chesterford beads would be decolourized by manganese. However, there is one bead which is decolourized by antimony (113/3a) to produce a colourless bead. This bead is therefore likely to be a Roman survival. Antimony was also detected in two beads, 148/1d and 127/5a, at significant levels where it is not having an opacifying effect. Its presence may reflect the reuse of Roman glass in the manufacture of the beads; however, exceptions are known where antimony was used as a decolourant in post-Roman beads (eg Henderson & Warren 1983, 169). The use of manganese as a decolourant in the majority of the Great Chesterford beads can be seen from the iron:manganese (Fe:Mn) ratios. All the glass contains detectable amounts of iron which would have

coloured the glass, unless masked by a stronger colouring agent, but its effect could be neutralized by the addition of manganese. The 'colourless' bead, 62/4n, has a Fe:Mn ratio of about 1, which suggests that the manganese was added deliberately in the correct proportion to decolourize the iron. However, the green and blue green beads mostly have high Fe:Mn ratios and the iron colour is dominant.

Iron-containing glass can be a range of colours depending on the atmosphere in the furnace. In oxidizing conditions it will produce a yellow colour as in the bead 79/2c. However, in slightly reducing conditions it will produce a blue-green colour such as in the bead from grave 127/5a. The stronger the reducing conditions, the more blue the resulting glass, and the bead 148/1d, in the absence of a significant quantity of copper, is likely to be coloured by iron.

Copper also produced a range of colours in glass. In oxidizing conditions it dissolved in the glass to give a clear light blue colour, as in the bead 2B/4Bf. Copper in solution in a lead-rich glass gives a green colour; however, under reducing conditions the copper can be precipitated from lead glass either as cuprous oxide or as finely divided metallic copper, which produces an opaque red colour. The red-coloured beads examined from graves 120 and 103 were produced in this way.

The blue beads are all coloured by cobalt, which is detectable in all three cases. Cobalt is capable of producing an intense colour even when present at very low concentrations (parts per million level), and it is sometimes difficult to confirm its presence. However, the cobalt blue is a distinctive deep blue colour and all three translucent blue beads were of this characteristic blue.

The black glass bead 127/5b has a high iron content which produces the colour. Black glass is usually produced from mixing together scraps of waste glass. However, the absence of copper, which was present in all other beads, may suggest that this colour was deliberately produced by adding iron to a basic glass mix.

The majority of the opaque beads contained significant levels of tin and lead. Lead does not actually produce any colour itself in the glass, but it is an important part of the mechanism for the production of opaque glass, as its presence allows the opacifying agent to dissolve in the melt and precipitate from it in a controlled way as it cools, which produces an even colour and opacity. The opaque yellow beads are produced by precipitating lead tin oxide. These beads must have been heated below 900° centigrade, as above that temperature the pigment breaks down and tin oxide is produced, giving a white colour, and this reaction cannot be reversed. The opaque white bead from grave 103 has a much lower lead level than the opaque yellow bead, and must have been deliberately made using tin oxide; it is not over-heated yellow. There is no evidence from this selection from Great Chesterford for the use of antimony as an opacifier. This is what would be expected, as antimony is usually found as an opacifier in Roman

beads, whereas late Roman and post-Roman beads are usually opacified by tin.

Three opaque beads from graves 62, 103, and 113 had much higher lead contents than the other beads, possibly as high as 20-30% lead. For these beads the method of dividing the elemental gross intensities obtained from XRF analysis by the silicon figure is not completely satisfactory for the reasons stated earlier; hence the high ratio figures for all the other elements in these beads.

The nine polychrome beads were all basically opaque, though some had translucent glass added as decoration in trails. The polychrome beads were all opacified by tin, as were the monochrome beads. This is in contrast to the beads from the Buckland cemetery (Bayley 1987, 186), where the polychrome beads differed from the monochrome beads in being antimony-opacified. At Great Chesterford the similarity in composition between the monochrome and polychrome beads can be used to suggest a common manufacturing tradition for the two types of bead.

The interpretation of the analyses of the polychrome beads is not as simple as that for the monochrome beads as the analysis usually includes at least two colours of glass. However, in most cases the analyses show that the colourants present in the polychrome beads are consistent with what would be expected from the monochrome beads for the colours analysed.

## Conclusions

The colours observed in the Great Chesterford beads are all explicable from the composition of the glass. These compositions are similar to those from other comparable sites of this period. The production of the beads seems to follow the Germanic tradition of glassmaking, which is what would be expected at Great Chesterford. There is some evidence that antimony continues in use as an opacifier in the Mediterranean world at this period so its absence in all but one of the Great Chesterford beads supports the North European origin for them.

The similarity of evidence from other contemporary cemetery sites such as Mucking, Wakerley, Buckland, and Sewerby leads to the conclusion that the beads in circulation in this country in the Pagan Saxon period were all part of the same manufacturing tradition. They are usually associated with a northern European, Germanic tradition. This clearly reflects the dominant area of contact for Britain in this period.

The similarity of analyses of beads from the various cemetery sites means that it is now possible to predict the range of colours found in bead assemblages of this period and the colourants that produce them. It will be necessary to begin to consider the major element composition of the beads to take the study of the manufacturing traditions further and begin to identify source areas if this is possible.



## The petrology of the pottery

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### Introduction

A small programme of thin-section analysis was conducted on almost all of the pottery from the Saxon cemetery at Great Chesterford, Essex. The main objectives of the analysis were twofold: first, to characterize in detail the fabrics represented in this group of pottery; and second, if possible, to suggest where the raw material used in the manufacture of these pots might have been obtained. It was not possible to sample all of the Great Chesterford pots as many are complete or nearly complete vessels. In some cases, therefore, a hand lens (x10) was used to try to identify macroscopically the fabrics of these vessels, though this proved difficult where the surface had been burnished, masking the inclusions in the paste.

### Petrology

On the basis of the range and texture of the non-plastic inclusions present in the Great Chesterford pottery sampled and studied under the petrological microscope, a number of broad fabric divisions have been made, as follows.

#### 1 ?Granite

75/1 (fig 36)  
98/1 (fig 41)  
C7/1 (fig 59)  
C23/1 (fig 62)  
C30/1 (fig 63)  
Un (fig 67)

The most prominent inclusions in this group are large discrete grains of potash and plagioclase felspar, together with some fragments of granite or grano-diorite. Also present are quartz grains, some of them polycrystalline, flecks of boitite mica, and the odd piece of sandstone, metaquartzite, and limestone.

#### 2 Oolitic

136/1 (fig 53)  
142/2 (fig 54)  
C27/1 (fig 63)  
Un 34 (fig 68)

Scattered throughout the fabric are fragments of limestone and fossil shell, amongst which distinct ooliths can be made out, where it is possible to see the concentric structure within the limestone body. Also present are grains of quartz and the odd piece of sandstone and metaquartzite.

#### 3 Quartz/flint-chert

6/1 (fig 17)  
149/2 (fig 56) C3/1 (fig 58)  
C16/1 (fig 60)

All four samples contain frequent grains of quartz up to 0.80mm across, although the majority of grains are of a lower size-range than this, together with a sparse scatter of angular pieces of flint chert, metaquartzite, flecks of mica, iron ore, and a few small grains of felspar.

#### 4 Quartz/shelly limestone

80/1 (fig 38)  
C10/1 (fig 59)  
C24/2 (fig 62)  
C28/1 (fig 63)  
C32/1a (fig 63)

A scatter of quartz grains up to 1.30mm across in size and some small fragments of shelly limestone, together with flecks of mica and iron ore, all set in a fairly clean clay matrix.

#### 5 Sandstone metaquartzite

10/1a (fig 20)	C13/1 (fig 60)
13/1 (fig 20)	C15/1 (fig 60)
33/1 (fig 27)	C17/1 (fig 60)
43/1 (fig 29)	CM/1 (fig 60)
69/1 (fig 36)	C19/1 (fig 61)
72 Fill (not illustrated)	C20/1 (fig 61)
91/1 (fig 39)	C22/1 (fig 62)
93/1 (fig 40)	C25/1 (fig 62)
107/1 (fig 43)	C26/1 (fig 62)
118/1 (fig 45)	C29/1 (fig 63)
121/1 (fig 46)	C31/1 (fig 63)
122/1 (fig 46)	C33/1 (fig 63)
140/8 (fig 53)	Un 20 (fig 67)
145/1 (fig 55)	Un 21 (fig 67)
158/1 (fig 57)	Un 23 (fig 67)
H1/1 (fig 32)	Un 24 (fig 67)
C1/1 (fig 58)	Un 26 (fig 67)
C2/1 (fig 58)	Un 27 (fig 67)
C2/2 (fig 58)	Un 28 (fig 67)
C4/1 (fig 58)	Un 29 (fig 67)
C6/1 (fig 58)	Un 30 (fig 68)
C8/1 (fig 59)	Un 33 (fig 68)
C9/1 (fig 59)	Un 35 (fig 68)
C11/1 (fig 60)	Un 37 (not illustrated)
C12/1 (fig 60)	Un 38 (not illustrated)

This sectioning shows inclusions of quartz-sandstone and metaquartzite, in all probability deriving from the same rock, with discrete grains of quartz and the odd piece of flint/chert, felspar and limestone. Cremation 3/1 also contains elongate voids, suggesting that organic material was once in the fabric. There is some variation of texture within this large group: cremations 13/1 and 43/1, for example, appear quite coarse, while cremations 4/1 and 118/1 are fairly fine in texture by comparison.

*Unassigned*

24/1 (fig 25)  
 92/1 (fig 40)  
 123/1 (fig 48)  
 128/1 (fig 50)  
 148/1 (fig 55)  
 153/1 (fig 56)  
 C5/1 (fig 58)  
 C20/1 (fig 61)  
 Un 2 (fig 67)

The above are all complete or almost complete vessels, their smoothed surfaces making it very difficult to determine which fabric group they belong to.

*Comments*

The cemetery at Great Chesterford is situated on sand and gravel, close to Chalk and Chalky Boulder Clay deposits (Geological Survey 1" Map of England, sheet no 205). At first sight, fabric groups 1 and 2, containing inclusions of granite and oolites respectively, would appear to represent imported pottery brought to the site from some distance away. In respect of fabric 1, the nearest appropriate igneous formations to Great Chesterford lie in the Charnwood Forest area (including the Mountsorrel granodiorite) to the south-west of Leicester and the post-Tremadoc 'diorites' around Nuneaton, while the oolites in fabric 2 suggest an origin on the Jurassic ridge, some distance to the east of Great Chesterford. However, far-travelled granite erratics and oolites have both been noted in the local Chalky Boulder Clay deposits and Valley Gravels near to the site (White & Edmunds, 1932). It is possible, therefore, that these particular inclusions present in fabric groups 1 and 2 may merely indicate the use of nearby drift deposits by the Saxon potter, obtaining local raw materials for the production of pottery. It is though, interesting to note that similar granitic inclusions have also been found in early to middle Saxon pottery from a growing number of sites in the midlands and to the east of the country, including a large group of early Saxon pottery from Leicester (Walker 1978; Williams 1979; plus some unpublished material seen by the writer) - perhaps slightly more than might satisfactorily be accounted for by these granitic inclusions accidentally occurring in the drift clays selected for potting. There is, of course, the possibility of the deliberate searching out of the granitic erratics in the drift for use as temper. The deliberate choice and preparation of particular materials for pottery making is nothing new (Rye 1976; Peacock 1970; Williams 1982), though in this context appears less likely that an origin close by to the Charnwood Forest area for this particular type of granitic pottery.

The flint/chert inclusions present in fabric group 3 are typical of pottery from sites situated near the Chalk and probably indicate local production in this case. By far the largest group of pottery, fabric 5, is characterized by inclusions of sandstone and meta-quartzite, both of which are commonly found in the

drift deposits which occupy large areas of the country around Great Chesterford, which almost certainly points again to some form of localized production, though not necessarily in one place (White & Edmunds 1932). The same may also be true of the sherds making up fabric 4, for shelly limestone can also be found in the local drift deposits (ibid).

**The Romano-British material***C J Going**Introduction*

The Romano-British material excavated by Annable has already been published (Draper 1986), but material associated with the Saxon burials (eg the pottery mortarium from Saxon grave 32, below), and from six cremation burials also excavated by Professor Evison, has been held over for publication here. In addition to this material, a number of other Romano-British objects found by Professor Evison are also included. Among them was an important find of a sword chape of military type and 1st century AD date - a useful addition to the growing corpus of military metalwork in the town.

*Cremations 1-5 (fig 85)*

Five groups of pots, arranged in a quincunx, were deposited on the natural gravel, which at this point was 0.45m below the ground level. They were standing almost undisturbed, although some were truncated, presumably by ploughing. A few sherds were found between cremation 1 and 2, and some nails were found, unstratified, in the area.

***Cremation 1 (fig 64) Hadrianic - ?early Antonine***

(a) High-shouldered jar with an out-turned, rounded rim, in a reduced fabric. The mid body is decorated with a zone of wavy lines. Probably Hadrianic-Antonine.

(b) 'Bag-shaped' beaker in ?North Gaulish fabric 1 (Anderson 1980, 28). The plain cornice-rim suggests a comparatively early date within the form series. The type is usually rough-cast. For a parallel from Skeleton Green cemetery, Craughing, Herts, see Partridge 1981, grave XLV (fig 97.64). Hadrianic-early Antonine.

Other: Inside 1a were sherds, a chip from a Samian f Drag 35, and a sherd from the shoulder of a closed form.

***Cremation 2 (fig 64) Hadrianic - early Antonine***

(a) High-shouldered jar in a coarse, reduced fabric, decorated on the shoulder with a rilled zone. Two post-firing perforations are on the neck. This form is perhaps best known as the 'Braughing jar' (Green

1980, 62 and fig 34.276). It is commonly found in the East Hertfordshire-West Essex region. The form is very long-lived. Something very like it is prevalent in the region in the early 1st century AD (Thompson 1982, type C-7, 272-81), and the form persists, with changing proportions, from the late 1st to the later 4th century AD. For much of this period it was a staple produce of the Hadham manufactory (B Barr, pers comm; and writer's observations). There are a number of local parallels from funerary contexts. Cf eg Skeleton Green (burials XIII, XXI, XLIII, XLVII; Partridge 1981, fig 92, 3-6), also the Grange cemetery, Welwyn (burials 16, 19, 22, 25, 28, 36, 54, 74-5; Rook 1973). Probably Hadrianic-Antonine,

(b) 'Poppyhead' beaker in a slightly micaceous, finely granular fabric reminiscent of some reduced Hadham products. The rim form suggests a date in the early 2nd century AD. The vessel may be from North Kent, where there is good production evidence, or from a more local source. While the data is rather slight, the squat, piriform shape does appear to be a regional variant; cf an undecorated example from Skeleton Green grave LVII (Partridge 1981, fig 97.58), and from Baldock, an example decorated with barbotine (Stead & Rigby 1986, fig 143.546); also from the same site are two exceptional examples, decorated with burnished latticing (*ibid*, 145.580-1). There is some slight production evidence for the form in the Hadham region (source: author). The vessel has a chipped rim, but one of the breaks looks as if it has been made deliberately by making an oblique cut into the rim and then breaking a piece away (see pl 6a). It is suggested that this was connected with the deposition ritual, and that this involved 'killing' the pot. For a discussion of this feature, which is also found in cremations 3-5, see below, p 84).

(c) Narrow-necked jar in a reduced fabric, with a plain cordon at the base of the neck. The form appears to be a local variant of a fairly common type. For a parallel from the Skeleton Green cemetery, see Partridge 1981, fig 97.17. The vessel has a post-firing graffito comprising a cross inscribed on its side wall. Similar graffiti have been found on vessels in burials at eg Ospringle, Kent (Whiting *et al* 1931, crem CLXXXIX, 87 and pl LII), where they were described as ownership marks. The significance of such graffiti is not certain. While it is possible that they are a mark of possession (unlikely in view of their exclusivity, and undoubted occurrence in this region on pottery of pre-literate eras), it seems probable that those recovered from funerary contexts were cut on the pot for apotropaic purposes. For a discussion of these, see Green M J 1975, 3).

(d) Samian, f Drag 35. Early to mid Antonine. This vessel has been 'killed' by a blow to the rim.

### **Cremation 3 (fig 64) Mid to late Antonine**

(a) Narrow-necked, globular jar or flagon (no handle evidence) with a small footing. The rim is missing, probably mid or later Antonine. A Hadham product?

(b) High-shouldered jar in a coarse reduced fabric, with an out-turned, rounded rim. The vessel is undecorated save for a slight, plain cordon at the base

of the neck, below which is a faint rilled zone. The vessel belongs to the 'Braughing jar' series, and was probably made in the Hadham kilns. Hadrianic-later Antonine?

(c) Samian, CG. Large part of a Drag 36. Probably Antonine.

### **Cremation 4 (fig 65)**

(a) Samian platter, ?CG, f 31, stamped O.CRESTI... This vessel had been 'killed' by a blow to the rim which had detached a segment of the rim and wall. The detached sherds were not found. (See below, crem 5, nos 967.)

(b) High-shouldered jar in a reduced fabric. Like cremation 2, vessel a (R 86), the form is the 'Braughingjar', with the addition of diagonal stabbed marks above the narrow rilled zone. The lower walls are slightly fettled. For a parallel, cf eg Skeleton Green (burial XVI; Partridge 1981, fig 92.2). While jars with simple rilling are by far the most common, vessels with additional decoration such as stabbing or wavy line decoration are not rare, and may occur at any date. Probably 2nd century AD. Possibly a Hadham product.

(c) Carinated beaker in a heavily reduced fabric. Like the 'Braughing jar' (see above, vessel b), these vessels are very common in the East Hertfordshire-West Essex region in the Hadrianic-Antonine periods. In funerary contexts they occur in the little cemetery at Great Dunmow, Essex (burials 2, 8-9, 11; vessel nos 8, 40, 45, and 64; Ford *et al* 1988, figs 16-18), Skeleton Green, Herts (burials 20, 32, 40; Partridge 1981, fig 97.46-8), and also in the cemetery found at Grange, Welwyn (burials 7, 62, 64, 84, 89; Rook 1973). In contexts other than funerary they have been found at eg the Harlow temple (Wilkinson & Clarke 1985, fig 58.113), and also in the 'Felmongers Pit', Harlow (unpubl). As noted above, the date range for the general type is very broad, but this example is probably Antonine. A Hadham product?

### **Cremation 5 (fig 65)**

(a) Samian dish, f 31, ?CG, stamped SECATIM (EC ret.). ?Hadrianic-Antonine. The vessel has been 'killed' by a blow to the rim, which has detached a segment of it. The broken-off portions were not found in the grave.

(b) Samian dish, f 31, ?CG, stamped ?SVRDILIVS.OF. ?Hadrianic-Antonine. Like vessel a (R96), this vessel had also been 'killed' by a blow to the rim. Again, the broken-off sherds were not found.

(c) Body of a single-handled flagon in an oxidized fabric. It is probably a ring-necked type, but the precise form is uncertain as the top is missing; but ?2nd century.

(d) Carinated jar. The precise form is not certain. Buff fabric. ?Early 2nd century AD.

(e) Oval- or high-shouldered closed form (top missing), in a coarse reduced fabric, with burnished lattice decoration on the exterior. Probably an everted-rimmed jar. Hadrianic-Antonine, or perhaps a little later.

### **Cremation 21 (fig 62)**

This burial lay some distance away from cremations 1-5, also among Anglo-Saxon graves (see fig 2).

1 High-shouldered jar with an out-turned, squared-off rim. Used as a cinerary urn. The form is not closely datable, but would not be out of place in a 3rd century context.

2 Undecorated, folded beaker with a plain rim and grooving on the mid body. The form is paralleled by Howe *et al* 1981, fig 4.42. It is dated to the middle or later 3rd century AD. Probably a Nene Valley product.

3 Undecorated, folded beaker, much as last but lacking the body grooving. The form is similar to Howe *et al* 1981, fig 4.43. It is dated to the middle or later 3rd century AD. Probably Nene Valley product. Other: C21/4 (fig 62). A small tack was found in the grave also. Its presence may be fortuitous, and quite unconnected with the burial. There remains the possibility, however, that the inclusions of single nails in burials may, like the broken vessels, be connected in some way with the funerary ritual.

### *Evidence of funerary ritual from Cremations 1-5 and 21*

During the examinations of the pottery from the cremation burials, it was noted that some of them appeared to have been deliberately broken by detaching segments of the rim. The pots are R2b, R4a, R5a, b (figs 64 and 65). These breaks may have been made as part of the funerary ritual. Fractures of the kind observed on these vessels have been encountered before in funerary assemblages of the early to mid Romano-British era (mainly on pots from cremation burials), and have local parallels at Skeleton Green, Herts (Partridge 1981, see grave plan of burials BVII-XVII on fig 99; fig 101, no BXLIII; and fig 102, nos BLI, LIX), and Great Dunmow, Essex (Going 1988, 22-3 and fig 20). Similar evidence for the apparent ritual breakage of pottery vessels in burials has also been observed at Mucking (Going, in prep). The possibility that such breaks may have been made deliberately was put forward many years ago by T C Lethbridge, on the evidence of material from the Romano-British cemetery at Heavens Walls, Guilden Morden, Cambs (Fox & Lethbridge 1924-5).

It is not intended to pursue the subject in detail here, but it is clear that the practice of deliberately breaking pottery for inclusion in burials was fairly widespread, and excavators are urged to bear this possibility in mind when assessing funerary material. Apart from these suggested deliberate fractures, vessel R2c may have an apotropaic graffito inscribed on its exterior wall (see above and fig 64). For its possible significance, see Green M J 1975. In this context the occurrence of a single nail in cremation 21 (fig 62) may also be of apotropaic significance.

### *Miscellaneous material found in the vicinity of Cremations 1-5*

#### **Metalwork**

Few of the non-pottery finds merit individual publication. However, three are of significance. Although they are without association, the copper alloy 'lion-headed' stud and ring (fig 65, 2, 3), belong to a significant class of Romano-British funerary furniture, while the scabbard chape (fig 65) is a useful addition to the still small corpus of military material recovered from Great Chesterford. The remaining material is mainly pottery, as noted above, and typical of the general supellex which surrounds any significant Roman site. It should be considered with the pottery reported on by H Toller in Draper 1986.

#### *1 The casket fittings*

Lion-headed stud, and ring fittings (fig 65, RI-5, 2, 3). These objects are almost certainly derived from a small ornamental casket. These can be found singly, in domestic and other contexts, but most examples have been found in funerary contexts of the 1st to mid 2nd centuries AD. The nearest parallels to the Great Chesterford find come from a site near Grimsditch Wood, Little Walden, some 5km south-east of the town. Here one or more cremation burials were discovered during drainage work some time around 1844. Among the finds were six lion-headed studs (see Hull 1963, 195-6). The finds are now in Saffron Walden Museum, where a conjectural restoration of the casket is on display. Other similar caskets have been found at Puckeridge (Borrill 1981, cemetery 'A', burials 3-4, figs 117-120). Casket burials of this and similar types have been discussed, with references, by Borrill (1981, 304-18 and table XLVI - from which the Little Walden material is omitted). On the evidence of the grave goods found with them, the date range of these caskets appears, broadly, to fall between the Flavian and Antonine eras. Also found in the vicinity of the cremation were parts of three small nails with traces of replaced wood, and two fragments of sheet metal (copper alloy). These probably also derive from this or another small casket, presumably also from a burial.

#### *The Roman sword-chape*

Copper alloy scabbard chape (fig 65, RI-5, 1). This unstratified find is from the scabbard of a sword of military type and 1st century date. For general parallels, see Oldenstein (1976, Taf 19). For more specific examples, see eg Richborough (Wilson M G 1968, 92, nos 9203 and pl XXXIV), or, closer to hand, Chelmsford (from 21 Moulham Street, pit 29; Wickenden 1988b, 235 and fig 3.1).

This is the fourth find of military metalwork from Great Chesterford (others include a trumpet mouth-piece, and in the 19th century, a number of *caltrops*). Since the site lies just to the north of a postulated fort of the Neronian, or more likely post-Boudican era

(Rodwell 1972, 290-2; Frere 1987, 73, 211), the sporadic discovery from this part of the town of items of military metalwork should occasion little surprise. In January 1987 two further unequivocal pieces, both harness pendants, were found at the south end of the modern town (the objects are now in Saffron Walden Museum). Both were unstratified, but like the sword chape, are possibly items of 1st century date. In this context it is of some interest to note that an almost exactly similar harness pendant was recently found (like the two harness pendants, by a metal detector user) at Ashdon, some kilometres to the south-east of Great Chesterford. They are so similar that it seems probable that they both came from the same *fabrica*, and perhaps the same unit.

It is worth noting that during the excavations one, and perhaps two, medical implements came to light (Henig 1986, 11). While these are not necessarily military in origin, the possibility that they were part of the kit of a *medicus* cannot be excluded.

### Objects of bone

*Small piece of the shank of a bone hair-pin (fig 65, RI-5, 5).*

Since the head is missing it cannot be securely grouped using N Crummy's (1979) criteria, but the swelling shank suggests it might belong to her types 3-4, (*ibid*, fig 1, no 305 and pp 161-2), in which case it is possible to suggest a date in the 3rd-4th centuries AD.

### Pottery

Romano-British vessel from Saxon cremation 32 (fig 63). Base of a Nene Valley mortarium in a creamy-buff fabric. Ironstone trituration grits, worn smooth. This large vessel fragment was used as a lid over the Saxon cremation pot. Its date lies within the period c AD 250-350 (there is evidence that the type went out of use in the latter half of the 4th century AD; see Howe *et al*, 1981). The pot was probably picked up during a hunt for usable detritus from the Romano-British settlement. It is rare, but not unknown, to find Romano-British pottery in burials of the Anglo-Saxon era. For a discussion and gazetteer of Romano-British objects in Anglo-Saxon contexts, see White 1988, especially chapter 7, 113-17. The only other mortarium found in a similar funerary context appears to be his no 49, a Huntcliffe type found near Worth, Kent. No other details are known.

### Other ceramics

Twenty-one sherds were found in the immediate vicinity of these burials. Most were small, and abraded, and ranged in date from the 2nd to the later 4th century AD. It is possible (especially in the light of the casket fittings, above), that at least some were derived from long-ploughed-out graves. However, it is equally possible that they were no more than incidental inclusions among rubbish and detritus used to manure the fields surrounding the town.

There were, however, three pieces of pottery from the excavations which merit more detailed consideration: two are of significance on stylistic grounds, while the third has a graffito.

Rim-sherd from a large flagon, decorated with a female mask (fig 68b). The frilled rim, resembling a diadem, and squashed pellet applied to the vessel to the left of the face, are closely paralleled on better-preserved specimens from the Saxon shore fort of Burgh Castle, Suffolk (Johnson 1983, 93 and fig 39.43) and 39.46a-b). Close parallels are also known from Chelmsford (Godfreys site, unpubl), Harlow (three examples), and Stansted, Essex (all unpubl). There is definite production evidence for the type at Much Hadham (B Barr, pers comm). On grounds of both fabric and style these are probably all Hadham pieces, as is the Great Chesterford sherd. Later 4th century AD.

A single sherd of pottery in a micaceous grey ware (fig 68c) decorated with diagonal and vertical rows of lightly impressed rosette stamps between faintly scribed lines. The sherd, which is of Flavian to Hadrianic date, belongs to a category of stamped fine ware recently discussed by Dr W J Rodwell, and perhaps belongs to his Group 3 'North Essex' type (Rodwell 1978, fig 7.9, cf especially nos 62-4). It should be noted that vessels 62 and 64 - two of the three examples of subgroup 3B which he cites - are from Great Chesterford. The discovery of a third sherd in a similar style here is interesting, but their place of manufacture remains uncertain (*ibid*, 247-8).

**Graffito.** Lightly scratched on the base of an f 31, CG (fig 68a), possibly Antonine, with an illegible stamp. The post-firing graffito is on two lines, divided by a horizontal stroke. The inscription may be read either way up, either as SEN.ODI[...]/ SVA[...] (the second line is possibly complete); or, if inverted, as VAS / .]PO.NES: 'The vessel of...'. The reading is uncertain. I thank Mark Hassall for his comments on this piece.

### Discussion

In her summary of the site, J Draper concluded that the area 'seems to have been used for rubbish disposal and gravel quarrying throughout the Roman period, with the bulk of the material found dating from the second or third century' (Draper 1986, 7). Now that this further material, to which Draper referred in passing (*ibid*, 39), has been examined it is possible to modify her conclusions a little. The most important evidence is that of the burials, which make it immediately necessary to correct the statement that none were found during the campaign of excavations (*ibid*, 7). These cremations also raise the possibility that the three areas of burning found at the north end of the excavation may have been pyre sites. The evidence for other burials found by Evison, that is the casket fittings (the lion-headed stud, three nails, and two small pieces of copper alloy sheeting, see above), suggest that the fragments of copper alloy sheeting already published may also have come from

a casket burial (Henig 1986, fig 5.26-8 and p 11). It must be stated, however, that similar remains have also been found in domestic contexts.

When we consider the six burials in detail it is possible to say a little more about the disposition of the cemeteries at the north end of the walled enclosure. Cremations 1-5, which are of Hadrianic-Antonine date, lay near the eastern edge of the excavations. Unless these five burials were in complete isolation (which is a possibility), it is probable that additional burials, and perhaps the bulk of the cemetery, await discovery to the east of the excavated area. Indeed, illicit robbing in 1988, which brought to light a number of enamelled plaques from some kind of casket, suggests that an early site of some importance lay here.

By contrast, cremation 21 lay at the western edge of the excavation. It was apparently isolated, but here too there is evidence that further burials existed nearby. In 1847, R C Neville recovered pottery from a site close to the old railway junction, and later in the same year he reported eight funerary urns from an unspecified site. It may also have been in this area. Unfortunately, the original extent of the cemetery is impossible to determine. It may have been quite extensive. What is certain is that numerous burials with accessory vessels were destroyed during the gravel diggings immediately preceding the excavation (ie to its west). Several of the pots found then were clearly whole, for when they were thrown into the lake they had to be stoned to make them sink (I am indebted to Mr A C Collins for this information). While a number of these burials were undoubtedly Saxon, some may have been Roman.

The funerary evidence uncovered by Evison, coupled with the reminiscences of the quarry operatives, clearly point to the existence of one or more Romano-British cemeteries in the immediate area of the excavations. While much further work is needed before the original extent (and even number) of the Romano-British cemeteries surrounding the town can be established, these finds are welcome additional information on one of the least-known regions surrounding the town. (For a summary of knowledge to 1963, see Brinson 1963, 86-8).

The excavation also adds a little to what is known of the early military occupation at Great Chesterford, for it lay within the region which was postulated as the fort interior. While it has been noted above that the sword chape is the only unequivocal military object found during the excavations (with the possible exception of the medical implements referred to above), the complete absence of anything which might be seen as internal buildings confirms Rodwell's conclusion that the ditch section found by Brinson is that of the north rather than the south rampart ditch, and confirms the general accuracy of the defensive circuit published by Draper (1986, fig 1).

## Roman coins (1)

### *R A G Carson, formerly of Department of Coins and Medals, British Museum*

- 71/2** Gallienus: radiate LIBERO P CONS AUG I/B RIC 230. AD 266 (fig 36).  
**136/3a** Antoninus Pius: Denarius. Rev. COS III ANNONA. RIC 239. AD 154-5 (fig 53).  
**136/3bi** Trajan: As. Rev. uncertain. AD 98-117 (fig 53).  
**136/3bii** Domitian: Dupondius. Rev. Fortuna August: SC. RIC 326a. AD 86 (fig 53).  
 136/3ci Domitian: As. Rev. uncertain. AD 81-96 (fig 53).  
**136/3cii** Trajan: Denarius. Rev. DIVUS PATER TRAJAN. RIC 252. AD 112-117 (fig 53).  
**13W3ciii** Antoninus Pius: As. Rev. FELICITAS AUG SC. RIC 556. AD 139 (fig 53).  
**13W3civ** Diva Faustina I: Danarius. Rev. AETERNITAS. RIC (Ant. Pius) 344. cAD 141 (fig 53).  
**136/3cv** Titus: Dupondius. Rev. uncertain. AD 79-81 (fig 53).  
**133/3d** Crispina: Denarius. Rev. IUNO. RIC (Commodus) 283 (fig 53).  
**C26/2** Domitian: Sestertius. Rev. uncertain. AD 81-96 (fig 62).  
**Dog 2/2** Uncertain radiate: imitation ± AD 270 (fig 57).  
**Un/30** Trajan: Denarius. Rev. SPQR OPTIMO PRINCIPI fig. st. on chair 2 Pax. cf RIC 187. AD 103-11.  
**Un/31** Tetricus I: Antonianus. Rev. uncertain. AD 270-4.  
**Un/32** Diva Faustina I: Sestertius. Rev. AUGUSTA VERT [?] SC. RIG (Antoninus Pius) 1126 c AD 141.  
**Un/33** Uncertain radiate. Antonianus. c AD 270.  
**Un/34** Tetricus I: Antonianus. Rev. LAETITIA AUG N. RIC 90. AD 270-4.  
**Un/35** Uncertain radiate: Antonianus. ± AD 270.  
**Un/36** Uncertain radiate: ± AD 270.  
**Un/37** Uncertain radiate: imitation. ± AD 270.  
**Un/38** Uncertain radiate: imitation. ± AD 270.  
**Un/39** Imitation Tetricus I: Rev. prototype Pax. cf RIC 8. AD 270-4.  
**Un/40** Claudius II: Antonianus. Rev. VIRTUS AUG [?]. cf RIC 172. AD 268-70.  
**Un/41** Tetricus I: Antonianus. Rev. COMES AUG. RIC 56. AD 270-4.  
**Un/42** Claudius II: Antonianus. Rev. CONCORDIA AUG. RIC 27. AD 268-70.  
**Un/43** Uncertain radiate: Gallic Empire. ± AD 270.  
**Un/44** Victorinus: imitation Antonianus. Rev. MONETA AUG. cf RIC 14. AD 268-70.  
**Un/45** Claudius II: Antonianus. Rev. IOVI VICTORI. RIC 54. AD 268-70.  
**Un/46** Tetricus II: Antonianus. Rev. LAETITIA AUG N. cf RIC 239. AD 270-4.  
**Un/47** Uncertain radiate: imitation. ± AD 270.  
**Un/48** Gallienus: Antonianus. Rev. PAX AETERNA AUG. RIC 255. AD 260-8.  
**Un/49** Gallienus: Antonianus. Rev. uncertain. AD 260-8.  
**Un/50** Faustina II: As. Rev. VENERI GENETRICI SC. RIC (Ant. Pius) 1407. AD 145-6.  
**Un/51** Claudius II: Antonianus. Rev. LIBERALITAS AUG. RIC 57. AD 268-70.  
**Un/52** Marcus Aurelius: Sestertius. Rev. uncertain. AD 163-79.  
**Un/53** Uncertain radiate: imitation. ± AD 270.  
**Un/54** Tetricus I: Antonianus. Rev. PROVIDENTIA AUG. RIC 118. AD 270-4.  
**Un/55** Uncertain radiate: Antonianus. ± AD 270. Frag. uncertain radiate: [?]. Ant. f AD 170. [Not on index card.]  
**Un/56** Uncertain radiate: imitation. ± AD 270.

## Roman coins (2)

### *John Kent, Department of Coins and Medals, British Museum*

29/4 Allectus (AD 293-6), large radiate, 2.77g.  
obv IMP C ALLECTVS P F AVG. Radiate bust to right.  
rev completely effaced, probably by corrosion.  
There are two circular holes near the edge, above and behind the bust; one has broken through (fig 26).  
29/9 Lucilla (AD 161-g), sestertius, 19.62g.  
obv LVCILLAE AVG - ANTONINI AVG F. Bust to right.  
rev IVNONILVCINAE SC. Juno seated, holding flower and child.  
BMC Marcus 1154-60 (fig 26).  
111/1 Claudius II deified (c AD 270-l), radiate, 1.74g.  
obv DIVO CLAUDIO. Radiate head to right.  
rev CONSCRATIO. Flaming altar.  
RIG 259. The coin is pierced by two large circular holes. (fig 43).  
122/2 Hadrian (AD 117-38), sestertius, 18.3g.  
obv HADRIANVS - AVGVSTVS P P. Laureate head to right.  
rev COS III FORT RED SC. Fortuna seated to left.  
BMC 1365-69A (fig 46).  
132/3 Trajan (AD 98-117), 11.66g.  
obv IMP CAES NERVAE TRAIANO AVG GER DAC PM TR P  
COS V (or VI) PP. Laureate head to right.  
rev completely effaced, probably by polishing (fig 51).  
149/1 Tetricus I (AD 27-14), radiate, 1.73g.  
obv IMP TETRICVS AVG. Radiate bust to right.  
rev FIDES MILITVM. Fides holding two standards,  
RIC 71 (fig 56).  
C29/2 Faustina I deified (AD 141-c 161), sestertius, 26.25g.  
obv DIVA - FAVSTINA. Rust to right.  
rev AVGV - STA SC. Ceres standing, holding torches.  
BMC Pius 1517-8 (fig 63).

This group of coins is typical of common pieces liable to turn up on any Romano-British site. It is noteworthy that none of the small 4th century issues are present: this may well be because there was a greater chance of finding, and perhaps a preference for, larger pieces. Two of the small coins were pierced, presumably for suspension, and it is interesting to observe that two holes were punched in each. The reverse of one of the larger pieces (13213) appeared to have been deliberately smoothed away.

## Roman coins (3)

### *Roger Bland, Department of Coins and Medals, British Museum*

34/1 Gratian, AD 367-83, from the mint of Arles with the reverse GLORIA NOVI SAECVLI.  
obv [UN GRATIANVS AVGG AVGI. Bust of Gratian draped, cuirassed, and wearing a pearl diadem, right.  
rev [GLORIA NOVI] SAECVLI. Emperor standing left holding labarum and shield. =  
in exergue: 1/[T CON].  
RIG IXp. 66, 15. AD 367-75 (fig 27).

## The Roman glass

### *Jennifer Price, Department of Archaeology, University of Durham*

#### *Discussion*

A small quantity of Romano-British glass was found unstratified during the excavations, amounting in total to 35 fragments. These came from bluish green

(31), greenish colourless (1), or colourless (2) vessels, except for one fragment from a greenish colourless window pane.

The assemblage contains 12 pieces of quite ordinary tablewares and/or household vessels, representing at least 4 cups and bowls, 3 jugs, 2 flasks (or perhaps further jugs) and a jar. There are also 18 pieces of square and hexagonal household containers, though it is not possible to establish the likely number of vessels represented. In four instances the pieces were too small or undiagnostic for the vessel forms to be identified. These vessels are all of types regularly found at sites in Roman Britain and elsewhere in the north-west provinces in the late 1st to 3rd century AD.

Cylindrical cups with vertical fire-rounded rims and tubular base-rings (nos 120, 121) are found in large numbers in the north-west provinces during the later 2nd and early 3rd century AD (Isings 1957, form 85). They occur in Britain during the third quarter of the 2nd century, as in a pit at Harlow dated to AD 160-70 (Price 1987, 192-3, fig 2, 19), and thereafter they are extremely common finds in late 2nd and early 3rd century contexts, as, for example, at Verulamium (Charlesworth 1984, 156-9, figs 64, 62-70 and 65, 71-6). These vessels are usually colourless, but bluish green examples have been noted elsewhere, as at Vindolanda (Price 1985, 209, fig 77,23-5).

The precise forms of nos 122-3 cannot be established, as many different cups and bowls produced during the 1st and 2nd centuries have tubular pushed-in base-rings of this kind (for example, see Isings 1957, forms 37,41-5, 47-9,69, 75,80-1, 85a). The reworking (grosing) of the broken edges on the lower body of no 123 indicates that the base was used for some purpose after the vessel was broken. This feature is quite often apparent on bases, which could perhaps have served as counters or gaming pieces, or in the larger examples as lids.

No 126 comes from a conical jug with a scored handle trail on the body, of a type which occurs only in the north-west provinces and was produced from around AD 65-70 until the early or mid 2nd century (Isings 1957, form 55). These jugs also have folded rims and long narrow necks, and may have either simple concave bases or open pushed-in base-rings. They are common finds in Britain in Flavian to Hadrianic contexts (Harden 1967), and some have also been noted in deposits dating from the 3rd quarter of the 2nd century, as at Harlow (Price 1987, 193, fig 3, 20).

Jugs with pouring spouts (no 127) were produced at several different periods in the western provinces of the Roman world (see, for example, Isings 1957, forms 56, 88, 124), but they are most common in Britain during the 2nd and early 3rd century. Examples are known from the drain deposit of the legionary fortress baths at Caerleon (Allen 1986,108, fig 42,57), as well as in burials at Colchester (Thorpe 1935, 21, pl viiia), Skeleton Green, Herts (Charlesworth 1981, 172, fig 106, 12) and elsewhere.

It is not possible to identify the form of the third jug (no 128) except to note that one handle attach-

ment existed on the lower part of the narrow neck, and that the rim and neck fragments (nos 129 and 130) could belong to several types of jugs or flasks. The jar fragment (no 131), which has a funnel mouth with the rim edge folded inwards, probably comes from a vessel similar to one found in the Antonine deposit at Harlow (Price 1987, 195, fig 3, 23-4), though nothing is known about the shape of the body.

The fragments nos 132-6 come from containers. Some are certainly bottles, and the prismatic sectioned body fragments are also likely to have come from bottles (Isings 1957, form 50), rather than jars (Isings 1957, form 62). The square bottles were made in a wide variety of sizes and were very common indeed in Britain, as elsewhere in the western provinces, from the later 1st to the end of the 2nd century. Hexagonal bottles appear to be less common, but this may be because they are only recognizable from body fragments with more than one side; they are not often found after the early 2nd century.

The window glass fragment 149 appears to come from a blown window pane, as both faces are quite shiny. Cylinder-blown window glass is generally found in Britain in 3rd and 4th century contexts, and the panes usually have fire-rounded edges as well as a rounded edge. This fragment is interesting because it appears to have been shaped deliberately as a small quarry to be set in a lead or wooden frame; it is triangular, with two grooved edges as well as a rounded edge. Small quarries of this kind have occasionally been noted in Roman Britain, though they are not at all common. Some triangular pieces were found at Cosgrave villa, Northants (unpublished; excavated by Henrietta Quinnell) and diamond-shaped and triangular pieces are known from Gadebridge Park villa, Herts (Charlesworth 1974, 2034, fig 91).

## Catalogue

All the vessel glass is blown, except for the body and base fragments of the bottles, which are mould-blown. Unless otherwise stated, all the glass is bluish green in colour.

### Cups and bowls

120 Rim fragment, cylindrical cup. Pale bluish green. Dull, weathering streaks. Rim edge fire-rounded and thickened, vertical side.

Present height 16mm; rim diameter c 80mm; thickness 0.75-1.25mm.

121 Base fragment, *cup or bowl*. Colourless. Some iridescent weathering. Small part of lower body tapering in to tubular base-ring, slightly convex base.

Present height 5mm; base diameter 50mm; thickness 1.25mm.

122 Base fragment, *cup or bowl*. Dull, usage scratches on base edge. Lower body tapering in to tubular base-ring, small part of flat base.

Present height 4mm; base diameter c 50mm; thickness 0.75mm.

123 Base fragment, probably from bowl. Dull. Lower body tapering in to tubular base-ring, concave base, rising to central kick (now missing). Broken edge of body carefully grooved for some secondary purpose.

Present height 17mm; base diameter 86mm; thickness 1.4mm.

### Body fragments

124 Fragment, convex curved lower body above base-ring.

125 Fragment, curved body.

### Jugs

126 Body and handle fragment, conical jug. Pale bluish green. Dull, some iridescent weathering. Small part of straight side, applied vertical trail with 12 horizontal scored ridges. Broken edges of vessel reworked.

Length of fragment 42mm; thickness 0.7mm.

127 Rim fragment, jug with pouring spout. Weathering streaks. Rim edge rolled inwards, asymmetrical funnel mouth tapering in towards neck.

Present height 13mm; thickness 1.25-2.5mm.

128 Neck fragment, jug. Dull, flaking weathering deposits. Part of narrow cylindrical neck expanding out to shoulder; scar of handle attachment on neck.

Present height 32mm; neck diameter 20mm; thickness 2.5-3.25mm.

### Jugs or flasks

129 Rim fragment. Dull, affected by heat. Part of folded rim, edge bent out, up, in, and flattened.

130 Neck fragment. Dull. Part of cylindrical neck.

Present height 50mm; neck diameter 18.5mm; thickness 2.5-3.5mm.

### Jar

131 Rim fragment. Dull, weathering streaks, probably affected by heat. Folded rim, edge bent up and in, funnel mouth.

Present height 13mm; rim diameter 56mm; thickness 2mm

### Bottles

132 Rim fragment. Dull. Small horizontal folded rim, edge bent out, up, in, and flattened.

Present height 11mm; rim diameter 46mm; thickness 3.5mm.

133 Handle fragment. Dull, weathering streaks. Part of broad angular ribbon handle, multiple reeding. Affected by heat.

Present height 35mm; maximum width 42mm; thickness 5-7.55mm.

134 Body fragment, hexagonal bottle. Dull, surfaces very pitted. Part of two sides with angle.

Dimensions 32 x 55mm; thickness 4-5mm.

135 Shoulder, handle and body fragment, square bottle. Dull, surfaces very pitted. Part of small flat shoulder, lower attachment of vertical angular ribbon handle, vertical side.

Present height 32mm; neck diameter c 50mm; thickness 5mm.

136 Base fragment, prismatic bottle (probably square). Dull. Small cube, part of flat or slightly concave base; one raised circle.

Dimensions 18 x 16mm; thickness 6-9mm.

### Other bottle fragments

137 Fragment, shoulder, square bottle.

138 Four fragments, body, square bottle.

139 Three fragments, body, square bottle.

140 Fragment, body, square bottle.

141 Two fragments, square bottle.

142 Fill of grave 80; fragment, part-melted square bottle.

143 Fragment, square bottle.

144 Fragment, square bottle.

### Miscellaneous body fragments

145 Melted fragment.

148 Colourless; small curved body fragment.

147 Curved body fragment.

148 Curved fragment.



### *Window glass*

149 Broken fragment, perhaps from triangular quarry. Greenish colourless. Dull, iridescent weathering. Part of flat piece, shiny on both surfaces; two edges grooved, one rounded. Dimensions 38 x 42mm; thickness 2.55mm.

## **X-ray fluorescence analysis of three pieces of Anglo-Saxon metalwork**

*D R Hook, Research Laboratory,  
British Museum*

Three pieces of metalwork, namely a small buckle, a possible annular brooch, and a boss attached to a sword, were submitted to the Research Laboratory for analysis prior to their publication in a report on the Great Chesterford cemetery excavations.

The objects were analysed using X-ray fluorescence (XRF) to determine the alloy types used. The analysis was carried out on uncleaned surfaces which were covered in corrosion products and therefore may not be truly representative of the body metal.

The annular brooch 127/4 (fig 49) was found to be a lead/tin alloy, in the ratio of approximately 60:40. An alloy of this composition would be very soft and the object's function perhaps should be reassessed in the light of the compositional information. Alloys of this composition have low melting points, making them suitable for use as patterns for making moulds for copper-alloy or precious metal artefacts. (Similar alloys have been widely used as soldiers.)

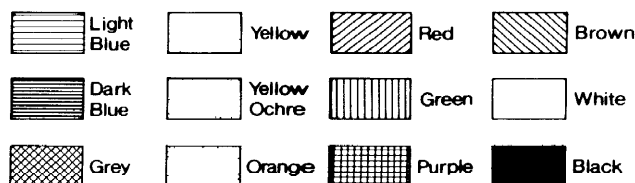
The small buckle C8/2 (fig 59) was found to be of iron.

Analysis of the boss attached to the sword 122/7 (fig 47) showed the presence of copper, zinc, and a trace of lead, with a large amount of iron, presumably coming from the-corroded sword. The boss is therefore most probably a brass.

# 5 Catalogue

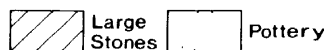
## Illustrations of objects in graves (figs 15-69)

Wherever possible, all items are illustrated. Where the item is now partly or wholly missing an outline is supplied, copied from the index card made on the day of excavation or from a radiograph. The scale of reproduction generally followed is: silver and bronze objects and beads 1:1, iron and bone objects, glass vessels, and buckets 1:2, pottery 1:3; but different scales are used when necessary for objects of unusual size or composed of two materials. The scales are given in each figure caption. One example of each type of bead in the grave is illustrated as far as possible, and the colour code for polychrome beads is as follows:



## Grave plans and cemetery plan (figs 70-85, 2)

On the grave plans (scale 1:24) the outline of each grave is shown where it was distinguishable on the ground. On the cemetery plan an estimated outline is supplied where the actual outline is not known. Large stones and pottery are indicated as follows:



## Anglo-Saxon inhumations

Grave 1 (figs 1, 15, 70)

Female 35-45.336".

Outline not visible. D 3ft (0.91m).

Left forearm across body, right arm slightly bent.

Animal bone under left shoulder (see p 66). Black wood among ribs and to left of skeleton.

1 *Bronze small long brooch*, square head with raised middle panel, moulding at each end of bow, spatulate

foot, double-stamped border on head and foot to give impression of beading. L 6.1cm. Right shoulder.

2 *Bronze small long brooch*, as 1. L 6.1cm. Left of skull.

3 *Beads*

Amber: a 1 large wedge-shaped (keyhole perforation).

Glass: b 1 short cylinder (rounded) green. At neck.

4 a *Knife* L 12.4cm.

b *Iron ring fragment* L 4.3cm.

c *Bronze band*, folded over to form strengthening to sheath of knife. W 2.8cm. Outside top left femur.

5 *Nail*, disc head, square section. L 4cm. Outside left fibula.

Grave 2A (figs 15, 70, pl 2a)

Male 25-35. 15".

Outline visible to left of skull only.

On right side, right arm bent with hand in front of shoulder, left arm slightly bent with hand in front of pelvis, both legs bent. Pelvis and left femur dislodged and left femur and right half only of pelvis thrown back in fill when grave 2B cut, right pelvis on top of right knee of 2B, left femur above 2B pelvis and 30cm above floor level.

1 *Spearhead*, angular, split socket, two rivets through shaft. L 24cm. At edge of grave behind shoulders.

2 *Knife* L 10.2cm. Behind pelvis.

Grave 2B (figs 15,16,70)

Female adult. 84".

Outline visible right of skull, at an angle to 2A and disturbing lower part of 2A.

Skull turned right, both arms slightly bent, both legs bent at acute angle to right in an attempt to avoid disturbing body of 2A further.

1 *Gilt bronze great square-headed brooch* (pl 10a), corners of head and disc terminals on foot silver-plated. Stamped border on head: two rows of trellis-decorated triangle stamps with two rows of ring stamps, inner raised border with stamped rings, in middle field roughly linear chip carving with border of debased spirals. Deeply grooved bow with perforation for disc (missing); divided foot perforated at six points, with lateral downward-biting heads. L 15.3cm. Horizontal on top chest, head near right shoulder.

2 *Gilt bronze saucer brooch*, slightly dished, double outer border of imitation beading, five spirals round central ring.

The spring attachment has been mended with an

applied strip. Diam 3.7cm. On right shoulder, under head of 1.

3 *Gilt bronze saucer brooch* (pl 12g), as 2.

On left shoulder at foot of 1.

#### 4 Beads

A Amber: a 18 small roughly-shaped (not illustrated); b 52 roughly-shaped and fragments; c 3 large roughly-shaped; d 3 wedge-shaped; e 2 4-sided cylinder; f 1 small triangular section (not illustrated); g 1 triangular section.

Crystal: h 2 almond-shaped.

Glass: i 2 disc black, white zigzag trails; j 2 disc rust red, white crossing trails and green-blue translucent dots; k 1 disc white, speckled with rust red dots.

From one saucer brooch to the other, hanging down right chest. A single flat disc bead at right waist.

B Amber: a 1 small roughly shaped.

Glass: b 1 disc yellow; c 1 disc blue; d 1 small disc white; e 1 short cylinder (straight-sided) rust red; f 1 short cylinder (straight-sided) light blue; g 1 short cylinder (straight-sided) white; h 1 disc rust red, yellow crossing trails; i 5 disc rust red, white crossing trails; j 1 disc very light blue, blue translucent crossing trails; k 1 disc decomposed, blue translucent crossing trails (not illustrated); l. 1 disc rust red, yellow crossing trails and dots; m. 1 disc rust red, white crossing trails and dots; n. 5 barrel rust red, yellow crossing trails and dots; o. 1 biconical white, speckled with rust red dots.

Between hands in pelvis.

5 *Bronze ring*, oval section, dimple stamps on each side, passage cut for suspension strap. Diam 4cm. With beads between hands.

6 *Nail*, square-sectioned shaft. L 3.7cm. Above ribs.

7 *Nail*, bent. L 5.2cm. Under left femur.

In fill:

8 *Bronze tube*, scored decoration. L 2.1cm (not illustrated).

### Grave 2C (fig 70)

Foetus 40 weeks.

Scattered foetus bones over 2A, rib ahead of skull, fragments of skull and finger bones 0.3m above back waist of 2A, skull fragment in front of right femur of 2A, ie disturbed by digging of 2A and returned in fill, or 2C was subsequent to 2A, at a higher level, and was scattered by ploughing.

### Graves 3 (figs 16,70)

Male 25-35. 83°.

Outline visible at head, W c 3ft (0.91m), D 2ft 7ins (0.79m).

Skull left, feet, not shown in plan, were removed when the grave was first discovered.

1 a *Nail*. L 4.8cm.

b *Nail*. L 7cm. Outside right femur.

c *Nail* L 1.6cm. Inside right femur.

### Grave 4 (figs 17,70)

Male 15-25. 352°.

Large amphora fragment at head of grave.

Skull right, left arm slightly bent, hand in pelvis. Left shin crossed over right.

1 *Spearhead*, angular, split socket with rivet, left side of blade lower than right. L 24.2cm. Right of right shoulder.

2 *Shield boss*, small button top, sharp carination, nearly straight dome, five disc-headed rivets. Ht 8.2cm, diam 16.8cm. On right humerus.

3 *Small iron buckle* loop with tongue, remains of strap. Diam 2cm. Near shield boss, outside right humerus.

4 *Iron fragments, buckle loop and plate*. Plate 2.2 x 2cm. Mid waist.

### Grave5 (figs 17,70)

Male 35-45. 22°.

Skull right, right arm bent with hand in pelvis, left shoulder higher than right.

1 *Nail*. L 5.3cm. Right chest, 7cm above bones.

2 *Nail*. L 2.3cm. Between femurs.

### Grave 6 (fig17)

Juvenile. 89°.

Lower leg bones only remaining at edge of quarry.

1 *Black burnished high-shouldered pot*, narrow vertical neck, flat base. Sand-tempered, some large grits. Ht 16.4cm, diam mouth 13.1cm. Left of left foot.

### Grave7(figs 17,70)

Female 25-35. 79°.

Head of grave cut off by quarry. Row of large stones along edge of grave left of skull.

Skull tilted down.

1 *Bronze small Long brooch* (pl 11f), square head with perforation in each corner, moulding on bow and foot, borders of semicircular stamps on head and foot. L 6.7cm. Foot up on right shoulder.

2 *Tinned bronze small long brooch* (pl 11g), square head with double line border and impressed dots at corners and centre, moulding at ends of bow with diagonal cross and V marks in middle, and line and dot decoration on splayed foot. L 6.7cm. Foot up on left shoulder.

### Grave 8 (figs 18,70)

Male 35-45. 72°.

D 4ft lin (1.24m).

Head of grave cut off by gravel digging. Pile of large flints at south side of grave by femurs.

Both arms bent with hands in pelvis.

1 a *Shield boss*, carinated, small button top, slightly convex dome, narrow waist, wide flange, five disc-headed rivets. Mineral-preserved wood *Salix* sp (willow) or *Populus* sp (poplar). Ht 7.5cm, diam 15.8cm. On pelvis.

b Remains of *flat grip*. L 9cm.

a and b over left hand on pelvis.

c *Flat iron fragment*; radiograph shows it is circular at one end with a rivet, and there are lengthwise wood traces on the face. L 2.5cm. 15cm to right of shield boss centre.

d *Flat iron fragment*. L 1.7cm (not illustrated). 15cm to left of shield boss.

e Fragment of *iron buckle loop plate* visible on radiograph. L 1.9cm.

f *Iron rivet*, pierced wood 9mm thick. e and f 18cm to right of shield boss centre.

2 *Spear ferrule*. *Fraxinus* sp (ash) from mature timber. L 10.8cm. Outside right fibula.

### Grave 9 (figs 18, 19, 71)

Female 15-25. 67°.

W 3ft Gins (1.07m), D 4ft (1.22m).

The foot of the grave could not be excavated. Large stone in right head corner.

Skull tipped down to right, right hand inside top right femur. Many animal bones in fill, animal horn by right foot (see p 67).

1 *Bronze-bound wooden bucket*, four bronze hoops and four verticals, all 16mm wide. The verticals are indicated in fig 19 by their positions in the grave, NW, NE, SE, SW. They end in a point at the top and are fixed to the outside of each of the hoops by pairs of rivets, originally with dome heads. A U-sectioned rim overlaps the top hoop. Two handle mounts, NW and SE, each consist of a bifurcating bird's head mount with rivet eyes, on top of which is riveted a bronze strip ornamented with two four-leafed marguerite motifs reserved in red and yellow enamel. The SE strip projects above the rim and is perforated; the NW strip is broken and mended by two opposing strips perforated to accommodate a connecting rivet with a disc head at each end. An extra binding strip is curved over the U-sectioned rim mount (fig 19 NW section) like those at the N, S, and E points. On the SE mount an extra rivet hole was made through the middle of the top quatrefoil, leaving the hole immediately above functionless. Equidistant between the handle mounts are similar bifurcating and marguerite mounts which fold over the rim. In between each of these four mounts is a sheet bronze triangle, with a repoussé design of a Style I animal, riveted to the bucket under the margin of the top hoop. No trace of the wood or the handle. The top hoop with its attachments was accidentally removed in the finding of the grave, but the remaining three hoops and verticals were *in situ*. The exact relationship of the top part to the bottom is therefore not known. The bronze remains have not been cleaned or reconstructed. Diam c 13cm, ht c 12cm. *Jean Cook*

2 *Small bronze bow brooch* (pl 10e), triangular head surmounted by crossed disc, two flat side knobs, lozenge-shaped foot with disc terminals and lateral

animal heads below the bow, beaded borders on head and foot. L 4.7cm. On right shoulder.

3 *Small bronze bow brooch*, similar in shape to 2 but decorated by ring and ring-and-dot stamps on knobs and centre foot and transverse ribbing on bow. L 4.7cm. On left shoulder.

4 *Beads*

Amber: a 4 wedge-shaped; b 1 large wedge-shaped. Glass: c 1 disc rust red, striped with dark green translucent and yellow reticella trail; d 1 barrel rust red, striped with dark green translucent and yellow reticella trail; e 2 4-sided cylinder rust red, striped with dark green translucent and yellow reticella trail.

On upper chest.

5 *Hobnail*. L 1.5cm. Between ribs and left humerus.

6 *Bronze wrist clasp*, hook and eye, rectangular shape, two perforated lugs. L 3.5cm. Inside left wrist.

7 *Bronze wrist clasp*, eye half. Remains of solder on one side of each part of 6 and 7 shows that a decorative plate was once fixed. Inside right wrist.

8 *Bronze ring*. Diam 3.8cm.

9 *Bronze tongue-shaped strap-end*, two strips fastened together by two rivets, border of arc stamps, dotted line along middle. L 3.4cm.

10 *Bronze double girdle hanger*, one shaft T-shaped with moulding and rudimentary horse's head, the other shaft broken off. Both swivel on a moulded bar fixed to an arced band decorated by line border and dot stamps. L 13.6cm.

11 *Knife fragments*. L c 8cm.

8-11 outside left femur, the girdle hanger partly underneath.

12 a *Nail*, right of upper jaw. L 4.4cm.

b *Nail*. L 3.3cm. Outside left humerus.

c *Nail*. L 3.4cm. By edge of grave outside left humerus.

### Grave 10 (figs 20, 71)

Female 35-45. 69°.

Row of large stones along left side of torso dividing grave from grave 20.

Skull left, right arm slightly bent. Some finger bones in mid pelvis suggested removal of part of articulated hand by animals. Small black wood fragments throughout, ?coffin.

1 a *Black burnished pedestal pot* (pl 8a), horizontal lines at neck, a horizontal row of dots with horizontal lines below, four vertical bosses on the carination, each with two vertical lines each side; and a slight circular boss in the middle of each panel bordered by triple diagonal lines. Sand-tempered. Ht 16cm, diam mouth 11.7cm. Right of skull, tilted towards skull.

b *Hobnail*. L 1cm. Inside la.

Bone fragments in pot (see p 67).

2 a *Nail*. L 4.2cm. 2.5cm above jaw.

b *Nail*. L 3.5cm. 2.5cm above mid chest.

**Grave II (fig 71)**

Male adult. 61°.

7ft 4.5in x 3ft 2in x 4ft 2in (2.25 x 0.97 x 1.27m).

Skull left, both arms bent with hands on left upper chest.

No finds.

**Grave 12 (figs 20,71)**

Adult 25-35. 72°.

Skull fragmentary, both arms bent, left hand mid waist.

Right hand on lower pelvis.

1 *Knife fragments*. L 3.3cm, 2.2cm, and 3.6cm. Under right forearm.

**Grave 13 (figs 20,71)**

Female 35-45. 77°.

c 7ft x 3ft (2.3 x 0.91m) at head, narrowing towards foot.

Skull fragmentary.

Animal bones near feet (see p 67).

1 *Black burnished globular pot*, slightly everted rim. Grey fabric, white grits. Ht 12.2cm, diam mouth 9.6cm. Right of skull, 0.15m above floor of grave, large flints and earth below it. Animal bones inside and nearby (see p 67).

2 *Iron key*, end at right-angle with two prongs, loop at top and iron ring. L 10.6cm. Across right pelvis.

3 *Nail*, solid head. L 3.7cm. Right chest, 5cm above level of humerus.

4 *Bronze tube*, ribbed, ?bead. L 1.3cm. Outside left arm.

**Grave 14 (figs 20,71)**

Female 35-45. 25°.

Grave cut at right-angles over the top of grave 28. A pile of stones on top of the grave.

On left hand side, arms bent with hands in front of face, both legs bent.

Traces of black wood ?coffin.

1 a *Knife*. L 10.3cm.

b *Double bronze band*, mounting of sheath. L 2.8cm. In front of left pelvis.

2 *Iron fragment* with two rivet holes (?mend on shield boss carination) L 4.3cm. Top right femur.

3 a *Nail*, bent at right angles. L 4.2cm. Above right femur.

b *Nail*, bent at right angles. L 3cm. Outside left arm above body level.

**Grave 15 (fig 71)**

Probably male. 71°.

Lower legs only, rest destroyed by quarry.

No finds.

**Grave 16A (figs 20,71)**

Male juvenile 8-9. 345°.

3ft 7in (1.07m) remaining x 2ft (0.61m). Cut by 16B.

Right arm bent, hand in pelvis, left forearm disturbed, legs missing from top of femurs.

1 *Spearhead*, angular blade, split socket with transverse rivet. L 17.6cm. Edge of g-rave by right shoulder.

2 a *Shield boss*, knob or button top, low, convex dome, wide flange, six disc-headed rivets piercing thickness of 7mm.

Ht 8.5cm, diam 16cm.

b Remains of *up-turned grip* - extended each side of boss. L 9.2+cm and 10.8+cm. Over neck.

3 *Knife fragments*, slender. L 8.5+cm. Under right forearm.

4 Fragments of *iron buckle Loop*. L 2cm and 1.3cm (one illustrated). Mid waist.

**Grave 16B (figs 21,71)**

Female infant.

Cut into grave 16A.

Milk teeth only, lying on left forearm of 16A.

1 *Beads*

Amber: a 1 small roughly-shaped; b 6 roughly shaped and fragment.

Glass: c 2 melon olive green translucent; d 1 melon very light green translucent; e 1 large disc green-blue translucent,

yellow crossing trails and unmarvered dots.

2 *Flat bronze annular brooch*, perforation at one end, an iron rivet at the other, decorated with transverse lines and dotted border. *Iron shaft* of ?key attached, with textile remains. Diam 4.6cm.

3 *Iron fragments* of keys or pins. L 2.5cm, 2.2cm, 2.1cm, 2cm, 1.9cm, 1.8cm, and 1.9cm (two illustrated).

1-3 close to the teeth.

**Grave 17 (figs 21,72)**

Juvenile 8-10. 342°.

Skull rolled upside down, arms and ribs disturbed. Left leg bent.

1 *Two flat iron fragments*, one of bifurcating shape, L 4cm, the other joins 3 below. Between femurs.

2 *Flat iron bar*, swelling to circular end with perforation, another perforation and rivet at the narrow end. L 11.5cm. Edge of grave by femur.

3 *Two flat iron fragments* join with a fragment from 1. L 2.9cm and 2.2cm. Edge of grave by left knee.

**Grave 18 (figs 21,22,23,72)**

Female 15-25. 346°.

Skull right, both arms bent, hands in pelvis.

1 a *Bronze disc brooch*, double ring-and-dot decoration in quincunx. Diam 4.1cm. One small amber bead adhering to back. On right shoulder.

b *Bronze ring* adhering to back of brooch. Diam 1.6cm.

2 a *Bronze disc brooch*, as 1. Remains of wool bead-thread (see p 72).

b *Small bronze fragments* under disc brooches, one flat and perforated, L 1.2cm, the rest (not illustrated) curved.

### 3 Beads

Amber: a 6 very small roughly-shaped; b 16 small roughly-shaped and fragments; c 26 roughly-shaped (not illustrated); d 3 wedge-shaped; e 1 large flat, double perforation; f 1 very small flat, lengthwise perforation (not illustrated); g 1 4-sided cylinder.

Glass: h 1 disc blue swirled; i 1 melon light green-blue (faience); j 1 cylinder dark-blue translucent; k 1 fluted cylinder light green blue translucent; l 1 cylinder dark blue translucent drawn (not illustrated); m 1 barrel white, striped with blue translucent and dark green swirled trail; n 1 disc black, white zigzag trail; o 1 disc decomposed, blue translucent, cross trails; p 2 cylinder folded yellow translucent on yellow core; q 2 disc folded olive green translucent on yellow core. Between brooches 1 and 2

4 *Iron pin*, flat disc head. L 12.5cm. On top of brooch 1.

5 *Iron buckle loop and tongue*, double rectangular plate with bronze disc in middle and a second rivet towards the end. Strands of twine binding each end, see page 72, fig 13. L 7.2cm. Mid waist.

6 *Sheet bronze wrist clasp*, hook-and-eye, two perforations in each, three rows of *repoussé* dots. L 3.2cm. By right wrist.

7 *Bronze wrist clasp*, hook-and-eye, as 6. By left wrist.

8 *Iron ring* Diam 3.8cm. Between femurs.

9 *Spindle whorl*, disc-shaped. Shale (identified by J Watson). Diam 3.7cm.

10 *Circular iron buckle loop and tongue*, rectangular bronze plate folded and fastened by two rivets which originally had bronze dome heads (one remained, lost, drawn from index card). L 5.2cm.

11 *Knife fragment*. L 11.6cm.

12 a *Iron key*, shepherd's crook head. L 12cm.

b *Iron key* with S-loop end. L 11cm.

c *Iron key* with shepherd's crook terminal. L 10.2cm.

13 a Remains of *ivory ring*, which had bronze mending or strengthening washers fastened to it by iron rivets inside and outside.

b *Bronze tab* with two rivets. L 3.5cm.

c *Bronze tab* with two rivets. L 3cm.

d *Bronze tab* with two rivets. L 2.4cm.

e *Bronze tab* with two rivets. L 2.2cm.

14 a *Bone ring* with a perforation. L 3.4cm and 2.5cm.

b *Iron ring* adhering to 14a Diam 1.9cm.

15 *Bronze strap end* decorated with a scored trellis pattern, two plates fastened at one end with bronze rivet. L 4.4cm.

16 *Iron purse mount*, curling bird's head terminals and oval buckle in middle. L 10.2cm. 9-16 outside left knee.

17 *Bronze rivet*, tinned disc head. Diam head 1.2cm.

Other small *bronze fragments* (not illustrated). (Sieved from chest area.)

### Grave 19 (fig 23, 72)

Male adult. 66°.

Teeth only remaining of skull, both arms bent.

1 *Spearhead*, split socket, angular blade on two planes, the left side lower. Possible traces on radiograph of four rings inlaid. Mature ash in socket. L 32cm. Right of skull.

2 *Knife*, type 1, with rivet through grip. Mineral-preserved horn handle. L 12.1cm.

3 *Iron buckle Loop and tongue*. Diam 3.7cm.

2 and 3 under right forearm.

### Grave 20 (figs 23,24,72)

Female 15-25. 360°.

The edge of the grave at the head disturbed the edge of grave 10, for a line of stones was placed along the edge of grave 10 at this point.

On left side, arms bent, left hand mid chest, right hand in pelvis, both legs bent.

1 a *Bronze cruciform brooch* (pl 11d), head with middle panel and half-round knobs cast in one, lappets and horse-head foot with scroll nostrils. Broken and mended in antiquity. L 5.5cm and 5.2cm. b *Bronze plate* mend, fastened with three iron rivets. L 2.3cm.

c Two *bronze strips* replaced the spring holder. The brooch was found in two pieces, the foot in front of the top of the skull, the head under the chin. The bronze plate and strips were at the right waist.

2 *Tinned bronze small long brooch* (pl 12f), trefoil head, crescentic foot, ring-and-dot decoration. Remains of iron pin on back. L 6.1cm. On the right shoulder, foot up.

3 *Tinned bronze small long brooch*, as 2. L 6cm. On left shoulder, foot up.

### 4 Beads

Amber: a 15 small roughly-shaped (not illustrated); b 3 wedge-shaped.

Glass: c 3 disc rust red; d 1 disc very light green-blue; e 1 disc decomposed (not illustrated); f 34 globular colourless drawn; g 15 globular colourless drawn double; h 17 globular colourless drawn triple; i 2 globular colourless drawn quadruple; j. 1 disc decomposed with remains of blue translucent crossing trails and dots (not illustrated).

In a swag between 2 and 3.

5 a *Iron buckle loop and tongue*, iron rectangular plate, bronze plate on top, two rivet holes in bronze, and one in line in the iron. L 4.2+cm, W of plate 1.7cm. Right waist.

b *Bronze strip* broken off at one end, roughly trimmed at the other, fixed by two rivets to an iron strip, total length 3.3cm, W of bronze 1.7cm. Separate *bronze fragments* with double stamped border and half-

moon stamps and two iron rivets at the end. W 2cm. Left waist.

c *Iron fragment*, strap. Radiograph shows denser rim. 2.9 x 1.7cm.

d *Rectangular iron fragment*. 2.5 x 2cm.

e Part of *iron ?buckle loop and tongue*. L 2cm. (Lost, drawn from radiograph.) Inside right elbow.

6 *Sheet bronze wrist clasp*, eye half, two rivet holes, three rows of *repoussé* dots. 4.7 x 1.9cm. Under right ulna.

7 *Knife*, type 1, ridge on grip. L 10.9cm. Under left forearm, point up.

8 *Iron keys*, one hooked end. L 7.6cm. Three shaft fragments. L 6.5cm, 5.4cm, and 4.8cm. Beside left pelvis.

### Grave 21 (figs 24, 72)

Female 15-25. 72°

Skull slightly tilted forward, right humerus and left forearm disturbed, both legs bent to right.

1 *Bronze small Long brooch* (pl 11k), half-panelled trapezoid head with circular lobe each side, and a perforation off-centre, square knob in centre of bow, double-lobed lappets, spatulate foot, double spring holder, iron pin. L 5.9cm. On right shoulder, foot up.

2 *Bronze small Long brooch*, as 1, with traces of perforation off-centre in head. L 5.9cm. On left shoulder, foot up.

3 *Bronze pin*, widening into a flat, perforated head. L 9.2cm. Lying across brooch 1.

4 *Fragments of Knife*. L 3.4cm and 3.1cm. (Lost, drawn from index card.)

5 a *Fragments of iron ring* with c attached. Diam 5.1cm. (Part lost, drawn from index card.)

b *Fragments of two iron ?keys* with ring heads. L 3.8cm and 5+cm. (Lost, one drawn from index card.) Other fragments of iron ?keys (not illustrated).

c *Four iron 8-shaped Loops* attached to a. Total L 6.2cm.

4 and 5 outside left femur.

### Grave 22 (figs 25, 72)

Male 25-35. 67°.

Skull right, right arm slightly bent, hand in pelvis. Large bones, especially mandible,

1 *Spearhead*, angular, split socket with rivet. L 20.4cm.

2 *Spearhead*, angular, split socket with rivet. L 18m.

3 *Ferrule*. L 7.2cm.

4 *Ferrule*. L 7.7cm.

The spearheads were at a higher level and removed before the grave was found, but they were to left of skull. Ferrules beside left foot, 4 on outside of 3.

5 *Iron ring fragments*, ?middle marker on spear. Diam 2.7cm. By left hand.

6 a *Shield boss*, slightly convex dome, narrow waist, five disc-headed rivets, two remaining, with bronze washers, piercing a 9mm thickness. Ht 7cm, diam

14.7cm, flange 2.2cm wide.

b *Flat grip* widening at the ends. L 12.5cm. Boss lying on its side, nearly touching top right skull.

7 *Knife fragment*. L 7cm. Right waist, under ribs.

8 a *Nail* L 5.2cm.

b *Nail* L 3.4cm. (Missing, sketch from index card.) 15cm above spear ferrules at left foot.

### Grave 23 (figs 25, 72)

Female 15-25. 68°.

Skull right.

1 a *Nail*. L 2.4cm. Right chest.

b *Nail*. L 3cm. Outside left humerus.

c *Nail*. L 3.5cm. Right pelvis.

2 *Bronze tack*, silvered disc head. L 1cm. Between feet.

### Grave 24 (figs 25, 72)

Female 35-45. 61°.

About six large flints over legs. Row of stones along left side of torso.

Skull down and slightly left.

1 *Black burnished pedestal pot*, high carination. Ht 15.5cm, diam mouth 10.3cm. Left of skull.

2 *Knife fragments*. L 9.3cm. Left waist.

3 *Iron buckle loop and tongue*. W 3.5cm. Right pelvis.

4 *Iron buckle loop and tongue*. W 3.4cm. Left sacrum.

5 a *Nail shaft*, square section. L 5.1cm. On left face.

b. *Nail*, square section, flat head. L 8.3cm. Outside right knee.

### Grave 25

Infant 0-2 months.

Fragmentary bones. These bones were very close to grave 21 and it is possible that the two were connected.

No finds.

### Grave 26 (fig 72)

Female 45+. 72°

D c 3ft 8in (1.12m).

Skull slightly left, left arm and ribs missing, right leg slightly bent.

No finds.

### Grave 27 (figs 26, 73)

Female 45+. 82°.

Dug into a pit.

Skull half left, right forearm across body, pelvis and legs disturbed.

1 *Bronze cruciform brooch* (pl 11a), half-round knobs cast with panelled head plate, splay foot, iron pin. Not cleaned. L 6.2cm. Foot upwards, left of chin.

2 *Beads*

Amber: a 1 flat.

Glass: b 1 disc green; c 1 disc dark green; d 1 disc dark blue translucent; e 1 annular blue translucent; f 6 annular dark blue translucent; g 2 fluted short

cylinder yellow; h 1 fluted 4-sided cylinder olive green translucent; i 1 cylinder rust red, dark green translucent, rust red and yellow swirls; j 1 4-sided cylinder light green-blue translucent, striped with rust red trails over yellow blobs; k 1 disc olive green translucent, dark green translucent and yellow reticella crossing trails; l 1 disc dark blue translucent, speckled with rust red and white dots.

Near brooch and right chest.

3 a *Iron ring* diam c 7cm.

b *Iron ring* diam 2.3cm, W c 1.2cm.

a and b together inside top right femur.

4 *Nail*. L 6cm + 2.1cm. Left of skull above grave level.

### Grave 28 (figs 26,73)

Adult. 90°.

D 3ft 8in (1.12m), below grave 14.

Large stones at head of grave and along right side. Remains of skull and mandible, arms and legs. The lower legs had been removed in the excavation of the Roman pit in which the g-grave was partly dug.

1 *Bronze strip*, plano-convex section. L 8cm. Right waist.

2 a *Nail*. L 4.7cm. Right of skull, 15cm above.

b *Nail*. L 2.7cm. 15cm above right pelvis.

c *Nail*. L 9cm. Left pelvis, 15cm above floor.

d *Nail* L 4.1cm. On top right femur.

e *Nail*. L 3.2cm. Outside top left femur.

### Grave 29 (figs 26,73)

Female juvenile 10-12. 354°.

? 5ft 6in x 2ft 3in x 4ft (?1.68 x 0.69 x 1.22m).

Southern half above Roman pit.

Body slightly bent to left at hips, arms slightly bent, right foot over left foot.

1 a Fragmentary *iron penannular brooch* with rolled terminals and square knobs - Diam 3.7cm. (Part lost, drawn from index card.) On right shoulder.

b Reconstruction of la.

2 Two iron fragments of ?*ring brooch* and pin. L 2.3cm and 2.2cm. At left neck.

3 *Iron pin*. L 10.9cm. (Part lost, drawn from index card.) Under top right humerus.

4 Secondly perforated Roman bronze coin, first perforation broken. Reverse filed flat. (Report, p 87.)

5 *Beads*

Amber: a 2 flat, 1 with second perforation bored part way through on one side.

Jet, shale, or a type of fossilized wood (identified by J Watson): b 1 4-sided short cylinder.

Glass: c 1 disc rust red; d 2 cylinder dark blue translucent drawn; e 1 cylinder dark blue translucent drawn twisted.

Mid right chest with 4.

6 *Flat iron strip*, folded. L 4.2 x 1.8cm. Mid waist.

7 *Bronze sheet wrist clasp*, hook-and-eye, two perforations, borders of tool impression decoration. Textile

impression and fibre. 3 x 1.5cm and 3.1 x 1.7cm. Right wrist.

8 *Bronze wrist clasp*, as 7. Left wrist.

9 *Roman bronze coin*. (Report, p 87.) Under fingers of left hand.

10 *Knife fragments*. L 5.2cm and 1.8cm. Outside left femur.

11 *Nail*. L 4cm. Outside right humerus.

### Grave 30 (fig 73)

Juvenile 6-8. 343°.

D 2ft 4in (0.71m).

Skull tipped down and slightly right, body bent at hips to right, left arm bent with hand on spine.

No finds.

### Grave 31 (figs 27, 73, pl 2b)

Female infant 12-18 months. 335°.

D 2ft 8in (0.82m).

Skull down and slightly right. Left arm straight and slightly away from body, right arm bent with hand in pelvis; legs bowed, some ribs and middle of backbone displaced.

1 *Bronze bracelet*, hook-and-eye fastening. Diam 3.7cm.

2 *Flat iron ring*. Diam 3.5cm.

3 Boar's tusk (see p 67).

1, 2, and 3 together between left arm and body.

4 *Beads*

Glass: a 4 small disc rust red; b 2 small disc yellow, 1 with square perforation; c 1 annular green-blue translucent triple.

Right of neck and outside right arm.

5 *Flat iron fragment*. L 5cm. 5cm above left ankle.

6 *Nail*. L 6.5cm. 15cm above mid chest.

### Grave 32 (figs 27,73)

Female 15-25. 351°.

D 2ft 6in (0.76m).

Scattered bones in the fill from grave 40 which was disturbed by this grave.

Large stones by left shoulder.

Body on right side, right arm straight out in front of body, left arm bent with hand below right shoulder, both knees drawn up with left tibia crossing right tibia. Bones of left foot disturbed. Bones of unborn child in pelvis, 32 weeks.

1 *Iron ring-headed pin* with linking ring. L 2.9cm. By left shoulder.

2 *Knife*, curved back, nearly straight cutting edge. L 12.2cm. Under left elbow.

3 *Nail*, bent. L 5.3cm. In front of left tibia.

### Grave 33 (figs 27, 73, pl 3a)

Male 15-25. 64°.

D 3ft 7in (1.09m).

Large stones beside left hand and extending from right elbow to right foot.



Skull right, back of skull prominent, right leg slightly bent.

1 *Black burnished pedestal pot* (pl 7c), cord at neck with horizontal lines, eight vertical bosses with vertical lines; four circular stamps with cruciform design above each boss. Reddish fabric. Ht 13.8cm, diam mouth 9.7cm. At right shoulder.

2 *Semispherical glass bowl* (pl 9b), cupped sharp rim, colourless with brown discolouration, iridescence, and striated decay.

Ht 5cm, diam 10.2cm, 0.5mm thick. Contained animal bone fragments (see p 67). By right shoulder.

3 *Iron purse mount*, curved terminals and remains of buckle loop in middle. L 9.5cm.

4 *Knife*, type 1. L 9.8cm.

5 *Bronze tongue-shaped strap-end*, repoussé imitation of moulding with border lines, two rivets at square end. L 2.5cm.

3, 4, and 5 together right of pelvis.

6 Two *flat iron fragments*, with a perforation. L 6cm and 3.8cm. On top right femur.

7 *Nail*, square section. L 5cm. Outside left wrist.

8 *Hobnail*. L 1.1cm. Outside top left femur.

#### Grave 34 (figs 27, 73)

Female infant 1-2. 332°.

On left side, hands together in front of body, knees drawn up.

1 Perforated *Roman bronze coin*. Diam 1.8cm. (Report, p 87.)

2 *Beads*

Glass: a 1 annular dark blue translucent; b 1 short cylinder rust red, striped with dark green translucent and yellow reticella trails crossing at one point.

1 and 2 together at front neck.

3 *Bronze anklet*, wire with slipknot. Diam 5.5cm. On right ankle.

#### Grave 35

Foetus 24-32 weeks.

Disturbed leg and rib bones only.

No finds.

#### Grave 36 (figs 27, 73)

Female juvenile 4-6. 43°.

Skull fragments and left arm disturbed, right arm slightly bent.

1 a *Bronze rim mount*, doubled and riveted together with transverse wood grain inside, probably *Acer* sp (maple) or *Prunus* sp (cherry). 1.5 x 1.3cm, thickness of wood 4mm.

b Two *thin bronze clips*. L 2.2cm and 1.8cm.

a and b left of skull.

2 One flat amber *bead*. Left of chin.

#### Grave 37 (figs 28, 74)

Female 35-45.357°.

?7ft x 2ft 6in x c 3ft 6in (?2.13 x 0.76m x c 1.07m).

The foot of the grave dug into a Roman pit.

Skull down to left, left forearm over right forearm at waist.

1 *Black burnished globular pot*, slightly everted rim: two thin horizontal lines round neck with row of cross-in-circle stamps below, and eight pendent triangles of stamps. Grey fabric, white grits. Ht 11cm, max diam 12.6cm, diam mouth 8.5cm. At right of skull, resting on a Romano-British sherd.

2 *Gilt bronze radiate brooch* (pl 10f). Five knobs, decorated by chip-carved lines and triangles on head and diamond shapes on lozenge foot, with animal head and spatulate terminal. L 9.2cm. Right neck, foot down.

3 *Bronze small Long brooch* (pl 11j), square head with centre panel and top corners hooked, lappets below bow and crescentic foot, sharply moulded decoration. L 7.5cm. Under chin on left side of neck, foot up.

4 *A beads*

Amber: a 8 small roughly-shaped; b 43 roughly-shaped; c 1 wedge-shaped; d 4 large wedge-shaped.

Glass: e 6 annular dark blue translucent; f 1 barrel black; g 1 biconical blue; h 2 cylinder blue-green translucent drawn; i 1 cylinder dark blue translucent drawn; j 1 disc dark blue translucent, speckled with missing dots.

B *Dog or wolf tooth*, perforated (see p 67).

C *Claw-shaped stone*.

In a swag from 1 or 2 with the large amber beads in the middle, and to the left of skull.

5 *Knife*, type 1, possible leather sheath. L 9.8cm.

6 *Iron key fragments*, two looped tops L 5cm and 3cm, two right-angled terminals, L 4.2cm and 3.8cm, and a shaft fragment L 4.8cm. Four *shaft fragments* (not illustrated).

L 4cm, 3.8cm, 3.2cm, and 2.8cm.

5 and 6 inside top left femur.

7 *Nail*, square section. L 5cm. By left pelvis.

8 *Nail*, square section. L 3.5cm. At top of skull.

#### Grave 38 (figs 28, 74)

Juvenile 4-6 (see p 31). 3°.

D c 2ft (c 0.61m).

On right side, fragmentary skull to right, left arm bent in, right leg bent, right forearm and left leg disturbed.

1 *Iron buckle loop and tongue*. W 2.8cm.

2 *Triangular bronze mount*, iron rivet in centre, ?strap-end. L 1.1cm.

1 and 2 together at left chest.

#### Grave 39 (fig 74)

Foetus 24-28 weeks. 121°.

Fragments of skull, vertebrae, rib, arms, fingers; legs possibly removed by burials in grave 42.

No finds.

**Grave 40 (figs 29,74)**

Female 15-25. 351°.

Skull left, upper humeri, vertebrae, and ribs, the rest disturbed by grave 32 where some of the disturbed bones were in the fill.

1 *Bronze small long brooch* (pl 12e), cruciform, knobs flat, top one square, sides double-lobed, square knob on bow, lappets and fish-tail foot. Stamps on knob, foot, and head centre panel : double arc, arc containing triangle, and row of impressions between two rings. Remains of iron pin. L 9.5cm. Above right shoulder.

2 *Bronze small Long brooch*, as 1, stamps fainter. L 9.6cm. Left of skull.

3 *Iron hobnail*. L 1.7cm. At neck.

**Grave 41 (figs 29,74)**

Adult 25-35. 100°.

D c 3ft 6in (c 1.07m).

Skull right, both arms bent in, disturbance at right chest.

1 *Tubular iron object*. L 2.9cm. 15cm above bone level at right hip.

2 *Nail* L 5.7cm. 15cm above bone level, top left femur.

**Grave 42 (figs 29,74)**

Infant O-2 months. 121°.

Disturbed lower part of grave 39.

Fragments of skull, vertebrae, arm, pelvis, one femur.

1 *Iron pin fragment*. L 1.5m. By femur.

**Grave 43 (figs 29,74)**

Foetus 24-32 weeks. 360°.

2ft 6in x 1ft 3in x 2ft 3in (0.76 x 0.38 x 0.69m).

Disturbed. Close by, and parallel to, grave 44.

1 *Squat, wide-mouthed bowl*. Black fabric. Ht 8.2cm, diam mouth 12cm.

**Grave 44 (figs 29,74)**

Infant. 360°.

3ft 4in x 1ft 3in x 2ft 3in (1.02 x 0.38 x 0.71m).

Close by, and parallel to, grave 43.

Few bone fragments.

1 *Nail* L 4.9cm. 15cm above floor.

**Grave 45 (figs 29,74)**

Female 25-35. 350°.

c 7ft x 2ft 6in x 3ft 9in (c2.13 x 0.76 x 1.14m).

Skull left, right arm bent, hand in pelvis.

1 *Tinned bronze small long brooch*, square head, rectangular foot with indentations, ring-and-dot stamp decoration. On right shoulder, foot up, face down. L 4.2cm.

2 *Tinned bronze small long brooch* (pl 12d), as 1 but stamp pattern slightly different. L 43mm. On left shoulder, foot up.

3 *Beads*

Amber: a 2 small disc; b 1 large semispherical, broken and reperforated; c 1 wedge-shaped; d 5 large wedge-shaped.

Crystal: e 2 disc.

Glass: f 10 annular brown translucent; g 2 annular brown translucent double; h 2 annular blue translucent (not illustrated); i 13 annular dark blue translucent; j 2 disc white, blue translucent crossing trails and dots; k 4 disc dark blue translucent, white dots; l 2 disc olive green translucent, yellow marvered rings.

4 Six *tinned bronze tubular beads*, 4-line decoration at ends and middle. L 3.8cm (one illustrated).

3 and 4 at neck, between 1 and 2, with 4 in the middle.

5 *Oval iron buckle loop and tongue*. Diam 3.2cm. Right waist.

6 *Knife fragments*. L 7.5cm and 4.3cm. (Part lost, drawn from index card.) Left of pelvis.

7 *Iron key fragments*, ?ring fragments. L 3.1cm and 2.8cm. Hooked end. L 4.2cm. Outside left femur.

**Grave 46**

Infant O-2 months.

D 1ft 11in (0.58m).

Disturbed ribs and vertebrae.

No finds.

**Grave 47 (fig 74)**

Infant O-2 months. 352°.

D c 2ft 1in (c 0.64m).

Skull, top right ribs and lower legs *in situ*, rest disturbed or missing.

No finds.

**Grave 48 (figs 30,74)**

Female 25-35, 9°.

7ft 6in x 2ft 6in x 2ft 9in (2.29 x 0.76 x 0.84m).

Grave narrows at foot, then widens into a circular pit, 1ft 9in 0.53m in diameter, containing red burnt sandy clay, ?daub (identified by J Bayley).

Skull down to right, right arm bent with hand on left pelvis, left arm bent with hand on right forearm. The soles of the feet were vertical as though resting against a vertical object, ie a post-marker.

1 Two short cylindrical blue-white glass *beads* with light blue-green translucent crossing trails.

2 *Semispherical lead spindle whorl*, some vertical grooves. Diam 2.6cm.

3 *Small fossilized shell*. Internal mould of young *Gibbithyris* (identified by Dr C H Brunton, Department of Palaeontology, British Museum (Natural History)).

l-3 at right elbow.

**Grave 49**

Infant O-2 months.

Disturbed bones, five ribs, femur, humerus, and

clavicle.  
No finds.

### Grave 50 (figs 30,75)

Male 15-25. 85°.

D 3ft 6in (1.07m).

Large stones to right of skull.

Skull bent down to right.

1 *Spearhead*, angular stepped blade, the left side lower, split socket (bent). L 20.6cm. Right of skull.

2 *Knife*. L 5.6cm. Right pelvis.

### Grave 51 (figs 30, 31, 75, pl 3b)

Male 45-t. 75°.

7ft x 2ft 8in x 4ft 9in (2.13 x 0.81 x 1.45m)

Large stones at edge of grave by right lower leg.

Skull right, left forearm over right forearm, hands in pelvis, growth of bone on mid right femur.

1 *Spearhead* (pl 7a). Angular blade, split socket with rivet, gilt bronze band 5mm wide with two grooves at junction with blade, gilt bronze ring-and-dot motifs inlaid on lower part of blade, probably originally four on each side (radiograph shows the dots denser than the rings). A gilt bronze band 2cm wide at the end of the socket ornamented with four animals in Style I, nearly identical, all facing left, two linked in design but three vertical bars dividing the others (fig 3). L 43.6cm. Right of skull.

2 *Oval iron buckle loop and tongue*, short folded bronze plate with a longer bronze plate riveted to it. The long plate has a perforation near the disc-headed rivet and one at the other end. Line borders on plate. L 5.2cm. Under left forearm.

3 *Knife fragments*. L 7cm and 4.6cm. (Part lost, drawn from index card.)

4 *Iron spike*, longitudinal wood grain on 1.5cm of length. Total length 4.4cm.

5 a. *Rectangular iron double plate fragment*. L 3.9cm.

b. *Bronze strip fragments*. L 8mm, 8mm, and 6mm.

c. *Bronze ring*, (?washer). Diam 4mm. (Lost, drawn from index card.)

6 *Bronze tweezers*. L 6.3cm.

6 at right elbow with 3-5 underneath.

7 *Nail fragments*. L 1.9cm. Outside right knee.

8 *Bronze sheet fragment*. L 2.3cm. Outside left knee.

9 *Bone pin*. L 9.2cm. Outside left shin.

### Grave 52 (fig 75)

Juvenile 8-10. 68°.

D 5ft (1.52m).

Large stone by lower left leg.

Skull right, right arm bent, hand in pelvis.

No finds.

### Grave 53 (figs 31,75)

Juvenile 6-8. 70°.

4ft 6in x 1ft 9in x 2R loin (1.37 x 0.53 x 0.86m).

Large stone at edge of grave, right of skull.

Body on right side, both arms bent, hands together in front of pelvis, legs bent.

1 *Knife fragments*. L 5.4cm and 1.8cm. (Part drawn from index card.) Under the hands.

2 a *Nail*, square section. L 6cm. Outside left pelvis.

b *Nail fragment*. L 2cm. Right of lower spine.

c *Iron rivet and iron fragment*. L 1.2cm and 1.2cm. Outside right pelvis.

### Grave 54 (figs 31, 74, pl 3c)

Male 45+. 95°.

D 2ft 8in (0.81m).

Skull down slightly right, left forearm damaged, ulna broken, radius bent.

1 *Iron razor*. L 6.5cm. To right and ahead of skull.

2 *Flat iron plate*, pointed one end, indented the other (?lock plate fragment). L 2.8cm. Right of right shoulder.

In fill:

3 *Iron shaft* ?key, with right-angled terminal. L 8.9cm.

Removed earlier, higher than the bones and to left of skull.

4 *Silver-gilt curved wrist clasp* (pl 13d), eye half, chip-carved design of two curving bodies, each with a Style 1 animal head, its tongue or beak ending in another animal head. A pair of confronted border animals, a perforation through their bodies. L 4cm. Found about 30cm above the head of grave 54, 45cm below ground level.

### Grave 55 (figs 31,75)

Female 35-45. 308°.

6R x 2ft 6in x 2ft 9in (1.83m x 0.76m x 0.84m).

The foot of the grave was affected and the right foot removed when the horse (horse grave 1) was burnt in its grave. One toe bone charred.

Skull down right, both arms bent with hands on lower pelvis, left leg bent and on top of right leg. Goose bone at left elbow (see p 67).

1 *Bronze small long brooch*, square head with extended upper corners, the corners and foot only tinned; decoration by diagonal scored lines and dot stamps, moulding on foot with spatulate end, foot defective. L 5.2cm. Right neck, under chin.

2 *Bronze small Long brooch* (pl 11i), as 1 but complete. L 5.5cm.

On left shoulder, foot up.

3 *Beads*

Amber: a 26 very small roughly-shaped; b 60 small roughly-shaped; c 15 wedge-shaped; d 3 small flat, lengthwise perforation.

Calcite: e 1 large short cylinder.

Glass: f 2 small annular brown translucent.

Between neck and right elbow.

4 Fragment of *bronze wrist clasp*, eye half, with applied *repoussé* sheet fragments, solder remaining of panel. L 3.5cm. On right forearm.

5 *Base plates of bronze wrist clasp*, hook-and-eye. L 3.5cm and 3.4cm. Under left forearm.

6 *Knife*. L 10.9cm. Outside right pelvis, under right forearm.

7 *Nail*. L 3.9mm. Outside right humerus.

8 a *Iron ring-headed ?pin fragment* with interlinked bronze ring. L 2.2cm.

b *Three iron fragments*.

Sieved from chest area.

### **Horse grave 1 (figs 32, 75, p1 1b)**

7ft x 2ft 6in x 2ft 8in (2.13 x 0.76 x 0.81m) at foot and 1ft 11in (0.89m) at head.

The grave cut the end of grave 55, removing the right foot. The horse was lying on its right side, the skull, forelegs, and left hind leg fragmentary, no doubt removed by ploughing, the remaining hind leg bent. Some of the bones were burnt, eg right foot, but most were whole. The burning affected at least one toe bone of the body in grave 55 (see p 29). The entire fill of the grave was black and there was burnt wood 2-4cm deep by the belly and at the south end. At the south end the wood grain was mostly in a north-south direction but some was at right-angles.

1 *Red high-shouldered pot*, everted rim. White grits. Ht 21.2cm, diam mouth 18.8cm. Found and removed earlier, before the horse grave was detected. The position was either in the south-east corner or between the hind legs and body.

2 *Small bronze buckle*, with narrow double plate and rivet hole (not cleaned). L 2.6cm. On top right femur.

3 a *Bronze strip fragment*. W 2cm. Touching pelvis.

b *Bronze strip fragments*, repoussé dot border. L 2.2cm. *Hollow bronze rivet*. L 8mm. b was a short distance from a.

c *Bronze strip fragments*. L 8cm and 4.5+cm. Between d and e.

d *Bronze strip fragments* with perforation. L 5.5cm and 2.6cm.

e *Bronze strip fragment* with a perforation. L 8cm.

f *Bronze strip fragment*. L 4.5cm. Joins e.

g *Bronze strip fragment* penetrated by bronze rivet. L 4.5cm.

h *Bronze strip fragment*, no decoration. 3.6 x 2.1cm.

i *Bronze strip fragment*. L 4cm. Exact position not known.

These strips have not been cleaned or conserved, but all except a and h appear to be decorated with repoussé dot borders. There are additional smaller fragments. At foot of grave 7.5cm above the floor.

4 A *fossil* on the lower vertebrae is identified as *Porosphaera globularis* (Phillips) by Dr D L F Sealey, Department of Palaeontology, British Museum (Natural History).

### **Grave 56 (fig 33)**

Female infant 4-6 months.

D 2ft 1in (0.64m).

Disturbed skull fragment, vertebrae, ribs, remains of arms and legs.

1 a *Nail*, square section. L 4.5m.

b *Nail*, pointed head. L 2.1cm.

2 *Beads*

Glass: a 1 small disc rust red; b disc yellow, decomposed; c 1 annular dark blue translucent.

1 and 2 amongst the bones, one bead to north of bones.

### **Grave 57 (figs 33,76)**

Female infant 2-4 months. 329°.

On left side, arms straight down in front of body.

1 Two annular dark blue glass beads. Under ribs.

### **Grave 58 (figs 33, 76)**

Infant 2-4 months. 346°.

Skull fragments, left humerus and fingers, ribs, legs straight, body bent at hips.

*Hobnail*. L 1.5cm. Under skull.

### **Grave59**

Infant

D 2ft 4in (0.71m).

Disturbed bones.

No finds.

### **Grave60**

Infant 0-2 months. c 74°.

D 2ft (0.61m).

Skull *in situ*, rest disturbed.

No finds.

### **Grave61 (fig 76)**

Infant 2-4 months. 341°.

D 1ft 9in (0.53m).

On right side, skull fragments removed earlier, legs bent, left tibia and foot missing.

No finds.

### **Grave62 (figs 33, 76)**

Female adult or juvenile (not an infant as in bone report, see p 31). 349°.

D 3ft 5in (1.04m).

On right side, left arm bent, right arm missing, both legs bent at acute angle.

Roe deer and ox bones in fill (see p 67).

1 *Gilt bronze small square-headed brooch*, ring-stamped outer border on head, geometric decoration in centre panel and spatulate end of divided foot. Profile helmet and front limb ornamentation each side at top of foot, vertical grooving on bow continuing into foot and triangular terminal; iron pin. L 4.9cm. Right shoulder, partly under jaw.

2 *Gilt bronze small square-headed brooch*, (p1 10d), as 1, but better finished. L 5cm. Left shoulder.

3 *Iron pin fragments*, shepherd's crook head. L 3cm,

2cm, 1.8cm, and 1.5cm. With 1.

#### 4 Beads

Amber: a 25 very small roughly-shaped; b 21 small roughly-shaped; c. 1 small disc; d 6 wedge-shaped; e 2 very small flat, lengthwise perforation.

Glass: f 1 disc dark blue translucent (not illustrated); g 1 disc black; h 7 small annular brown translucent; i 2 annular dark blue translucent; j 1 cylinder yellow-green; k 5 coiled cylinder dark olive green translucent (one stuck to pin 3); l 1 fluted 4-sided cylinder yellow-green; m 2 cylinder dark blue translucent drawn twisted; n 3 globular colourless drawn; o 1 globular colourless drawn double; p 1 globular colourless gilt drawn double; q 1 annular blue translucent, dark green swirls; r 1 cylinder rust red, dark green translucent on yellow crossing trails.

Between 1 and 2.

5 *Bronze annular brooch*, flat with notch on inner side opposite a narrowing in the band; ring stamps along inner edge, arc stamp outer border. Diam 5cm.

6 *Knife fragments*. L 7.1cm and 3.1cm.

7 a *Two iron rings*, one within the other, the outer one diam 5cm.

b *Iron fragments*, including flat ?key shaft. L 4.6cm (one illustrated).

5-7 outside left femur.

#### Grave 63

Infant 0-2 months.

D 2ft 8in (0.81m).

Disturbed bones.

No finds.

#### Grave 64 (fig 76)

Infant 0-2 months. 24°.

D 2ft 1in (0.64m).

Body bent at hips, left arm bent, legs disturbed.

No finds.

#### Grave 65 (fig 34)

Male.

Objects found in commercial digging before excavation, possibly all in one grave.

*Sword*, mineral-preserved horn grip. Possible traces of binding near top of scabbard. L 90.3cm, W 5-6cm, tang L 11.5cm. ?Remains of wooden scabbard.

2 *Spearhead*, angular, rivet in socket. Radiograph shows a groove each side of the axis, probably a half-moon on left hand side only of each face. L 18.8cm.

3 *Part of shield boss*, small separate button top, straight dome, incurved waist. Ht remaining 5cm.

4 *Bronze bowl* (pl 7d), *repoussé* beaded rim, concentric incised circles inside base, solder ring mark of missing foot on outside. Ht 7.9cm, diam 26cm.

5 *Bronze-bound wooden bucket* (pl 9a), incomplete. Two bronze hoops; top hoop 1.7cm wide, other hoop 1.2cm wide. A U-sectioned rim overlaps the top hoop.

Two handle mounts each consist of a bifurcating bird's head mount with rivet eyes. The mounts project above the rim and are perforated, as are the separate matching inner strips, to take the hooked ends of a bronze handle; the handle is decorated with arc stamps. Equidistant between the handle mounts are similar bifurcating mounts which fold over the rim. Notes made at the time of conservation indicate that there were fifteen staves, of yew wood. Marks on the staff fragments suggested that there were four verticals and probably one or even more hoops. The bucket has been reconstructed with top diameter of 10 to 10.4cm and bottom diameter of 10.4 to 11.8cm. This oval shape is no doubt due to compression in the grave. Ht c 10cm.

#### Grave 66 (figs 35, 76)

Female 25-35. 79°.

D 1ft 9in (0.53m).

On right side, arms slightly bent. Vertebrae and pelvis disturbed in finding.

1 *Bronze small long brooch*, square head, keeled bow, moulding on foot with spatulate terminal; iron pin. L 6.2cm. Under skull.

2 *Bronze small long brooch*, as 1. L 6.1cm. Right waist, foot up.

#### 3 Beads

Glass: a 15 annular dark blue translucent; b 1 annular blue translucent, dark green swirls. Mid neck.

4 *Bronze wrist clasp*, hook-and-eye, two perforations and serrated edge, two bronze tubes with double line scoring. L 2.8cm. By right wrist.

5 *Bronze wrist clasp*, as 4, one tube only remaining. Outside left knee and by left tibia.

#### Grave 67 (fig 76)

Infant 2-4 months. 355°.

On left side, right arm bent, legs forward.

No finds.

#### Grave 68 (figs 35, 76)

Male 45+. 79°.

D c 4ft c 1.22m.

Skull down to left, left shin crossed over right.

1 *Tinned bronze duck brooch* (pl 12k), ring-and-dot eye; bronze pin at back held on brooch lug by an iron rivet. L 5.8cm. Outside left humerus.

2 *Iron buckle loop*, kidney-shaped, and tongue. Diam 5.2cm. Right waist.

3 *Knife*, type 1. L 16.9cm. Under right forearm.

4 a *Iron purse mount*, triangular shape with one bird's head terminal remaining, remains of iron band in middle. L 8.1cm.

b. *Iron purse mount*, bird's head terminal. L 10.7cm. (Part lost, drawn from index card.) With knife at right waist.

**Grave 69 (figs 36, 76)**

Female ?infant. 324°.

c 5ft 6in x 2ft 6in x 2ft 8in (c 1.68m x 0.76m x 0.81m).

Head of grave destroyed by quarry.

No bones remaining.

1 *Black burnished globular pot* (pl 8b), slightly everted rim, flat base; decoration of two horizontal lines on shoulder, a row of circular stamps below and double-ring stamps arranged in pendent triangles. Sand-tempered fabric with red surfaces. Ht 10.6cm, diam mouth 9cm.

2 *Bronze small long brooch* (pl 12b), square head, faceted bow, lozenge-shaped foot and disc finial, stamped decoration on head and foot, transverse moulding between foot and finial, iron pin. L 4.2cm.

3 One decomposed glass disc *bead*.

2 and 3 right of skull position.

4 *Bronze fragment*, lozenge-shaped with remains of rivet. L 1.1cm. Right ?waist, near edge of grave.

5 *Fossilized shell*. L 2.4cm. (Internal mould of *Gibbithyris semiglobosa* - identified by J de C Soar, Department of Palaeontology, British Museum (Natural History). Right of skull position.

6 a Nail fragment. L 2.1cm. Near head of grave.

b *Nail head fragment*. L 1.3cm. Left side of grave near head.

c *Nail fragment*. L 3.9cm. Chest area.

**Grave 70 (fig 76)**

Infant 0-2 months. 332°.

D 2ft 6in (0.76cm).

On right side, arms and legs bent.

No finds.

**Grave 71 (figs 36, 76)**

Infant 0-2 months. 360°.

D 1ft 4.5in (0.42m).

Fragmentary, on left side.

1 *Iron finger ring* with decorated bezel, bronze oval frame to bezel, and bronze strip across middle of bezel. Diam 2.6cm. 30cm from the skull (Manning 1985, J7, 78).

2 *Roman bronze coin* (see p 87). c 30cm in front of the legs.

**Grave 72 (fig 76)**

Juvenile 10-11. 326°.

c 5ft 6in x 2ft x c 2R (c 1.68 x 0.61 x c 0.61m).

Foot of grave cut by quarry.

Skull left, both arms slightly bent, right shin crossed over left, most of right foot missing, destroyed by quarry.

No finds.

Anglo-Saxon *sherd* in fill (not illustrated).

**Grave 73 (figs 36, 77)**

Female 25-35. 310°.

D 2ft 6in (0.76m).

On right side, arms bent, hands together at left shoulder, legs bent.

The position of the following objects suggests that they were not associated with this burial but had been part of a disturbed burial.

1 *Bronze small long brooch*, cruciform, flat knobs, spatulate foot, semicircle stamps on borders of head and centre panel and on foot; iron pin. L 8.4cm. Upside down on left ankle.

2 *Iron fragments*. L 3.9cm and 1.8cm. Behind knees.

**Grave 74**

Infant 0-2 months. 322°.

2ft 6in x c 2ft x 2ft (0.76 x c 0.61 x 0.61m).

Grave cut by quarry and bones disturbed by birds' nests, skull and some ribs *in situ*.

No finds.

**Grave 75 (figs 36, 77)**

Male 45+. 347°.

3ft 4in x 2ft 6in x 4in (1.02 x 0.76 x 0.10m).

This grave was destroyed below the pelvis by the digging of the deeper grave 76. Skull right, arms slightly bent. The femurs are missing, but other bones of the legs and feet and some of the left hand were found in the fill of grave 76.

1 *Buff and black wide-mouthed pot*, vertical wall, rounded base, outer surface wiped. Grit-tempered. Ht 14.5cm, diam mouth 15cm. Left of skull.

2 *Iron buckle loop fragments*. Diam 24cm. Mid chest.

3 *Knife*, type 1. L 10.7cm. Under left humerus.

**Grave 76 (figs 37, 77)**

Male 35-45. 348°.

6ft 6in x 3ft 4in x 10.5in (1.98 x 1.02 x 0.27m).

This grave destroyed the lower half of grave 75 and contained leg and hand bones in the fill.

Skull down to left, both arms bent with hands mid waist.

1 *Spearhead*, short, lozenged-shaped blade, long split socket. L 19cm. Left of skull.

2 a *Shield boss*, button top, slightly convex dome, wide flange, disc-headed rivets. Ht 7cm, diam 16cm. On left shoulder.

b *Strap grip*, widening at ends with disc-headed rivet at one end. L 11.1+cm.

c *Two iron disc-headed studs* on each side of the boss and 15cm away from it, right of jaw and left of left humerus. Diam 2.3cm.

3 *Knife*, straight back, curved cutting edge, type 2. L 11.8cm. Under left forearm.

**Grave 77**

Infant 0-2 months.

D 2ft 6in (0.76m).

Disturbed bones.

No finds.

**Grave 78**

Infant 0-2 months  
D 1ft (0.31m).  
Disturbed bones.  
No finds.

**Grave 79 (figs 37, 77)**

Female juvenile 6-8. 356°.  
4ft 6in x 2ft 4in x 2ft 4in (1.37 x 0.71 x 0.71m).  
On right side, skull perched on top of mandible, arms bent, hands together at front waist, legs bent.  
1 *Iron penannular brooch*, rolled terminals. Diam 3.5cm. On right shoulder. The jaw was stained green by this brooch, which may indicate lost bronze decoration.  
2 *Beads*  
Glass: a 2 small disc rust red; b 1 disc yellow; c 1 disc olive green translucent; d 1 disc dark green and fragments; e 2 disc decomposed; f 2 annular blue translucent; g 5 annular dark blue translucent; h 1 melon rust red; i 1 short cylinder (rounded) yellow.  
Between top right humerus and mid neck.  
3 Broken shaft of *bronze girdle hanger*, perforated at top, decorated by transverse scoring and faceting. L 7.5cm.  
4 *Iron ring*. Diam c 3cm. (Part lost, drawn from index card.)  
3 and 4 together outside left femur.

**Grave 80 (figs 38, 77)**

Male 35-45. 331°.  
6ft 3in x 2ft 3in x 2ft 3in (1.91 x 0.69 x 0.69m).  
The shoulders were propped against the head of the grave so that the left humerus was almost vertical, and the skull was bent over and down to left. Sheep or goat bones in fill (see p 67).  
1 *Sherds* of black burnished, high-shouldered, pot. Sand-tempered with grits. Ht 22.8+cm. Near the skull and on top of right humerus c 30cm above floor level, ie either buried complete at a higher level and disturbed, or buried as sherds in fill.  
2 *Knife*, broad blade, type 1, tip missing. L 14.5cm. Point down resting on inner side of mid left femur.  
3 *Nail*, curved. L 4.4cm. In pelvis.  
4 *Nail*. L 3.3cm. On skull.

**Grave 81 (figs 38, 77)**

Female 35-45. 330°.  
6ft x 2ft x 3ft 3in (1.83 x 0.61 x 0.99m).  
Skull and feet resting on sloping ends of grave. Skull tipped slightly left, left arm bent, hand in pelvis.  
1 *Bronze cruciform brooch* (pl 1 1c), half round knobs, spatulate foot. L 7.8cm. Right shoulder.  
2 *Bronze small long brooch*, square head, depressed wings, decoration by triangular punch marks; the broken foot has been shaped by side cut-outs to give an impression of completeness, L 5.7cm. Right of chin.

3 *Bronze ring*. Diam 1.9cm. Near 1.  
4 Coiled *bronze strip*. W 6mm. With 2.  
5 One flat amber *bead*. Mid upper chest.  
6 a *Iron ring*. Diam 6.1cm.  
b *Iron key shaft* with end at right-angles. L 9.7cm.  
7 *Iron purse mount fragment*, doubled back curled terminal. L 10.5cm.  
6 and 7 on lower pelvis.  
8 Eight *nails*, around and above body. L 7.5cm, 5.8cm, 5.6cm, 5.5cm, 5.2cm, 5cm, 2.5cm, and 2.4cm. Positions disturbed.

**Grave 82 (fig 39)**

Foetus 36-40 weeks.  
D 2ft 4in (0.71m).  
Disturbed bones.  
1 *Bronze triangle* L 2.1cm. 15cm from skull.

**Grave 83 (fig 39)**

At least six fetuses, 36-40 weeks.  
D 2ft (0.61m)  
Disturbed bones.  
1 *Iron ring*. Diam 1.5cm.

**Grave 84 (fig 77)**

Male 45+. 333°.  
5ft 6in x 2ft 3in x 2ft 6in (1.68 x 0.69 x 0.76m).  
On right side, skull resting upright against head of grave. Right arm bent up with hand under chin, left arm bent across pelvis; legs bent with knees high against side of grave (legs partly disturbed in finding).  
No finds.

**Grave 85**

Foetus 36-40 weeks. 166°  
D 2ft 6in (0.76m).  
Disturbed bones.  
No finds.

**Grave 86 (figs 39, 78, pl 4a, b)**

Male juvenile 7-8. 331°.  
5ft 6in x 3ft x 1ft 10in (1.68 x 0.91 x 0.56m).  
At the foot of the grave, and at a depth of 25cm, was a dog's skeleton, its backbone touching the wall of the grave, the right leg extended (see p 67). Three animal bones in the fill (see p 67).  
The boy was 30cm below, prone on right side, right arm bent under spine, left arm bent with hand beside pelvis; right leg bent, left leg straight and on top of right leg.  
1 *Spearhead*, angular blade, split socket. L 17.6cm. Behind skull.  
2 a *Shield boss*, large button top, straight dome, concave waist, five disc-headed rivets, rectangular sheet iron patch riveted on one side of flange and carination to cover a split in the boss, and a second

smaller patch fixed by three rivets on the dome. Ht 7cm, diam 14.6cm.

b *Flat strap grip*, widening at ends. L 12.1cm.

c *Iron rivet*. L 1.2m. a-c together, touching back of right shoulder.

d Small *iron disc-headed rivet*. Diam 1.7cm. Between 1 and 2.

3 *Knife fragments*. L 7.2cm and 2cm. (One lost, drawn from index card.) Behind right pelvis.

4 a *Nail*. L 2cm.

b *Nail*. L 2.2cm.

By left wrist.

### Grave 87 (figs 39, 78)

Female infant O-2 months.

Disturbed bones.

1 *Iron T-shaped key*. L 15.6m. 15cm distant from bones.

### Grave 88

Infant 2-4 months. 239°.

D 2ft (0.61m).

Disturbed bones, head to east.

No finds.

### Grave 89

Infant O-2 months. 248°.

D 2ft 6in (0.76m).

Disturbed bones, head to east.

No finds.

### Grave 90 (fig 78)

Male 35-45. 324°.

5ft 4in x 2ft 4in x 3ft 9in (1.63 x 0.71 x 1.14m).

Skull down to left, arms bent, hands together on upper chest, legs drawn up to left, knees higher than feet.

No finds.

### Grave 91 (figs 39, 78)

Infant O-2 months. 250°.

Skull and one arm only, on left side.

1 *Flat base of pot*, buff exterior. Black sand-tempered fabric, white grits. Diam base c 8.5cm. Behind skull.

### Grave 92 (figs 40, 78)

Female 35-45. 62°.

6ft 4in x 2ft 3in x 4ft 5in (1.92 x 0.69 x 1.35m).

Skull down to right.

1 *Black burnished globular pot*, slightly everted rim. Sand-tempered, buff fabric. Ht 20cm, diam mouth 13.5cm. Left of skull.

2 *Bronze small long brooch* (pl 11e), square head wider at the top, moulding on bow and foot, spatulate terminal; decoration by deeply punched dots surrounded by ring, semicircular stamped borders, notches at end of foot. Iron pin remains at back. L 6cm. Face down, mid right chest.

3 *Bronze small long brooch*, as 2. L 5.9cm. At edge of grave right of skull, 23cm above floor of grave.

### 4 Beads

Glass a 7 disc dark blue translucent; b 15 annular dark blue translucent; c 1 annular blue translucent, dark green swirls; d 1 disc dark blue translucent, speckled with rust red, light blue and white dots.

5 *Iron ring brooch*, with remains of pin. Diam 2.5cm.

6 *Iron ?pin fragments*, knob head. Total L c 5.5cm.

5 under the large bead right of top vertebrae, 6 beside 5, rest of beads underneath and towards waist.

### Grave 93 (figs 40, 78)

Male 25-35. 69°.

6ft x 2ft 7.5in x 3ft 3in (1.83 x 0.80 x 0.99m).

On right side, both arms bent in front of body with right hand 15cm above floor level; legs bent and together.

1 *Large sherd*, near vertical wall and rounded base. Ht c 10.8cm. Grass- and sand-tempered. In front of chest. Although not on the floor of the grave, it was positioned so that it could have been used as a dish, and was below the level of the right waist and the top of the grave in the gravel.

### Grave 94

Infant 0-2 months. 331°.

D 3ft (0.91m).

Disturbed bones.

No finds.

### Grave 95

At least two infants O-2 months. 330°.

D 3ft (0.91m).

Disturbed bones, one infant only distinguishable in the ground.

No finds.

### Grave 96 (figs 40, 78)

Male 15-20. 51°.

D 3ft (0.91m).

Skull upwards and left, arms bent, both hands at left shoulder, legs bent to right.

1 a *Spearhead*, angular, split socket with transverse rivet. L 27.4cm.

b *Conical ferrule*, two decorative grooves. L 10.2cm. a and b were found before the grave was identified, c 8cm above floor of grave to left of skull.

2 *Knife*, slender, type 1. L 12cm. Point up under vertebrae at left waist.

3 *Oval buckle loop and tongue*. Transverse ribbing on the loop visible near the tongue. Diam 2.5cm. Top right pelvis.

4 *Bronze shoe-lace tag*, flat band folded and riveted together, two decorative lines. L 2.1cm. Above right ankle.



## Grave 97 (figs 41, 78)

Female 25-35. 15°.

In black rubbish layer, no outline visible. D c 3ft (c 0.91m).

On left side, arms bent and in front of body, knees bent with right shin over left.

1 *Gilt bronze saucer brooch* (pl 12j), crude, chip-carved ornament of lines in blocks at right-angles to each other round a centre boss and ring, with a zigzag outer border, iron pin. Diam 4.6cm. At right shoulder, standing on edge.2 *Gilt bronze saucer brooch*, as 1. Diam 4.6cm. On edge between left humerus and sternum. c 0.08m below the top bead.3 *Beads*

Amber: a 3 small roughly-shaped; b 12 roughly-shaped and fragment; c 1 large roughly-shaped; d 1 large flat rectangular, lengthwise perforation.

Glass: e 1 disc green; f 1 disc blue-green; g 1 pentagonal cylinder green; h 1 disc white, striped with light green-blue translucent trails; i 1 large short cylinder olive green translucent, yellow zigzag and circumference trails.

Above 2.

4 *Bronze ring*, oval in section, ends flattened and overlapping. Diam 3.3cm. With 3.5 *Knife*, tip missing. L 11.7cm. With 2, half under sternum.

## Grave 98 (fig 41)

Infant 0-2 months.

D 3ft 4in (1.02m).

Fragment of skull only.

1 *Small, black burnished undecorated pot*, slight neck. Ht 7.8cm, diam mouth 7.8cm.2 *Hobnail*. L 1.2cm. Inside pot.

## Grave 99 (figs 41, 79)

Male infant. 60°.

Outline of head of grave visible.

D 3ft 6in (1.07m).

Fragments of skull and torso only.

1 *Spearhead*, angular blade, split socket with transverse rivet, L 19.7cm. In top left corner of grave.2 *Small knife*, tip missing. L 6.7cm.3 *Bronze ring*, flat overlapping ends. Diam 1.6cm.

2 and 3 under lowest vertebrae.

4 *Small iron buckle Loop and tongue*. Diam 1.6cm. Mid waist.

## Grave 100 (figs 41, 79)

Female 25-35. 335°.

6ft 4.5in x 2ft 3in x 5ft (1.94 x 0.69 x 1.52m).

Skull right, both arms slightly bent, right ankle crossed over left.

1 *Bronze strap-end*, rounded and pierced at one end, broken at the other. L 2.2cm.2 *Bronze tab*, square end with perforated side

projection, transverse moulding in middle, broken perforation at other end. L 1.9cm.

3 *Bronze tab*, square end with perforated side projection, transverse moulding in middle, broken perforation at other end. L 2.1cm.4 *Bronze strip* ornamented with transverse markings, one end rounded and perforated. L 2.1cm.5 *Iron disc*. Diam 1.8cm. Radiograph shows four possible perforations, 1-5 at neck.

## Grave 101 (figs 42, 79)

Male 45+. 342°.

6ft 4in x 2ft 3in x 3ft 4in (1.93 x 0.69 x 1.02m).

Overlaps with grave 128 at one corner, but there was no clear stratification.

Both arms slightly bent, legs slightly bent with right ankle crossed over left. Some small bones under mid left femur, some ?toe bones beside left tibia. These and item 3 may indicate a separate disturbed burial.

1 *Spearhead*, leaf-shaped blade, split socket with transverse rivet. L 35.2cm. Left of skull, 18cm above floor of grave.2 *Knife*, wide blade, type 1, tip missing. L 12.7cm. Left waist, point down.3 *Iron ring brooch* or buckle, long pin. Diam 2cm. Left of right heel.

## Grave 102 (figs 42, 79)

Male 25-35. 63°.

6ft x 2R 2in x 3ft 7in (1.83 x 0.66 x 1.09m).

Skull down to left, right arm bent with hand in pelvis. Left hand partly under left femur. Right foot on top of left foot.

1 Three *iron flat strip fragments*, ?knife. L 5.4cm, 2.3cm, and 2.6cm. (One lost, drawn from index card.) Under mid spine.2 *Oval iron buckle loop*. Diam 3.5cm. Top left pelvis.3 *Rectangular iron plate*, rivet in each corner and an extra perforation visible on radiograph. 28cm x 2.7cm. Inside left elbow.

## Grave 103 (figs 42, 79, pl 5a)

Female 35-45. 321°.

5ft 6 in x 2ft 6in x 4ft (1.68 x 0.76 x 1.22m).

Prone, head to left, right arm under body, right leg slightly bent. The body was placed along the east side of the grave. Along the west side of the grave was a black stain c 15cm wide.

1 *Bronze applied brooch*, slightly concave backplate, pin catch and lug stapled on, separate rim, fragments of *repousse* front plate with boss and ribbed centre, ribbed outer border and Style 1 animal ornament within. Diam 4.1cm.2 *Bronze applied brooch*, as 1. Diam 4.1cm.3 *Beads*

Glass: a 7 small disc rust red; b 5 small disc yellow (not illustrated); c 1 disc yellow; d 1 disc olive green translucent; e 1 disc dark green; f 1 disc green-blue;

g 1 disc blue; h 3 disc dark blue translucent; i 2 disc white; j 3 disc black; k 1 disc decomposed (not illustrated); l 1 small fluted disc yellow (broken); m 1 fluted disc blue-white; n 4 annular blue translucent; o 6 annular dark blue translucent; p 1 short cylinder (rounded) decomposed; q 1 disc olive green translucent, white swirls; r 1 disc blue-white, dark olive green translucent swirls.

1-3 together behind skull.

4 *Bronze ring*. Diam 3.1cm.

5 *Bronze ring*. Diam 3cm.

6 *Iron fragments*. U-shaped strip, L 3.6cm. L-shape, L 2.1cm. (?Part of purse mount.)

7 *Iron rust*, ?buckle loop, with a *pin* in the middle. L 2.8cm.

4-7 together beside right shoulder.

#### Grave104(fig79)

Foetus 36-38 weeks.

Small circular grave

*clft* x *lft* x *2ft* 9in (c 0.31 x 0.31 x 0.84m).

Disturbed bones.

No finds.

#### Grave 105 (fig79)

Infant 2-4 months. 334°.

3ft 1.5in x lft 10in x 3ft 3in (0.95 x 0.57 x 0.99m).

On right side, arms bent in front of body, legs bent.

No finds.

#### Grave 106(fig79)

Juvenile 4-6. 78°.

3ft 6in x lft 9in x 2ft 8in (1.07 x 0.53 x 0.81m).

The head of the grave had been cut away by the previous excavation.

On right side, right arm forward, left arm slightly bent at side, legs bent.

No finds.

#### Grave107(figs43,79)

Infant 6-12 months. 1°.

No outline visible. D 2ft loin (0.86m).

On right side, arms forward, legs bent.

1 *Small black burnished pot*, vertical wall. Black fabric, white grits. Ht 9.5cm, diam mouth 10cm. In front of head, 15cm above floor of grave.

#### Grave 108(figs 43,79)

Female 35-45, 69°.

6ft 7.5in x 2ft 6in x 3ft 10in (2.02 x 0.76 x 1.17m).

Skull right.

1 *Bronze small long brooch* (pl llh), cross pattee head, nicked edges, longitudinal groove on bow, spatulate foot with nicked edge, dot stamps on head, bow, and foot. L 6cm. On right shoulder, foot up.

2 *Bronze small long brooch*, as 1. L 6cm. On left shoulder, foot up.

3 Four large wedge-shaped amber *beads*. Top right chest.

4 *Iron buckle loop and tongue fragment*. Diam 3cm. Right waist.

#### Grave109(figs43,80)

Male 45+, 60°.

Outline only visible at foot in gravel. D 3ft 3in (0.99m).

Skull turned up and left, left arm bent slightly.

1 *Bronze sheet fragments*. L 2.5cm and 1.4cm. (One lost, drawn from index card.) Right pelvis.

#### Grave 110 (fig80)

Female 25-35. 71°.

6ft 9 in x 2ft 6in x 3ft 5in (2.06 x 0.76 x 2.05m).

Skull left, arms bent with forearms across body, legs slightly bent to left.

No finds.

#### Grave 111 (figs 43,80)

Female infant 12-18 months. 334°.

D 3ft (0.91m).

On left side, arms forward, legs bent.

1 *Roman bronze coin*, two perforations (see p 87).

2 One small roughly-shaped amber *bead*. One amber bead lost.

1 and 2 in front of arms.

3 *Iron fragment*. L 2.7cm. At waist.

#### Grave112(figs43,80)

Female 45+. 322°.

3ft 10.5in x 2ft 1.5in x 3ft 3in (1.18 x 0.65 x 0.99m).

Crouched on right side, right arm bent and forward, left arm bent, under left femur with hand under chin.

1 *Bronze pin*, flat perforated head broken and curled over. L 9.4cm. Under chin.

2 *Iron ring*, flat, diam 5cm, and fragment of key curled over it. Under left heel.

#### Grave113(figs43,80)

Female 45+332°.

6ft 9in x 2ft 3in x 3ft 2in (2.06 x 0.69 x 0.97m).

Skull left, right forearm under right pelvis, left arm bent slightly outwards.

1 *Bronze applied brooch*, floriate cross design with four pellets in the centre and ribbed border. Concave plate, separate rim, remains of iron pin. Remains of bead thread (p 72, fig 14). Diam 3.7cm. Rim and brooch separate on right shoulder.

2 *Bronze applied brooch*, as 1. Diam 3.6cm. Under chin and on left collar bone.

3 *Beads*

Glass: a 2 4-sided folded cylinder colourless; b 3 cylinder rust red, striped with dark green translucent and yellow reticella trails; c 3 4-sided cylinder decomposed, striped with blue translucent and rust red trails.

Near chin.

4 *Flat triangle of iron* with hook at one end.

Radiograph shows possible rivet hole in one corner.  
L 5.4cm. Right of skull near edge of grave.

#### Grave 114 (figs 44,80)

Female 45+. 76°.

5ft 7.5in x 2ft 10.5in x 3ft 1in (1.71 x 0.88 x 0.94m).  
Disturbed bones and finds in the fill of grave 115 belonged to a female grave. At a depth of 0.4m in the natural gravel the disturbed bones and grave goods of 114 were visible, as well as the skull and spearhead of 115 *in situ*.

1 *Bronze small long brooch*, square head with basal notches and nicks on edges, three ring-and-dot stamps on head containing white material, lozenge foot with groove border, transverse lines and nicks on terminal. L 4.6cm. To left of 115 skull.

2 *Bronze small long brooch* (pl 12c), as 1, but without decoration except for border lines, iron pin. L 4.8cm.  
Under fragment of pelvis near foot of grave.

#### 3 Beads

Amber: a 1 wedged-shaped.

Glass: b 5 annular dark blue translucent. c 1 disc yellow, dark olive green translucent crossing trails, rust red dot and random trails.

Near skull.

4 *Bone pin*, flat, squared perforated head, L 4.7cm.  
Middle of grave. Sieved from fill.

5 a *Iron pin head fragment*. L 1.3cm.

b. *Iron pin fragment*. L 2.2cm.

#### Grave 115 (figs 44,80)

Male adult. 76°.

6ft 6in x 2ft 6in x 3ft 6in (1.98 x 0.76 x 1.07m).

Skull down to left, right arm slightly bent, right shin crossed over left.

1 a *Spearhead*, angular blade, split socket, transverse rivet, radiograph shows ring-and-dot inlaid each side of blade. L 24.3cm. Right of skull.

b *Conical spear ferrule*, made from the tip of an antler tine, iron rivet across open end. L 3.9cm. Right of lower legs.

2 *Iron buckle, kidney-shaped loop and tongue*, rectangular plate. Radiograph shows inlaid transverse strips on the loop, on the plate a dot and spiked ring in centre with a smaller ring each side, ring-and-dot in each corner. L 5.4cm. Left waist.

3 *Knife fragments*. L 16cm.

4 *Hone*, rectangular, sloping at one end. L 5cm.  
(Sand-silt greywacke).

5 *Iron purse mount*. Radiograph shows one animal head terminal remaining, L 13.5cm. (Part lost, drawn from radiograph.)

6 *Bronze tongue-shaped strap-end* base with silver top plate decorated with *repoussé* line along middle, one rivet. L 2.2cm.

3-6 together, right of right leg.

#### Grave 116 (figs 45,80)

Female 35-45. 337°.

5ft 6in x 2ft 3in x 2ft 9in (1.68 x 0.69 x 0.84m).

Skull down and to right, over right shoulder, left arm bent across body (forearm disturbed), legs slightly to right.

1 *Bronze small long brooch*, square, panelled head, spatulate foot, rows of triangular stamps on head and foot. Iron pin. L 8.3cm. On right collar bone under skull.

2 *Bronze small long brooch*, as 1, but broken in antiquity and a new spatulate terminal soldered on. L 7.8cm. The foot was a few centimetres away from the head and bow. At left shoulder.

3 *Bronze pin*, flat disc head. L 14cm. Left shoulder, 5cm above floor.

4 *Iron ?pin with hooked head* (shape from radiograph). L 2.8cm and 1.6cm. With 1.

#### 5 Beads

Amber: a 1 wedged-shaped.

Crystal: b 1 large disc faceted.

Crystal on right elbow with amber bead nearby.

6 a *Iron strip*, round one end, square the other. L 2.9cm. Beside right shin.

b *Iron rod fragment* - L 1.6cm. Left of left ankle.

c. *Iron fragment*. L 1.4cm. Outside left femur.

#### Grave 117 (figs 45,81)

Male 35-45. 62°.

7ft 1.5in x 3ft x 3ft 7in (2.17 x 0.91 x 1.09m).

Surrounded by large flints. The mandible flat but the skull turned right. Right hand on right shoulder, knees bent outwards.

1 a *Nail*. L 3cm. Mid top chest.

b. *Hobnail*. L 1.4cm. Mid waist.

#### Grave 118 (figs 45,81)

Juvenile 4-6. 349°.

D c2ft 5in (c 0.74m).

Skull fragmentary, right leg bent.

1 *Black burnished globular pot*, slightly everted rim, two horizontal lines at neck, a row of cross-in-circle stamps below and stamps in pendent triangle formation. Sand-tempered. Ht 11.6cm, diam mouth 8.5cm. Beside right shoulder.

2 *Knife*, type 1. L 9.8cm. Radiograph shows remains of a ?bronze band from sheath edge. Mid waist.

3 *Iron fragment*. L 2.7cm. By right foot.

#### Grave 119 (fig 81)

Juvenile 8-10. 330°.

4ft 10.5in x 2ft x 3ft (1.49 x 0.61 x 0.91m).

Some disturbance, but torso and right leg *in situ*. Left femur in place but no lower left leg, skull fragments between femurs.

No finds.

## Grave 120(fig 46,81)

Female 35-45. 71°.

5ft 10.5in x 1ft 10.5in x 2ft 5in (1.79 x 0.57 x c 0.74m).

Near to edge of lake.

Arms bent with hands mid waist.

1 *Gilt bronze saucer brooch* (pl 12i), four whirling legs centre, egg-and-dart border. Double pin holder, iron pin. Remains of flax bead thread (pp 72, 75). Diam 3.7cm. Right shoulder.

2 *Gilt bronze saucer brooch*, as 1, broken rim. Diam 3.7cm. Left shoulder.

3 *Beads*

Glass: a 3 annular dark blue translucent; b 1 cylinder rust red; c 2 disc rust red, striped with dark green translucent and yellow swirled trails.

Between 1 and 2.

## Grave 121(figs46,81)

Male 15-25. 57°.

5ft 9in x 3ft x 3ft 6in (1.75 x 0.91 x 1.07m).

On right side, arms bent, right hand on right shoulder, left hand on right femur, legs drawn up.

1 *Black burnished pottery bowl*, high shoulder, vertical neck. Brown-black fabric with white grits. Ht 10.5cm, diam 14.7cm. Contains three eggs. Right of skull.

2 a *Nail*. L 4.2cm. Edge of grave at top of head.

b *Nail* L 3.8m. Melted glass fragments (not illustrated). Mid chest.

c *Nail* L 6.1cm. Edge of grave by right knee.

## Grave 122(figs46,47,81)

Male 25-35. 333°.

11ft 6in x 4ft x 4ft (3.51 x 1.22 x 1.22m).

Large stones were placed inside the grave at the edge, and the fill contained many split animal bones. Skull down to left.

1 *Large black burnished globular pot* (pl 8c), narrow neck, six horizontal lines at neck, ten circular bosses on shoulder, three or four vertical lines in between each boss. Ht 23.5cm, diam mouth 15cm. Right corner of head of grave.

2 *Bronze Roman coin* (see p 87). Middle of head of grave.

3 *Glass claw beaker* (pl 9c), yellow-brown, splayed rim, vertical walls, bell-beaker shape with folded foot, punty mark on base. Horizontal trails, fourteen turns up from base, twenty-four turns dropped on in middle and smoothed near rim. Two rows of five claws each, the top row in the plain zone and the lower row partly over the lower horizontal trail zone. Vertical indented trails on claws: in top row two curled under at top, four of lower row curled under at top. Small bubbles, wall c1mm thick. Ht 16.4cm diam rim 10.1 cm. Left corner of head of grave.

4 a *Spearhead*, angular, straight-sided blade, split socket. *Fraxinus* sp (ash) from mature timber. L 23.5cm. Right of skull 15cm above floor of grave.

b *Ferrule*, conical with rivet hole. L 5.6cm. Beside right leg, 30m above floor of grave.

5 *Bronze pin fragment*. L 3.7cm. With ferrule.

6 *Flat oval iron fragment*. L 4.4cm. By right hand.

7 *Sword*, bronze plate with diagonal cross decoration and remains of bronze band c 2.4cm wide at top of scabbard. A semispherical boss covered with brass sheet with central hole, near middle of blade adjoining bronze. One bronze U-sectioned binding strip, L 10cm on one edge, 21.4cm from shoulders, transverse line decoration. Bronze on underside of top of scabbard (lost). Two iron fragments, *Privets*, with textile on right side of sword and touching 21cm from top of tang. Three rows of diagonal pattern-welding visible on radiograph. Iron at sword tip = ?rivet. Mineral-preserved horn grip. Remains of scabbard, fleece-lined wood, *Alnus* sp (alder). L 84.4cm, tang L 10cm, W 5cm. Along left side of torso.

8 *Knife*, type 1. L 14cm. Under spine at waist.

9 a *Shield boss*, flat button top, straight-sided dome, two double concentric lines on dome, incurved waist, wide flange, five disc-headed rivets. Ht 8.8cm, diam 16.2cm.

b *Grip*, upturned sides in middle, bifurcating curled ends (visible on radiograph but now lost), wood grain lengthwise in middle, transverse at end *Salix* sp (willow) or *Populus* sp (poplar). L 15.5+cm. Over feet.

10 *Iron strip*, textile impression. L 10.1cm. Rusted to underside of 4a.

## Grave 123 (figs 48,81)

Infant.

D c3ft t3in (c 0.99m).

Between edge of lake and 1952 excavation limit.

Skull fragments, grave disturbed.

1 *Small black burnished pot*, three horizontal grooves at neck with row of rosette stamps below; five vertical bands on lower half, three with impressed segments of the rosette stamps, two with scored zigzags, single and double line. Red fabric with grits. Ht 7.3cm, diam mouth 7.6cm.

## Grave 124 (figs 48,81)

Female 35-45. 117°.

One edge only visible. D 2ft 5in (0.74m).

One large stone behind skull, one at head of grave. On left side, left arm bent, hand in front of pelvis, right arm bent, hand under chin, legs bent.

1 *Tinned bronze annular brooch*, made from band overlapped and riveted, transverse scoring decoration, perforation for iron pin (now missing), drawing from index card. The rivet must have broken, for a piece of yam was still stretched across at that point. Diam 4.6cm.

2 *Tinned bronze annular brooch fragment*, as 1. L 3.3cm.

1 and 2 together under chin,

3 a *Bronze wrist clasp*, hook half, sheet bronze, two

perforations, lengthwise ridge, stamped dot decoration. L 3.7cm.

b *Bronze wrist clasp*, eye half, as a. L 3.7cm.

c *Bronze wrist clasp*, eye half, two perforations, stamped ring decoration, strip of ?solder lengthwise. L 3.4cm.

d *Folded bronze sheet*, two hollow rivets. L 8mm. 3.2 x 3.2cm.

4 *Knife fragments*. L 7.7cm and 4.9cm.

5 One small roughly-shaped amber *bead*.

3, 4, and 5 over right hand. 1-5 together in front of neck.

6 a *Nail*, conical head. L 7.2cm. Behind scapula.

b *Bent nail fragment*, square section. L 2.7cm. Behind mid back.

c *Nail*. L 4.9cm. On right foot.

7 a *Iron buckle loop and tongue* with rectangular base. W 2.4cm.

b *Two flat iron fragments* of plate; one, L 3.2cm, probably joined another. (Lost, drawn from index card.) L 1.6cm. a and b on left ankle.

#### Grave 125(fig182)

Male 35-45. 77°.

6ft 6in x 2ft 9in x 3ft llin (1.98 x 0.84 x 1.19m).

Skull down to right.

No finds.

#### Gravel26 (figs49,82)

Female 25-35. 76°.

7ft x 2ft 10.5in x 3ft llin (2.13 x 0.88 x 1.19m).

Left arm and left pelvis disturbed and missing. Skull down to right, right forearm across waist.

1 *Gilt bronze saucer brooch* (pl 12h), five running scrolls chip-carved round central boss which is surrounded by a nicked border, dot-stamped outer border. Diam 3.3cm. Right of skull, 15cm above floor.

2 *Gilt bronze saucer brooch*, as 1. Diam 3.3cm. On its side, under chin.

3 *Gilt bronze great square-headed brooch* (pl 10b), broken and mended in antiquity. Mask border with whirligig corners, inner raised zigzag border and inner panel Style 1 animal ornament, two rectangular panels in middle; grooved bow with zigzag mid rib ending in discs, and animal ornament outer borders, downward-biting animal heads each side with human hand under beak, raised zigzag border on divided foot, Style 1 animal ornament in panels, finial mask with bifurcating beard and long curling hair. The brooch had been broken and mended with a bronze plate behind the top of the foot with a new pin catch. L 11.5cm. Horizontal, mid chest.

4 *Iron purse mount fragments*. Radiograph shows possible strip of inlaid metal at one point. L 10.2cm. With 3.

5 *Beads*

Amber: a 1 wedge-shaped.

Glass: b 1 disc yellow; c 1 disc dark blue translucent;

d 2 annular dark blue translucent.

Near 3.

#### Grave127(figs49,82)

Female 25-35 and foetus fragments in pelvis. 62°.

6ft 7.5in x 2ft 4.5in x 4ft 5in (2.02 x 0.72 x 1.35m).

Skull down to right, arms bent, right hand on left chest, left hand in pelvis, knees slightly bent to right. Fragments of infant skull in pelvis.

1 *Knife*, type 1. L 12.5cm. Half under right shoulder.

2 *Tinned bronze disc brooch*, perforated centre, nicked edges, four ring-and-dot stamps, concentric circle decoration with a row of dots in two zones. Diam 3.3cm. Right shoulder.

3 *Tinned bronze disc brooch*, as 2. Diam 3.4cm. Left shoulder.

4 *Lead pattern for mould of ?annular brooch*. Part of a flat ring decorated with triangular indentations. Two opposite, broken-off projections have the appearance of a pin. Diam 2.5cm. Top left chest.

5 *Beads*

Glass: a 2 disc light green-blue translucent; b 2 annular black; c 1 barrel decomposed, striped with dark trail (not illustrated); d 1 barrel decomposed, rust red crossing trails and blue translucent dots; e 1 disc rust red, dark green translucent, rust red and yellow swirls, rust red circumference trail; f 2 disc dark blue-green translucent, white dots (decomposed); g 1 disc dark blue translucent, speckled with rust red dots (not illustrated).

Vertical row on sternum.

6 *Iron pin*, shepherd's crook head. L 10cm. Right waist.

7 *Half iron ring*. Diam 2.1cm. Outside left femur.

8 *Nail*. L 3.8cm Between ankles.

#### Gravel28 (figs50,82)

Male 25-35. 74°.

7ft 9in x 3ft 3in x 4ft 5in (2.36 x 0.99 x 1.35m).

Overlaps grave 101 at one corner, but there was no clear stratification.

Skull down to left, left hand in pelvis, right hand on left elbow. Right ankle over left.

1 *Black burnished pot*, narrow neck, everted rim, eight grooves on shoulder, wide carinated body, flat base. Ht 20cm, diam mouth 12.3cm. Touching right side of skull.

2 *Glass cone beaker* (pl 9d), very light green, everted rim, rounded tip, punty mark on base, eighteen white marvered trails dragged down to tip and dragged also towards rim with a sideways twist. Bubbly. Ht 18.8cm, diam mouth 8.3cm. Between top of skull and head of grave.

3 a *Knife*, type 1. L 13.7cm.

b *Bronze U-sectioned strip* with transverse scoring decoration. L 2.7cm.

c *Bronze plate* with two dome-headed rivets. L 1cm. Outside right pelvis, b and c over knife grip.

4 a *Iron buckle loop and tongue*, tinned bronze plate, subrectangular with rivet hole in two corners and one near middle. 3.4 x 2.8cm.

b *Tinned bronze counter plate*, two rivets, one with rectangular washer. 3 x 1.6cm. a on sacrum, b on right pelvis.

#### Grave 129 (figs 50,82)

Female 15-25. 248°.

Outline not visible. D 2ft 7in (0.79m).

Skull fragmentary to left, arms bent, hands in pelvis.

1 *Knife fragments*. L 6.4cm and 4.2cm. Mid waist.

2 *Iron disc*. Diam 2.9cm. By feet.

3 *Two iron strips*. L 15.3cm and 10.6cm. Right of pelvis.

#### Grave 130 (fig 82)

Male 15-25. 74°.

6ft x 2ft 7.5in x 3ft 3in (1.83 x 0.08 x 0.99m).

Skull down to right, left arm slightly bent.

No finds.

#### Grave 131 (fig 82)

Adult. 67°.

3ft 9in x 2ft 3in x 3ft 8in (1.14 x 0.69 x 1.12m).

Stones surrounding grave. Half of grave destroyed, fragmentary leg bones only remaining (lost).

No finds.

#### Grave 132 (figs 51,82)

Female 35-45. 331°.

15ft 10.5in x 3ft 7in x 3ft 9in (1.79 x 0.91 x 1.14m).

Skull down to right, arms bent, right hand on top right chest, left hand mid waist, right foot over left.

1 *Iron ?key*. L 10.5m. Right of skull.

2 *Bone pin*, point broken, L 9.1cm. At top of skull.

3 *Bronze Roman coin* (see p 87). Outside right elbow.

4 *Tinned bronze disc brooch*, ring-and-dot stamps, one in centre, seven in outer zone. Diam 3.4cm. Right shoulder.

5 *Tinned bronze disc brooch*, as 4. Left shoulder.

6 *Beads*

Amber: a 4 small roughly-shaped and fragment.

Glass: b 1 disc dark blue translucent; c 4 annular dark blue translucent.

At neck.

7 *Iron pin fragments*. L 2.2cm and 1.5cm. Near beads.

8 *Iron bar*. Radiograph shows two or more slightly denser transverse bands and possible animal head terminal. L 6.8cm. 7.5cm above chest.

9 *Bone comb*, one-sided, double triangular plate fixed with iron rivets, ring-and-dot decoration. L 15.5cm. Inside left humerus.

10 *Iron buckle loop and tongue*. Diam 2.7cm. *Fragments* of a ?second buckle (not illustrated). Left ribs.

11 *Glass cone tip fragment*, light green, bubbly, punt mark on tip. L 1.8cm. Under right shoulder.

#### Grave 133

Foetus 36-40 weeks. 322°.

Skull *in situ*, rest disturbed, partly destroyed by excavation of trackway.

No finds.

#### Grave 134 (figs 51,83)

Male adult. 72°.

2ft 6in x 2ft 6in x 5ft 6in (0.76 x 0.81 x 1.68m).

Most destroyed, lower legs *in situ*.

1 *Spear ferrule*. L 9.2cm. Between toes and foot of grave.

#### Grave 135 (figs 52,83)

Female 45+. 161°.

6ft x 2ft 6in x 3ft (1.83 x 0.76 x 0.91m).

On left side, arms bent, right hand left of pelvis, left hand on right forearm, body bent at hips.

1 *Bronze small long brooch*, cruciform head with wide, flat knobs, spatulate foot, mouldings on bow and foot, ring stamp decoration on head and arc stamp on foot. L 8.4cm. On right shoulder.

2 *Gilt bronze small Long brooch*, cross pattee head, longitudinal middle groove on bow, spatulate foot, arc stamp decoration on head and foot. L 7.7cm. On left shoulder.

3 A *Beads*

Amber: a 1 flat (fragments, not illustrated);

Glass: b 1 disc white, striped with dark blue translucent trail; c 1 barrel white, striped with blue translucent trail; d 1 disc dark green translucent and yellow reticella, rust red, dark green translucent and yellow reticella crossing trails and blue translucent dots.

B *Bronze fragment*, brooch pin catch.

Between 1 and 2.

4 *Bronze wrist clasp*, hook-and-eye, with *repoussé* sheet, running spiral with beaded borders. Hook on spine, eye on left ribs. L 3.7cm.

5 *Bronze wrist clasp*, hook-and-eye, rectangular with two perforations, remains of applied *repoussé* sheets. L 3.8cm. By right wrist.

6 *Bronze small long brooch*, cruciform head, flat knobs, spatulate foot with arc stamps. L 8.1cm. Under right hand

7 a *Knife*, type 1. L 15.8cm. b *Iron ring fragments*. Diam 3.9cm. Outside left femur.

8 *Iron buckle loop and tongue*. W 2.2cm. Double bronze plate, one rivet. Near 7.

9 a *Iron strip* with groove along middle. 7.3 x 1.7cm. At edge of grave outside left elbow.

b *Nail*. L 5cm. Outside right pelvis.

c *Nail*. L 4.6cm. At edge of grave outside left pelvis.

#### Grave 136 (figs 53,83)

Female infant 12-18 months. 319°.

D 3ft (0.91m).

On right side, legs drawn up.

1 *Black burnished pot* with carination, two rows of

quartered stamps below rim, row of triple dash stamps and row of quartered stamps, double line on carination and pendent triangles of quartered stamps, with a row of triple dash stamps within. Red fabric, many white grits. Ht 9.4cm, diam mouth 9cm. Behind skull.

#### 2 Beads

Amber: a 1 flat, lengthwise perforation.

Glass: b 1 annular dark blue translucent.

At neck.

3 *Roman bronze coins*: a one coin; bi-ii. two coins; ci-v. five coins; d one coin (see p 87).

These coins were placed in four lots, c 4.5cm from the foot of the skeleton; a *flat iron fragment*, L 3.9cm (not illustrated) nearby.

### Grave 137 (figs 53,83)

Male adult. 161°.

5ft x 2ft 4in x 4ft 6in (1.52 x 0.71 x 1.37m).

On right side, arms bent with right hand under chin, left hand on right elbow, legs bent.

Animal bones in fill (see p 68).

1 *Hobnail*, L 1.2cm.

2 *Iron bar*, rectangular in section, bending and widening at one end 7.5 x 1.1 x 0.4cm to 2.2cm.

1 and 2 under left tibia

### Grave 138

Foetus 36-40 weeks.

D 4ft 3in (1.30m).

Disturbed bones.

No finds.

### Grave 139

Infant 0-2 months.

D 3ft 10in (1.17m).

Disturbed bones.

No finds.

### Grave 140 (figs 53,83)

Male 45+. 54°.

7ft 6in x 3ft x 4ft 9in (2.29 x c 0.91 x 1.45m).

Stone at head and one at right of grave at edge of grave 143 which 140 disturbed; a row of stones along left side of body to cut off grave 141 which was also disturbed when 140 was dug.

Top of skull rolled back, left side of body, ribs, arm, and pelvis disintegrated, right arm slightly bent.

1 *Nail*, tip curled, square section. L 6.5mm. Touching right skull.

2 *Spearhead*, leaf-shaped with pronounced median rib, narrowing into square-sectioned point, closed socket. Inlaid rings on each side of wide part of blade. L 40.4cm. Left of skull.

3 *Iron buckle Loop and tongue*, apparently ridged, traces of strip inlay on radiograph. Diam 5.5cm. Mid waist.

4 *Bronze tweezers*, transverse line decoration near

moulded loop end L 9.1cm.

5 *Iron purse mount fragments*, rivets in middle of curved side. 8 x 1.6cm.

6 Knife, short and broad, type 1. L 7cm.

7 a *Iron fragment*, L 2.2cm, containing:

b *Bronze ring*, diam 0.9cm.

4-7 together inside left forearm.

In fill:

Two fragments of *black pot*, flat base and straight, nearly vertical wall. Ht c 8cm, diam c 10cm. Base left of skull, other sherd mid chest. This may have been a complete pot at a higher level between the skull and spearhead

### Grave 141 (figs 54,83)

Female infant 2-3. 73°.

D 4ft 3in (1.30m).

Skull, some ribs and arm bones *in situ*, some bones in fill of grave 140. On left side.

1 One flat bone or antler *bead*, square with incurved sides. W 1.8cm. At neck.

### Grave 142 (figs 54,83,pl5b)

Male 25-35 and horse. 340°.

9ft x 5ft 6in x 4ft (2.74 x 1.68 x 1.22m).

Overlaid by cremation 28 at depth of 2ft (0.61m). A large smooth red stone at head of grave.

Teeth only remained of skull and the main bones of arms and legs, right arm bent in.

Horse grave 2: the horse lying on its left side beside the man, forelegs bent, hind legs doubled up.

1 a *Spearhead*, angular blade, split socket, transverse rivet. Radiograph shows possible traces of inlaid rings at widest part. Mineral-preserved wood in socket, *Fraxinus* sp (ash). L 22.4cm. Right of skull position.

b *Conical ferrule*. L 9cm. 15cm above floor level, near right corner of foot of grave.

2 *Black burnished, narrow-mouthed pot* (pl 8d), slightly everted rim, conical top, row of double ring stamps between lines at top, zone of triple-lined zigzags, two rows of different cross-in-circle stamps, vertical bosses on carination framed by double zigzag lines. Sand-tempered Ht 22.4cm, diam mouth 10.8cm. Left of skull position.

3 *Knife*, type 1. L 11.2cm. Mid waist.

4 a *Shield boss*, tall knob, straight dome, incurved waist, narrow sloping flange, five small disc-headed rivets. Wood grain on one side of boss at right-angles to grip. Ht 8.5cm, diam 16.5cm.

b *Grip*, fragmentary, upcurved sides. L 12.5cm. Transverse wood grain at rivet (0.8cm thick) and at the other end lengthwise grain in middle for 6.8cm. The lengthwise grain is only c 1.3cm wide, ie it does not fill the cavity, and this is probably the reason for the leather binding strips visible on the outside. On left knee.

**Horse grave (figs 54,83,pl 5b)**

1 a *Iron bit*, side piece slightly curved, L 13.1cm, splayed at one end, diamond-shaped with rolled tip the other end, ring in middle; two-link bar bit looped together on one side of ring; two double tabs on the other side of the ring. In the horse's mouth on the right side, the point upwards.

b *Iron cheek piece* with two tabs interlinked in middle ring. On opposite side of horse's mouth.

2 a A separate iron ring with interlinked tab rusted to lb, part of a *strap connector* as 2b

b *Strap connector*, two iron double tabs to take straps c 1cm wide, each with two rivets and looped over a ring. L 8.5cm. On top of back of horse's skull.

3 *Tinned bronze disc-headed stud* to penetrate thickness of 8mm. Diam 13mm. On skull behind eye.

4 *Nail*. L 3.8cm. Above the skull.

**Grave 143 (figs 55,83)**

Infant 2-4 months. 336°.

2ft lin x 1ft 10in x 4ft 6in (0.64 x 0.56 x 1.37m).

Cut by grave 140, a large stone placed at edge between. Remains of skull, ribs, humeri, and femurs *in situ*.

1 *Nail*, disc head L 2.5cm. Top of skull.

**Grave 144**

Infant 0-1 month.

D 3ft 9in (1.14m).

Disturbed bones, partly destroyed by excavation of trackway.

No finds.

**Grave 145 (figs 55,84)**

Female 35-45. 79°.

6ft 3in x 2ft x 5ft 9in (1.91 x 0.61 x 1.75m).

Skull down to left, right hand over left in pelvis.

1 *Black burnished pot*, globular, sharply carinated shoulder and slightly everted rim, rounded base; six horizontal lines round neck and shoulder with pendent triangles below, two ornamented with chevrons alternating with two filled with stab marks from a pointed tool. Ht 14.5cm, diam mouth 13cm. Right of skull.

2 *Triangular bronze repoussé* sheet bucket mount, (pl 13c), a leg and claw in each top corner with a large inverted mask centre, a smaller mask with radiating hair below, circular extension with rivet hole at end, beaded border. L 4.3cm c 4cm above right collar bone.

3 *Gilt bronze square-headed brooch*, plain border to head with beaded rim and beaded diagonal lines at corners; middle panel containing chip-carved profile eye and two legs, grooved bow, downward-biting heads with outward-curling beaks at lower end of bow, zoomorphic fragments in lozenge panel in middle of foot and spatulate terminals. Iron pin at back. L 6.8cm. Right chest, foot up.

4 *Gilt bronze square-headed brooch* (pl 10c), as 3. Left

chest.

5 *Beads*

Amber: a 1 wedge-shaped

Crystal: b 1 disc

Glass: c 8 annular dark blue translucent; d 1 disc dark blue translucent, speckled with missing dots (decomposed, not illustrated).

Amber and glass beads at neck, crystal bead mid chest.

6 *Iron pin fragment*. L 2.7cm. Between 3 and 5.

7 *Knife*. Possible leather sheath. L 9cm. Under left pelvis.

8 *Iron ring*, round in section. Diam c 5cm. Under right pelvis.

**Grave 146 (figs 55,48)**

Juvenile 6-8. 231°.

Outline not traceable, D3ft 9in (1.14m).

Skull right, fragmentary skeleton.

1 a *Nail*. L 5.2cm. Right of jaw.

b, c *Nail fragments* (not illustrated). Behind skull. .  
*Nail* (not illustrated). By left foot.

**Grave 147 (figs 55,84)**

Juvenile 6-8. 357°.

5ft x 2ft 3in x 3ft 9in (1.52 x 0.69 x 1.14m).

On right side, arms bent, legs forward

1 *Knife*, type 3. L 10cm. Mid left chest.

**Grave 148 (figs 55,84)**

Female juvenile 3-6. 74°.

4ft 3in x 1ft 9in x 4ft 9in (1.30 x 0.53 x 1.45m).

Skull down to right, right arm bent, hand mid chest.

1 *Small black burnished bowl*, rounded contour, everted rim, flat base, four horizontal lines above greatest diameter with five groups of three stamps at regular intervals below; two are rosette stamps, two a square trellis, and one an oval trellis. Black ware, white grits. Ht 9.2cm, diam mouth 11cm. Touching top of skull.

2 *Bronze small long brooch* (pl 12a), square head, ring-and-dot stamp in middle of head and off-centre on foot, border of small ring stamps on head and nicked edge; bow slightly faceted, two dot stamps on lozenge foot with ribbed terminal. L 4.7cm. Right shoulder, foot up.

3 *Iron pin or key fragment* with curled-over head (Radiograph shows a denser strip.) L 4cm at neck.

4 *Beads*

Glass: a 1 disc rust red; b 1 disc very light green-blue translucent; c 1 disc decomposed (not illustrated); d 1 annular light blue translucent; e 1 annular blue translucent; f 2 annular dark blue translucent; g 1 disc dark blue translucent, speckled with missing dots (decomposed, not illustrated).

On left collar bone.

5 *Bronze wire*, three fragments, L 3.3cm, 3.1cm, and 1.7cm. Left waist.



6 a *Head of nail*. L 2cm. Right foot.  
b *Nail*, bent. L 5cm. Left foot. a and b are parts of the same nail.

#### **Grave 149 (figs 56,84)**

Male 15-25. 156°.

6ft 6in x 2ft 6in x 3ft 6in (1.98m x 0.76 x 1.07m).

On left side. hands crossed in front of pelvis, legs drawn up.

1 *Roman bronze coin*. Diam 1.6cm (see p 87). On skull.

2 a *Sherd*, vertical rim. Black fabric, red outside. Mid chest.

b *Black burnished wall sherds* near base, wiped interior (not illustrated). On left side of torso near edge of grave.

3 a-e. *Five nails*. Max L 5.4cm (one illustrated). At head of grave, mid chest, beside pelvis and near edge of grave at ankle level.

f *Flat iron fragment* (radiograph shows a rectangular centre). 4 x 3cm. with nail at foot of grave.

#### **Grave 150 (fig 56)**

Female. At least two infants, 2-4 months. 76°.

D 3ft (0.91m).

Disturbed bones, only one infant visible in ground

1 *Beads*

Amber: a 1 small flat lengthwise perforation.

Glass: b 1 annular dark blue translucent; c 1 barrel rust red, olive green translucent and yellow reticella circumference trail.

#### **Grave 151 (fig 84)**

Infant 1-2 months. 67°.

3ft 6in x 2ft x 5ft (1.07 x 0.61 x 1.52m).

Remains skull, ribs, arms, one leg.

No finds.

#### **Grave 152 (fig 84)**

Female 35-45. 62°.

3ft 9in x 1ft 9in x 5ft (1.14 x 0.53 x 1.52m).

Head and neck upright against head of grave, left arm across body, left leg crossing over right. Permission refused to excavate foot of grave.

No finds.

#### **Gravel53 (figs 56,84)**

Female 15-25. 63°.

6ft 6in x 2ft x 5ft (1.98 x 0.61 x 1.52m).

Skull right, arms bent, left hand under right elbow, right hand in pelvis, right leg slightly bent.

1 *Black burnished hollow-necked bowl* with a deep groove above a carination. Red patches. Sand-tempered Ht 10cm, diam mouth 12cm. Right of skull.

2 *Bronze small long brooch*, square head, moulding on foot, spatulate terminal. L 5.8cm. On right shoulder, foot up.

3 *Bronze cruciform brooch* (pl 11b), top full round

knob with transverse lines, winged head with rudimentary side knobs, moulding across foot and spatulate terminal. L 6.4cm. On left shoulder, foot up.

4 *Beads*

Glass: a 1 annular dark blue translucent, rust red zigzag trails (decomposed, not illustrated); b 1 disc rust red, dark blue translucent trails crossing white trails; c 1 disc decomposed, crossing trails missing; d 2 cylinder decomposed, rust red trails crossing missing trails, rust red dots in yellow rings. e 1 disc rust red, dark green translucent and yellow swirled circumference trail; f 1 disc dark blue translucent, speckled with rust red dots.

Top right chest.

5 *Nail*, square section. 6.4cm. Left of skull.

#### **Grave 154 (figs 56,84)**

Female infant 1-2. 153°.

D 3ft 6in (1.07m).

On right side, arms and legs bent.

1 A *Beads*

Glass: a 2 small disc yellow-green; b 1 fluted cylinder green.

B Fragment very light green translucent glass, folded rim, used as a bead

At neck.

2 *Coiled bronze wire bracelet*. Diam c 4.5cm. On left forearm.

#### **Grave 155**

Infant 0-2 months.

D 3ft 6in (1.0-7m).

Disturbed bones.

No finds.

#### **Grave 156**

Infant 0-2 months.

D 3ft 6in (1.07m).

Disturbed bones.

No finds.

#### **Grave 157 (figs 57,85)**

Male 35-45. 83°.

7ft 6in x 3ft 3in x 3ft (2.29 x 0.99 x 0.91m).

Skull down to left, arms bent, left hand at right waist, left shin over right.

1 *Spearhead* (pl 7b), left side of blade depressed and reserved rim round edge of blade; iron binding round base of socket and at junction with blade; rivet across end of socket; one ring-and-dot, ?bronze, inlaid on lower right side of blade on each face. L 28.4cm. Left of skull.

2 *Iron pin*, rectangular head L 4.3cm. Outside left humerus.

3 *Bronze strap-end* (pl 13b), tongue-shaped with two rivets fastening a backplate at the square end; engraved Style 1 crouching animal in rectangular panel. L 3.9cm.

4 *Iron purse mount*, radiograph shows buckle strap attachment in middle with rivet hole. L 11.1cm.

5 *Knife*, type 1. L 14.8m.

3-5 under right humerus.

### Grave 158 (figs 57, 85)

Infant 2-3. 351°.

3ft x lft 9in x 4ft 4in (0.91 x 0.53 x 1.32m).

On right side, arms straight, hands together, legs bent. The grave was 0.25m deep in the gravel and the skull projected over the side, the arms and knees being similarly high.

1 *Small pot*, rim missing, traces of small boss. Red and black surface. Sand-tempered Ht 5.5+cm. Behind back.

2 a *Nail*. L 5cm. Behind skull.

b *Nail*. L 3.4cm. Between 2a and edge of grave.

### Grave 159 (fig 57)

Female infant. 1°.

D 3ft 6in (1.07m).

Disturbed bones.

1 *Beads*

Glass: a 1 disc white; b 1 small annular brown translucent; c 1 annular brown translucent; d 1 pentagonal short cylinder yellow.

At neck.

### Grave 160 (figs 57, 85)

Female 35-45. 34°.

6ft x 3ft x 4ft 4in (1.85 x 0.91 x 1.32m).

Skull left, right arm bent and under body, hand left waist, legs forward at an angle to the body.

1 *Bronze wrist clasp*, hook-and-eye, perforation in corners, both sides decorated by rows of raised and punched dots, the small ones also punched from the back. L 3.5cm. Mid chest.

2 *Bronze wrist clasp*, eye half, as 1. L 3.6cm. Outside left humerus.

3 *Iron ring*. Diam 5.5cm.

4 *Tinned bronze small long brooch*, cross pattee head, spatulate foot. L 6.1cm.

5 *Tinned bronze small long brooch*, as 4. L 5.9cm.

6 *Knife*, type 1. L 10.6cm.

7 *Iron ring fragments*. Diam 2.5cm.

3-7 together right waist.

### Grave 161

?Male adult.

Human bones discovered after the excavation (lost).

Position on plan approximate.

### Dog grave 2 (figs 57, 85)

D 3ft (0.91m).

Large stones to the south and below.

A small dog, lying on its right side (see p 70).

1 *Nail*, square section. L 2.8cm. Amongst the bones.

2 *Roman bronze coin* (see p 86).

3 *Light blue-green glass rim fragment*.

2 and 3 were 45cm above the bones.

## Anglo-Saxon cremations

### Cremation 1 (fig 58)

Adult, probably male.

Burnt bones inside and outside pot, near and above grave 5.

1 *Small buff und black bowl*, finger-impressed neck, rounded base, vertical wall. Soft black sandy fabric with white flecks. Ht 10.3cm, diam mouth 11.2cm.

### Cremation 2 (fig 58)

Adult.

D lft 6in (0.46m). Decorated pot inside a plain pot.

Burnt bones and small scraps of animal bone (see p 70).

1 *Wide-mouthed bowl* (pl 8e), vertical wall. Black with red patches. Sand-tempered Ht 9cm, diam mouth 12.6cm.

2 *Pot*, slightly everted rim, horizontal rows of five-segments-in-circle stamps separated by double lines, four vertical bosses with intervening panels of stamps in pendent triangles. Ht 10.6cm, diam mouth 8.4cm.

### Cremation 3 (fig 58)

Adult.

D lft 10in (0.56m). Half of a pot standing on gravel layer contained burnt bones and item 2. Nearby the base of a large Roman pot (cremation 14). Rest of sherds of the Saxon pot were found in the next season's excavation near grave 87.

1 *Black burnished globular pot*, everted rim, flat base. Three neck lines below rim, row of trellis-in-circle stamps with dot stamps between, row of segmented circle stamps, slanting vertical and horizontal lines and trellis-in-circle stamps below. Grit- and vegetable-tempered Ht c 32.5cm, diam mouth 13.4cm.

2 *Nail*, square section. L 5.5cm.

### Cremation 4 (fig 58)

Adult

1 *Small, black roughly-made pot*, vertical wall. Sand-tempered Ht 6.4cm, diam mouth 7.5cm.

### Cremation 5 (fig 58)

Female.

D 2ft 9 in (0.84m). Disturbed burnt bone fragments.

1 *Black burnished, wide, squat bowl*, vertical wall. Sand-tempered Ht 7cm, diam mouth 12.7cm.

2 *Beads*

Glass: a 1 small disc rust red; b 2 disc rust red, one with square perforation; c 1 small disc yellow; d 1 disc light green

e 1 small annular dark blue translucent; f 1 short biconical dark blue translucent.

3 *Nail*. L 6.7cm.

#### **Cremation 6 (fig 58)**

Adult.

D 3ft (0.91m). Pot contained burnt bones, sheep molar, and item 2.

1 *Black burnished globular pot*, slightly everted rim, flat base. Zone of cross-in-circle stamps on shoulder arranged in triangular or arc patterns. Reddish fabric Ht 24cm, diam mouth 16.8cm.

2 Fragments of *sheet bronze*, L 5.3cm, 2.8cm, and 3.1cm, and other fragments (one illustrated).

3 *Nail fragment*. L 2.9cm.

#### **Cremation 7 (fig 59)**

Adult.

D 1ft 11in (0.58m). Pot base contained burnt bones and item 2. Animal bone, Romano-British sherds, and items 3-5 nearby.

1 *Black burnished pot fragments*, flat base. Ht 8.7+cm. Black fabric, white grits.

2 *Sheet bronze fragments*. L 8cm and 5cm.

3 *Melted iron lumps* with burnt bone fragments. Radiograph shows possible small iron buckle and rectangular plate with rivet hole. L c 2cm (not illustrated).

4 *Iron bar* (not burnt). L 8.6cm.

5 *Flat, L-shaped iron fragment*. L 4.8cm.

6 Two *nails* (not illustrated).

#### **Cremation 8 (fig 59)**

Adult.

D 1ft 6in (0.46m).

1 *Large black burnished pot*, four horizontal lines on shoulder, a row of cross-in-circle stamps below with a zigzag framed in double horizontal lines below that, cross-in-circle stamps underneath. Few large grits. Ht 23+cm, diam base 12cm.

2 *Iron buckle*, oval loop with transverse grooves, narrow tongue with grooves at base. Diam 2.7cm.

#### **Cremation 9 (fig 59)**

Adult.

D 2ft 9in (0.84m). Pot containing burnt bones.

1 *Black burnished globular pot*, short, slightly everted rim. Sand-tempered Ht 17cm, diam mouth 11.2cm

#### **Cremation 10 (fig 59)**

Adult, probably male.

D 2ft 6in (0.76m). Pot contained burnt bones and item ?.

1 *Black burnished narrow-mouthed pot* (pl 80, everted rim, horizontal grooving, eleven triangular bosses on the shoulder, vertical or chevron grooving in between. Sand-tempered Ht 15cm, diam mouth

9.8cm.

2 *Nail fragment*. L 3.4cm.

#### **Cremation 11 (fig 60)**

Adult.

D 2R 9in (0.84m). A pit just big enough for the pot was dug 8cm into the natural gravel. Pot contained burnt bones, bone fragments and teeth of an animal (see p 70), four small Romano-British sherds.

1 *Black burnished wide-mouthed pot*, vertical rim. Black fabric, white grits. Ht 15.5cm, diam mouth 15.3cm.

#### **Cremation 12 (fig 60)**

Juvenile

D 2R 5in (0.74m). Pot contained items 2, 3, cow vertebra, and three charred fragments of pottery.

1 *Black burnished globular pot*, slightly everted rim, flat base. Ht 17cm, max diam 19cm.

2 *Bone comb fragment*, rectangular, double-sided W 4.5cm.

3 *Iron dome-headed rivet*. L 1.2cm.

#### **Cremation 13 (fig 60)**

Adult.

D 2ft (0.61m). Pot contained large bone fragments.

1 *Black burnished narrow-mouthed pot*, horizontal lines at neck, vertical bosses in pairs on shoulder with a curving diagonal boss in between, one of them slashed and all framed by double lines. Sand-tempered Ht 19cm, diam mouth 13.4cm.

#### **Cremation 14 (pl 6b, c)**

No bones. A posthole nearby, 0.35m and 0.38m, deep had contained a post c 18cm in diameter with a flat stone inserted vertically each side.

1 *Wheel-thrown pot*, flat base. Ht 19+cm, max diam 23cm (lost).

#### **Cremation 15 (fig 60)**

Adult.

D 1ft 6in (0.46m). Pot containing burnt bones.

1 *Black burnished pot*, rim missing, seven grooves below neck, nine vertical depressions on carination, vertical grooves between depressions. Very sandy fabric Ht 13.5+cm.

#### **Cremation 16 (fig 60)**

D 2ft (0.61m). Pot contained burnt bones, two sherds, and charcoal fragment. It rested on a pressed gravel layer c 15cm thick which extended about 3m to the south. Large stones near the pot and on the gravel layer.

1 *Black burnished shouldered pot*, slightly everted rim, wiped outer surface. Sand-tempered, some large grits. Ht 16.4cm, diam mouth 12.2cm.

**Cremation 17 (fig 60)**

D 1ft 3in (0.38m).

1 *Black burnished biconical bowl*, everted rim. Black fabric, white grits. Ht 11cm, diam mouth 11cm.

**Cremation 18 (fig 60)**

Adult.

D 2ft (0.61m).

1 *Black burnished globular bowl*, foot ring, three or more perforated lugs. Brown fabric, grits. Ht 14.5cm, diam foot 8.8cm.

**Cremation 19 (fig 61)**

Adult.

D 2ft (0.61m). Pot contained item 2 and bird bone.

1 *Black burnished high-shouldered pot*, rim missing. Grey fabric, large white grits. Ht 15cm, diam base 9cm.

2 *Bronze bowl rim fragment*, L 5.8cm.

**Cremation 20 (fig 61)**

Adult.

D 2ft 3in (0.69m). Pot contained many bones, items 3, 4, and sheep metatarsal fragment. Next to it was an inverted base of a Romano-British pot and other Romano-British sherds and item 2 under and around it.

1 *Large black burnished pot*, narrow conical neck, vertical bosses surrounded by trellised square stamps on belly, row of trellised square and boss-in-circle stamps round neck, three zones of triangles containing trellised square, trellised circle and cross-in-circle stamps randomly positioned. Sand-tempered. Ht 26cm, diam mouth 12.4cm.

2 *Sherds of red pot*, vertical boss, horizontal and vertical lines.

3 *Bronze tweezers* on a knotted ring, moulding at top, decoration by transverse lines and ring-and-dot stamps. Total L 8.5cm.

4 a *Nail*, square section, flat head L 7cm.

b *Nail fragment*. L 2.8m.

**Cremation 21 (fig 62)**

D 2ft (0.61m). Item 1 contained cremated bones (lost) and item 4. Items 2 and 3 standing beside 1.

1 *Grey high-shouldered, wheel-thrown jar*. Ht 24.6cm.

2 *Romano-British folded beaker*, zone of horizontal lines, three nicks at bottom of one indentation. Ht 19cm.

3 *Romano-British folded beaker*. Ht 21.8cm.

4 *Nail*, L 3cm.

**Cremation 22 (fig 62)**

D 2ft 6in (0.76m). Disturbed, partly destroyed by excavation of trackway. Burnt bones.

1 *Sherds of thick-walled vessel*. Maximum thickness 1.5cm. Grey fabric, red exterior (not illustrated).

2 *Bronze fragment*. L 7mm.

**Cremation 23 (fig 62)**

D 1ft 6in (0.46m). Pot base containing burnt bones and item 2, surrounded by stones.

1 *Flat base of black burnished pot*, diagonal grooves near top. Grey fabric, many large grits. Ht 7.5+cm, diam base 10.5cm.

2 *Sheet bronze fragments*, L 52cm (not illustrated), and a thickened, flat top rim of *bronze bowl*, L 2.3cm.

**Cremation 24 (fig 62)**

Adult.

D 2ft 9in (0.84m).

1 *Black burnished flat base of pot* and rim fragment. Smooth sand-tempered, some grits. Ht 14+cm, diam mouth 14cm, diam base 11cm.

**Cremation 25 (fig 62)**

Adult.

D 3ft 9in (1.14m).

1 *Large, black burnished high-shouldered pot*, narrow neck, three horizontal lines below rim, one row of dimple stamps, three horizontal lines, eyebrow motif with dimple stamps, horizontal line and diagonal slashes on shoulder. Grey fabric, white grits. Ht 23.2cm.

**Cremation 26 (fig 62)**

Adult.

D 3ft (0.91m). Burnt bone.

1 *Black burnished sherds of globular pot base*, wiped surface. Buff fabric, white grits.

2 *Large Roman coin* nearby (see p 87).

**Cremation 27 (fig 63)**

D 3ft 6in (1.07m). Burnt bones and wood

1 *Sherds of black burnished flat-based pot* with scored cross. Buff fabric, white grits.

**Cremation 28 (fig 63)**

Juvenile.

D 2ft (0.61m). Above horse grave 2. Bones.

1 *Burnished pot base fragments*. Vegetable-tempered, white grits. Ht 12.2+cm.

**Cremation 29 (fig 63)**

Adult.

D 4ft (1.22m).

1 *Wide-mouthed pot*, slight neck, four perforated lugs. Large grits. Ht 20.2cm, diam mouth 23.5cm.

2 *Large Roman bronze coin* nearby (see p 87).

**Cremation 30 (fig 63)**

Adult.

D 2ft (0.61m).

1 *Black burnished biconical pot*, slightly everted rim. Sand-tempered, grits. Ht 11.6cm, diam mouth 10.2cm.

**Cremation 31 (fig 63)**

Adult.

D 2ft (0.61m).

1 *Black burnished carinated bowl*, vertical rim, flat base. Ht 10.7cm, diam mouth 10.7cm.

**Cremation 32 (fig 63)**

Infant.

D 3ft (0.91m).

1 a *Black burnished globular pot*, slightly everted rim. Sand-tempered, grits. Ht 17.2cm, diam mouth 12cm.

b *Romano-British mortarium base sherd* used as lid (p 85), diam 14.5cm.

**Cremation 33 (fig 63)**

D 3ft (0.91m).

1 *Buff pot base fragments*. Vegetable-tempered Ht 10.5+cm.

### **Romano-British cremations 1-5 (figs 64, 65, 85, pl 6a)**

Seventeen pots were arranged in a quincunx in groups of two, four, three, three, and five, as on the plan (fig 85). They were deposited on the surface of the natural gravel 0.45m below ground level. They were standing almost undisturbed, but some were broken. There were a few sherds between cremations 1 and 2 and some nails in the topsoil in the area. There were cremated bones inside 1/a, 2/a, 3/b, 4/b, but none were associated with cremation 5. Pots 1/a and 2/a also contained a nail each. Objects 1-7 were found within the same area and may be associated with the cremations. A report on the pottery and objects is on pp 82-86.

**Romano-British cremation 1 (fig 64)**

a *High-shouldered jar*. Ht 30.2cm.

b *Bag-shaped beaker*. Ht 6.8cm. Inside pot a.

**Romano-British cremation 2 (fig 64)**

a *High-shouldered jar*. Ht 23.2cm.

b *'Poppy-head' beaker*. Ht 9cm.

c *Narrow-necked jar*. Ht 12.6cm.

d *Samian bowl*. Diam 12.4cm.

Items b and c were on one side of a, and d was 15cm away on the other side.

**Romano-British cremation 3 (fig 64)**

a *High-shouldered, narrow-necked jar*. Ht 13+cm.

b *Lower half of a high-shouldered jar*.

c *Barbotine bowl fragments*. Diam 23.2cm, D 4.6cm.

Item c was inside b, and a beside them.

**Romano-British cremation 4 (fig 65)**

a *Samian platter*. Diam 17.2cm.

b *High-shouldered jar*. Ht c 11cm.

c *Carinated beaker*. Ht 9.6m.

Item c was inside b.

**Romano-British cremation 5 (fig 65)**

a *Samian dish*. Diam 17.6cm.

b *Samian dish*. Diam 17.6cm.

c *Base of a flagon*. Ht 9.2+cm.

d *Carinated jar*.

e *Oval or high-shouldered closed form*.

Item d was partly on top of a, and c and e on top of b

**Finds within the same area R1-5 (fig 65)**

1 *Bronze scabbard tip*. W 3.9cm. P&RB 1964 7-2 108.

2 *Bronze conical stylized Lion mask*. Diam 2.1cm. P&RB 1964 7-2 109.

3 *Bronze fluted oval ring*. Diam 3.6cm. P&RB 1964 7-2 110.

4 *Fragment of bronze sheet*. L 4cm. P&RB 1964 7-2 111.

5 *Bone pin fragment*. L 5cm. P&RB 1964 7-2 125.

6 *Nails*: a L 2.3cm. P&RB 1964 7-2 116. b L 2.7cm.

P&RB 1964 7-2 116. c L 1.8cm. P&RB 1964 7-2 118. Near Romano-British cremation 5a.

7 *Fragment of iron sheet* with rivet and wood grain in two directions. L 3.4cm. P&RB 1964 7-2 117. Near Romano-British cremation 5d.

**Anglo-Saxon unassociated objects****Silver**

1 *Disc ?pendant* (fig 66, pl 121), border of arc stamps, central boss surrounded by seven-point star. Diam 3.4cm.

**Bronze**

2 *Fragment* (fig 66, pl 13a) decorated with chip-carved Style I animal design: two legs, thighs, and claws together middle top, two separate legs below, a possible profile mask top right. Max L 2.5cm.

3 *Small Long brooch fragment* (fig 66), square head, ring-and-dot centre, impressed dot border with perforation in one lower corner, keeled bow, foot missing. Remains of iron pin. L 3.4cm.

4 *Tweezers* (not cleaned) (fig 66). L 5.3cm.

5 *Pin*, thin disc head (fig 66). L 11.4cm. Above grave 87.

6 *Pin*, thin disc head L 9.7cm (not illustrated).

7 *Pin fragment*, thin disc head L 2.6cm (not illustrated).

8 *Pin fragment*, thin disc head L 5.9cm (not illustrated).

## Iron

9 *Spearhead* (fig 66), angular blade, rivet across socket, mineral-preserved wood in socket, probably *Fraxinus sp* (ash). L 20.7cm.

10 *Tip of spearhead* (fig 66). L 6.2cm.

11 *Conical ferrule* (fig 66). L 17.3cm. Found above grave 22.

12 *Conical ferrule* (fig 66), triple groove decoration. L 8.5cm. On west side of destroyed track.

13 *Conical ferrule* (fig 66), rivet hole. L 12.8cm.

14 *Shield boss* (fig 66), button top, straight dome, incurved waist, wide flange, five disc-headed rivets. Ht 9cm, diam 18cm. At north end of destroyed track.

15 *Knife* (fig 66), type 1, two incised lines along middle of blade. L 13.7cm.

16 *Knife* (fig 66), type 1. L 11.5cm.

17 *Knife* (fig 66), type 1. L 8.2cm.

## Glass

18 One very light green translucent disc *bead* (fig 66),.

## Pottery

19 Sherds of a *bowl* (fig 67), slashed, raised collar, a second raised collar below with flat-iron shape impressions, horizontal lines between. Dimples on the carination framed by crossing lines. Hard grey fabric containing mica and small white grits.

20 *Black burnished pot* (fig 67) with flat base and five vertical bosses with three vertical lines each side. Sandy fabric Ht 11.4+cm, diam base 8.5cm.

21 *Black burnished sherds* (fig 67), vertical rim, row of rosette stamps on raised collar between horizontal lines; vertical bosses below with five vertical lines in between. Dark grey fabric, sand-tempered Diam mouth 10.3cm.

22 *Sherd* (fig 67), two horizontal lines, vertical lines at intervals with short horizontal lines or a boss in between. Red and black burnished, white grits.

23 *Sherd* (fig 67), horizontal groove and horizontal row of circular stamps at neck, vertical boss below. Grit-tempered, buff exterior.

24 *Sherd* (fig 67), black burnished, vertical boss with vertical scoring, vertical row of cross-in-circle stamps; beginning of a second boss with diagonal lines. Two smaller, undecorated sherds.

25 Three *black burnished sherds* (fig 67), horizontal rows on shoulder of cross-in-circle stamps and crescent stamps divided by horizontal grooves, pendent triangles below containing cross-in-circle stamps. Sand tempered, white grits. At a depth of 1.14m about 1.3m away from cremation 25.

26 *Sherds* (fig 67), straight, conical rim, row of triangular stamps with cross-in-circle stamps below, and another row of triangular stamps. Grey fabric, large white grits. A few Romano-British sherds. Near grave 43.

27 *Sherd* (fig 67), vertical scored lines and cross-in-circle stamps. Light red, smooth, sand-tempered fabric

28 *Sherd* (fig 67), row of trellis-in-square stamps, three horizontal grooves, row of circular stamps.

29 *Rounded base fragments* (fig 67), decoration at top of diagonal line and one stamp. Grit-tempered Ht 9+cm.

30 *Sherd of rusticated pot* (fig 68), thick walls, slightly inturned rim. Large white grits.

31 *Black burnished sherds* (fig 68), straight conical rim, thumb impressions at rim. Sand- and grit-tempered with grog.

32 *Black burnished rim sherd* (fig 68), everted, horizontal line. Diam c 12cm.

33 *Black burnished wide-mouthed pot* (fig 68) with flat base and vertical walls. Sand-tempered Diam mouth 10cm.

34 *Sherds* (fig 68), including a flat base. Thick buff fabric, chalk grits. Diam c 11cm. Near and above grave 1.

35 *Base sherds* (fig 68). Fine sand-tempered fabric Diam c 9cm.

36 *Black burnished wall sherds*. Sand-tempered, white grits (not illustrated).

**37** *Black burnished sherds of globular pot. Vegetable-tempered (not illustrated).*

**38** *Black burnished sherds, flat base. Large grits (not illustrated).*

**Private possession: Anglo-Saxon objects found in 1953**

**39** *Bronze backplate* (fig 69) of an applied brooch, flat, upturned at edge. Five rivet holes, one still containing a rivet. Remains of applied pin holder. Diam 5.9cm.

**40** *Bronze backplate* (fig 69) of an applied brooch, slightly concave; two slots for pin fixtures. Diam 5.9cm.

**41** *Bronze backplate* (fig 69) of an applied brooch, slightly concave; two slots for pin fixtures. Diam 5.3cm.

**42** *Gilt bronze repoussé plate* (fig 69) of an applied brooch, central knob surrounded by cruciform arrangement of human mask with Style I bent animal leg between each. Outer border of Style I animal ornament. Diam 5.2cm.

**43** *Fragment of a gilt bronze repoussé plate* (fig 69), as 4. L 3.3cm.

**44** *Bronze small long brooch* (fig 69), cross potent head, spatulate foot, ring-and-dot stamps on the head L 6.5cm.

**45** *Double-sided bone comb* (fig 69), two fragments, connecting plate in middle, each side fixed with iron rivets; cable design on one side and four lengthwise lines on the other. L 4.5cm and 3.7cm.

**Unstratified Roman objects  
(with British Museum registration  
numbers) (not illustrated)**

**Silver**

**1** *Spoon*, circular bowl. L 8.4cm. P&RB 1964 7-2 38.

**2** *Spoon*, oval bowl, L 4cm. P&RB 1964 7-2 40.

**Bronze**

**3** *Spoon*, circular bowl, silvered L 4.2m. P&RB 1964 7-239.

**4** *Earscoop*, L 4.5cm. P&RB 1964 7-2 25.

**5** *Brooch*, safety pin type. L 4.3cm. P&RB 1964 7-2 9.

**6** *Bracelet*, twisted strip, loop terminal. Diam c 8.5cm. P&RB 1964 7-2 8.

**7** *Bracelet*, penannular wire, scored terminals. Diam 4.7cm. P&RB 1964 7-2 7.

**8** *Chain* of double links with blue glass bead in the middle. L 4.3cm. P&RB 1964 7-2 24.

**9** *Finger ring*, overlapping band with stamped design. Diam 2.3cm. P&RB 1964 7-2 1.

**10** *Finger ring*, narrow hoop, segmented decoration. Diam 2.5cm. P&RB 1964 7-2 2.

**11** *Pin*, disc head with moulding. L 9.8cm. P&RB 1964 7-2 19.

**12** *Pin*, rectangular head with moulding. L 9.4cm. P&RB 1964 7-2 18.

**13** *Pin*, constriction at head L 4.9cm and 3.4cm. P&RB 1964 7-2 112.

**14** *Pin*, knob head L 4.7cm. P&RB 1964 7-2 15.

**15** *Pin*, hooked terminal. L 2.5cm. P&RB 1964 7-2 12.

**16** *Needle*, L 6.5cm. P&RB 1964 7-2 11.

**17** *Needle*, L 12cm. P&RB 1964 7-2 10.

**18** *Instrument shaft*, moulded L 12.5cm. P&RB 1964 7-2 22.

**19** *Instrument shaft*, moulded L 6.4cm. P&RB 1964 7-223.

**20** *Instrument shaft*, moulded L 6.9cm and 1.6cm. P&RB 1964 7-2 36.

**21** *Instrument terminal*. L 2.9cm. P&RB 1964 7-2 26.

**22** *Instrument terminal*. L 8.7cm. M&LA 1964 7-2 499.

**23** *Bronze loop* and shaft, iron and bronze fragments. L 4.6cm, 2cm, and 1.8cm. P&RB 1964 7-2 37.

**24** *?Ingot*. L 3.7cm. P&RB 1964 7-2 35.

**25** *Disc*, raised centre with perforation, scalloped edge. Diam 6.3cm. P&RB 1964 7-2 30.

**26** *Disc*, ring mouldings. Diam 5.2cm. P&RB 1964 7-2 28.

**27** *Disc*, perforated Diam 6.9cm. P&RB 1964 7-2 29.

**28** *Almond-shaped raised mount* with loop. L 4.5cm. P&RB 1964 7-2 32.

**29** *Bar* with saucer-shaped top. L 5.5cm. P&RB 1964 7-2 34.

### **Coins**

**30-56.** Not registered

### *Lead*

**57** *Rim* fragment of ?box, moulded edge and ring decoration. L 7.5cm. P&RB 1964 7-2 103.

### **Bone**

**58** *Pin*, segmented knob head, slashed collar. L 10cm. P&RB 1964 7-2 92.

**59** *Pin*, fragmented pointed head, line decoration. L 3.6cm. P&RB 1964 7-2 127.

**60** *Pin*, semispherical head, cross centre, radiating lines, swelling shaft. L 7.5cm. P&RB 1964 7-2 90.

**61** *Pin*, biconical head, swelling shaft. L 8.1cm. P&RB 1964 7-2 89.

**62** *Pin*, segmented head L 9.2cm. P&RB 1964 7-2 126.

**63** *Pin*. L 10.7cm. P&RB 1964 7-2 94.

**64** *Pin*, two lines at head L 5.3cm. P&RB 1964 7-2 124.

**65** *Pin*. L 10.1cm. P&RB 1964 7-2 93.

**66** *Pin*, knob head, swelling shaft. L 5.4cm. P&RB 1964 7-2 86.

**67** *Pin*, spherical head, swelling mid shaft. L 9.7cm. P&RB 1964 7-2 85.

**68** *Pin*, knob head, swelling shaft. L 7.4cm. P&RB 1964 7-2 83.

**69** *Pin*, oval, biconical head, swelling shaft. L 5.1cm. P&RB 1964 7-2 82.

**70** *Pin*, knob head L 5.2cm. P&RB 1964 7-2 81.

**71** *Pin*, knob head, swelling shaft. L 6.4cm. P&RB 1964 7-2 87.

**72** *Pin*, knob head, swelling shaft. L 7.6cm. P&RB 1964 7-2 96.

**73** *Pin* knob head, swelling shaft. L 6.3cm. P&RB 1964 7-2 97.

**74** *Pin*, knob head, swelling shaft. L 7.4cm. P&RB 1964 7-2 95.

**75** *Pin shaft*. L 8.3cm. M&LA 1964 7-2 507.

**76** *Needle fragment*. L 5.3cm. P&RB 1964 7-2 128.

**77** *Needle*, head broken. L 11cm. P&RB 1964 7-2 98.

**78** *Needle*. L 8.2cm. P&RB 1964 7-2 99.

**79** *Counter*. Diam 2cm. P&RB 1964 7-2 100.

### **Iron (references are to Manning 1985 type number and page)**

**80** *Stylus*. L 10.7cm. N 17, 86. P&RB 1964 7-2 60.

**81** *Stylus*. L 10cm. N4, 86. P&RB 1964 7-2 62.

**82** *Stylus*. L 9.9cm. N22, 86. P&RB 1964 7-2 61.

**83** *Stylus*. L 11.3cm. N26, 87. P&RB 1964 7-2 63.

**84** *Stylus*. L 11.8cm. N23, 86. P&RB 1964 7-2 113.

**85** *Key*, L-shaped L 11.1cm. 038, 92. P&RB 1964 7-2 53.

**86** *Key*, L-shaped L 10.6cm. 035, 92. P&RB 1964 7-2 52.

**87** *Key*, lever-lock. L 6.1cm. 061, 94. P&RB 1964 7-2 115.

**88** *Key*, lever-lock. L 7.2cm. 062, 94, P&RB 1964 7-2 54.

**89** *Latch-lifter*. L 11.4cm. 020, 89, P&RB 1964 7-2 49.

**90** *Padlock bolt*. L 11.8cm. 070, 96, P&RB 1964 7-2 51.

**91** *Object of unknown function*. L 17.5cm. S143, 144, P&RB 1964 7-2 56.

**92** *Knife*. L 21cm. Q55, 116. P&RB 1964 7-2 67.



- 93** *Shear blade*. L 12cm. D8, 35, P&RB 1964 7-2 66.
- 94** *Paring chisel*. L 12.3cm. B26, 22. P&RB 1964 7-2 42.
- 95** *Paring chisel*. L 18.3cm. B29, 22. P&RB 1964 7-2 114.
- 96** *Gouge*. L 12.3cm. C4, 31. P&RB 1964 7-2 43.
- 97** *Reaping hook*. L 11.4cm. F43, 56. P&RB 1964 7-2 70.
- 98** *Scythe*. L 14.2cm. F21, 50. P&RB 1964 7-2 74.
- 99** *?Sickle blade fragments*. L 7cm, 3cm, and 2.9cm. F23, 53, P&RB 1964 7-2 77.
- 100** *Awl*. L 5.3cm. E23, 41. P&RB 1964 7-2 46.
- 101** *Rake prong*. L 11.7cm. F66, 59. P&RB 1964 7-2 76.
- 102** *Rod*. L 12.7cm. S135, 144. P&RB 1964 7-2 72.
- 103** *Ploughshare*. L 10.3cm. F4, 43-4. P&RB 1964 7-2 47.
- 104** *Ploughshare*. L 7.3cm. F5, 44. P&RB 1964 7-2 42.
- 105** *Blade, Leaf-shaped*. L 8.8cm. S128, 143. P&RB 1964 7-2 65,
- 106** *T-clamp*. R69, 132. P&RB 1964 7-2 122.
- 107** *Strap hinge*. L 5.8cm. R14, 127. P&RB 1964 7-2 57.
- 108** *?Pivot base*. 6 x 6cm. R16, 128. P&RB 1964 7-2 80.

- 109** *Candlestick*. L 14.2cm. P1, 98. P&RB 1964 7-2 64.
- 110** *Baling fork*. L 14.4cm. F67, 60. P&RB 1964 7-2 50.
- 111** *?Hook*. Diam 7cm. P&RB 1964 7-2 79.
- 112** *Wool comb*. L 8.4cm. D3, 34. P&RB 1964 7-2 41.
- 113** *Cleaver*. L 23.4cm. Q103, 123. P&RB 1964 7-2 119.
- 114** *Socketed ?tool*, flat blade. L 11.2cm. M&LA 1964 7-2 502
- 115** *Tool*, square section, folded over at top. L 13.5cm. M&LA 1964 7-2 125.
- 116** *Chisel*, groove in one side. L 13.7cm. M&LA 1964 7-2 508.
- 117** *Turf-cutter*. W of blade 14.5cm. M&LA 1964 7-2 509.
- 118** *Bent nail*. L 8cm. M&LA 1964 7-2 493.
- 119 a** *Rod*, square section, pointed ends. L 15cm. b *Hooked shaft*. L 9.5cm. c *Nail*. L 6.2cm. M&LA 1964 7-2 537.

### **Glass (seep 87)**

**120-149** Not registered

### *Pottery*

- 150** *Samian base* (fig 68/a) with scratched inscription (see p 85). P&RB 1964 7-2 104.
- 151** *Female mask* (fig 68b) (see p 85). Not registered
- 152** *Rosette stamp* (fig 68c) (see p 85). Not registered

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**Concordance : Great Chesterford catalogue numbers and British Museum registration numbers**  
**Valerie Cooper**

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	3b	8		2b	52
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	4b	6	13	1	57
	4c	3		2	55
	5	4		3	54
2A	1	14		4	56
	2	13	14	1a	61
2B	1	11		1b	62
	2	10		2	60
	3	9		3a	59
	4	18-22		3b	58
	5	17	16A	1	68
	6	15		2	70
	7	16		3	69
	8	12		4	65
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	1b	25		2	64
	1c	23		3	66-7
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	2	34		2	72
	3	27		3	71, 73
	4	26	18	1	74
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	2	31		2b	92
6	1	nr		3a-g	76
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	2	33		4	78
8	1a	29		5	79
	1b	35		6	80
	1c-d	37		7	81
	1e-f	36		8	83
	2	38		9	82
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	3	49		12	86
	4	50		13a	87
	5	39		13b	88
	6	46		13c	89
	7	45		13d-e	91
	8	43		14	87
	9	44		15	90
	10	47		16	86, 94
	11	41		17	93
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	12b-c	42		2	96



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	3	111
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	5b	lost
	5 c	238
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	7	120
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	4Ae-j	177
	4B	nr
	4C	nr
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42	1	191

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Horse 1	1	511
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	3b	453
	3 c	457
	3d	456
	3e	454
	3 f	455
	3g	458
	3h	459

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	4	277		4	325
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	7	281		7	327
	8	279-80	107	1	329
82	1	282	108	1	330
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86	1	284		3	332
	2	287-8		4	333
	3	285	109	1	334
	4	286	111	1	335
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91	1	301		3	337
92	1	n r	112	1	338
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	1 b	300		3	345
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	2	314		6 a	361
	3	315		6 b	360
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101	1	318		1 b	363
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	3	407
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	4b	375
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	6	377
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	9	380
	10	374
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	3c	386
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	9b	435
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	3d	P&RB nr
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	6	548
	7	548A
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141	1	552
142	1a	553
	1b	554
	2	nr
	3	555
	4a	556
	4b	557

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	3	464	Crem 2	1	nr
	4	465		2	nr
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145	1	522		2	468
	2	528	Crem 4	1	nr
	3	524	Crem 5	1	nr
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	5	526		3	470
	6	525	Crem 6	1	471
	7	527		2	nr
	8	529		3	nr
146	1	559	Crem 7	1	476
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	3	532		5	475
	4	533		6	475
	5	534	Crem 8	1	nr
	6	535		2	473
	1	563	Crem 9	1	nr
149	2	nr	Crem 10	1	nr
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	3 f	562	Crem 11	1	477
150	1	564	Crem 12	1	478
153	1	nr		2	474
	2	568		3	479
	3	567	Crem 13	1	nr
	4	569	Crem 14	1	lost
	5	566	Crem 15	1	480
154	1	571	Crem 16	1	nr
	2	570	Crem 17	1	481
157	1	436	Crem 18	1	482
	2	437	Crem 19	1	484
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	4	439	Crem 20	1	nr
	5	440		2	nr
158	1	442		3	487
	2	441		4a	486
159	1	444		4b	nr
160	1	443	Crem 21	1	489
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	2	572		22	512
Crem 30	1	nr		23	nr
Crem 31	1	nr		24	517
Crem 32	1	nr		25	nr
Crem 33	1	nr		26	nr
Un	1	501		27	519
	2	498		28	520
	3	500		29	nr
	4	506		30	518
	5	P&RB 16		31	nr
	6	P&RB 106		32	579
	7	P&RB 107		33	nr
	8	P&RB 17		34	521
	9	493		35	514
	10	494		36	514
	11	492		37	nr
	12	495		38	516
	13	496			

\* In this table the registration numbers are M&LA 1964 7-2 except where indicated by P&RB (for P&RB 1964 7-2), Oh for M&LA old accessions, nr for M&LA not registered or P&RB nr for P&RB not registered.

Table 39 Grave contents  
Valerie Cooper

		Grave no																																																																																																		
Weapons	Sword																																																																																																			
	Spearhead																																																																																																			
	Ferrule																																																																																																			
	Shield boss																																																																																																			
Jewellery	Square-headed brooch																																																																																																			
	Radiate brooch																																																																																																			
	Cruciform brooch																																																																																																			
	Small long brooch																																																																																																			
	Saucer brooch																																																																																																			
	Applied brooch																																																																																																			
	Disc brooch																																																																																																			
	Annular brooch																																																																																																			
	Penannular brooch																																																																																																			
	Bird brooch																																																																																																			
	Bead																																																																																																			
	Pendant																																																																																																			
	Bracelet																																																																																																			
	Wrist clasp																																																																																																			
	Pin																																																																																																			
	Buckle																																																																																																			
	Strap-mount																																																																																																			
	Containers	Pottery																																																																																																		
		Glass																																																																																																		
		Bronze bowl																																																																																																		
Turned wooden bowl																																																																																																				
Bronze-bound bucket																																																																																																				
Coffin/bier																																																																																																				
Personal equipment	Knife																																																																																																			
	Key																																																																																																			
	Girdle-hanger																																																																																																			
	Fire steel																																																																																																			
	Hone																																																																																																			
	Ivory/bone ring																																																																																																			
	Comb																																																																																																			
	Tweezers																																																																																																			
	Spindle whorl																																																																																																			
	Misc	Horse trappings																																																																																																		
Roman object																																																																																																				
Amulet																																																																																																				
Ae misc																																																																																																				
Fe misc																																																																																																				

**Table 39 Grave contents (contd)**



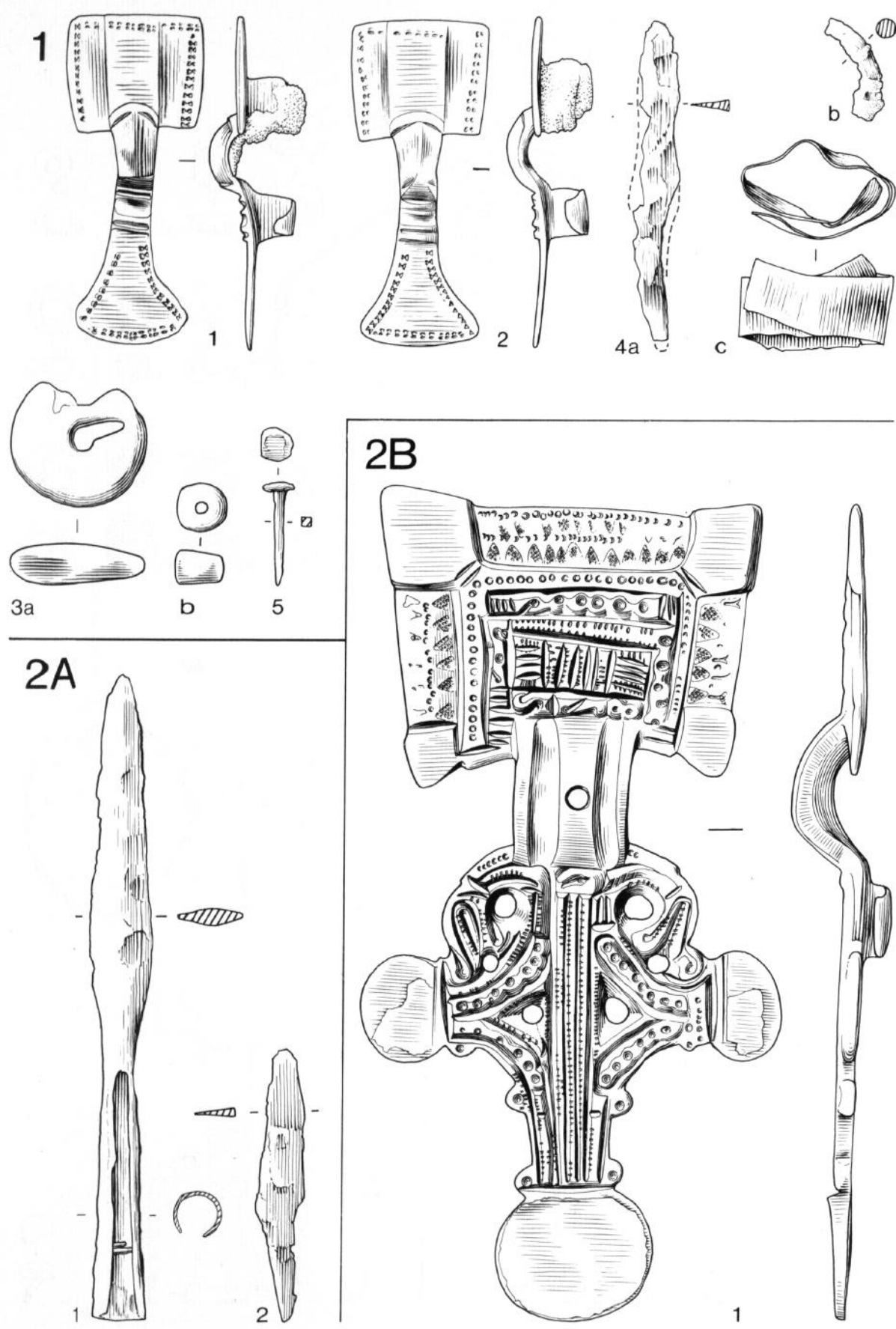


Figure 15 Objects from inhumation graves 1, 2A, and 2B (scale 1/1-3, 4c, 2B.1 at 1:1; 1/4a, b, 2A/1-2 at 1:2)

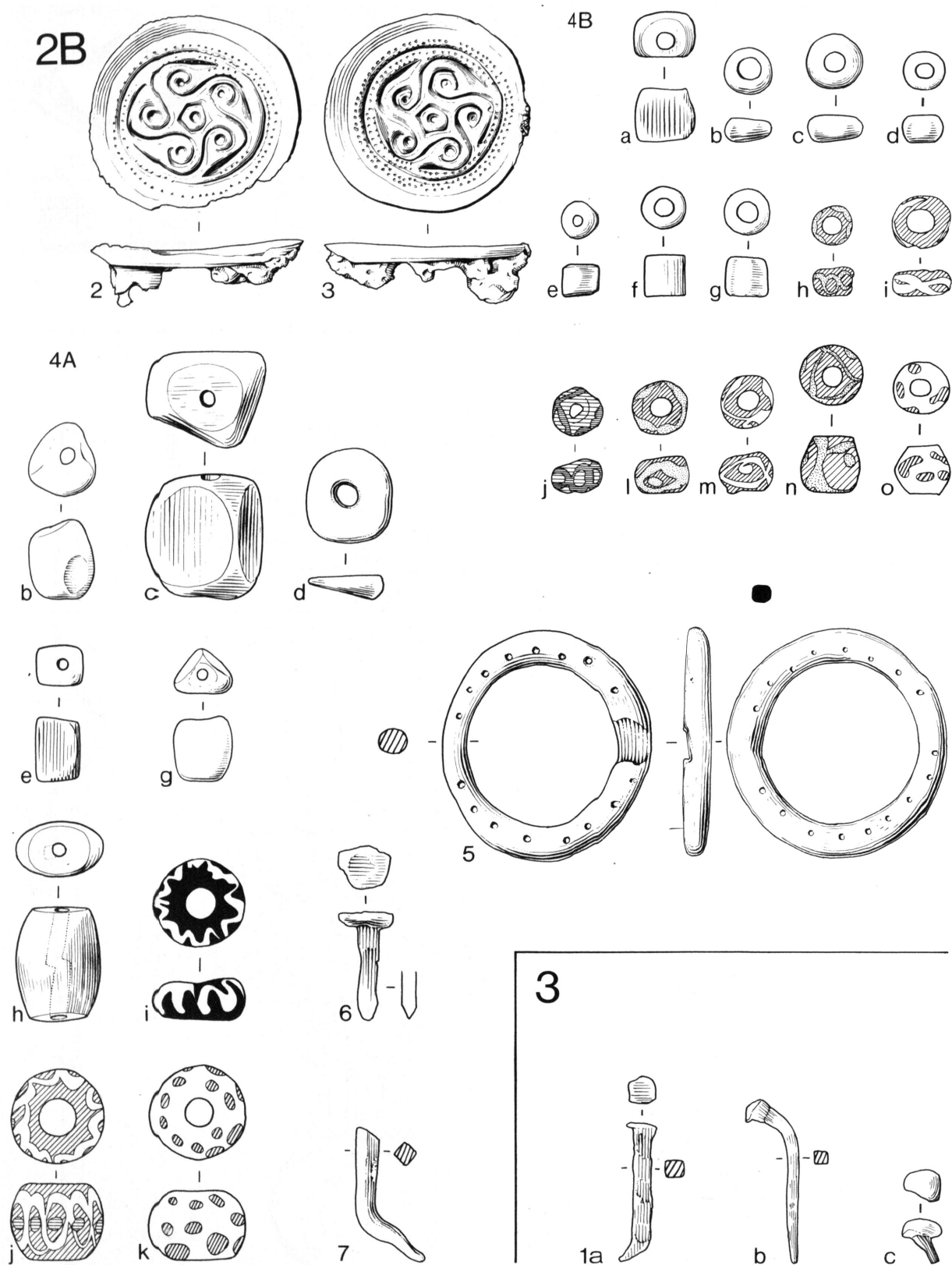


Figure 16 Objects from inhumation graves 2B contd and 3 (scale 2B/2-5 at 1:1; 2B /6-7, 3/1 at 1:2)

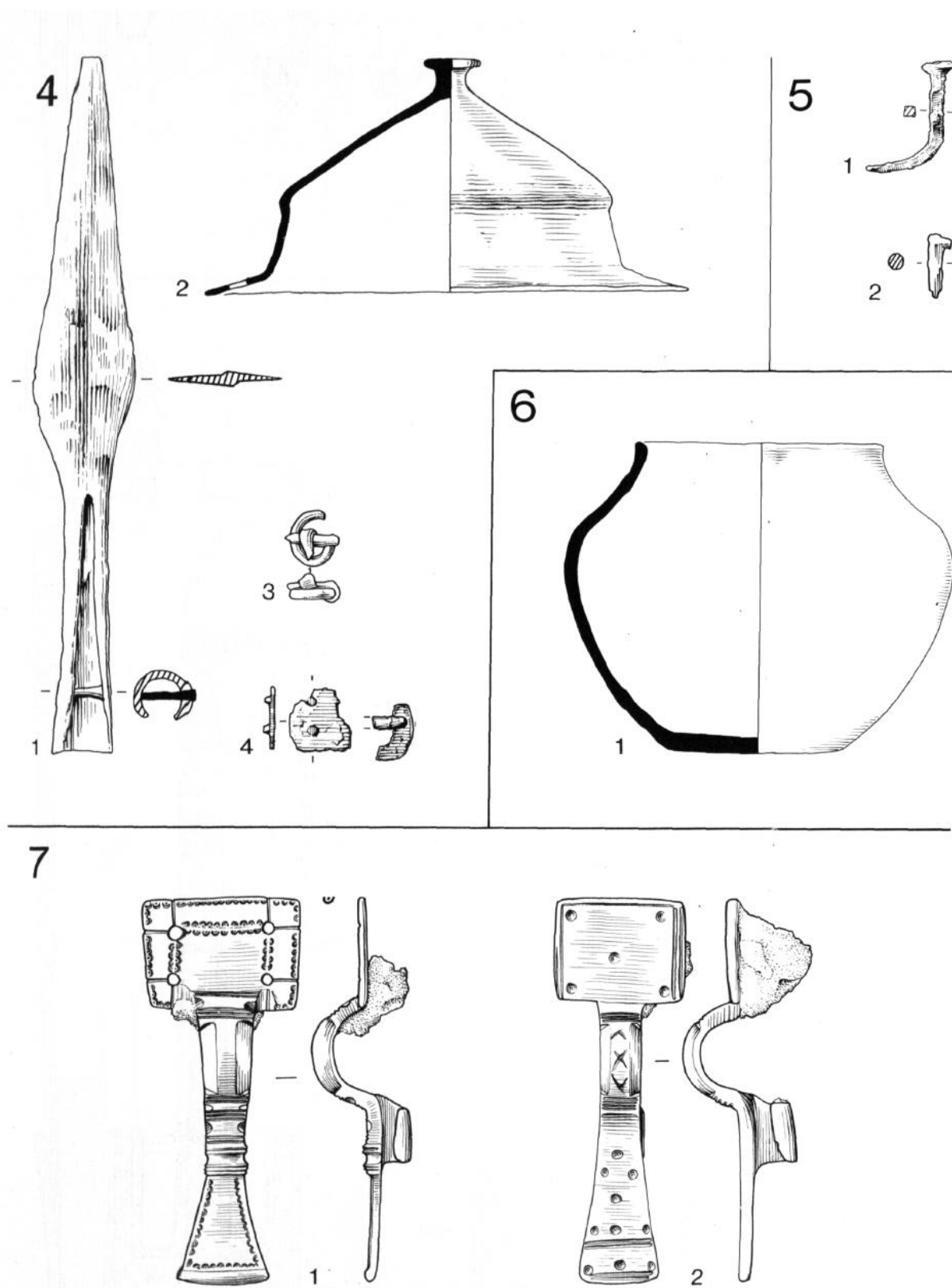


Figure 17 Objects from inhumation graves 4, 5, 6, and 7 (scale 7/1-2 at 1:9; 4/1-4, 5/1-2 at 1:2; 6/1 at 1:3)

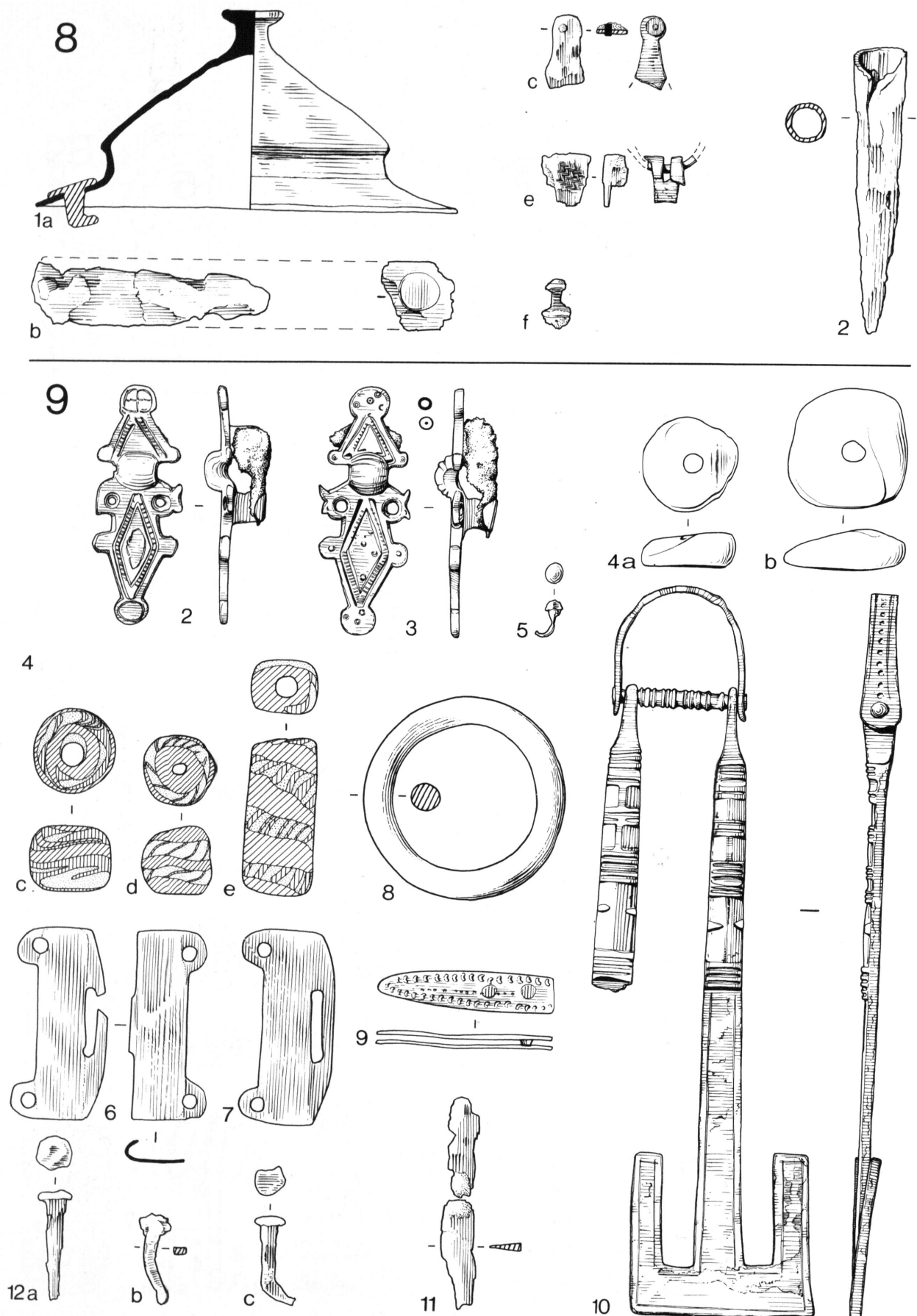


Figure 18 Objects from inhumation graves 8 and 9 (scale 9/2-4, 6-10 at 1:1; 8/1-2, 9/5, 11-12 at 1:2)

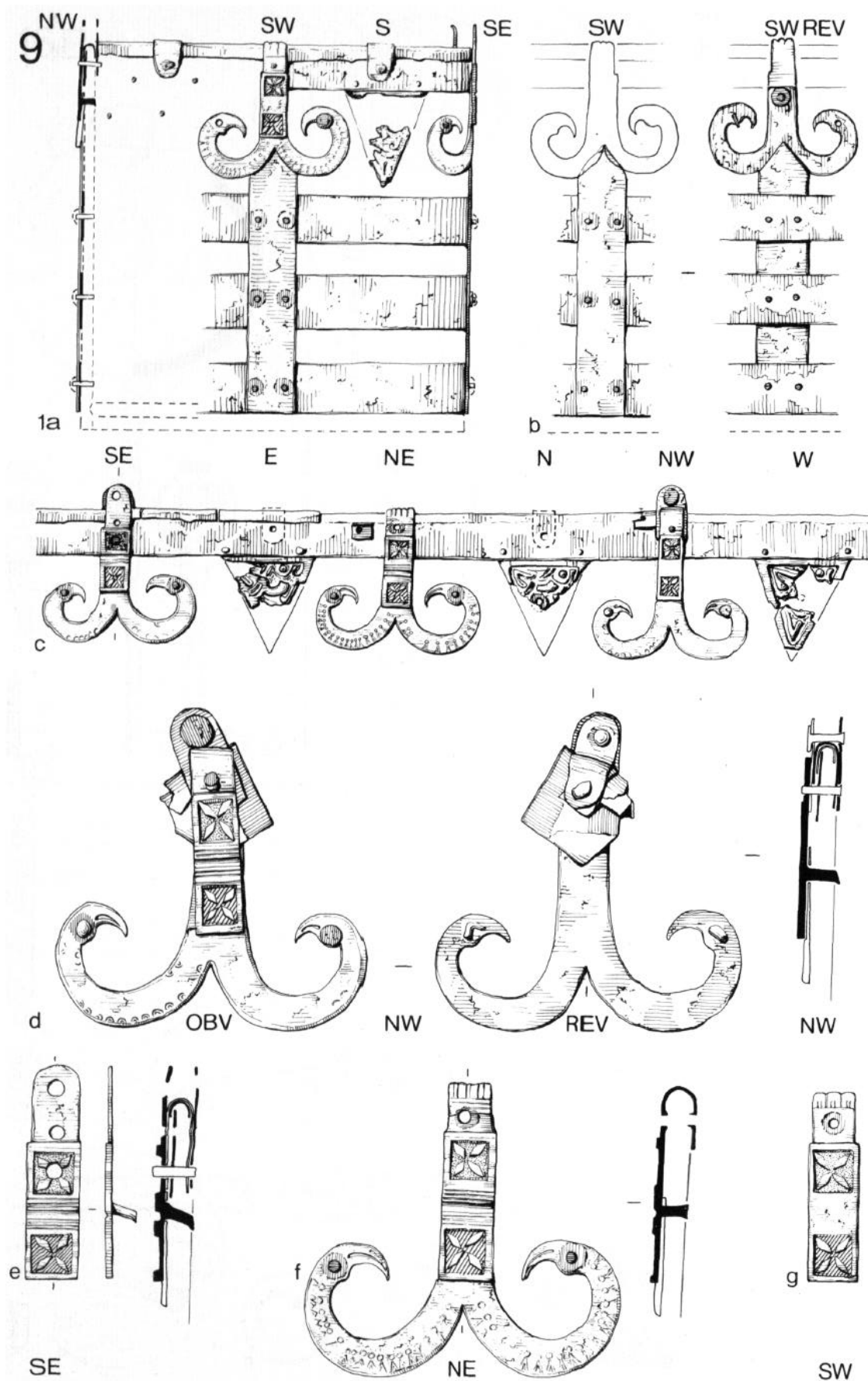


Figure 19 Objects from inhumation grave 9 contd (scale 9/1d-g at 1:1; 9/1a-c at 1:2)

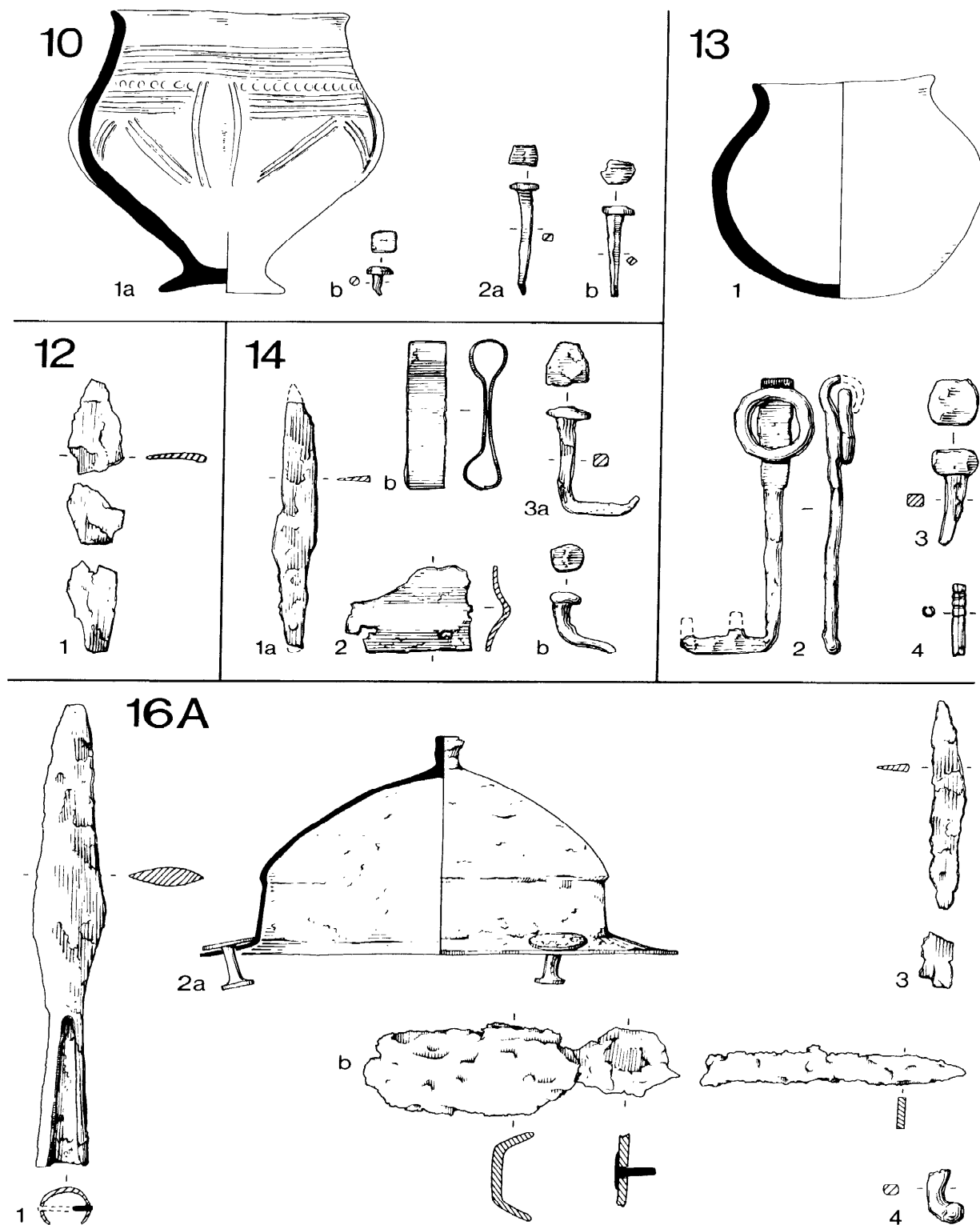


Figure 20 Objects from inhumation graves 10, 12, 13, 14, and 16A (scale 13/4, 14/1b at 1:1; 10/1b, 2, 12/1, 13/2-3, 14/1a, 2-3, 16A/1-4 at 1:2; 10/1a, 13/1 at 1:3)

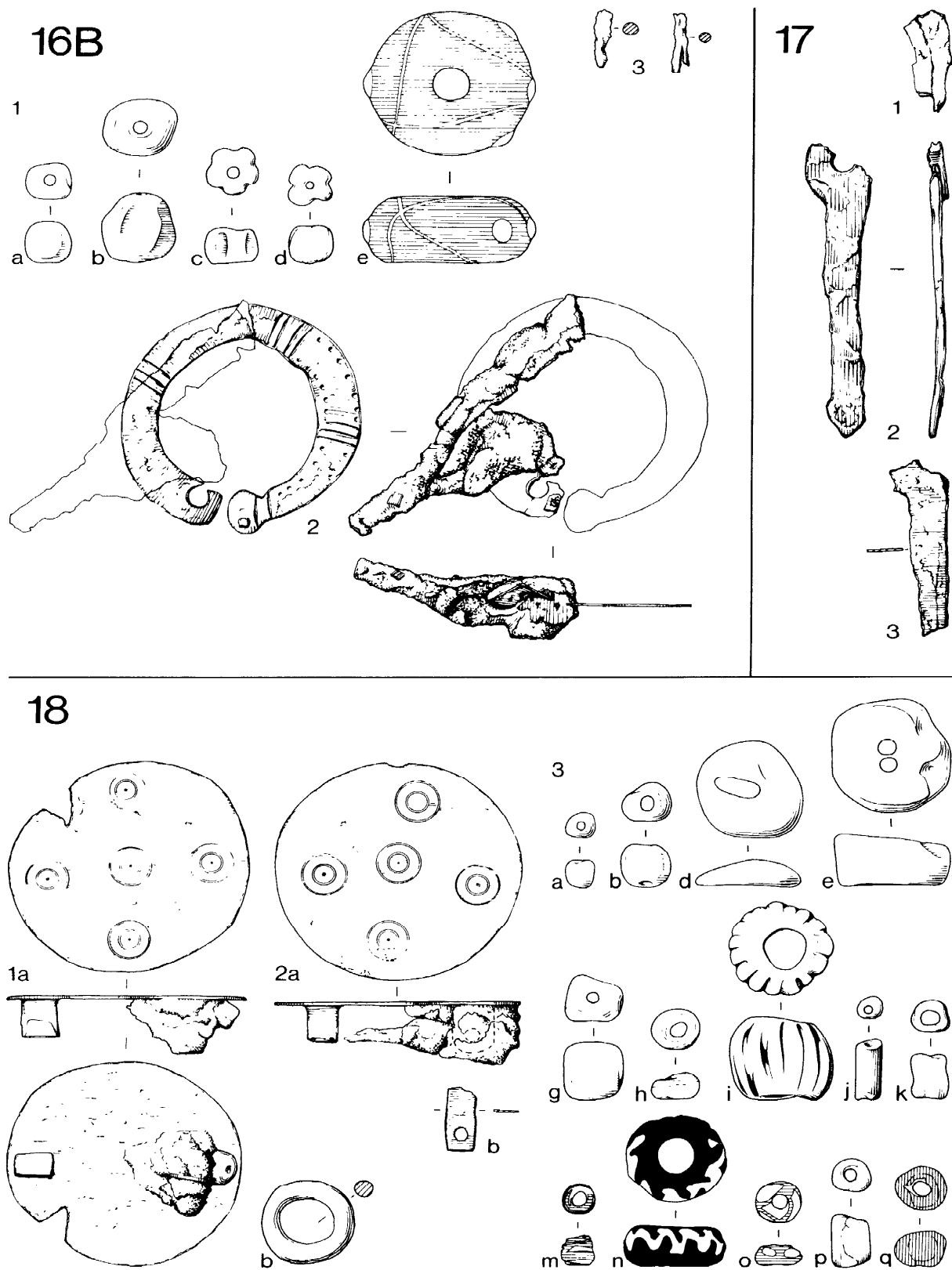


Figure 21 Objects from inhumation graves 16B, 17, and 18 (scale 16B/1-2, 18/1-3 at 1:1; 16B/3, 17/1-3 at 1:2)

18

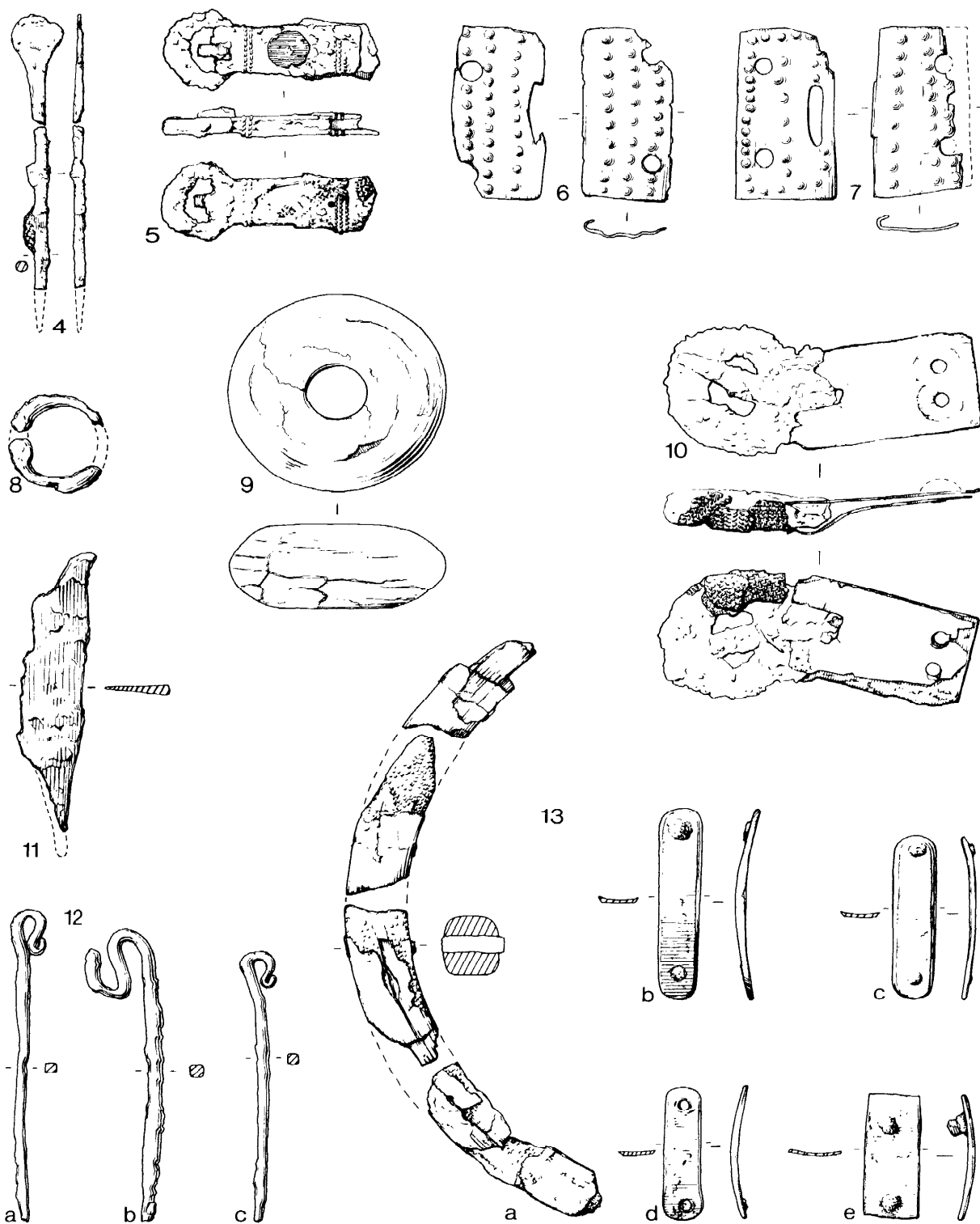


Figure 22 Objects from inhumation grave 18 contd (scale 18/6, 7, 9, 10, 13 at 1:1; 18/4-5, 8, 11-12 at 1:2)



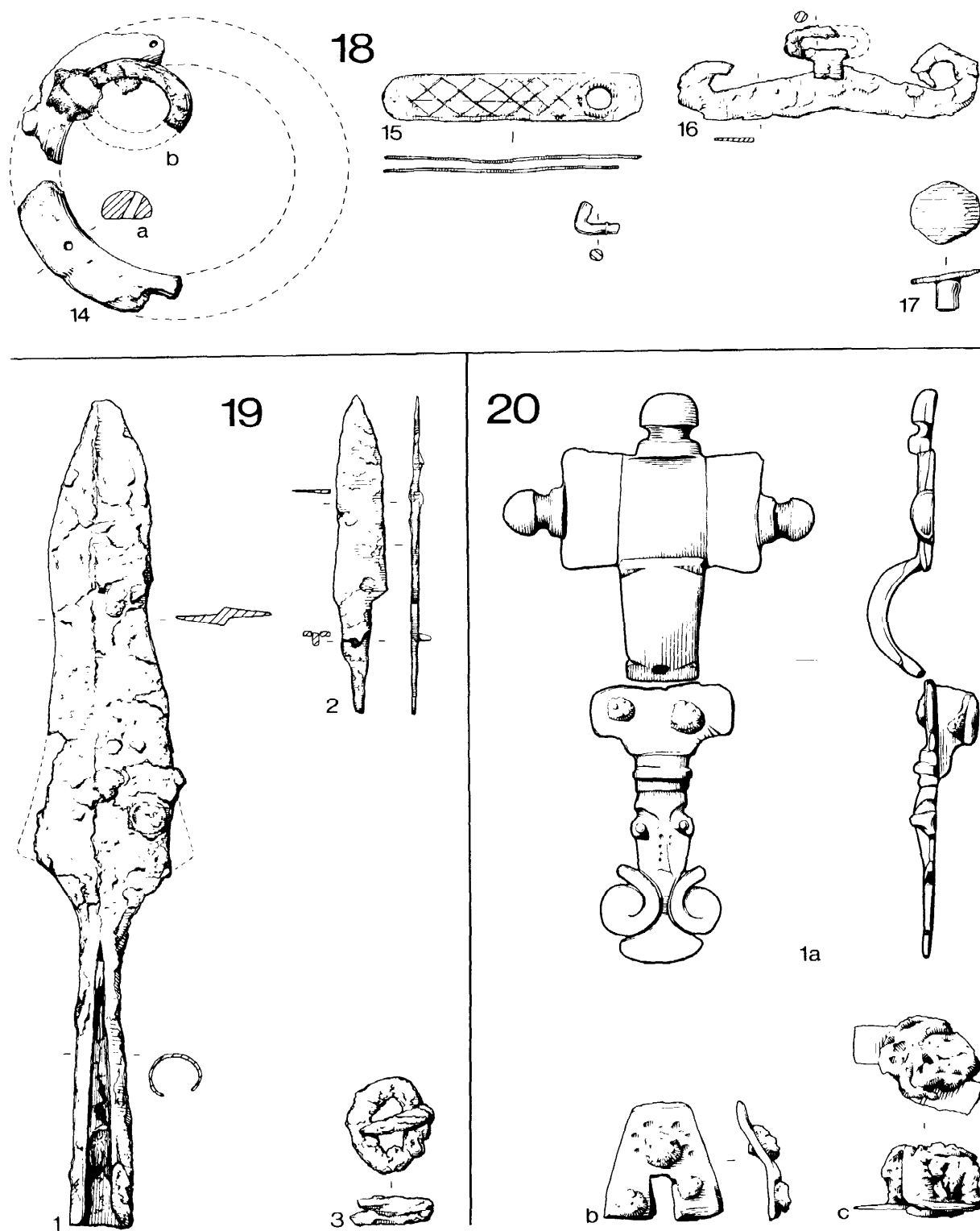


Figure 23 Objects from inhumation graves 18 contd, 19, and 20 (scale 18i14-15, 17, 20/1 at 1:1; 18i16, 19 I 1-3 at 1:2)

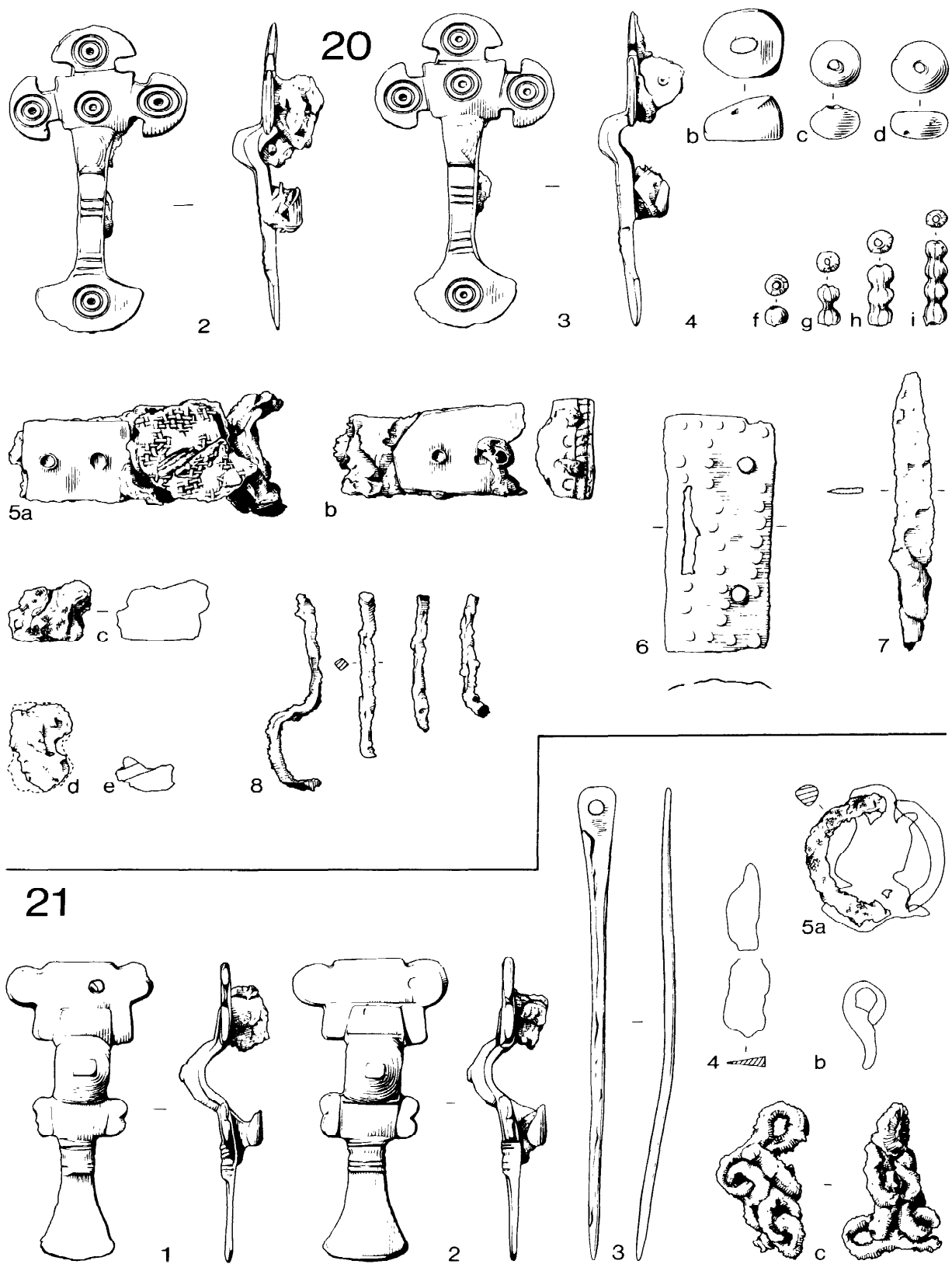


Figure 24 Objects from inhumation graves 20 contd and 21 (scale 2012-53, 6,21/ 1 - 3 at 1:1; 20/5c-d, 7-8, 21/4-5 at 1:2)

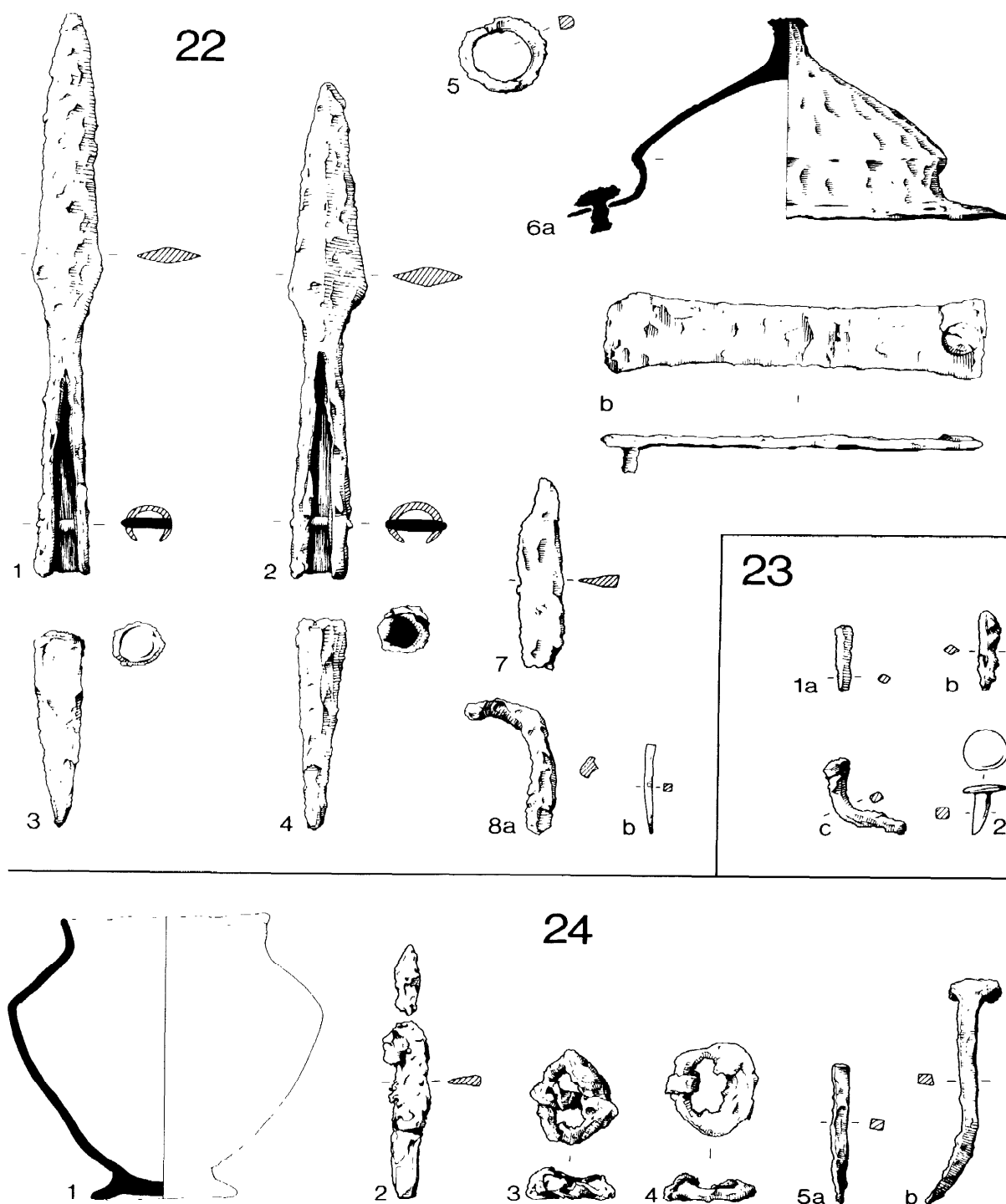


Figure 25 Objects from inhumation graves 22, 23, and 24 (scale 23/2 at 1:1; 22/1-8, 23/ 1a-c, 24/12-5 at 1:2; 24/1 at 1:3)

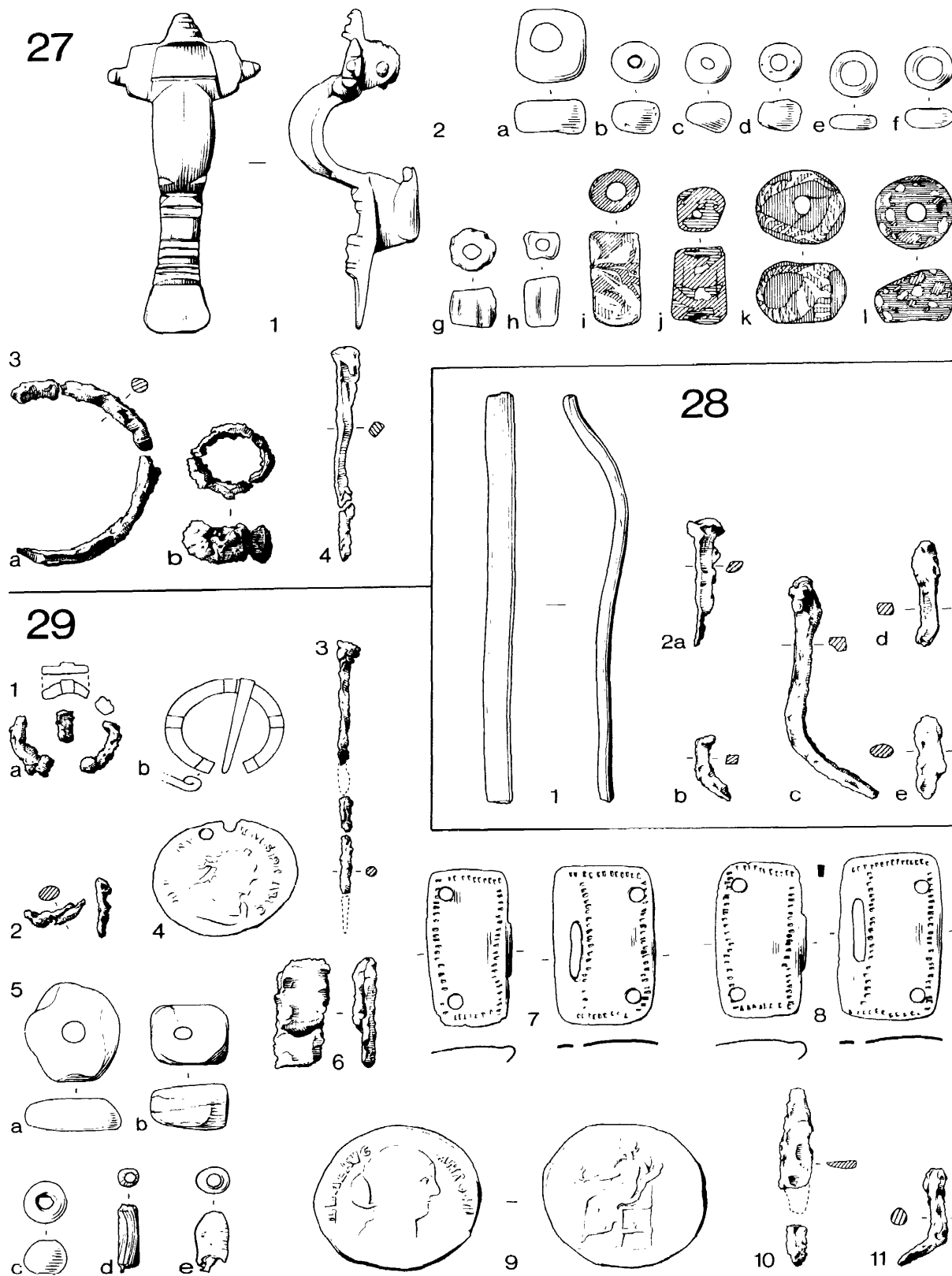


Figure 26 Objects from inhumation graves 27, 28, and 29 (scale 27/1-2, 28/1, 29/4-5, 7-9 at 1:1; 27/3-4, 28/2, 29/1-3, 10-11 at 1:2)

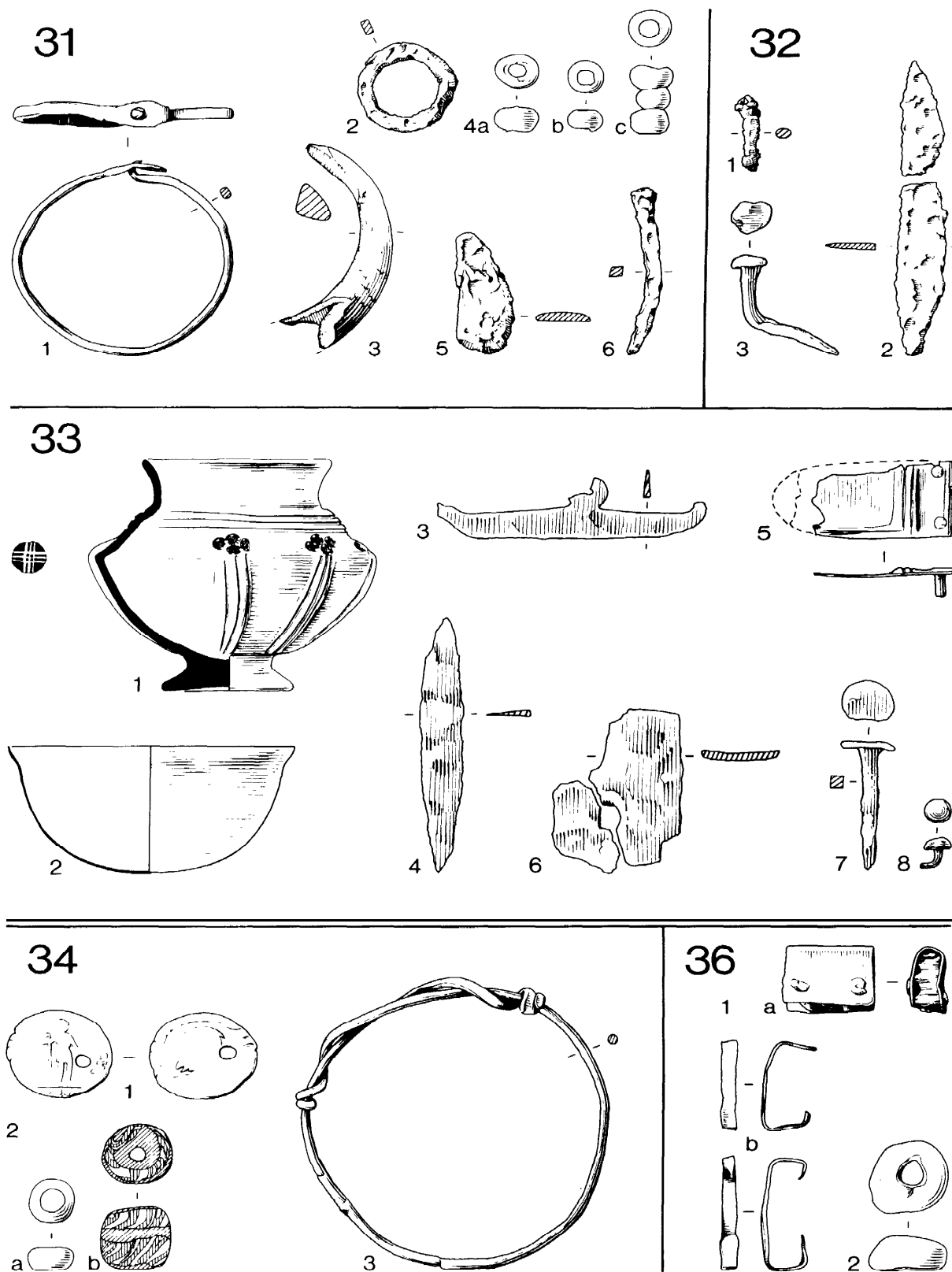


Figure 27 Objects from inhumation graves 31, 32, 33, 34, and 36 (scale 31/1, 4, 33/5, 34/1-3, 36/1-2 at 1:1; 31/2-3, 5-6, 32/1-3, 33/2-4, 6-8 at 1:2; 33/1 at 1:3)

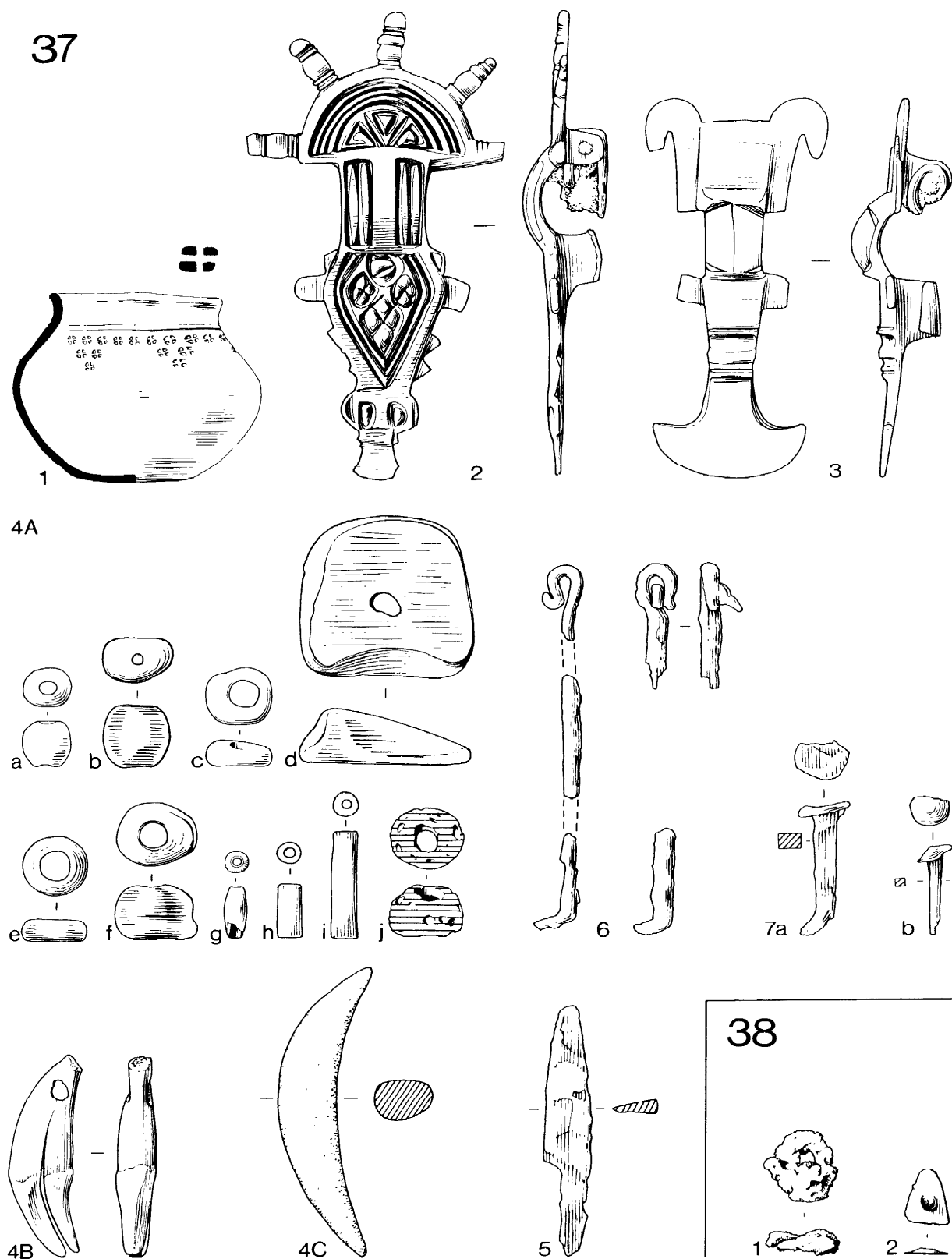


Figure 28 Objects from inhumation graves 37 and 38 (scale 37/2-4, 38/2 at 1:1; 37/5-7, 38/1 at 1:2; 37/ at 1:3)

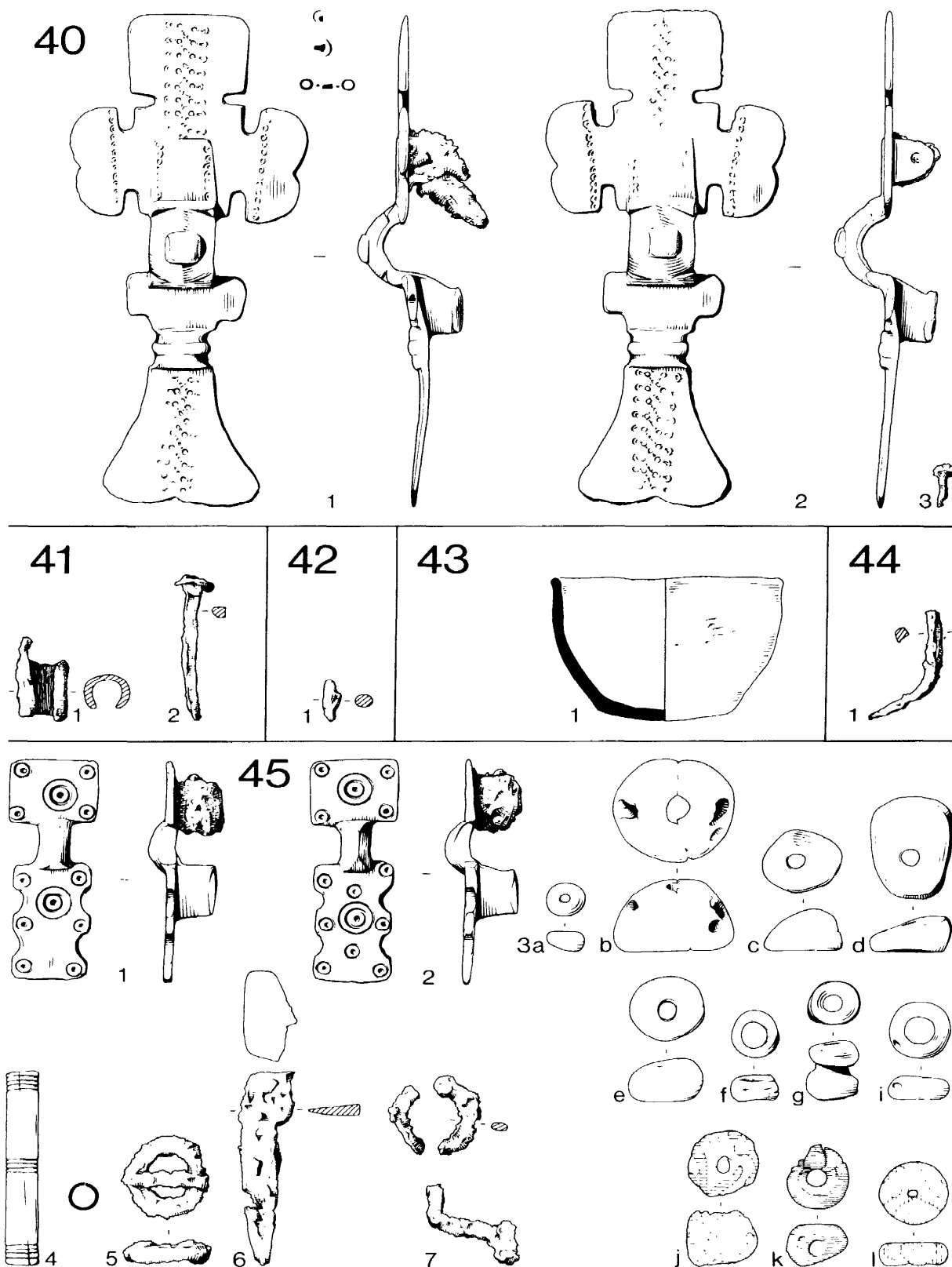


Figure 29 Objects from inhumation graves 40, 41, 42, 43, 44, and 45 (scale 40/1-2, 45/1-4 at 1:1; 40/3, 41/1-2, 42/1, 44/1, 45/6-7 at 1:2; 43/1 at 1:3)

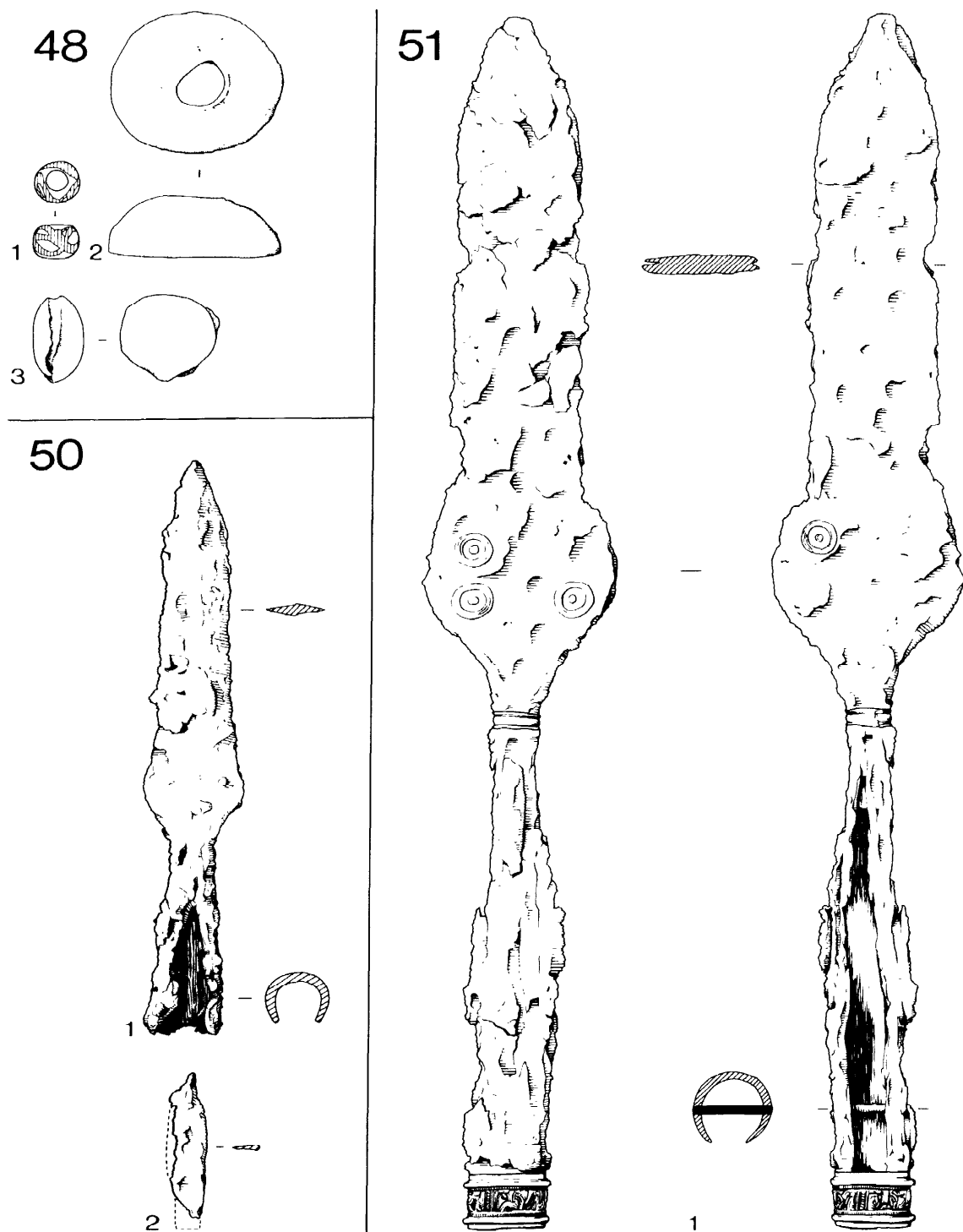


Figure 30 Objects from inhumation graves 48, 50, and 51 (scale 48/1-3 at 1:1; 50/1-2, 51/ 1 at 1:2)



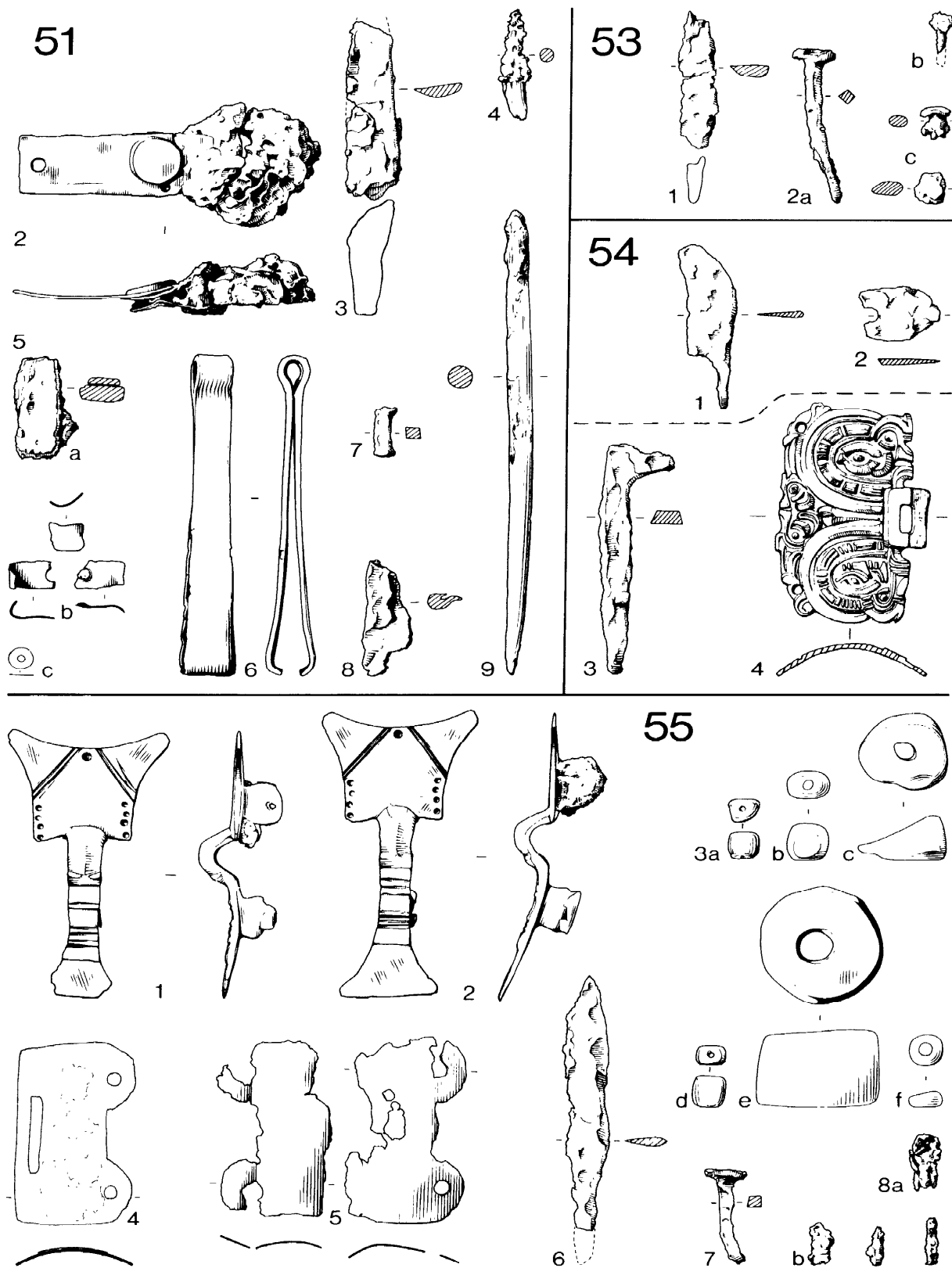


Figure 31 Objects from inhumation graves 51 contd, 53, 54, and 55 (scale 51/2, 5b-6, 8-9, 54/4, 55/1-5 at 1:1; 51/3-5a, 7, 53/1-2, 54/1-3, 55/6-8 at 1:2)

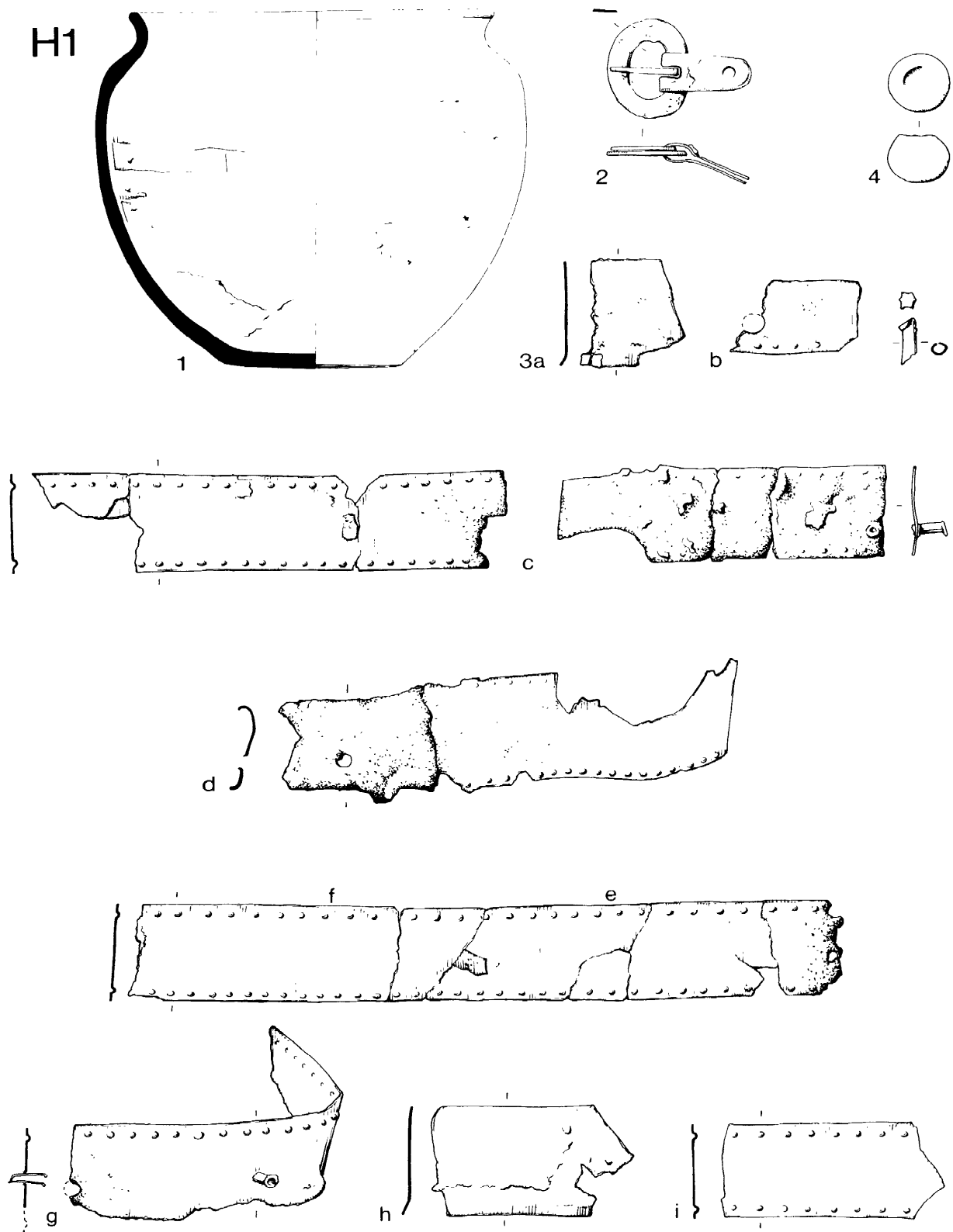


Figure 32 Objects from horse grave 1 (scale H1 12-3 at 1:1; H1 /1 at 1:3)

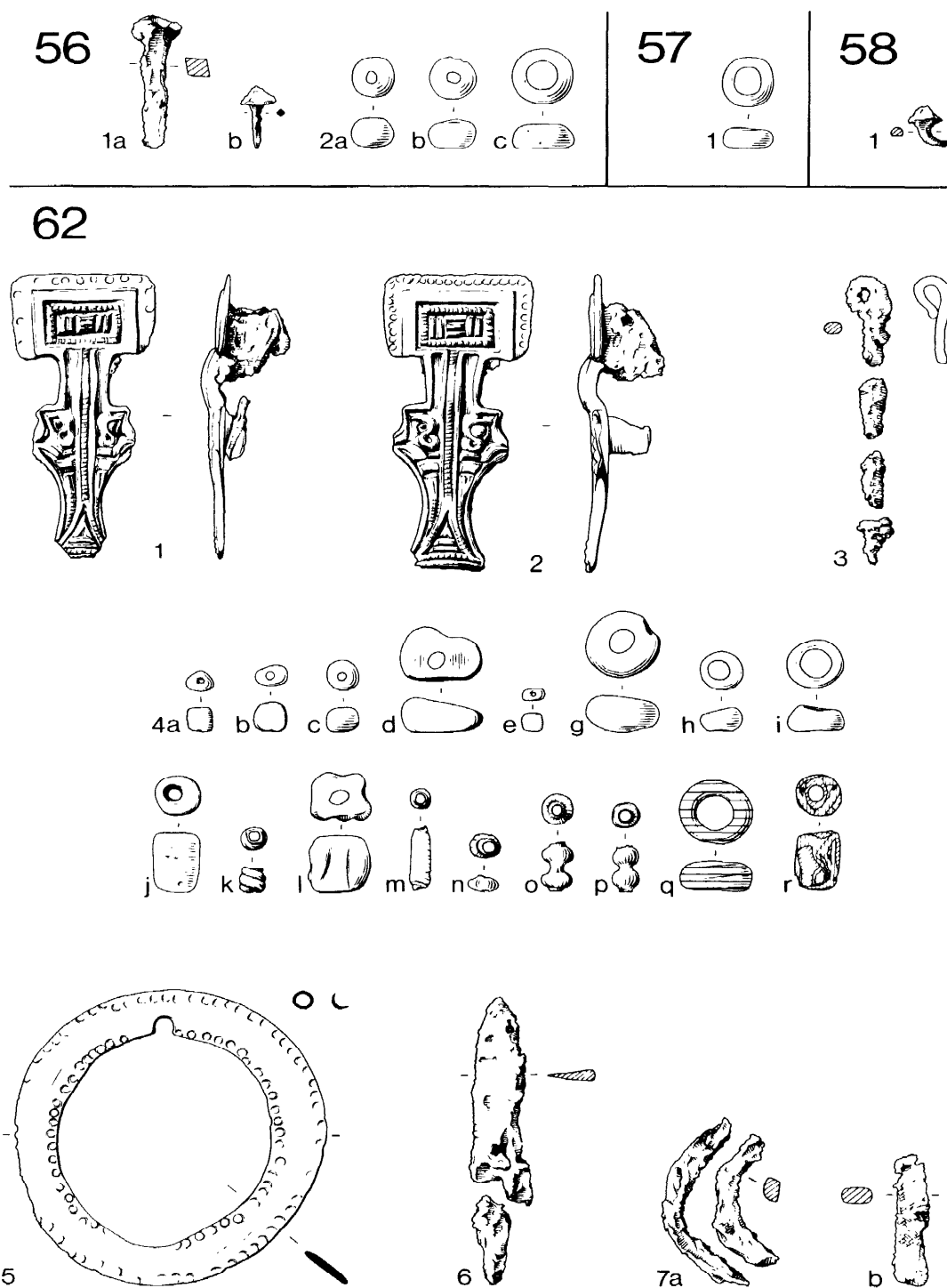


Figure 33 Objects from inhumation graves 56, 57, 58, and 62 (scale 56/2, 57/1, 62/1-2, 4-5 at 1:1; 56/1, 58/1, 62/3, 6-7 at 1:2)

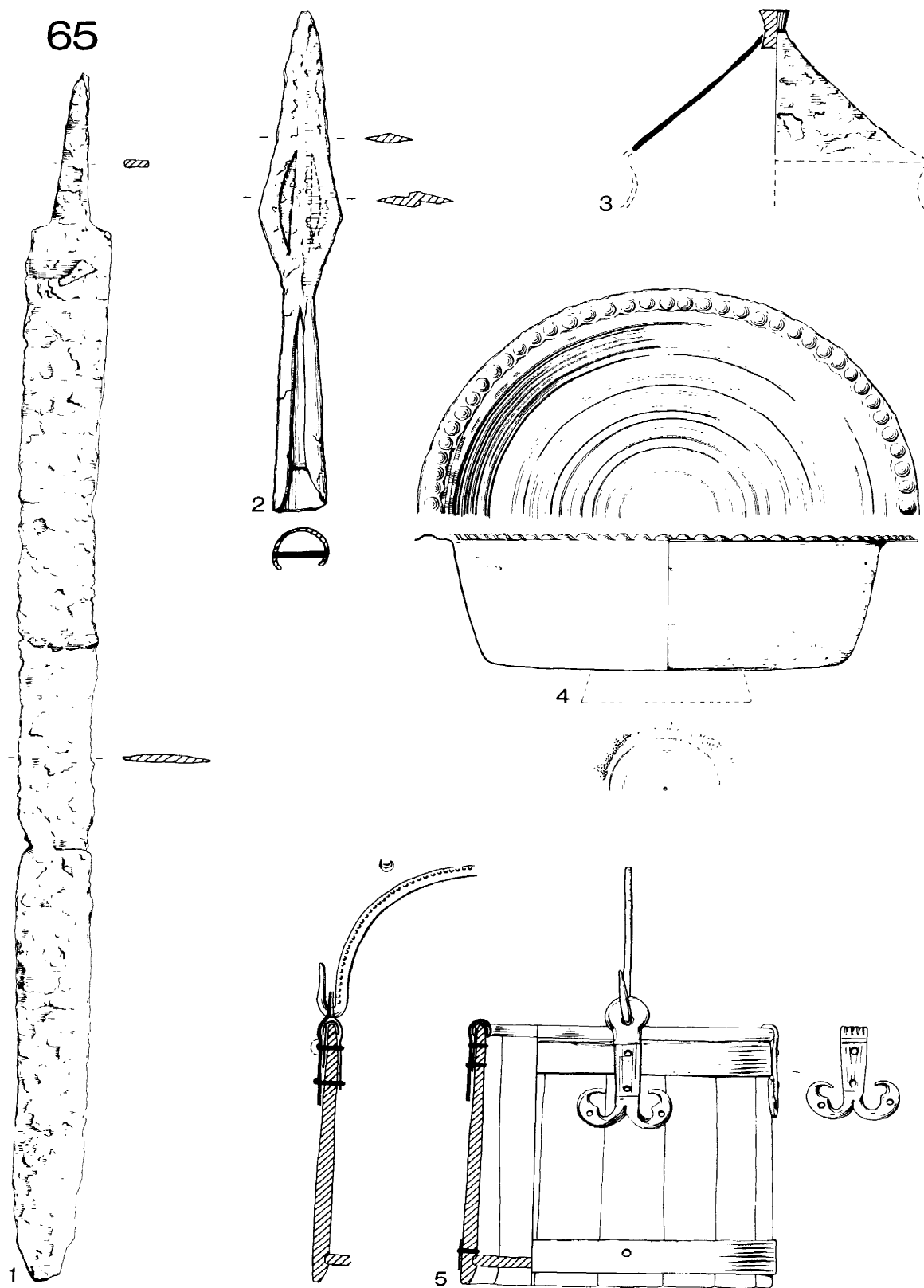


Figure 34 Objects from inhumation grave 65 (scale 65/2-3, 5 at 1:2; 65/4 at 1:3; 65/1 at 1:4)

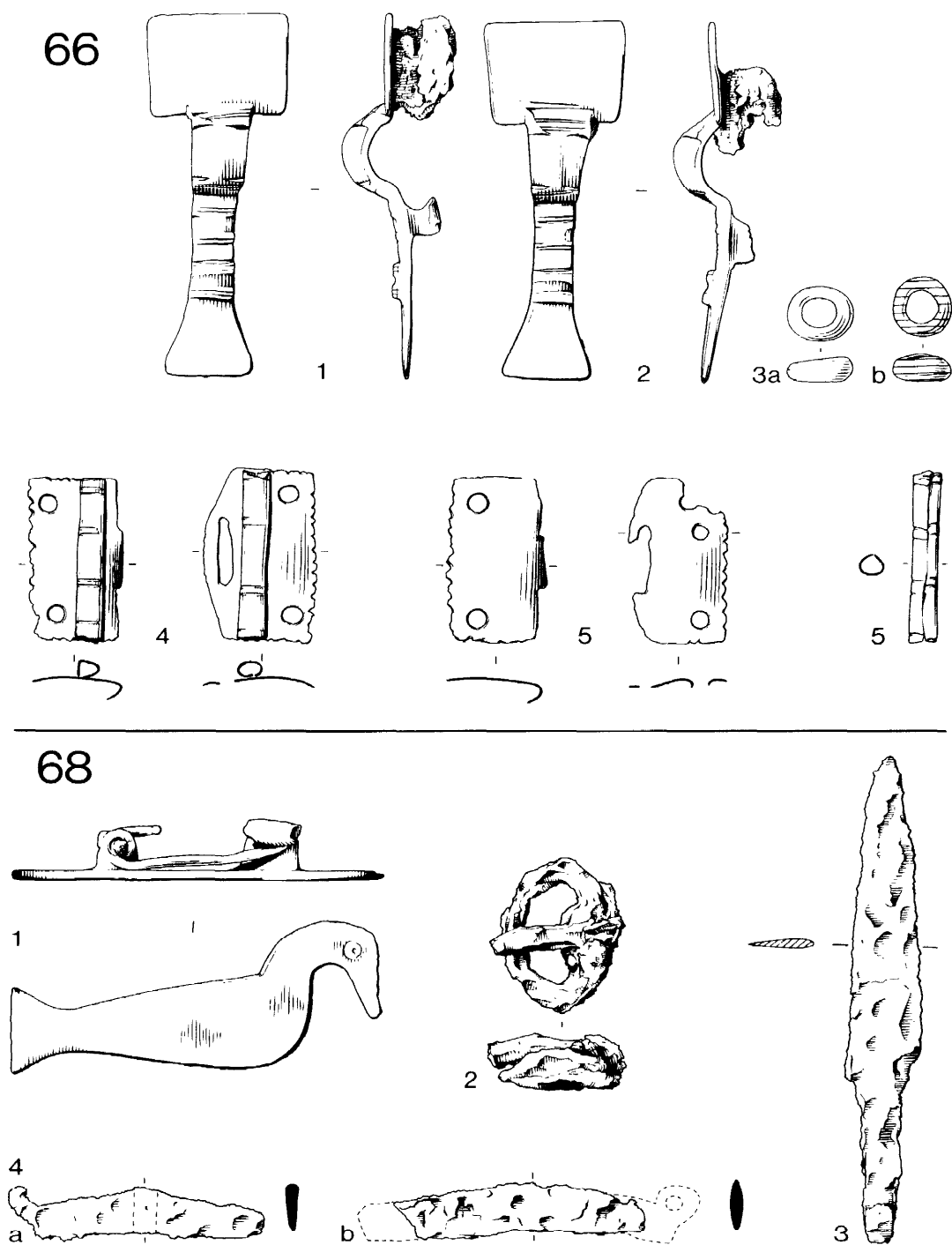


Figure 35 Objects from inhumation graves 66 and 68 (scale 66/ 1-5, 68/1 at 1:1; 68/2-4 at 1:2)

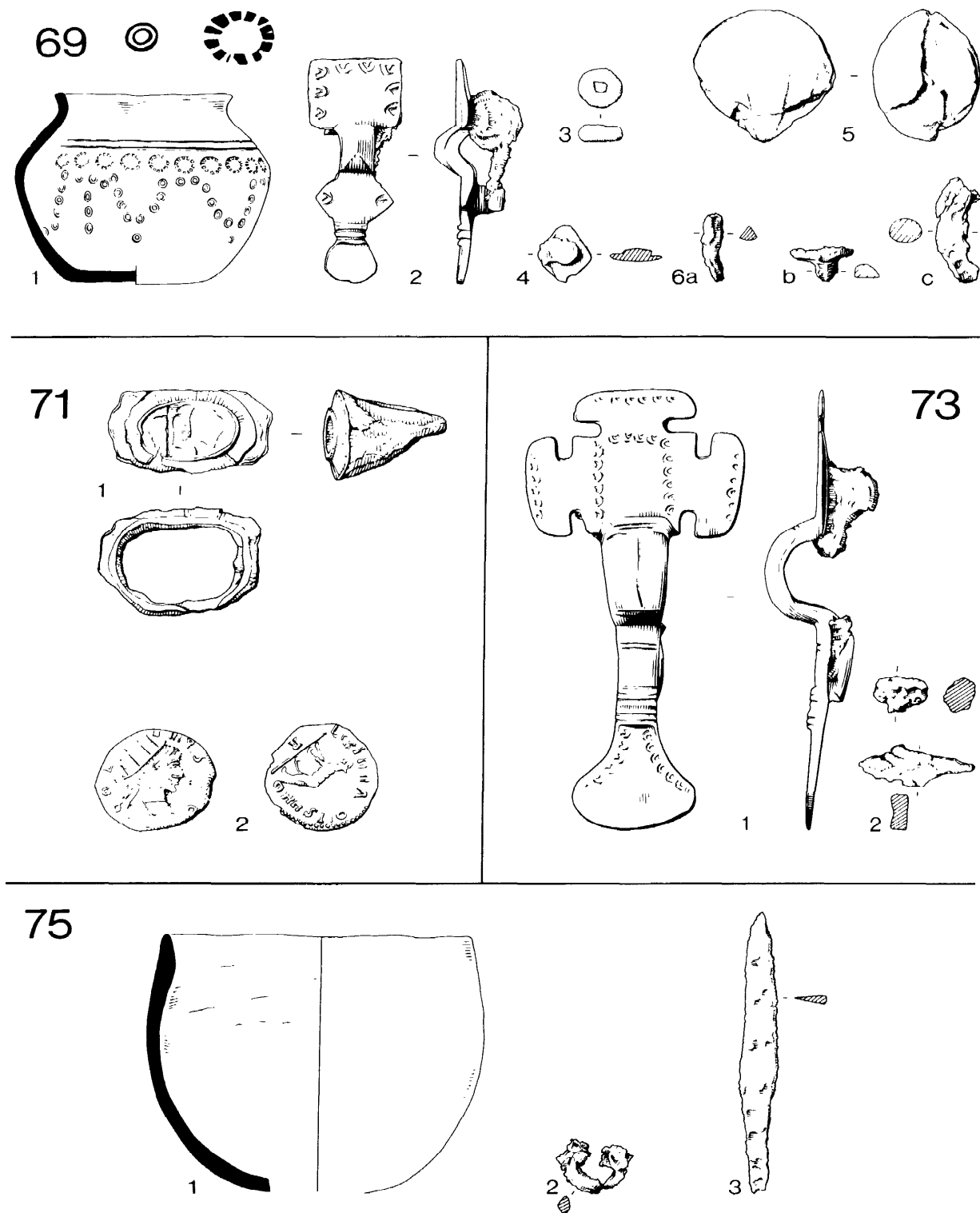


Figure 36 Objects from inhumation graves 69, 71, 73, and 75 (scale 69/2-5, 71/1-2, 73/1 at 1:1; 69/6, 73/2, 75/2-3 at 1:2 69/1, 75/1 at 1:3)

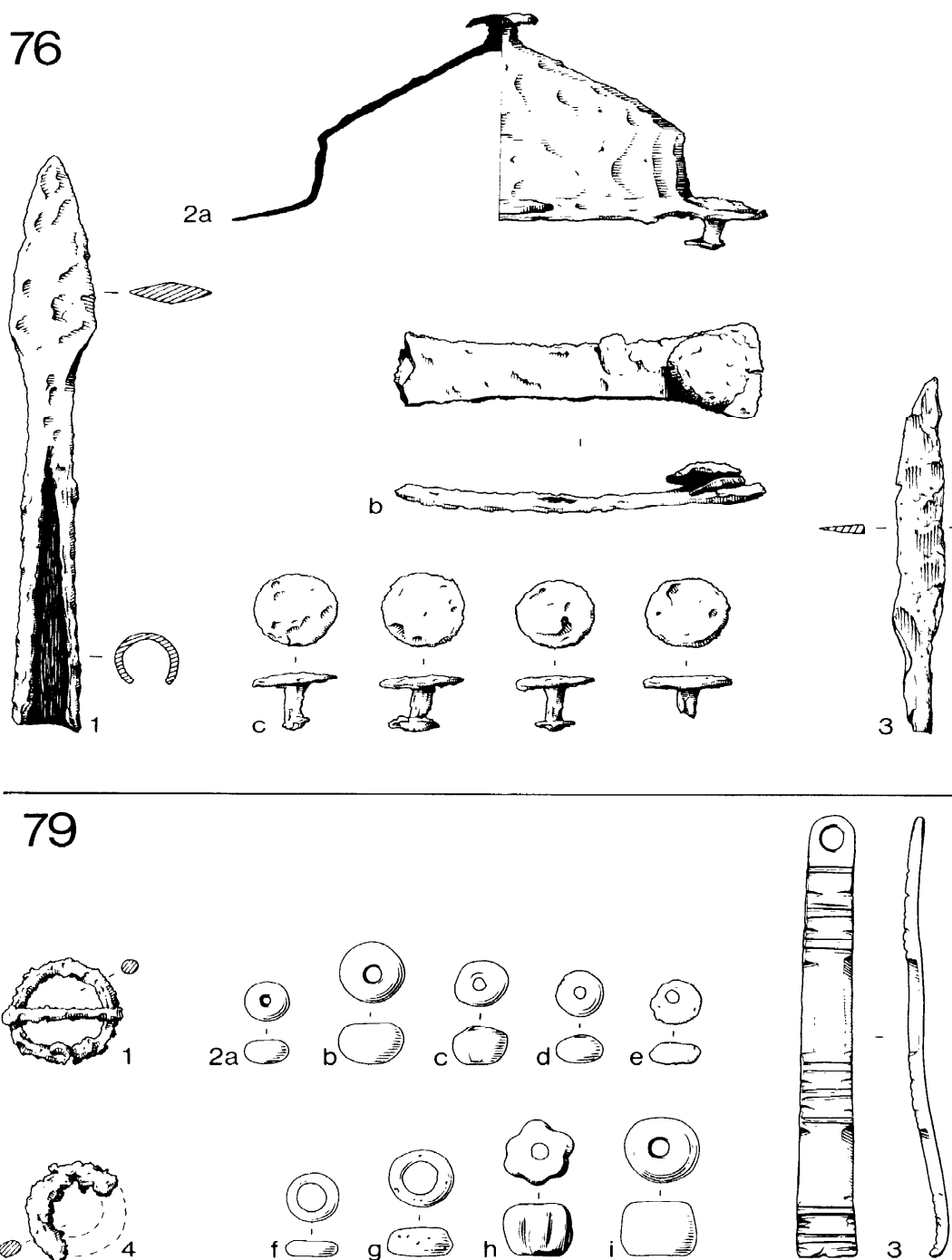


Figure 37 Objects from inhumation graves 76 and 79 (scale 7912-3 at 1:1; 76/1-3, 79/1, 4 at 1:2)

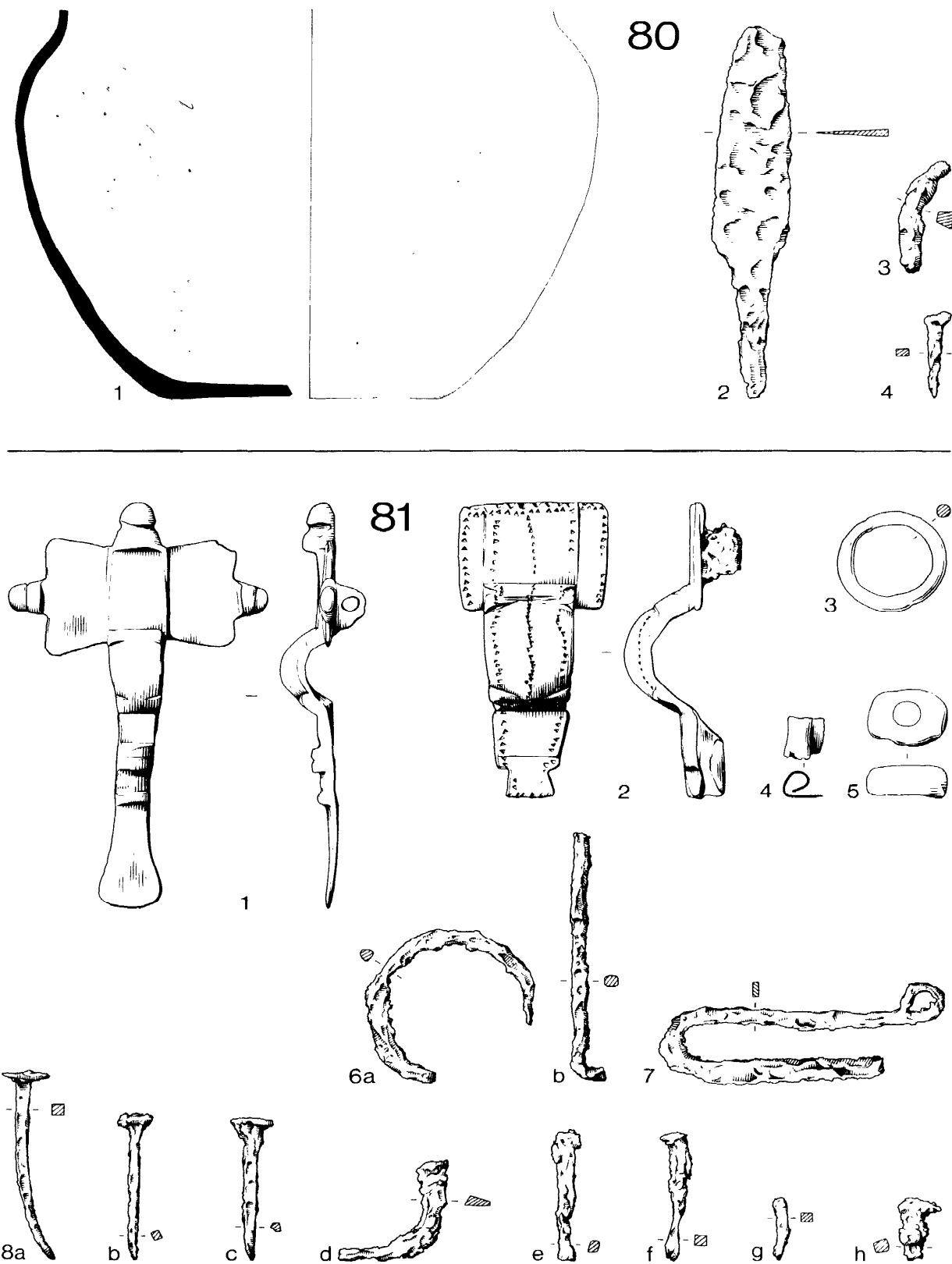


Figure 38 Objects from inhumation graves 80 and 81 (scale 81/1-5 at 1:1; 80/2-4, 81/6-8 at 1:2; 80/1 at 1:3)



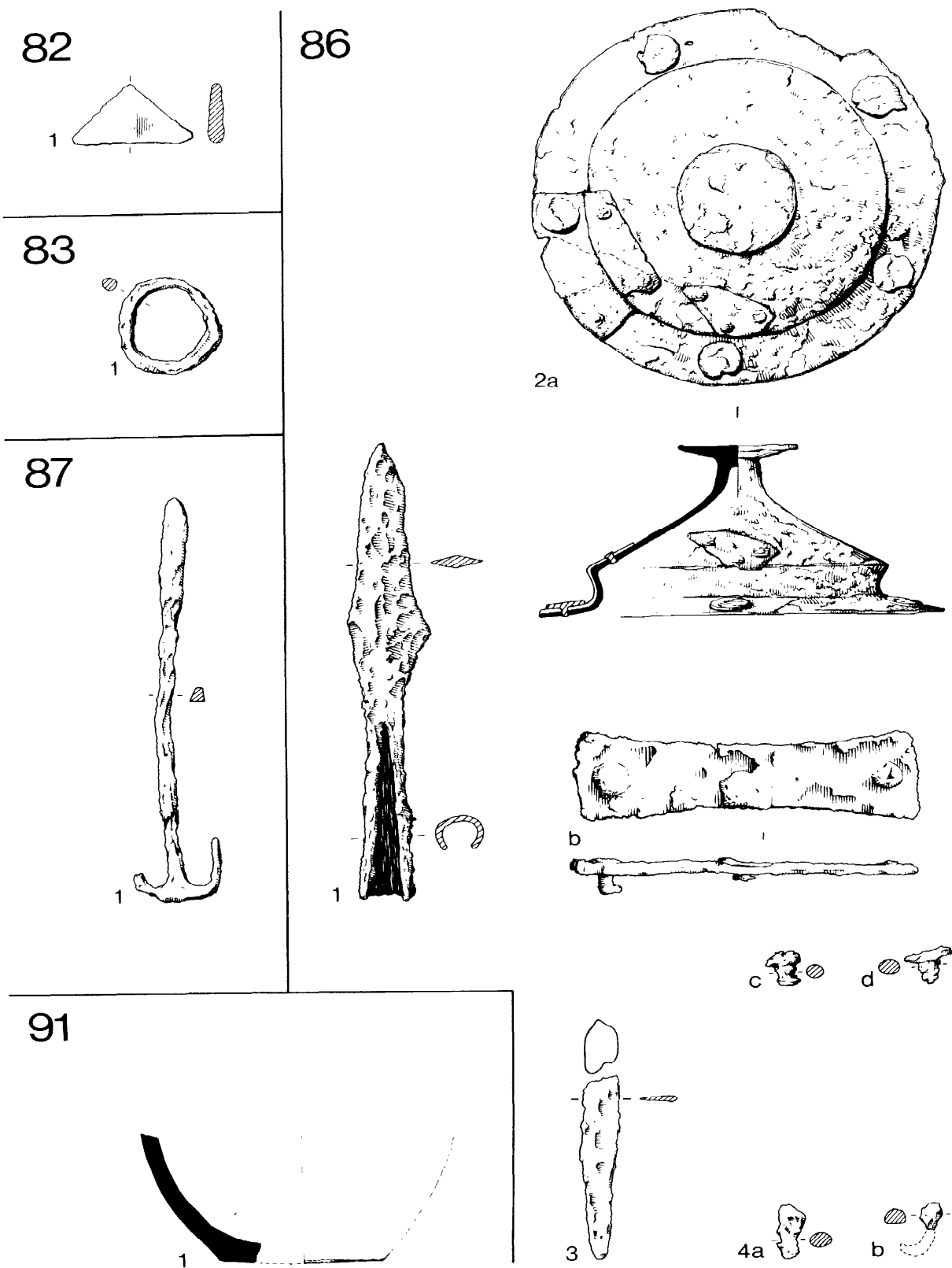


Figure 39 Objects from inhumation graves 82, 83, 86, 87, and 91 (scale 82/1 at 1:1 83/1, 86/1-4 87/1 at 1:2; 91/1 at 1:3)

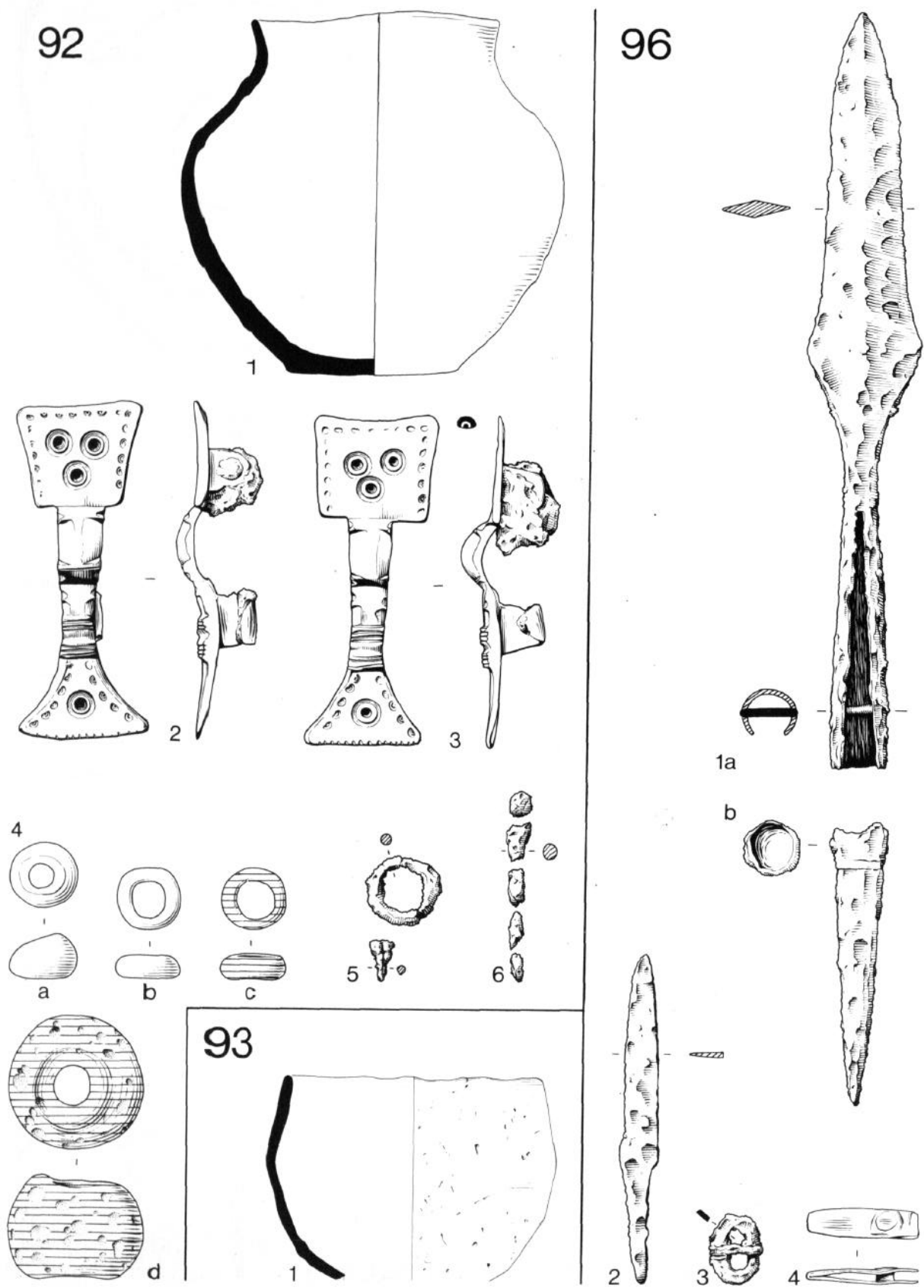


Figure 40 Objects from inhumation graves 92, 93, and 96 (scale 92/2-4, 96/4 at 1:1; 92/5-6, 96/1-3 at 1:2; 92/1, 93/1 at 1:3)

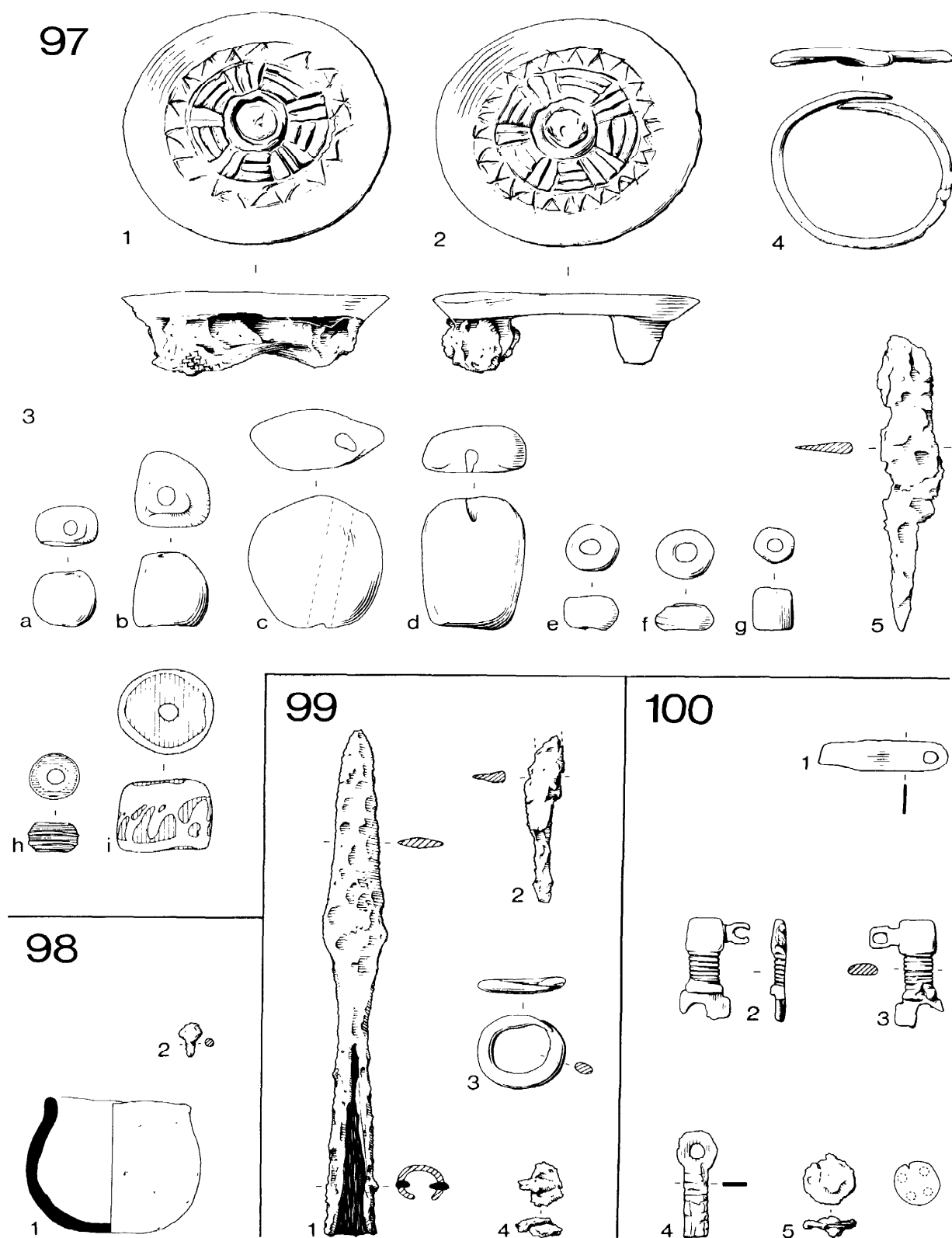


Figure 41 Objects from inhumation graves 97, 98, 99, and 100 (scale 97/14, 99/3, 100/14 at 1:1; 97/5, 98/2, 99/1-2, 4, 100/5 at 1:2; 98/1 at 1:3)

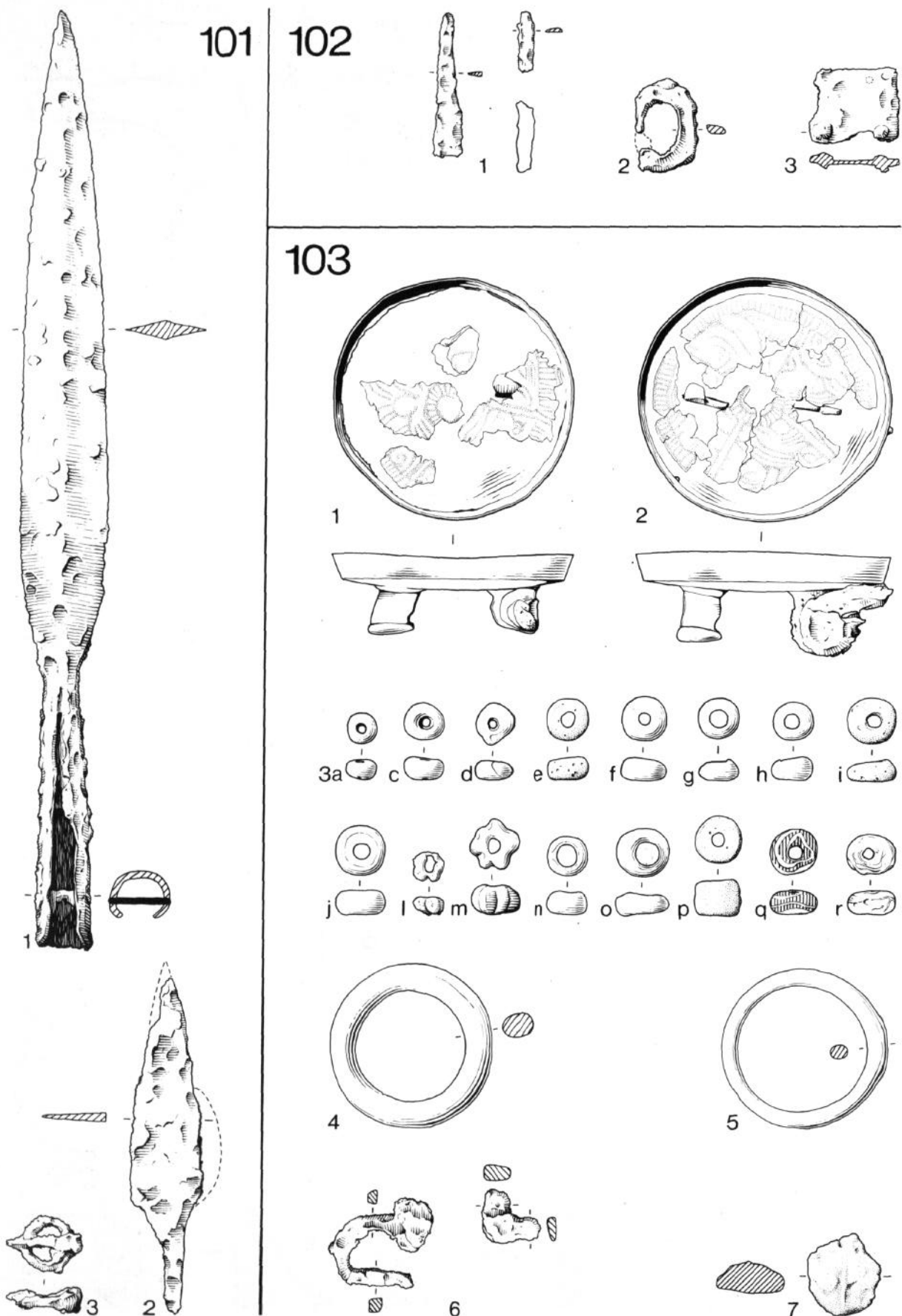


Figure 42 Objects from inhumation graves 101, 102, and 103 (scale 103/1-5 at 1:1; 101/1-3, 102/1-3, 103/6-7 at 1:2)

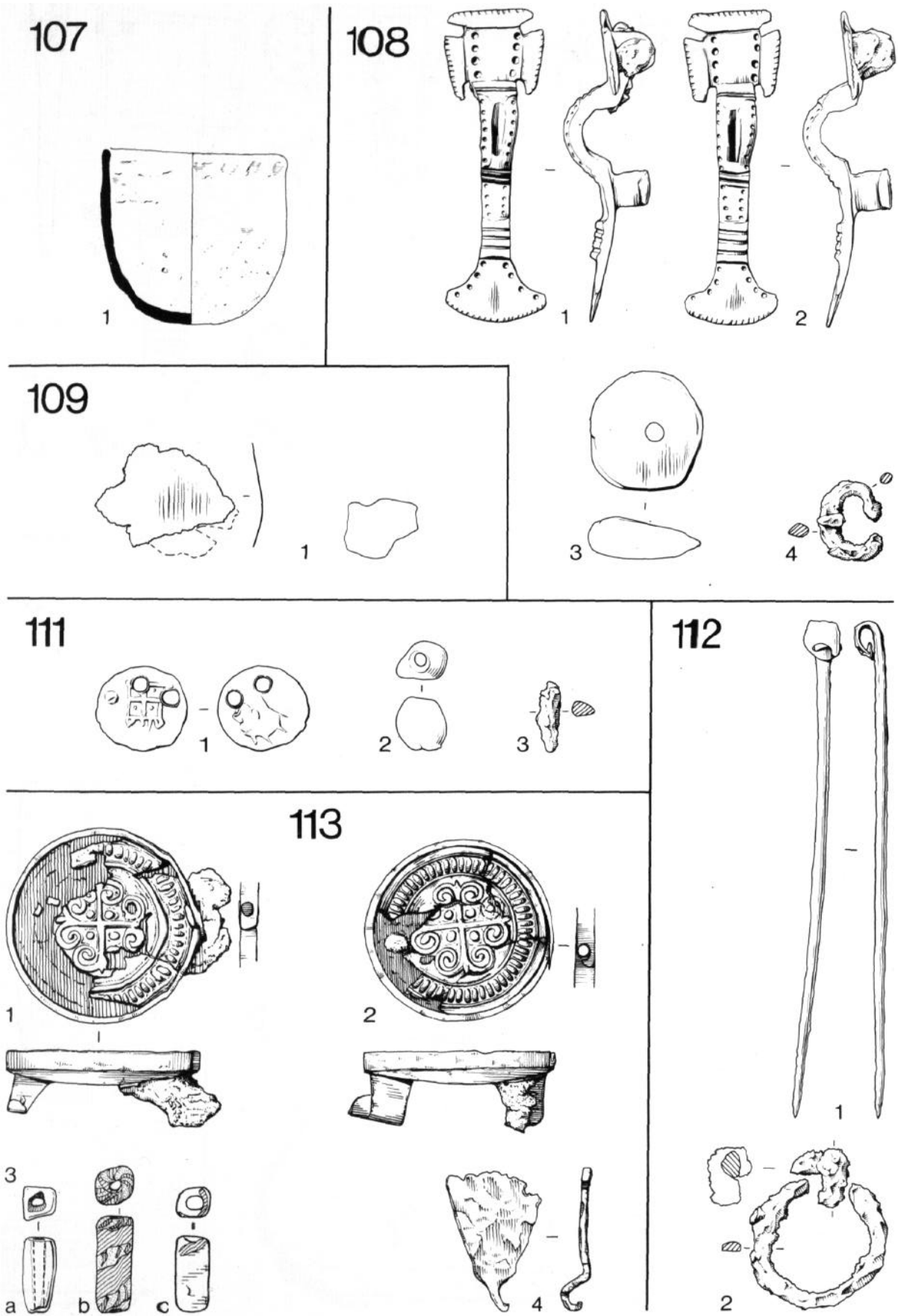
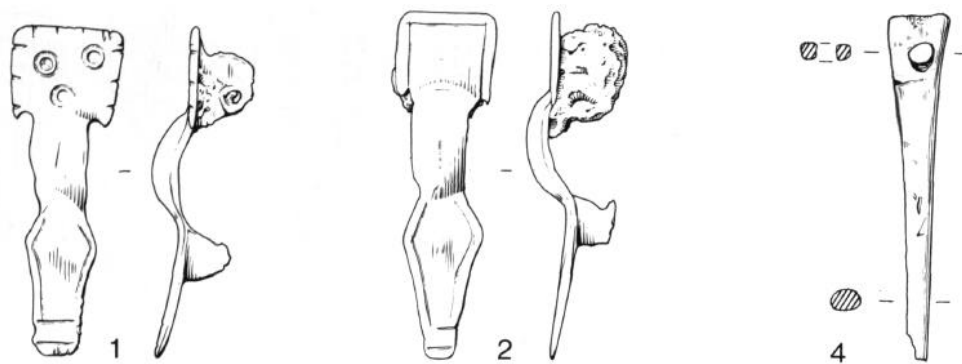


Figure 43 Objects from inhumation graves 107, 108, 109, 111, 112, and 113 (scale 108/1-3, 109/1, 111/1-2, 112/1, 113/1-3 at 1:1; 108/4, 111/3, 112/2, 113/4 at 1:2; 107/1 at 1:3)

114



115

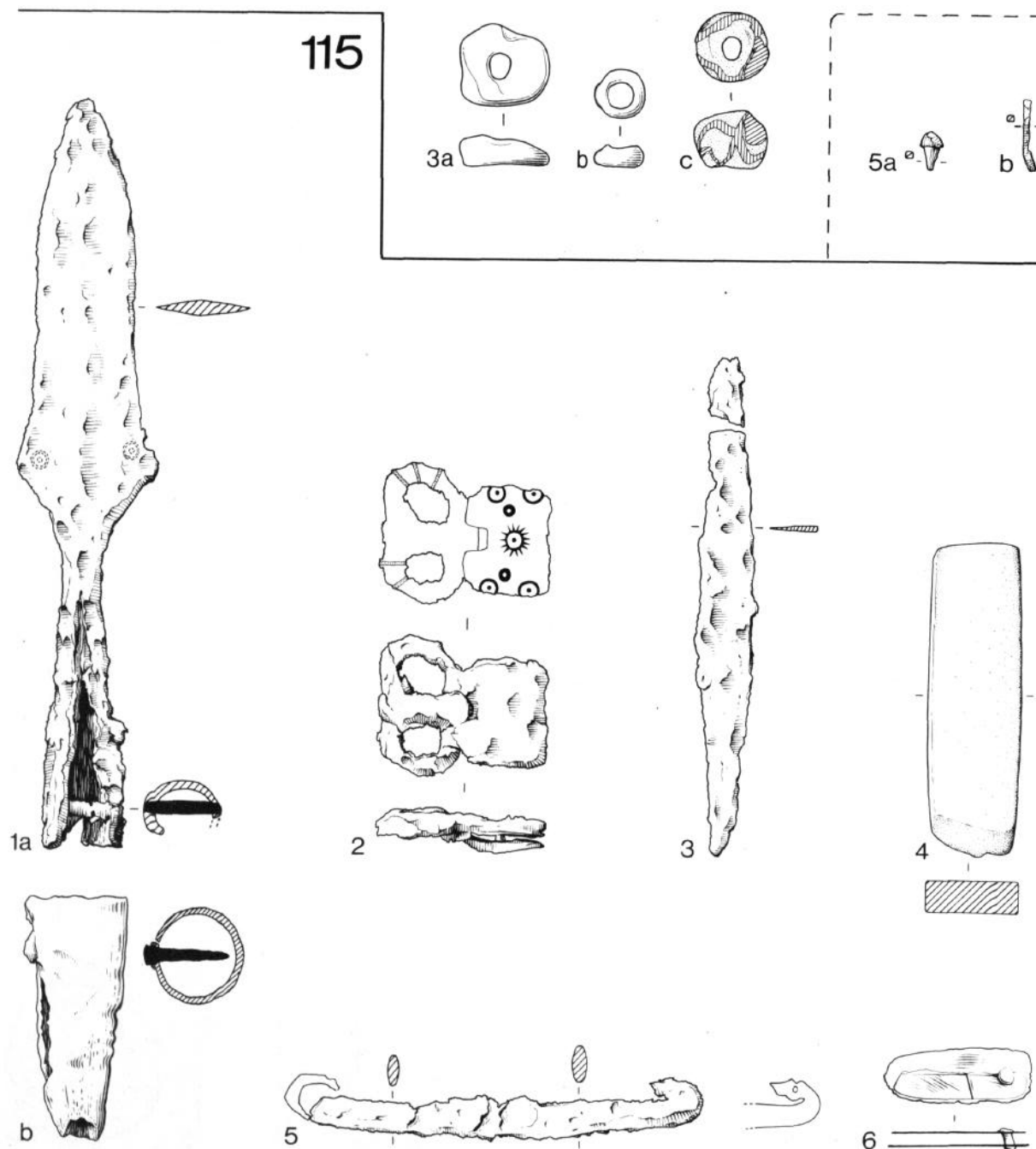


Figure 44 Objects from inhumation graves 114 and 115 (scale 114/1-4, 115/1b, 4, 6 at 1:1; 114/5, 125/1a, 2-3, 5 at 1:2)

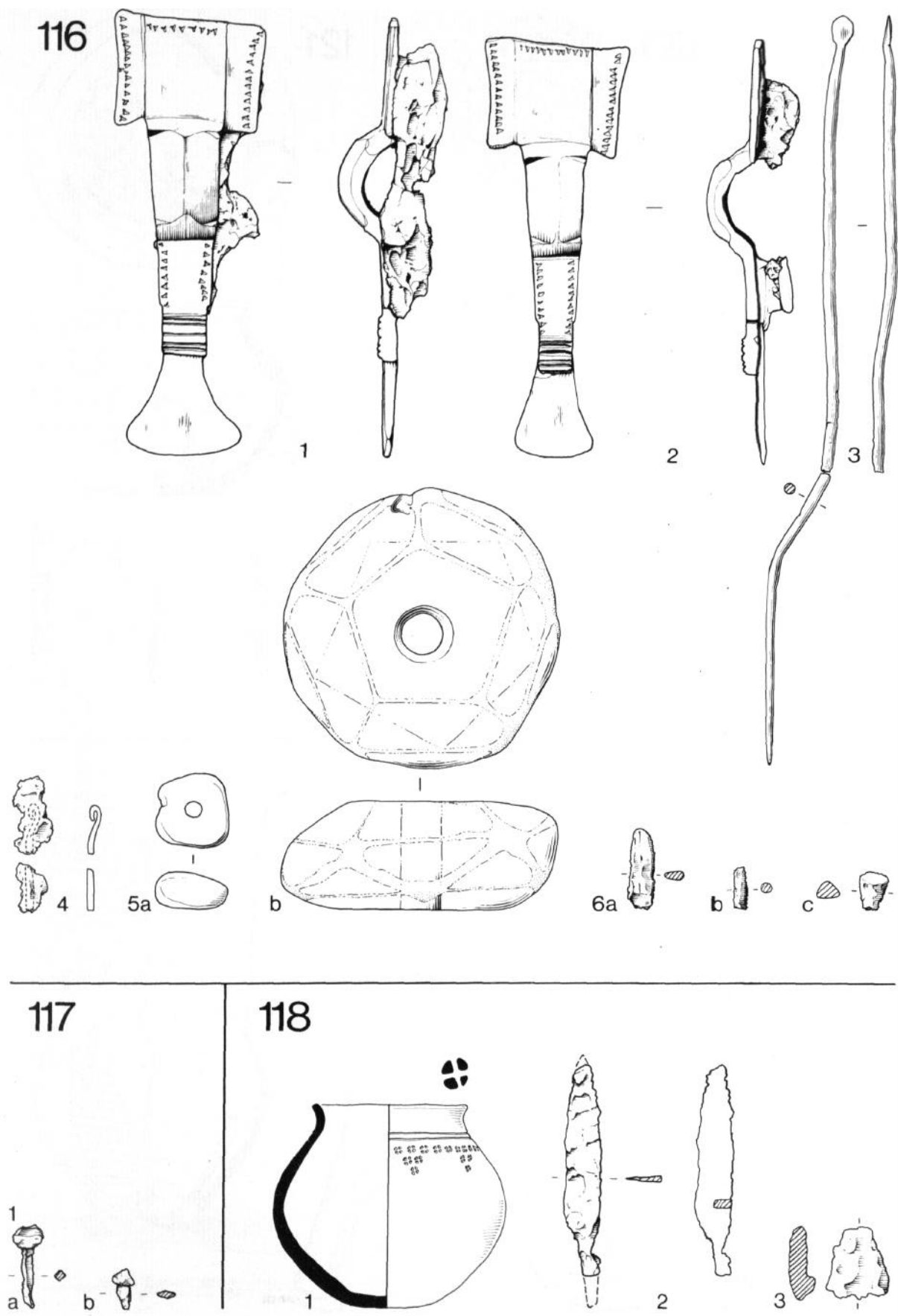


Figure 45 Objects from inhumation graves 116, 117, and 118 (scale 116/1-3, 5 at 1:1; 116/4, 6, 117/1, 118/2-3 at 1:2; 118/1 at 1:3)

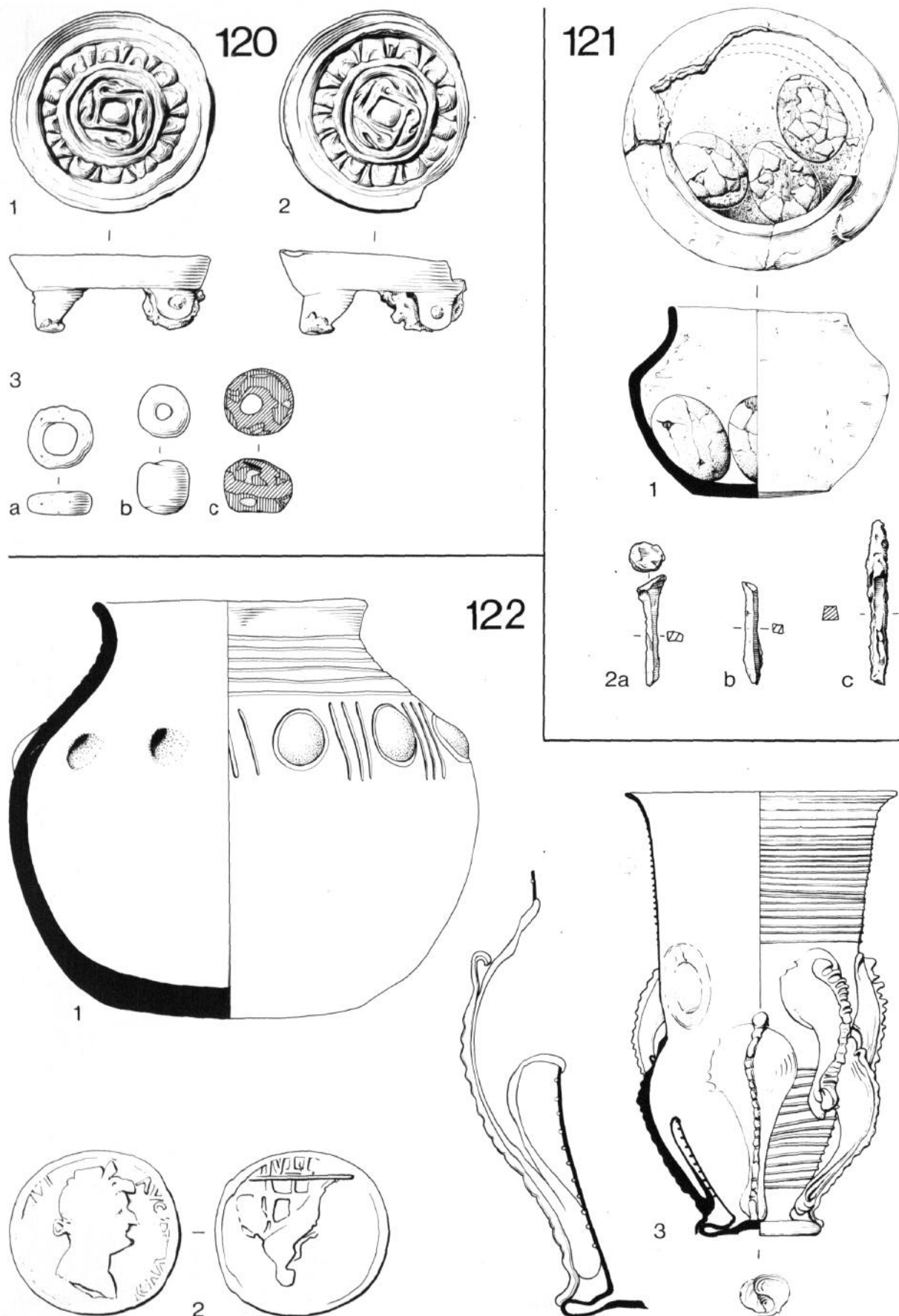


Figure 46 Objects from inhumation graves 120, 121, and 122 (scale 120/1-3, 122/2 at 1:1; 121/2, 122/3 at 1:2; 121/1, 122/1 at 1-3)



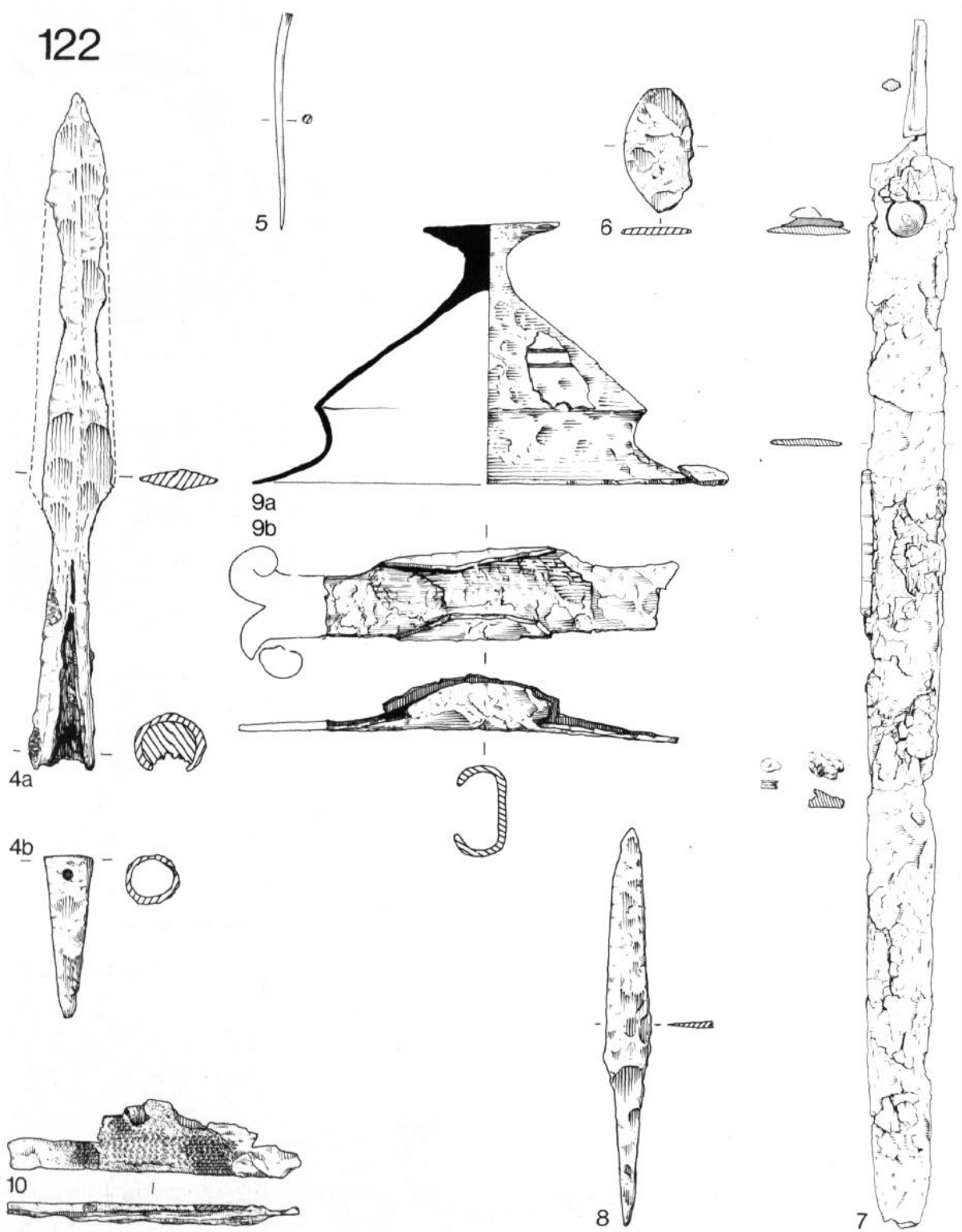


Figure 47 Objects from inhumation grave 122 contd (scale 122/5 at 1:1; 122/4, 6, 8-10 at 1:2; 122/7 at 1:4)

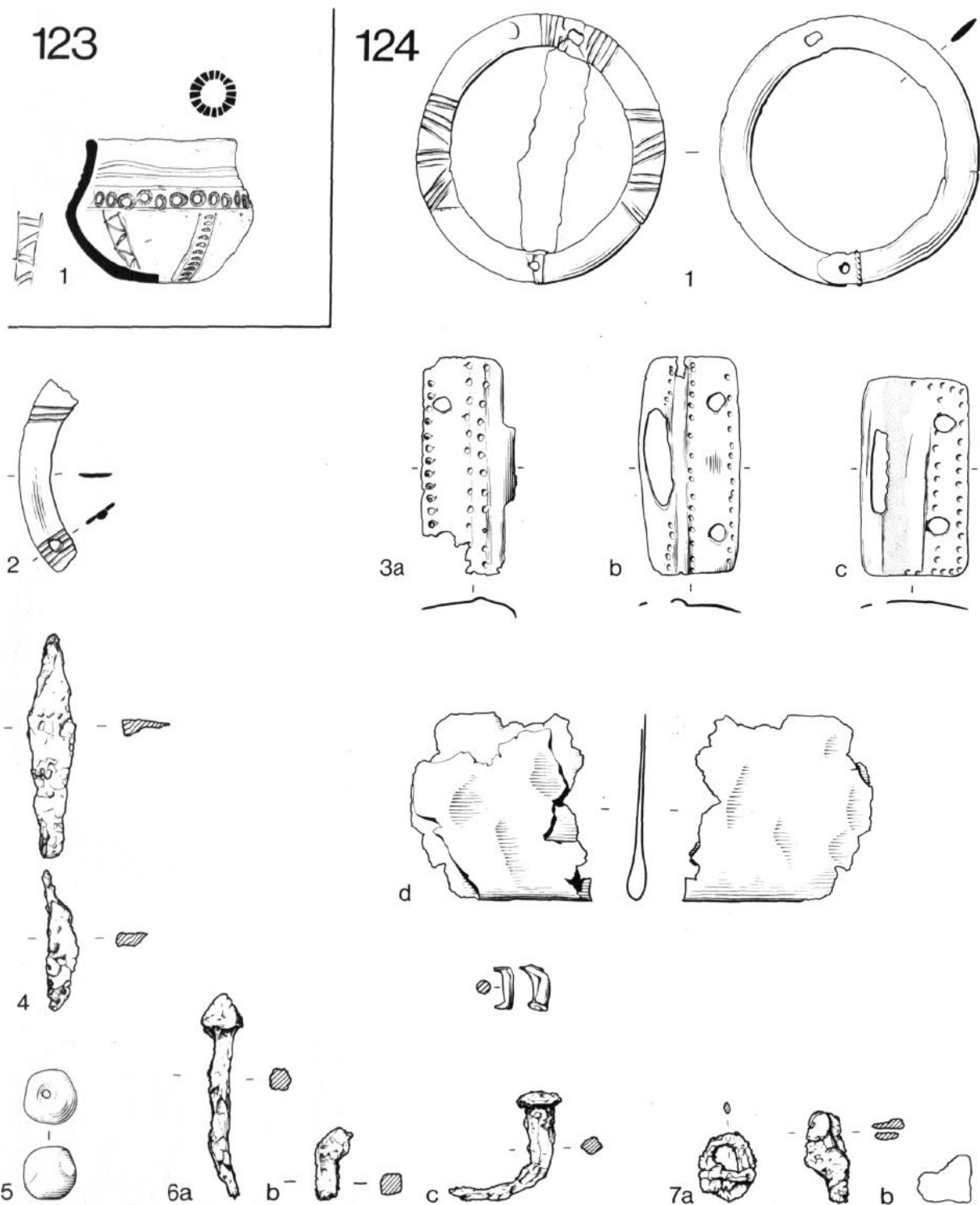


Figure 48 Objects from inhumation graves 123 and 124 (scale 124/1-3, 5 at 1:1; 124/4, 6-7 at 1:2; 123/1 at 1:3)

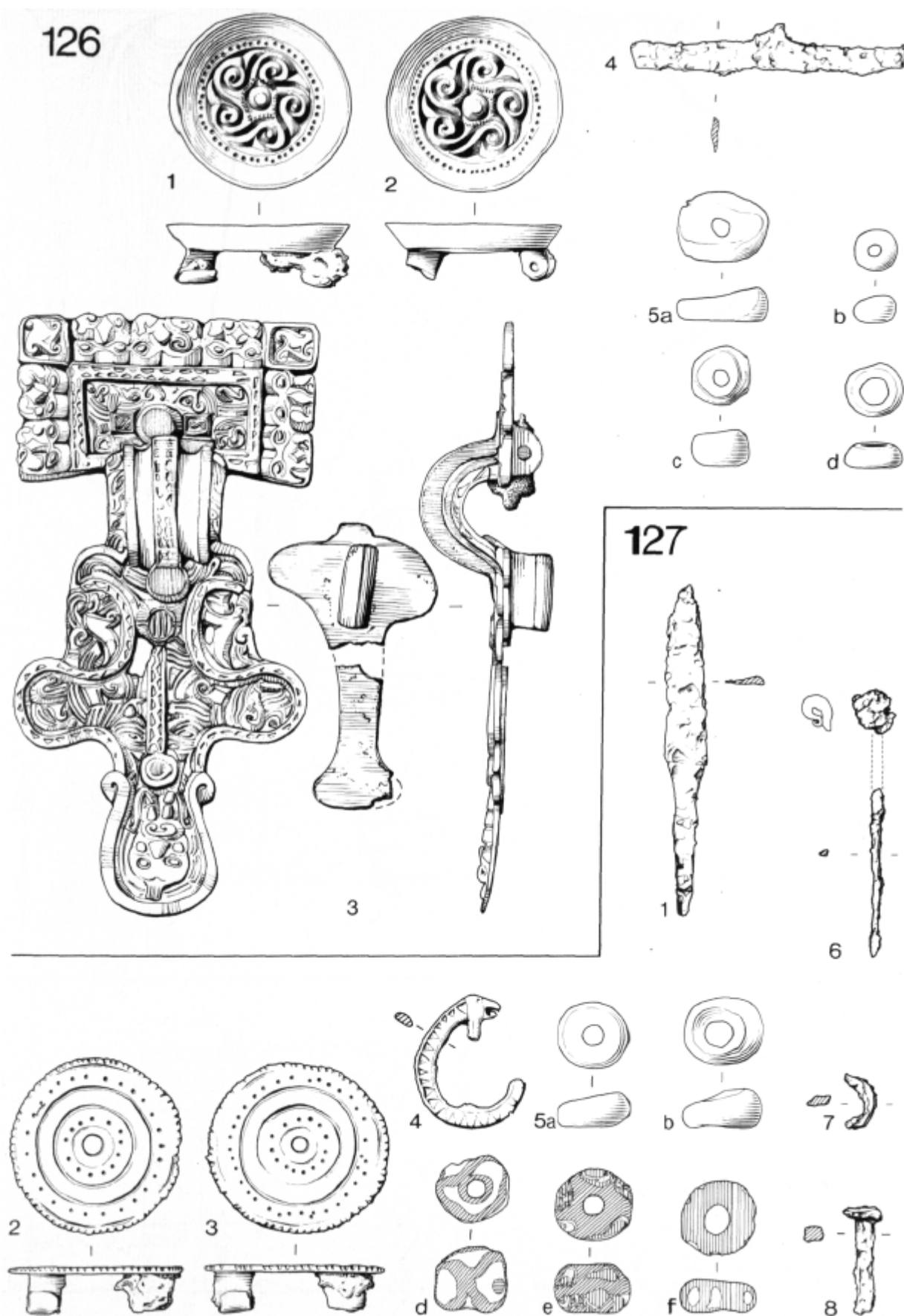
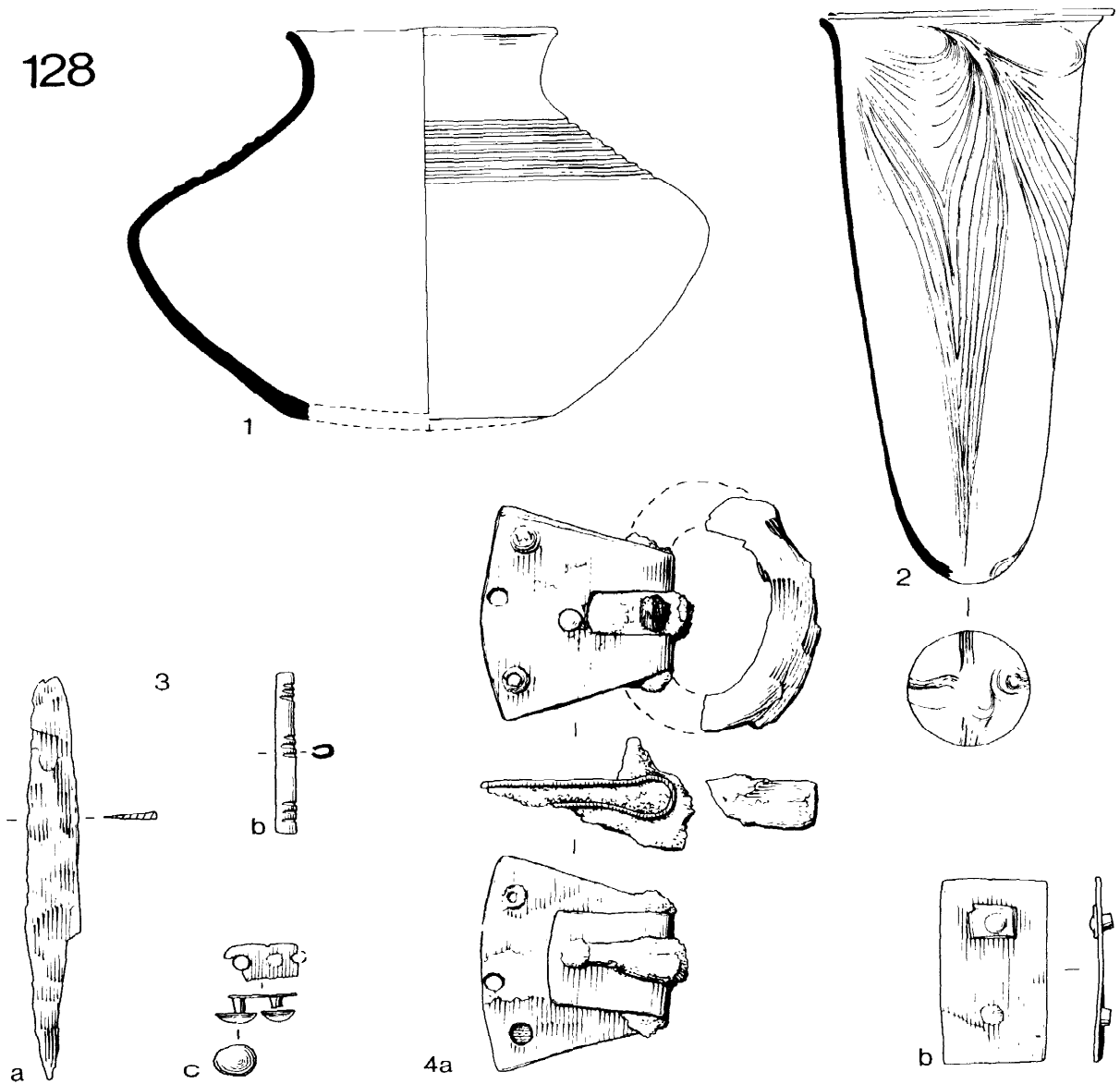


Figure 49 Objects from inhumation graves 126 and 127 (scale 126/1-3, 5, 127/2-5 at 1:1; 126/4, 127/1, 6-8 at 1:2)

128



129

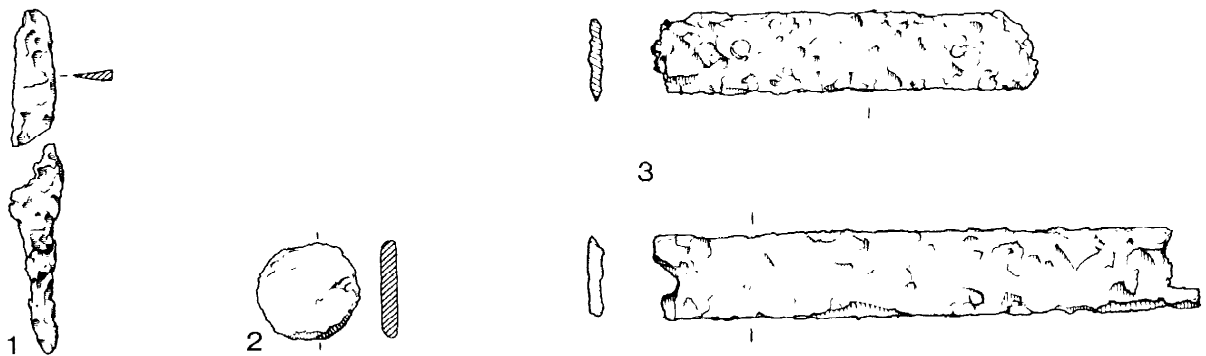


Figure 50 Objects from inhumation graves 128 and 129 (scale 128/3b-c, 4 at 1:1; 128/2, 3a, 129/13 at 1:2; 128/1 at 1:3)

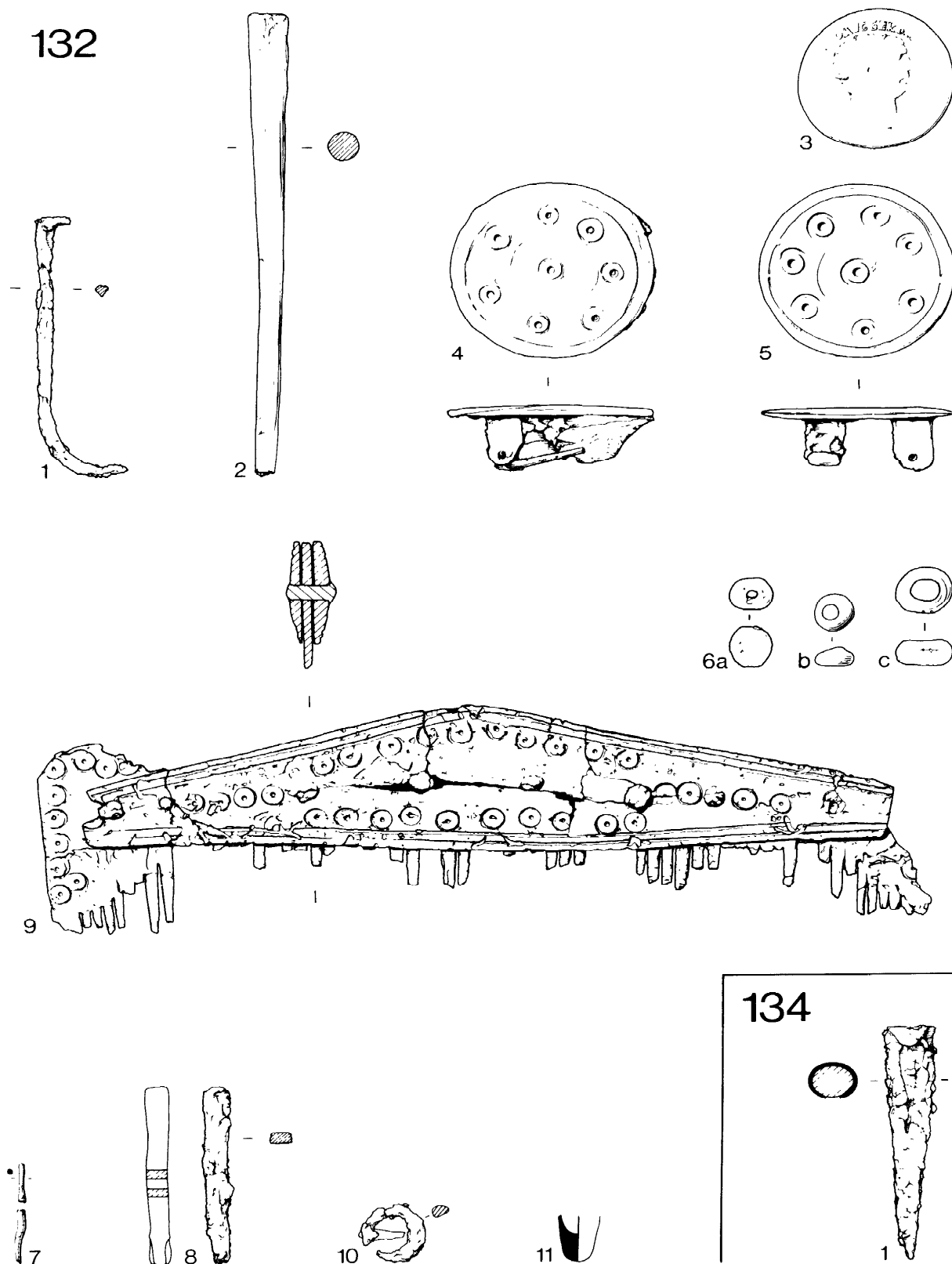


Figure 51 Objects from inhumation graves 132 and 134 (scale 132/2-6, 9 at 1:1; 132/1, 7-8, 10-11, 134/1 at 1:2)

135

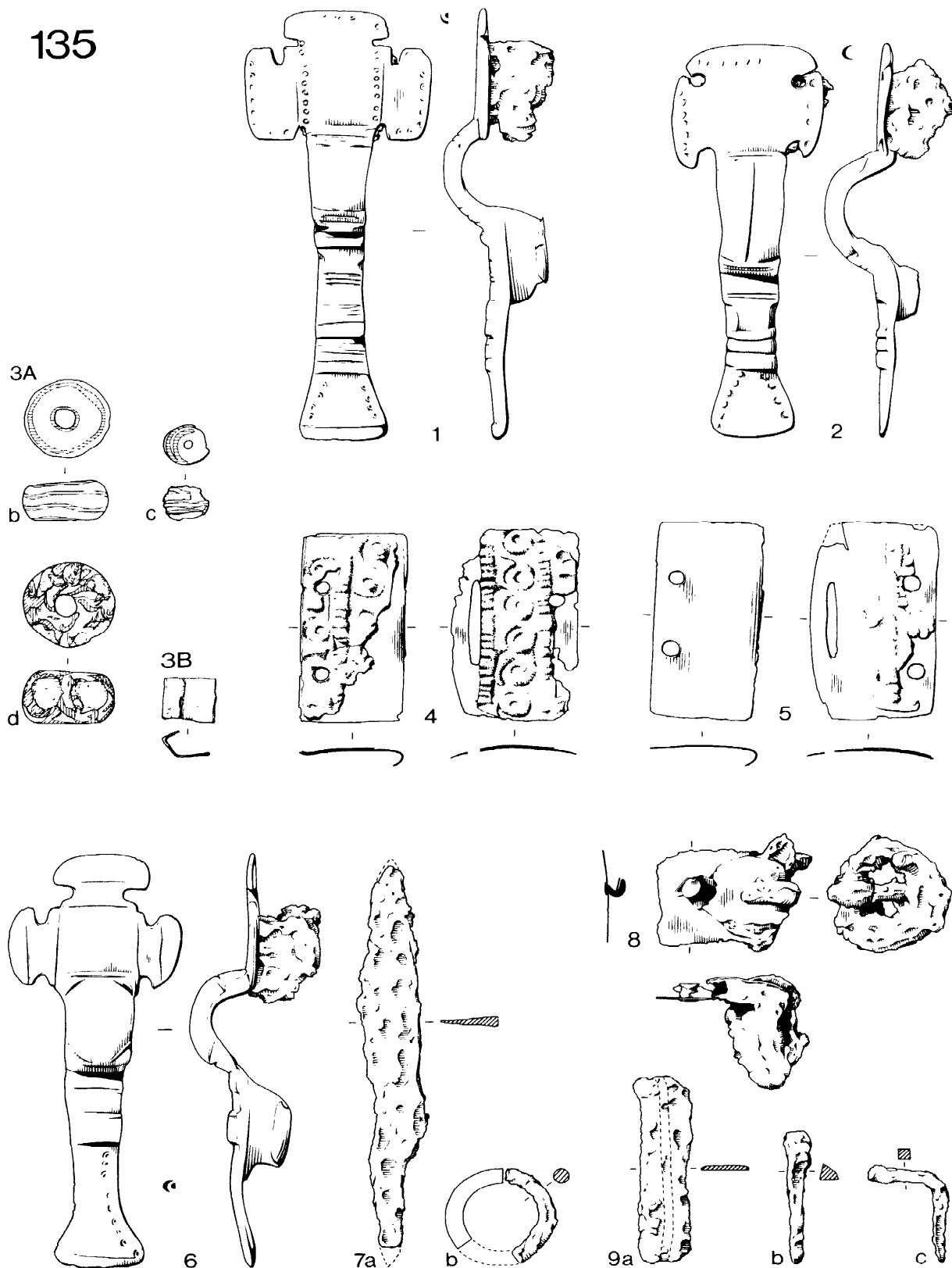


Figure 52 Objects from inhumation grave 135 (scale 135/1-6, 8 at 1:1; 135/7, 9 at 1:2)

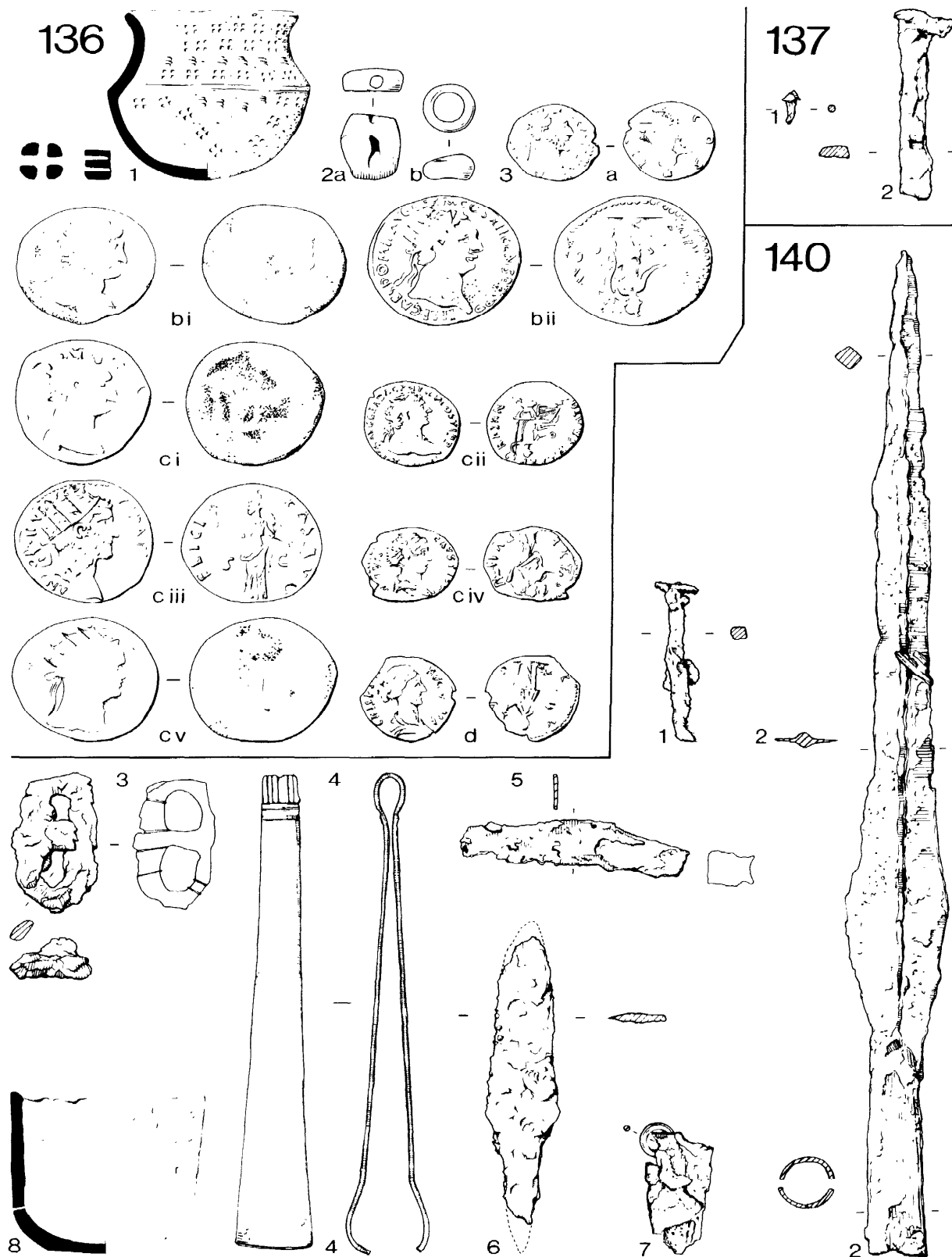


Figure 53 Objects from inhumation graves 136, 137, and 140 (scale 136/23, 140/4, 7 at 1-1; 137/1-2, 140/1-3, 5-6 at 1:2; 136/1, 140/8 at 1:3)

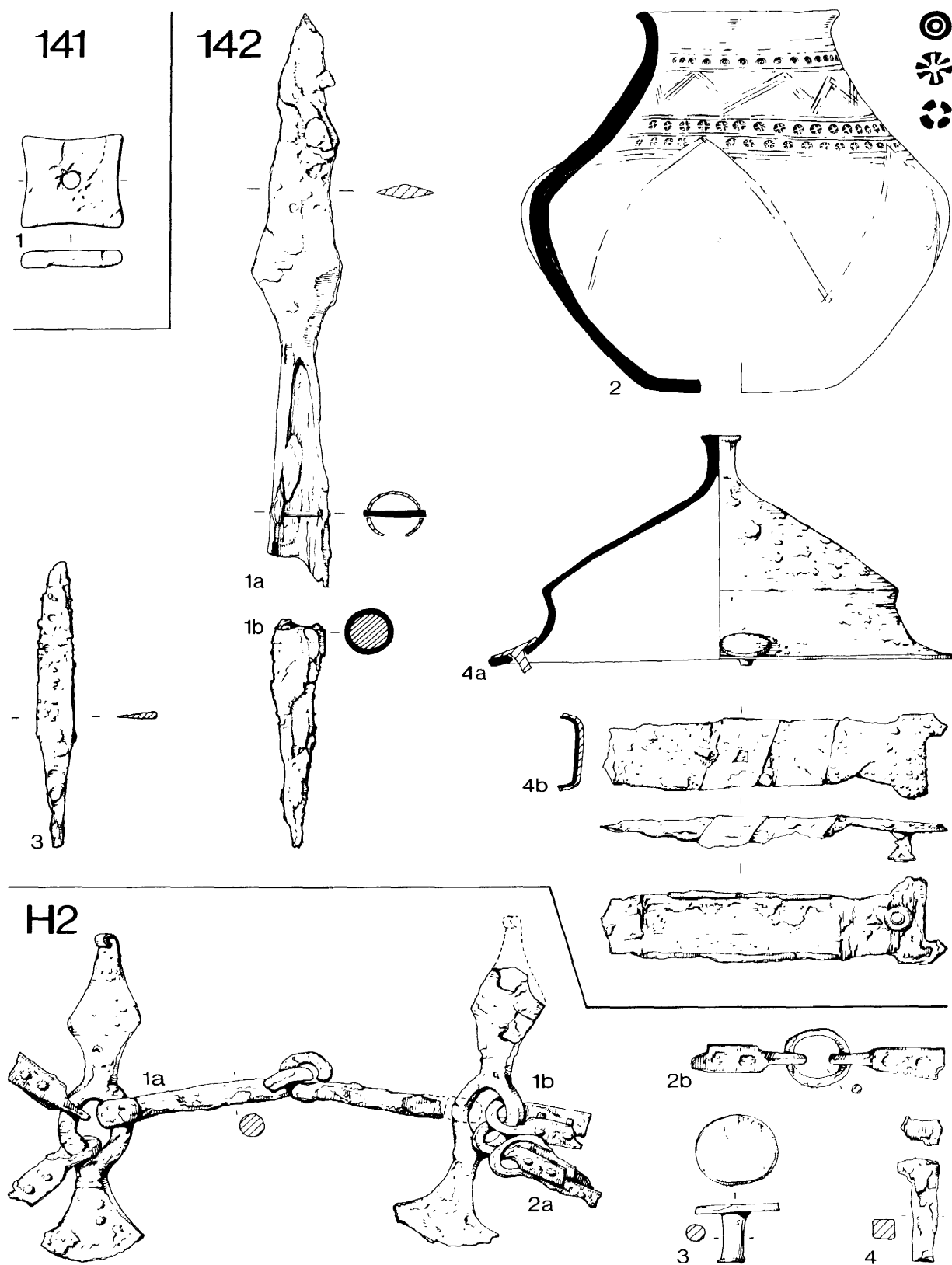


Figure 54 Objects from inhumation graves 141, 142, and horse grave 2 (scale 141/1, H2/3 at 1:1; 142/1, 3-4, H2/1-2, 4 at 1:2; 142/2 at 1:3)



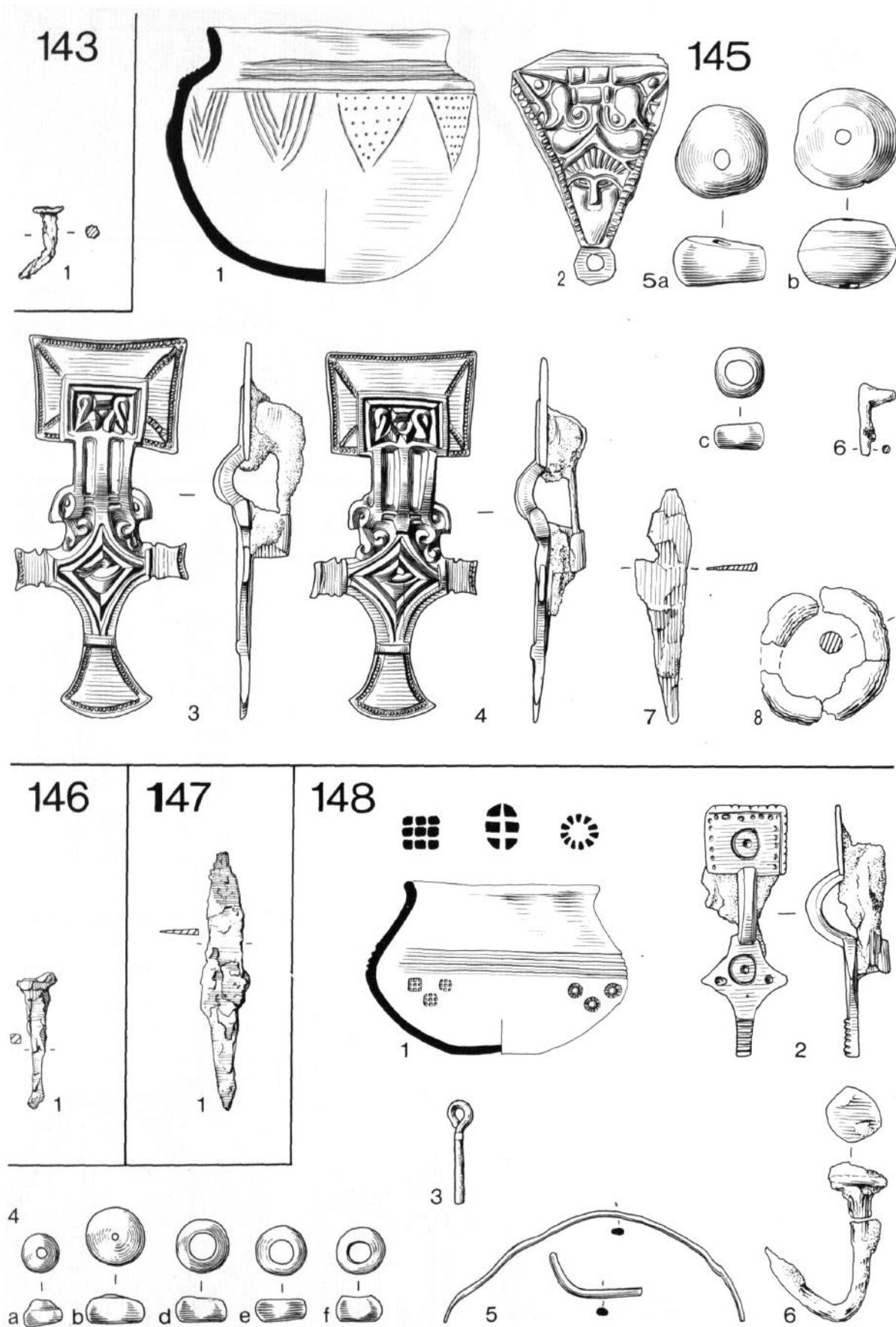


Figure 55 Objects from inhumation graves 143, 145, 146, 147, and 148 (scale 145/2-5, 148/2, 4-5 at 1:1; 143/1, 145/6-8, 146/1, 147/1, 148/3, 6 at 1:2; 145/1, 148/1 at 1:3)

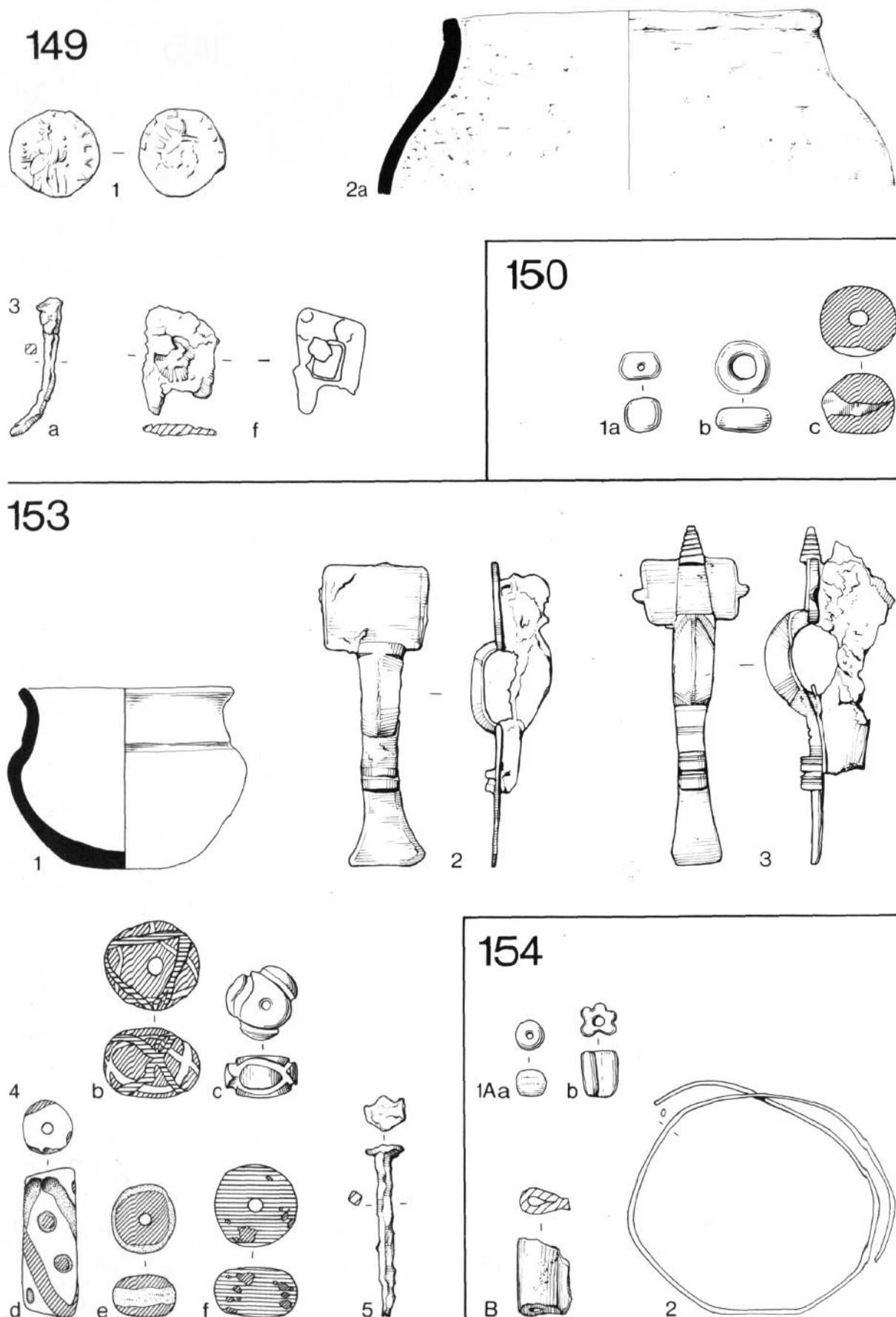


Figure 56 Objects from inhumation graves 149, 150, 153, and 154 (scale 149/1, 150/1, 153/2-4, 154/1-2 at 1:1; 149/3, 153/5 at 1:2; 149/2a, 153/1 at 1:3)

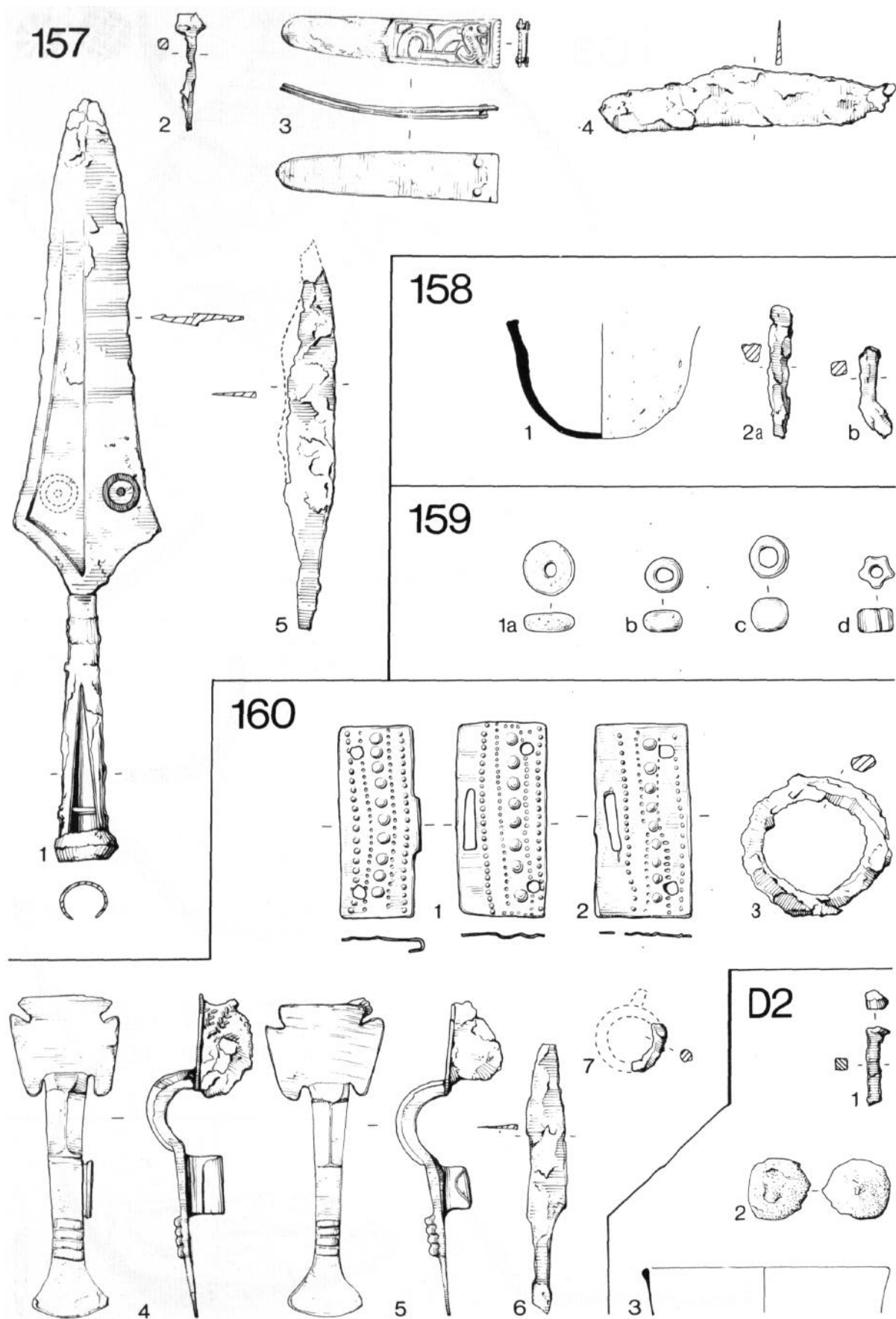


Figure 57 Objects from inhumation graves 157, 158, 159, 160, and dog 2 (scale 157/3, 159/1, 160/1-2, 4-5, D2/2 at 1:1; 157/1-2, 4-5, 158/2, 160/3, 6-7, D2/1, 3 at 1:2; 158/1 at 1:3)

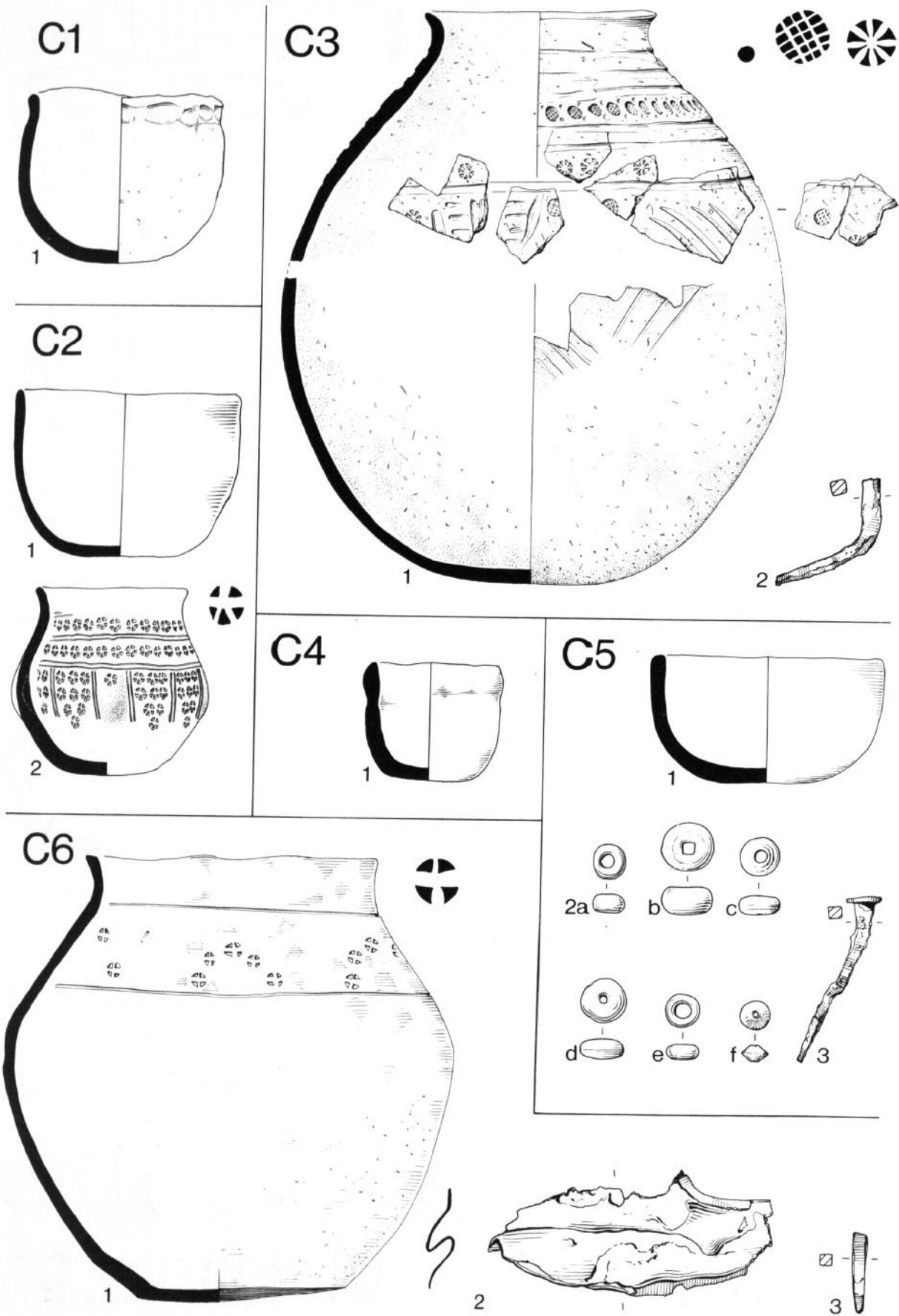


Figure 58 Objects from cremation graves 1, 2, 3, 4, 5, and 6 (scale C5/2, C6/2 at 1:1; C3/2, C5/3, C6/3 at 1:2; C1/1, C2/1,2, C3/1, C4/2, C5/1, C6/1 at 1:3)

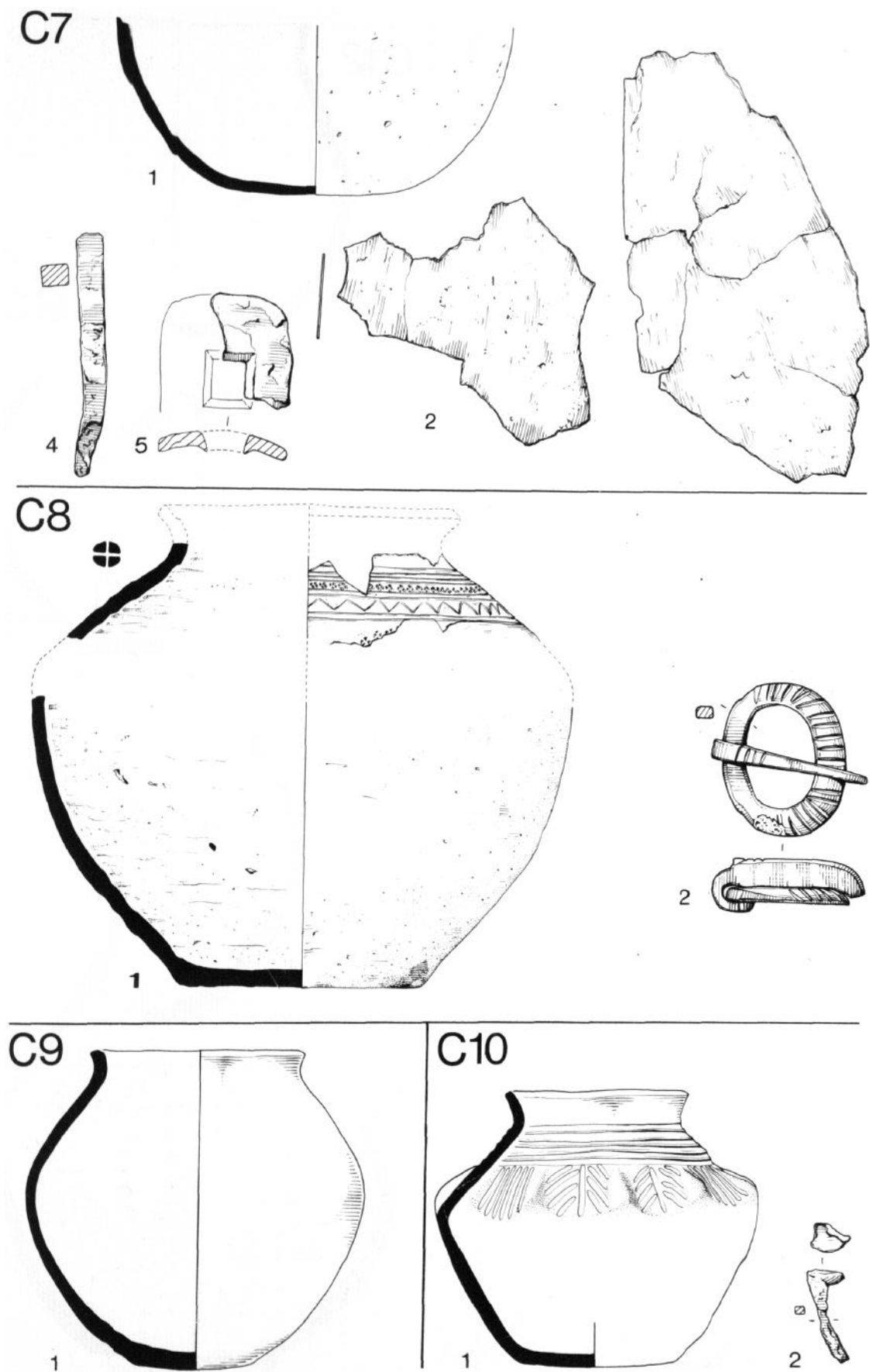


Figure 59 Objects from cremation graves 7, 8, 9, and 10 (scale C7/2, C8/2 at 1:1; C7/4-5, C10/2 at 1:2; C7/1, C8/1, C9/1, C10/1 at 1:3)

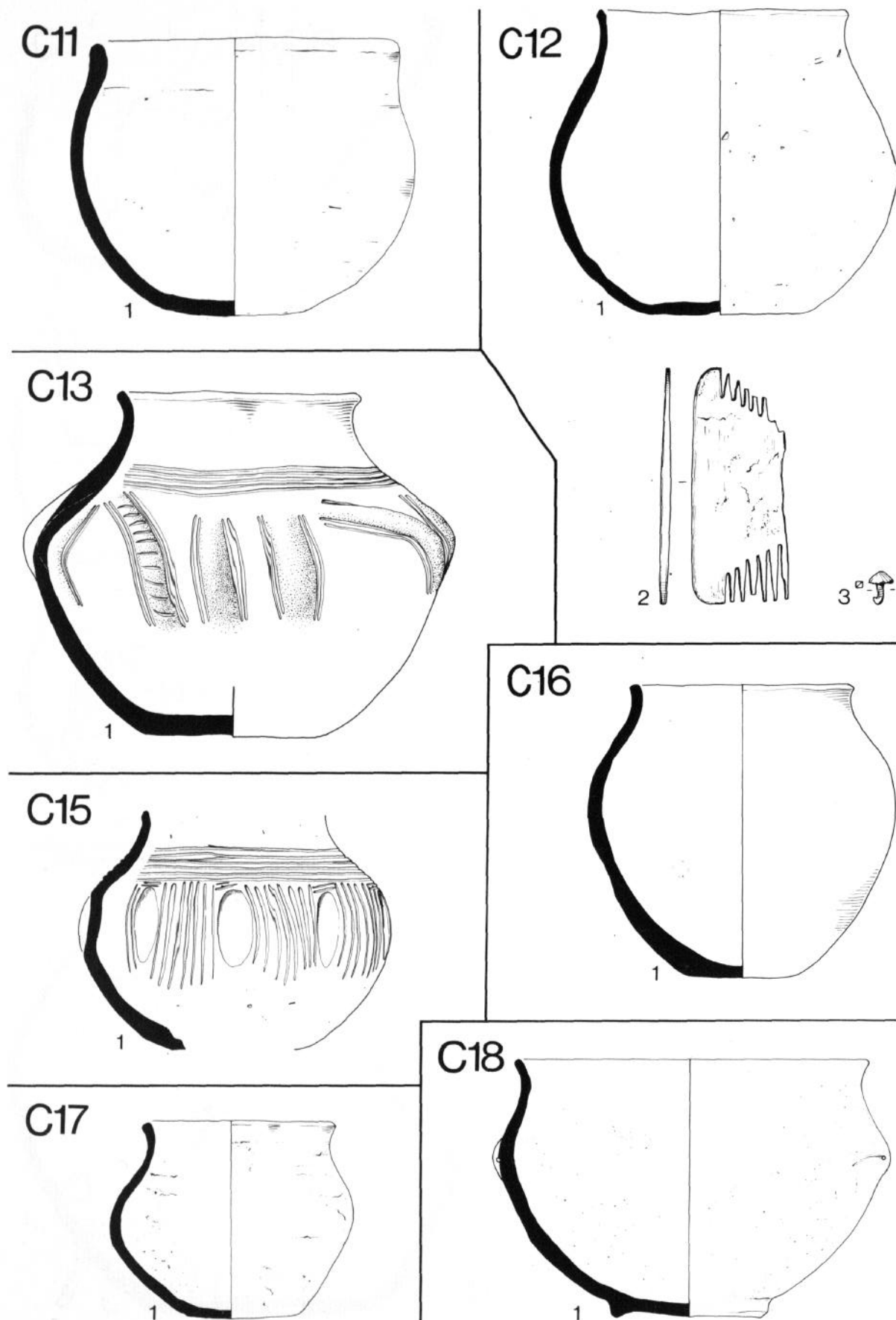


Figure 60 Objects from cremation graves 11, 12, 13, 15, 16, 17, and 18 (scale C12/2 at 1:1; C12/3 at 1:2; C11/1, C12/1, C13/1, C15/1, C16/1, C17/1, C18/1 at 1:3)

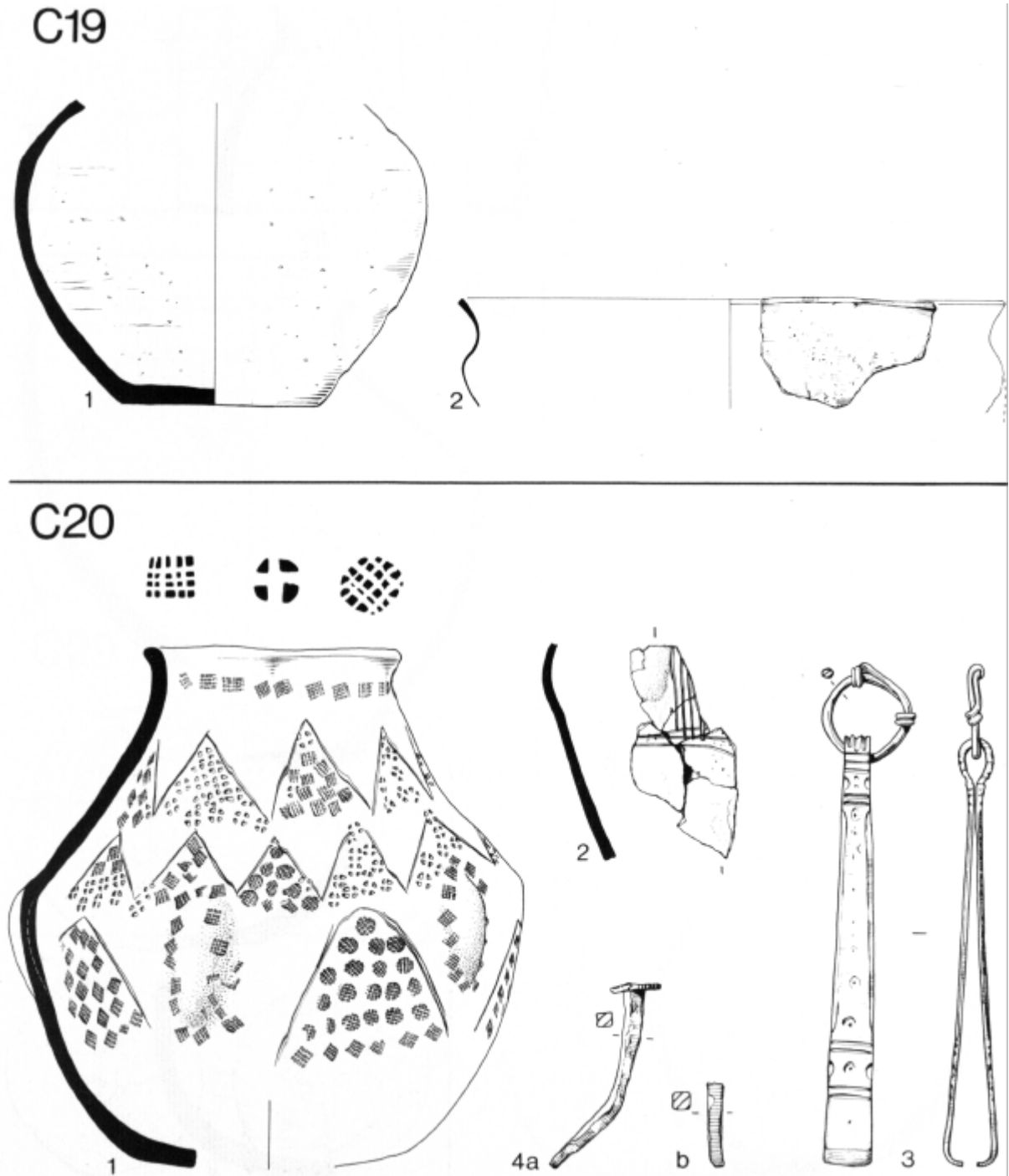


Figure 61 Objects from cremation graves 19 and 20 (scale C20/3 at 1:1; C19/2, C20/4 at 1:2; C19/1, C20/1, 2 at 1:3)

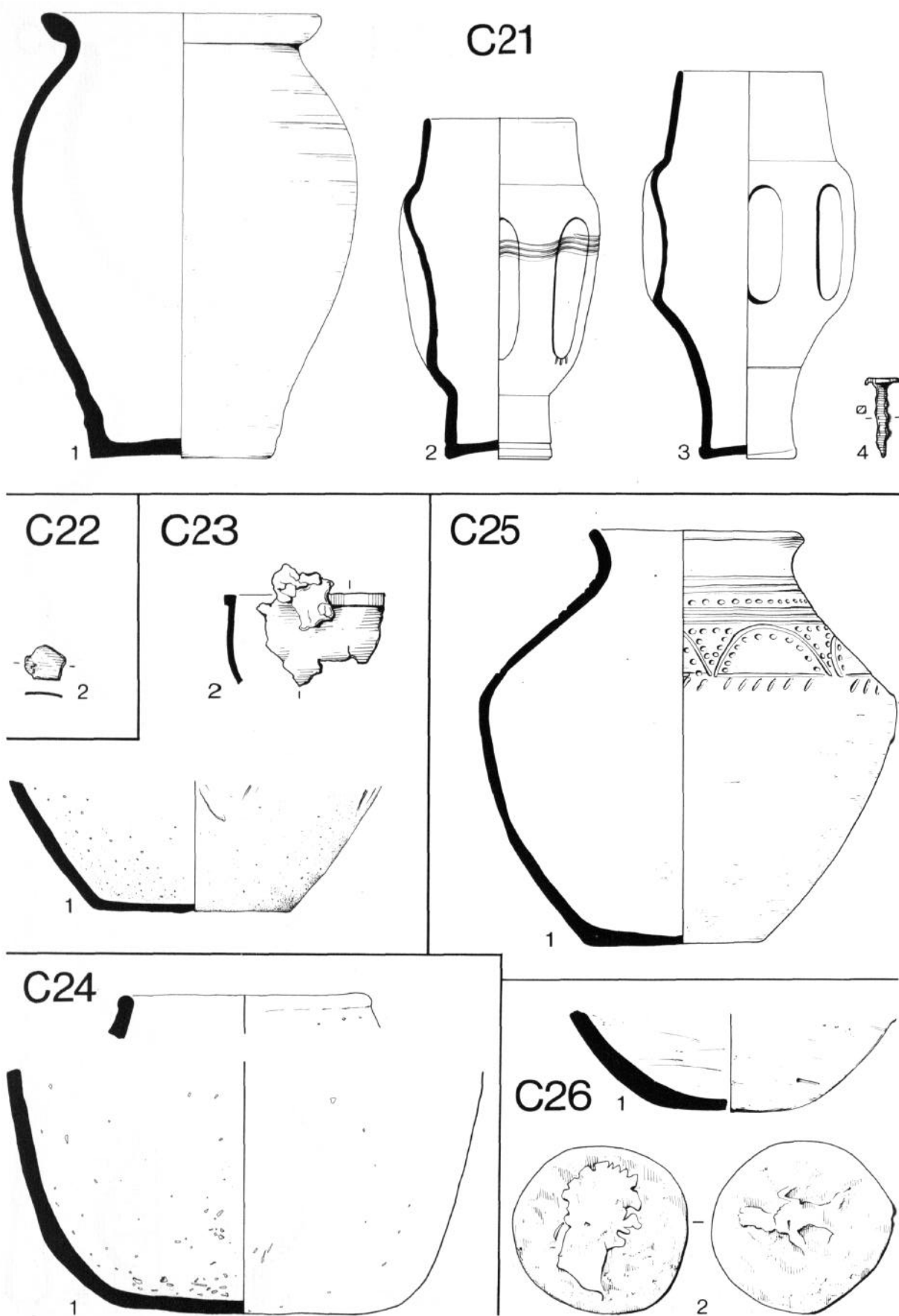


Figure 62 Objects from cremation graves 21, 22, 23, 24, 25, and 26 (scale C22/2, C23/2, C26/2 at 1:1; C21/4 at 1:2; C21/1-3, C23/1, C24/1, C25/1, C26/1 at 1:3)



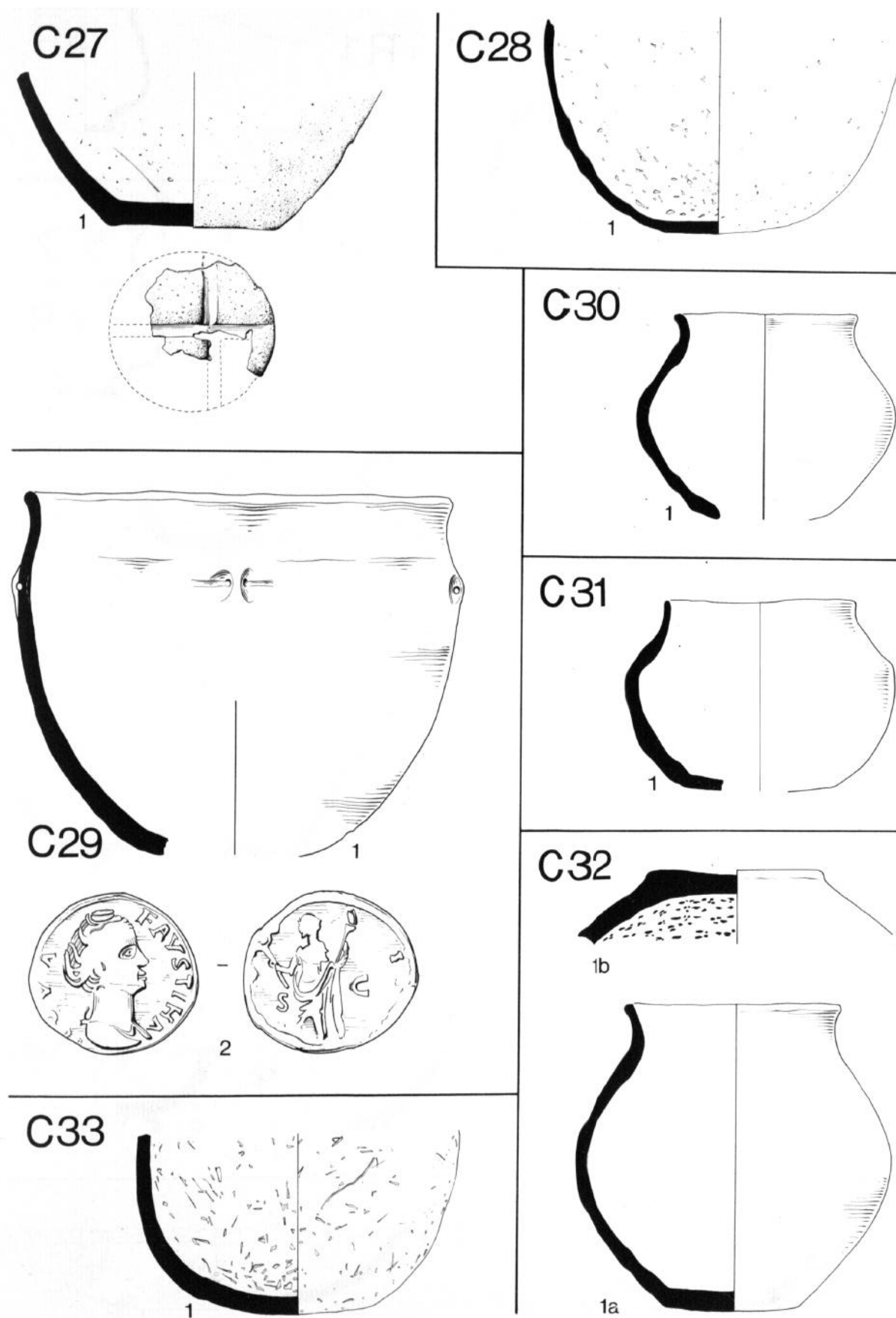


Figure 63 Objects from cremation graves 27, 28, 29, 30, 31, 32, and 33 (scale C29/2 at 1:1; C27/1, C28/1, C29/1, C30/1, C31/1, C32/1, C33/1 at 1:3)

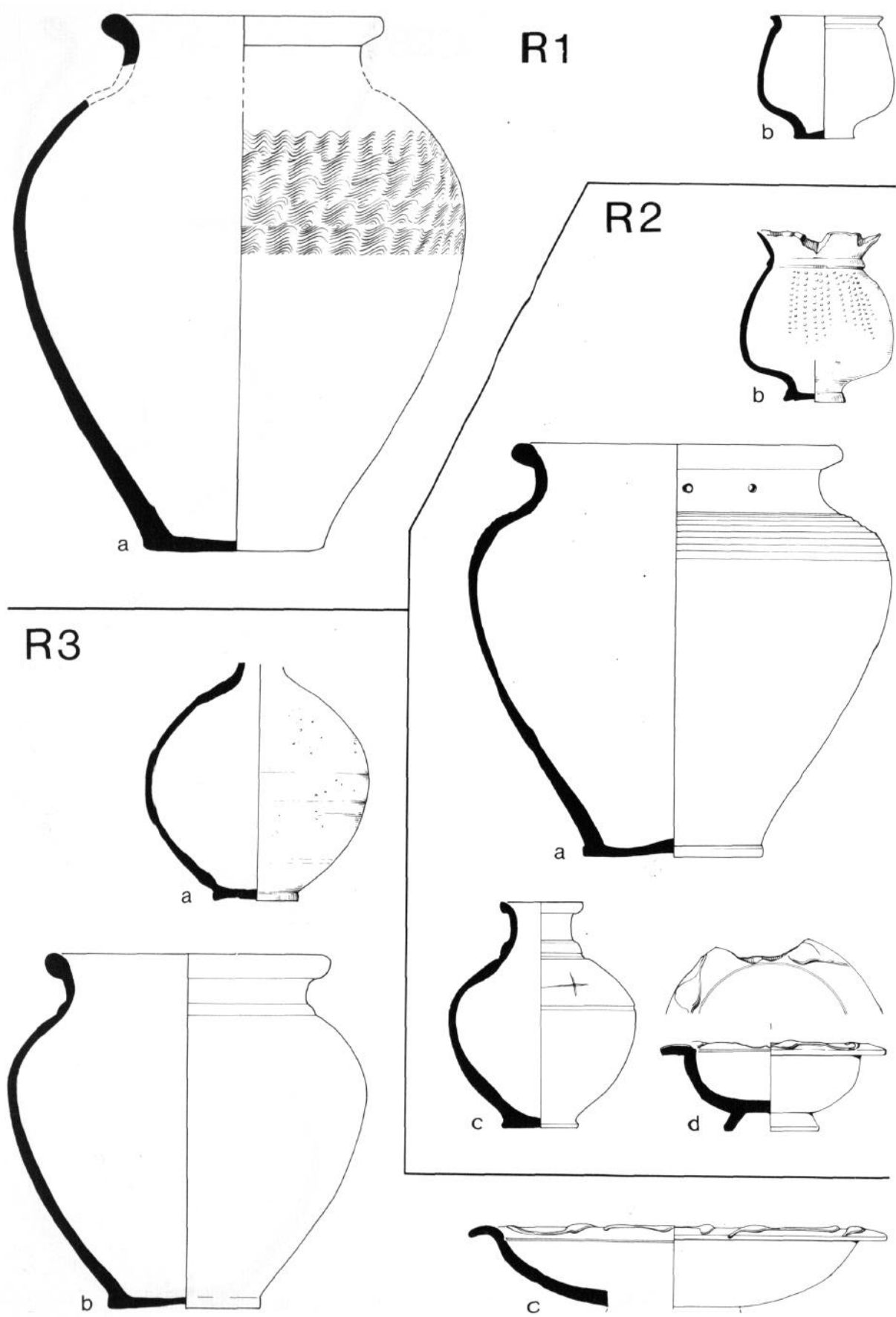


Figure 64 Objects from Romano-British cremations 1, 2, and 3 (scale 1:3)

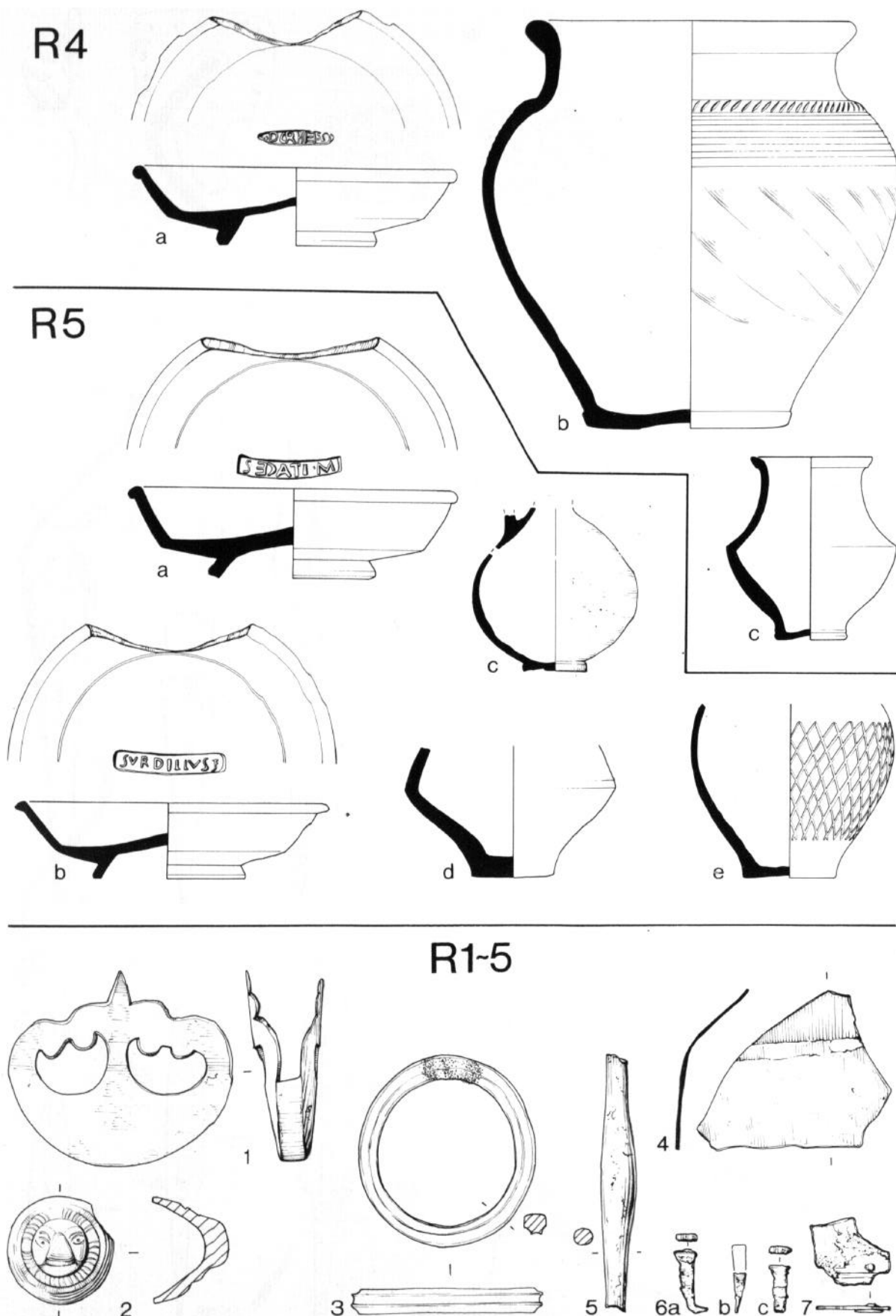


Figure 65 Objects from Romano-British cremations 4 and 5, and objects in the area of Romano-British cremations 1-5 (scale RBC1-5/1-5 at 1:1; RBC1-5/6-7 at 1:2; RBC4, RBC5 at 1:3)

Un

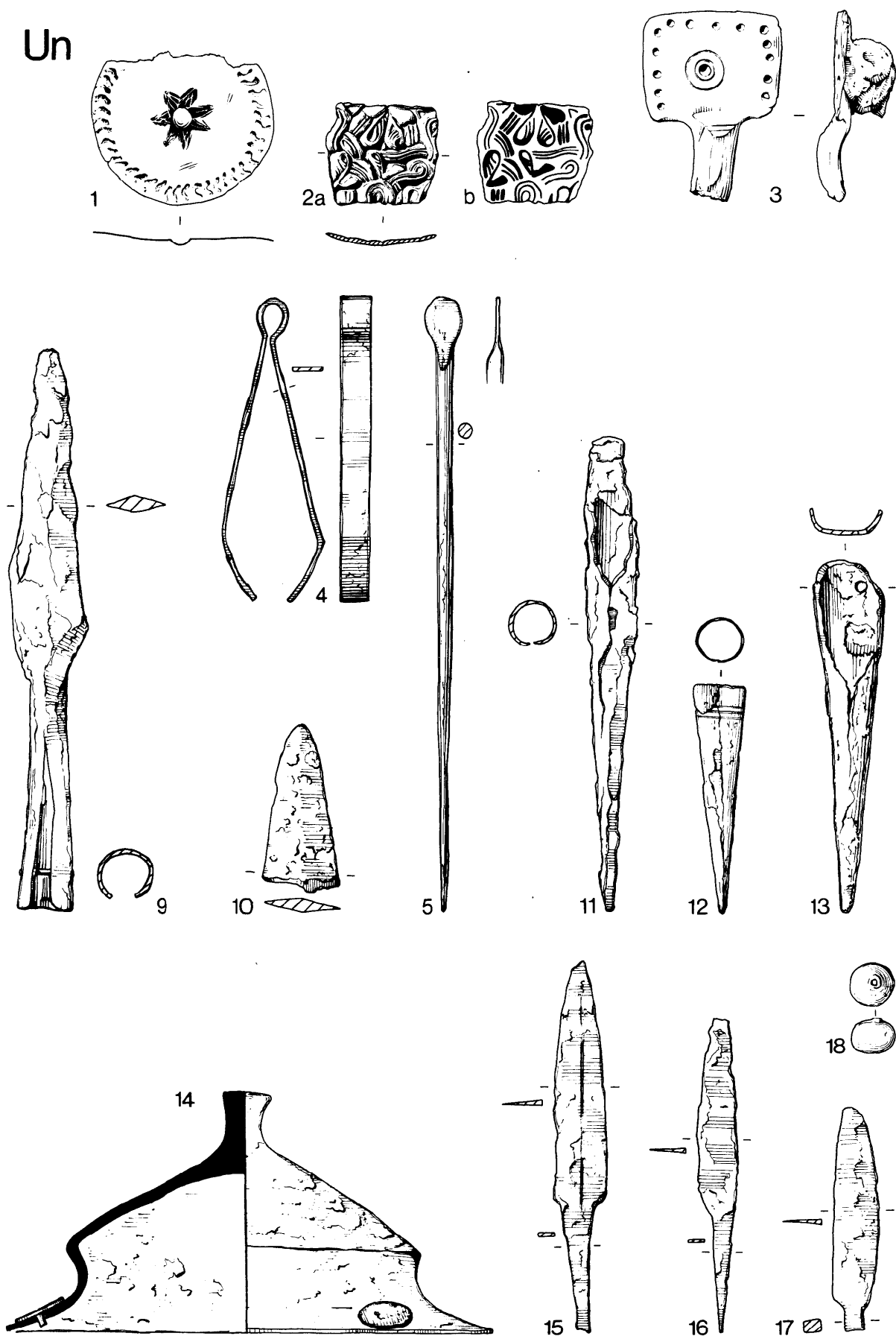


Figure 66 Unassociated Anglo-Saxon objects 1-5 and 9-18 (scale Un 1-5, 18 at 1:1; Un 9-17 at 1:2)

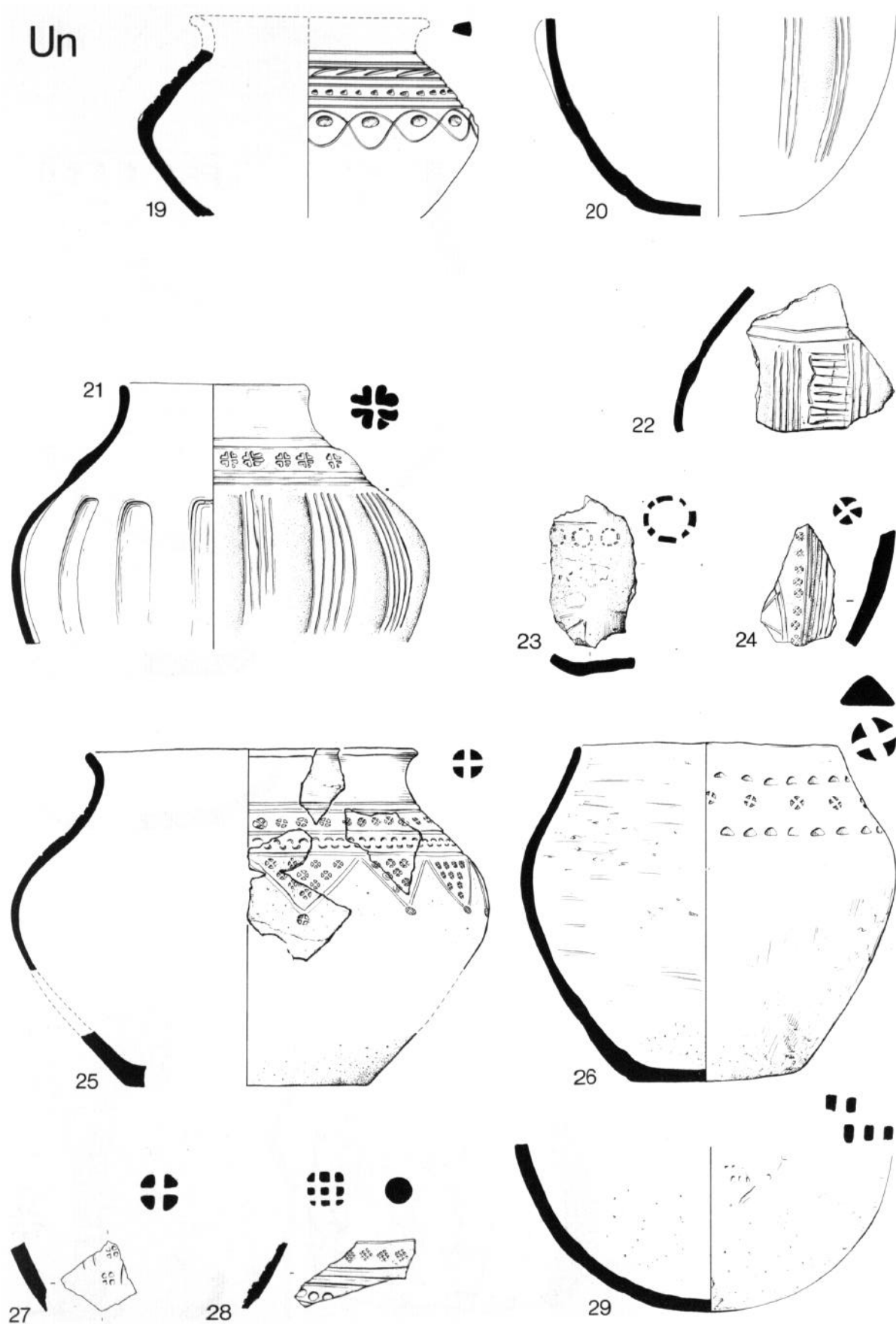
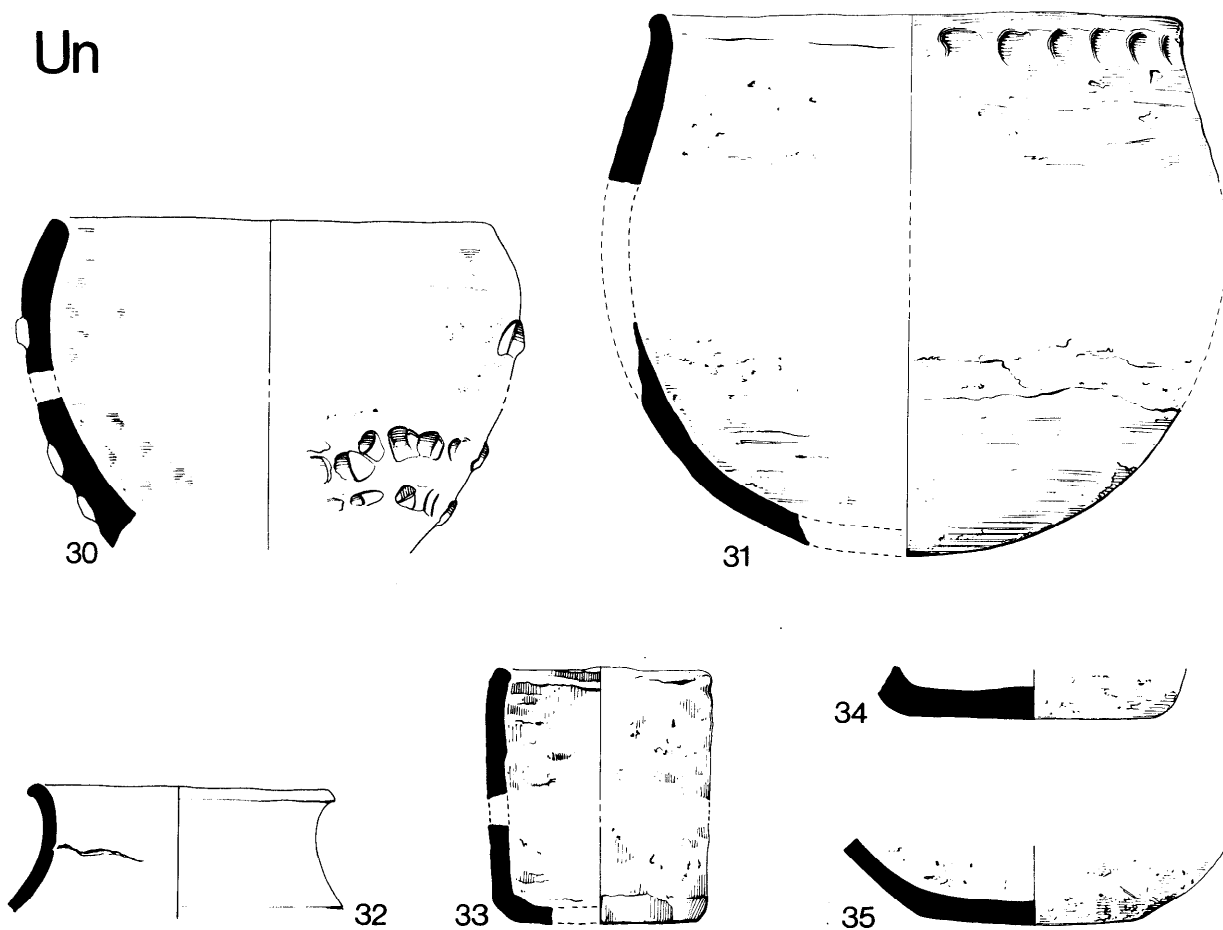


Figure 67 Unassociated Anglo-Saxon pottery sherds 19-29 (scale 1:3)

Un



RB sherds

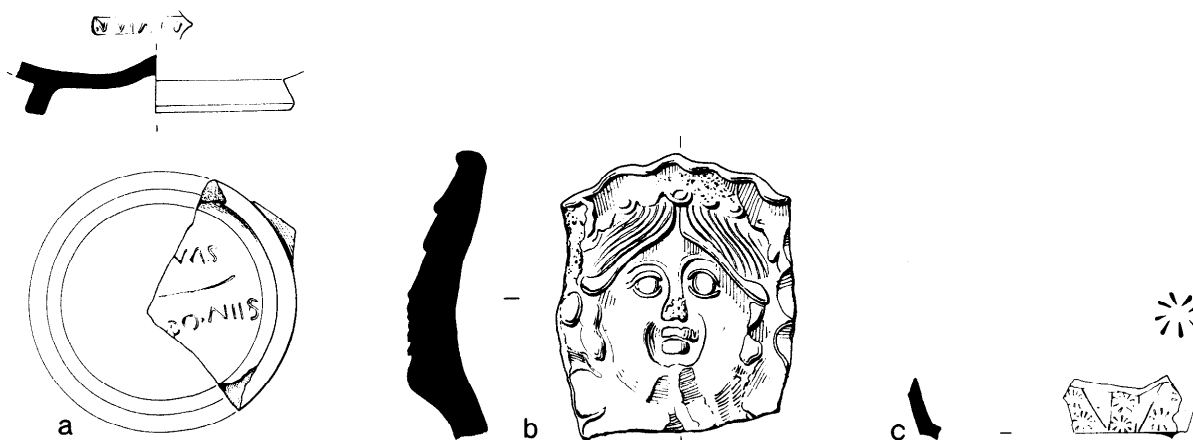


Figure 68 Unassociated Anglo-Saxon pottery sherds 30-35; unstratified Romano-British sherds a-c (scale RBb at 1:1; Un 30-35, RBa, c at 1:3)

Un

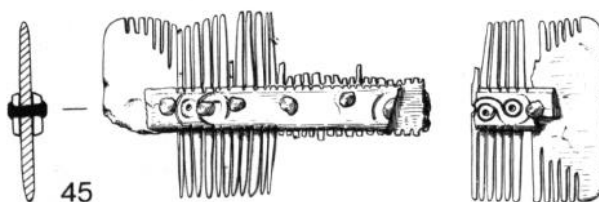
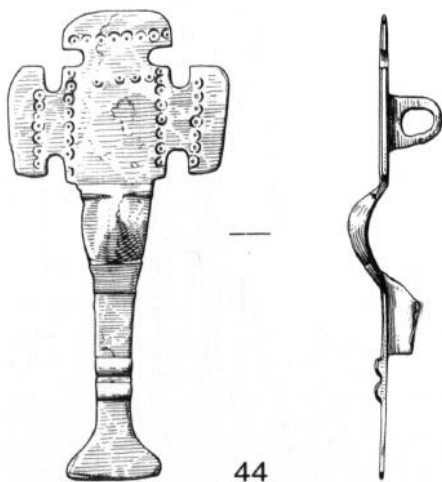
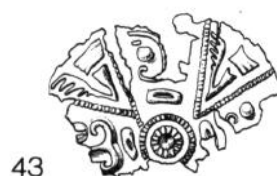
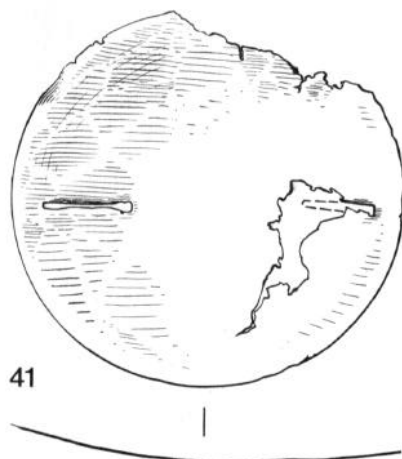
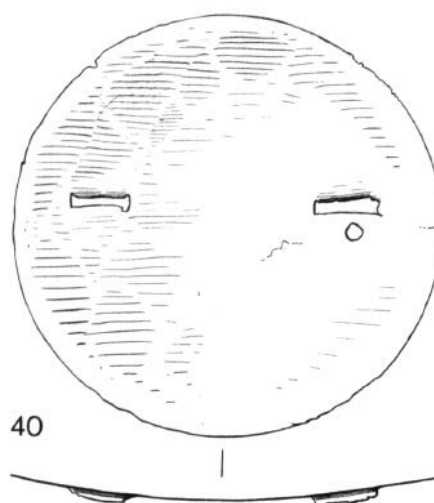
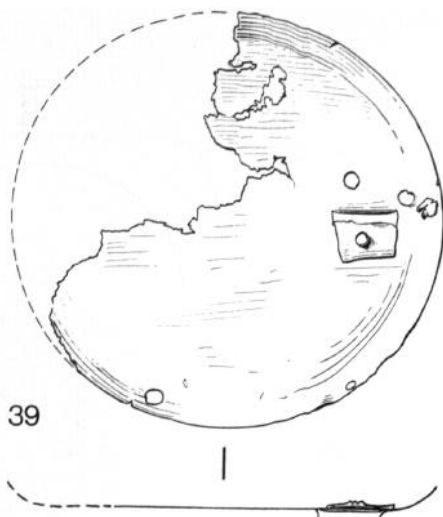


Figure 69 Unassociated Anglo-Saxon objects 39-45 in private possession (scale Un 39-44 at 1:1; Un 45 at 1:2)

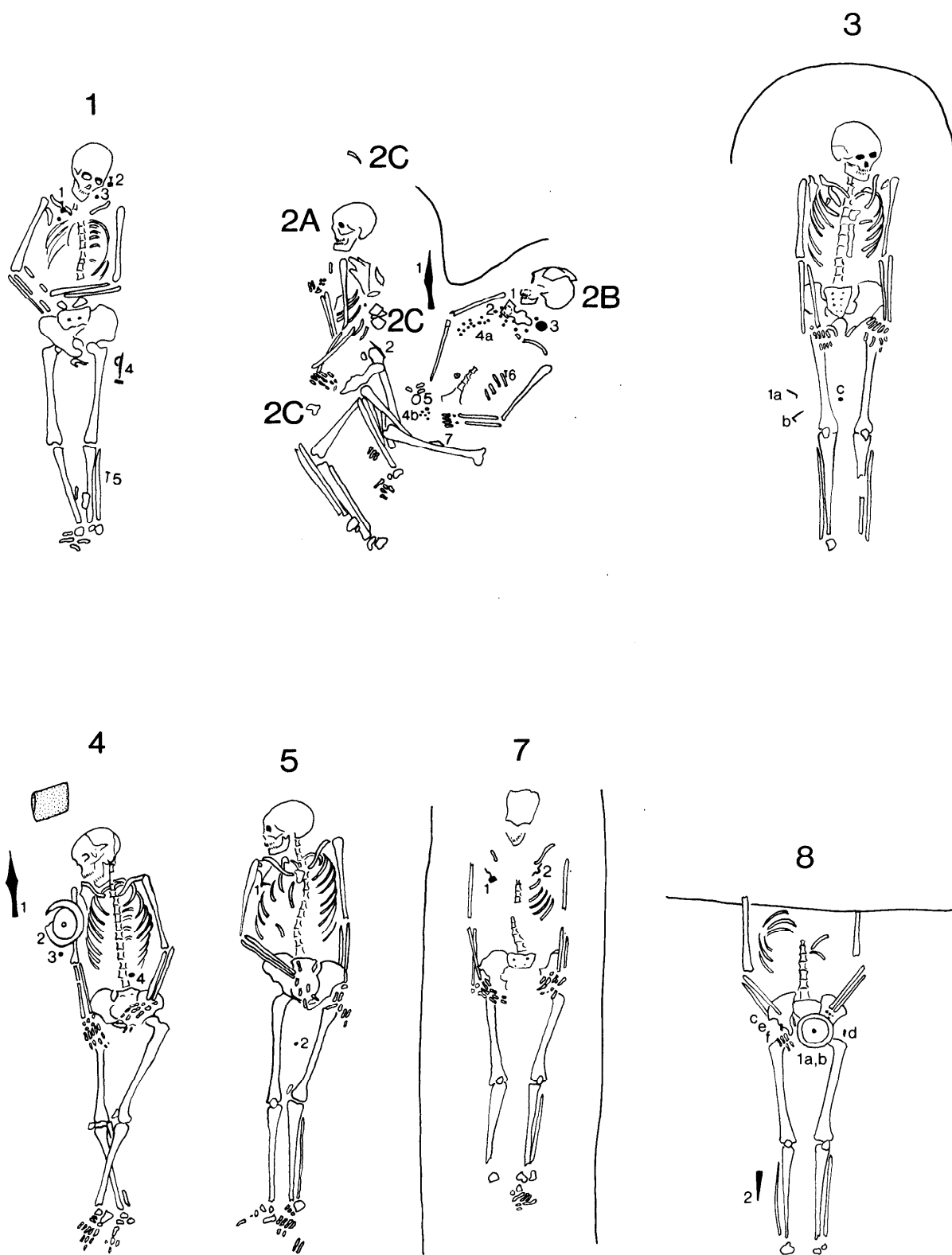


Figure 70 Grave plans 1-5, 7-8 (scale 1:24)



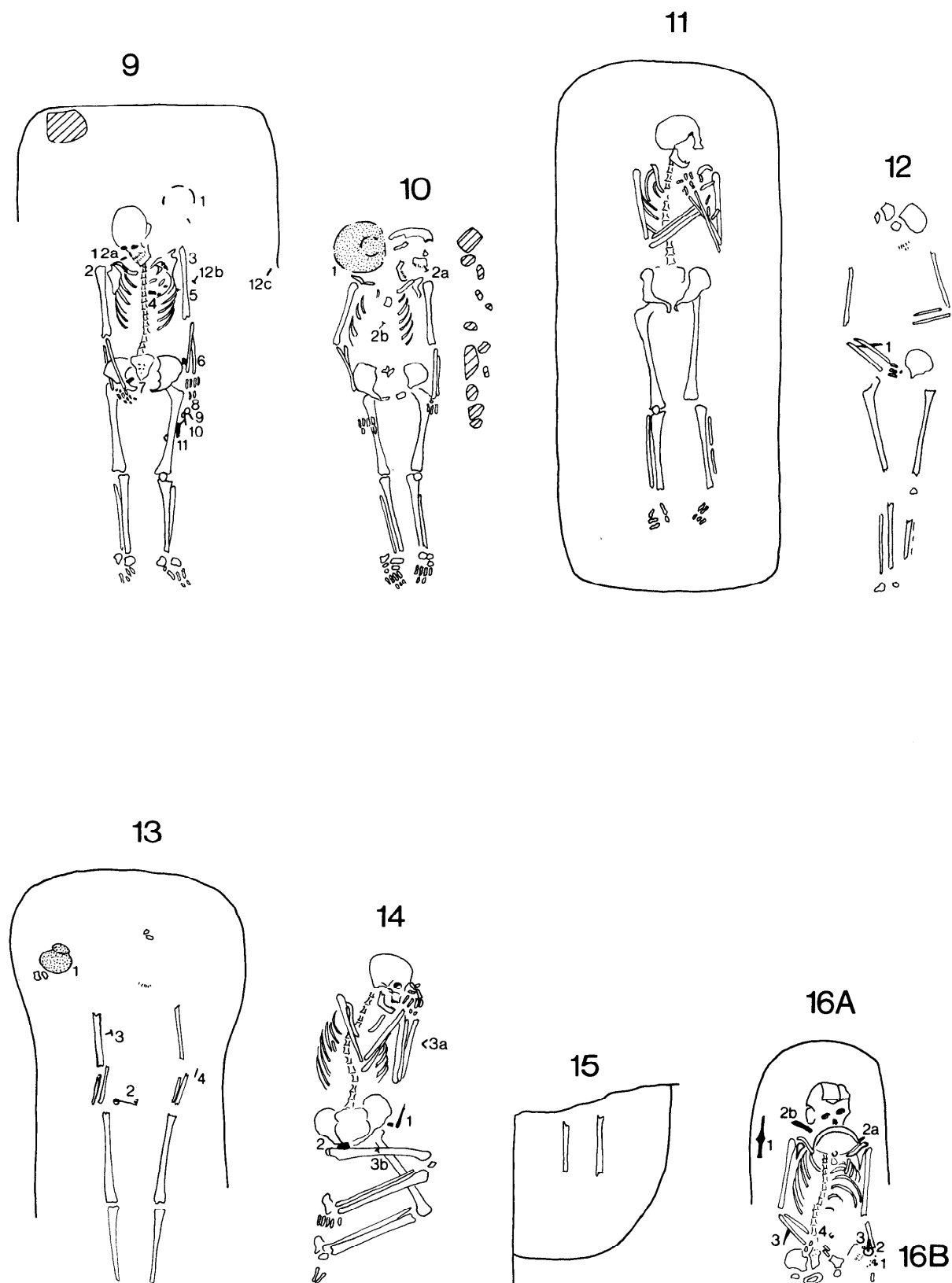


Figure 71 Grave plans 9-16 (scale 1:24)

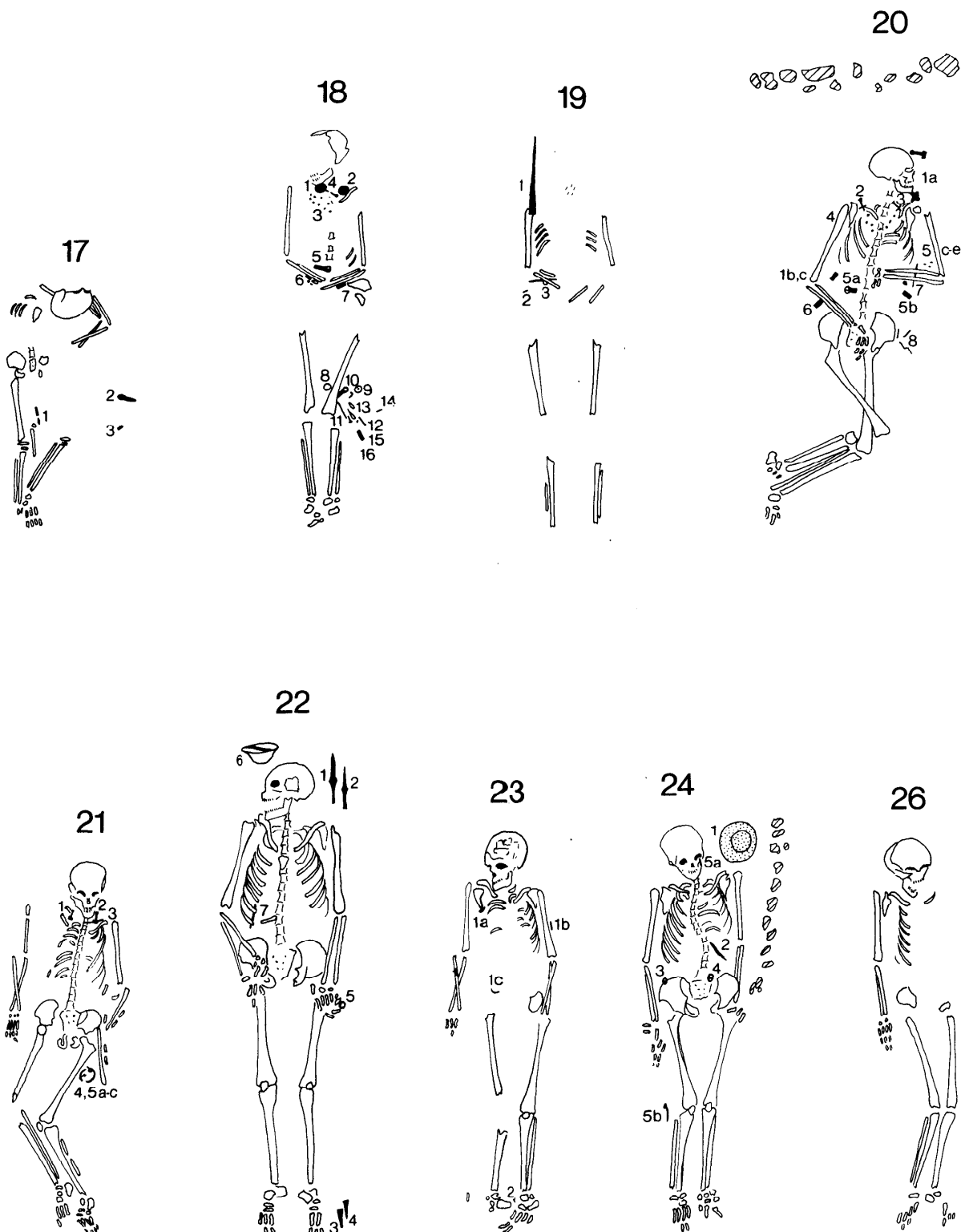


Figure 72 Grave plans 17-24, 26 (scale 1:24)

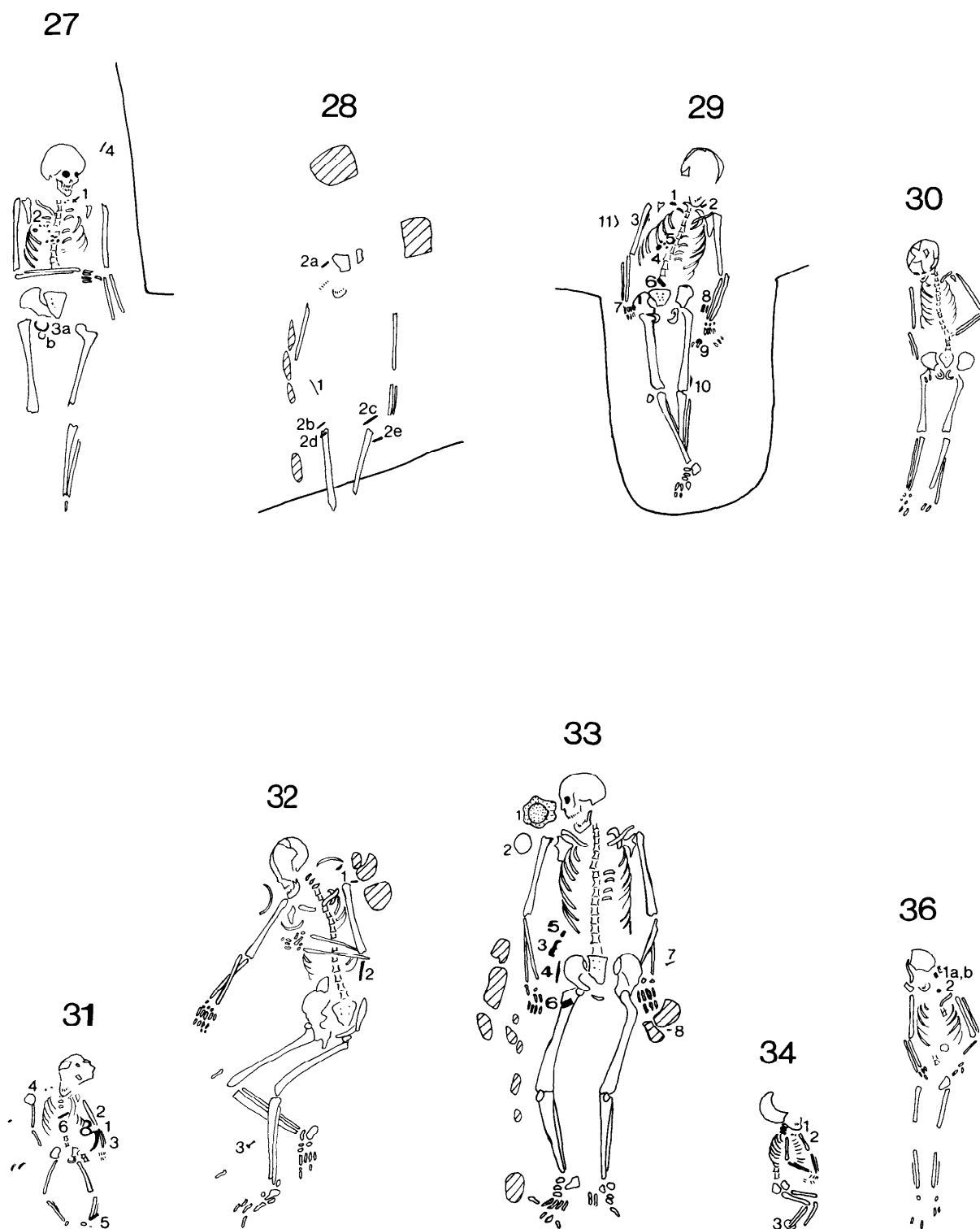


Figure 73 Grave plans 27-34, 36 (scale 1:24)

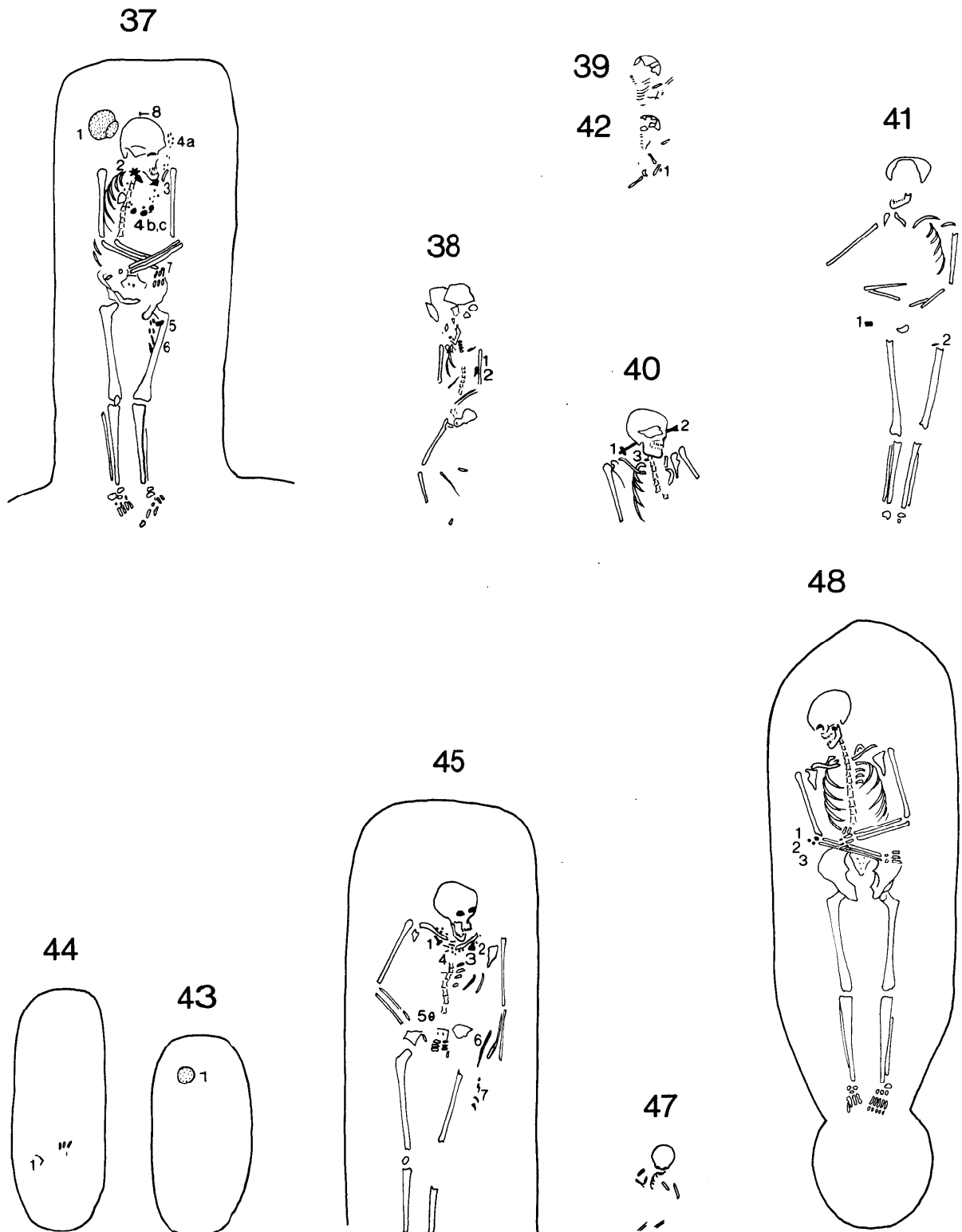


Figure 74 Grave plans 37-45, 47-48 (scale 1:24)



57



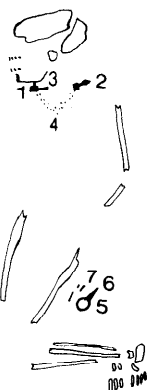
61



66



62



58



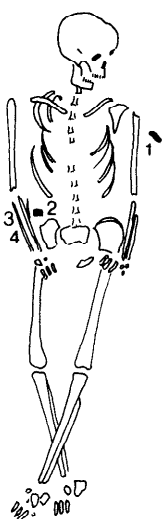
64



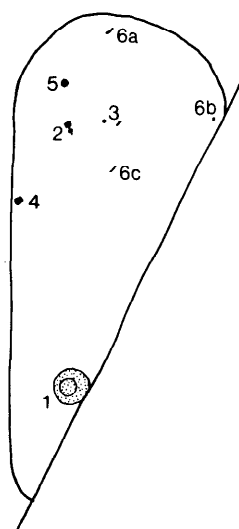
67



68



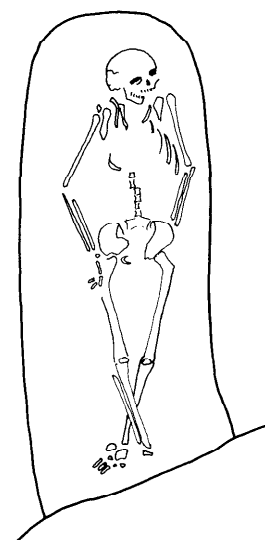
69



70



72



71



Figure 76 Grave plans 57-58, 61-62, 64, 66-72 (scale 1:24)

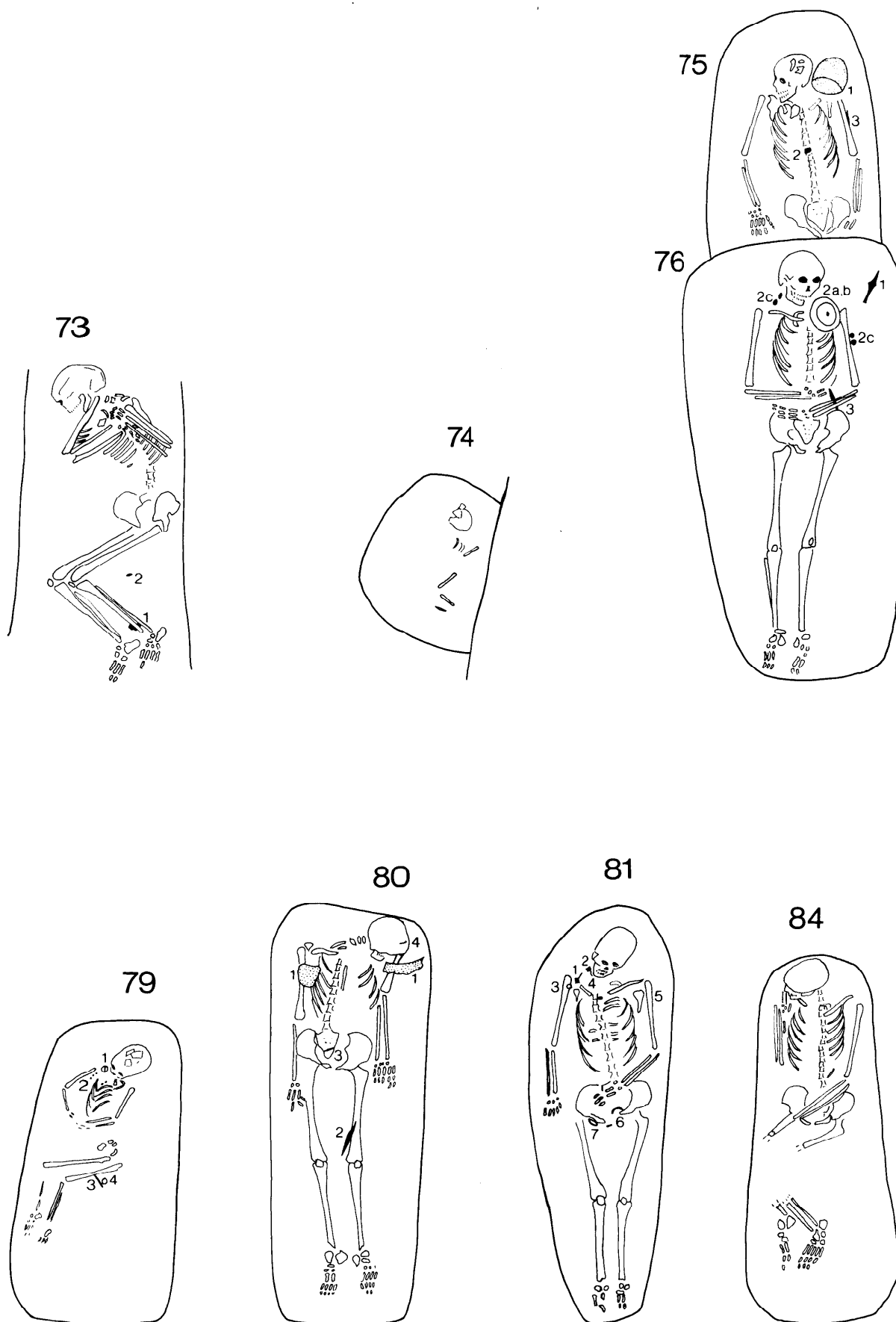


Figure 77 Grave plans 73-76, 79-81, 84 (scale 1:24)

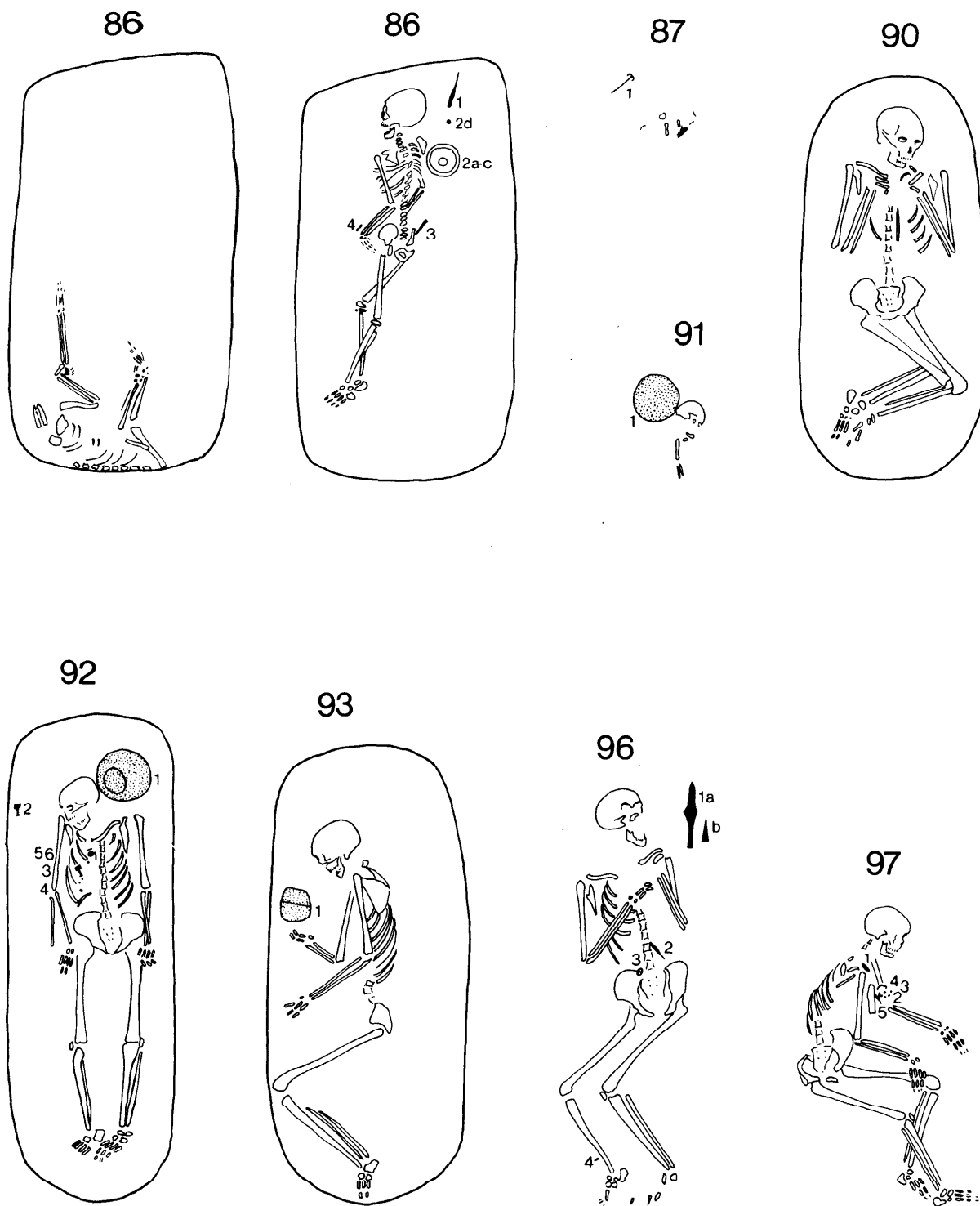


Figure 78 Grave plans 86-87, 90-93, 96-97 (scale 1:24)



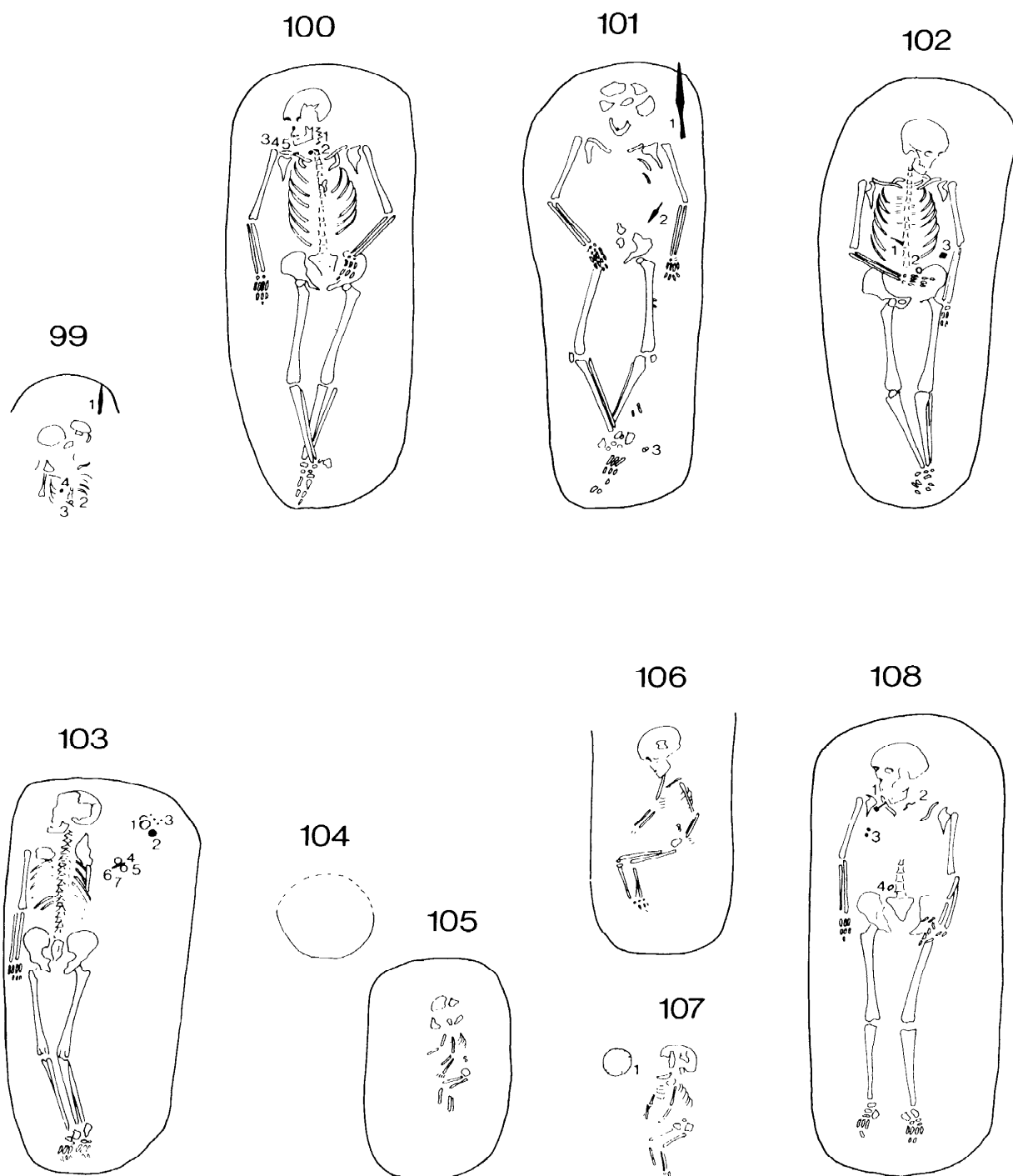


Figure 79 Grave plans 99-108 (scale 1:24)

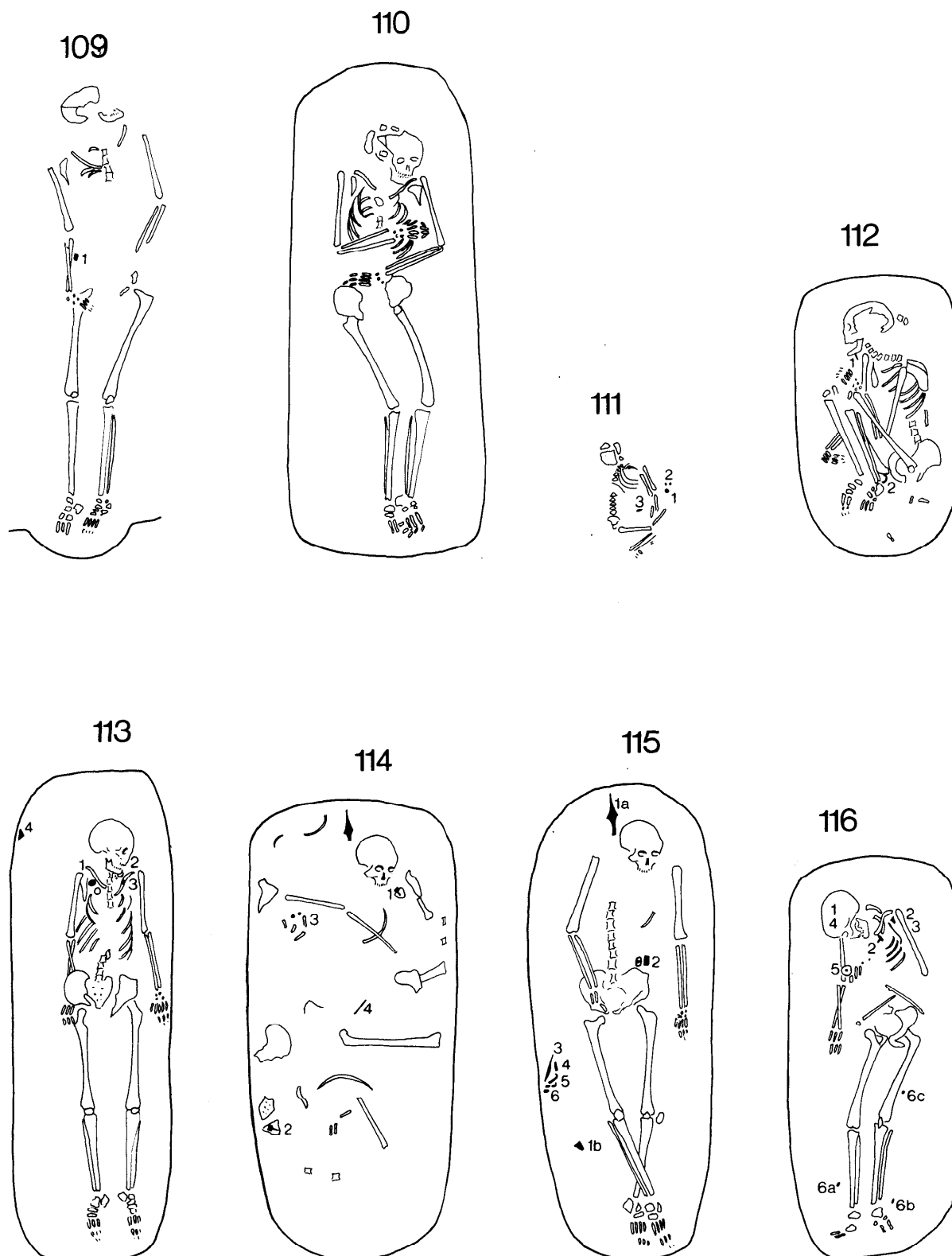


Figure 80 Grave plans 109-116 (scale 1:24)

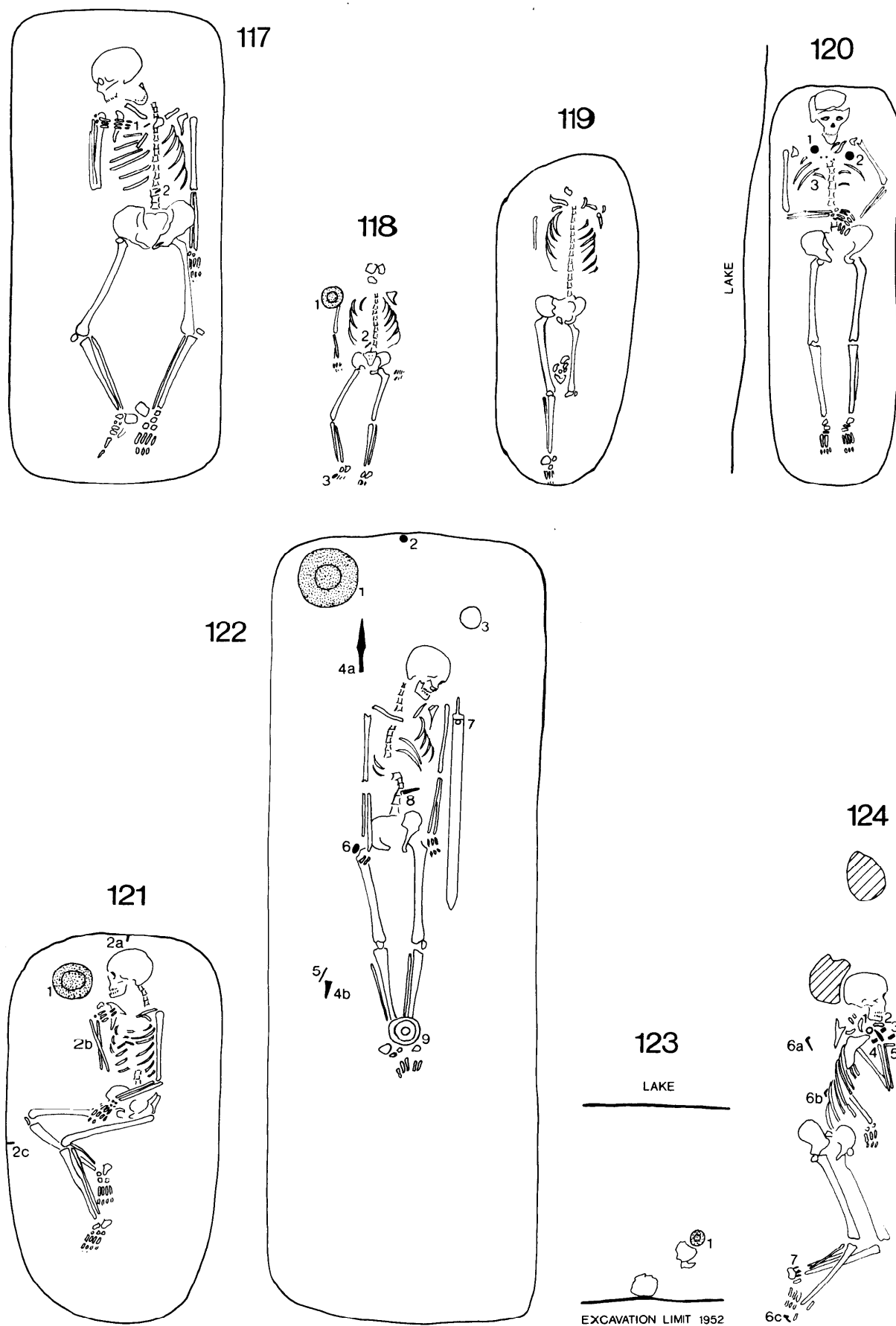


Figure 81 Grave plans 117-124 (scale 1:24)

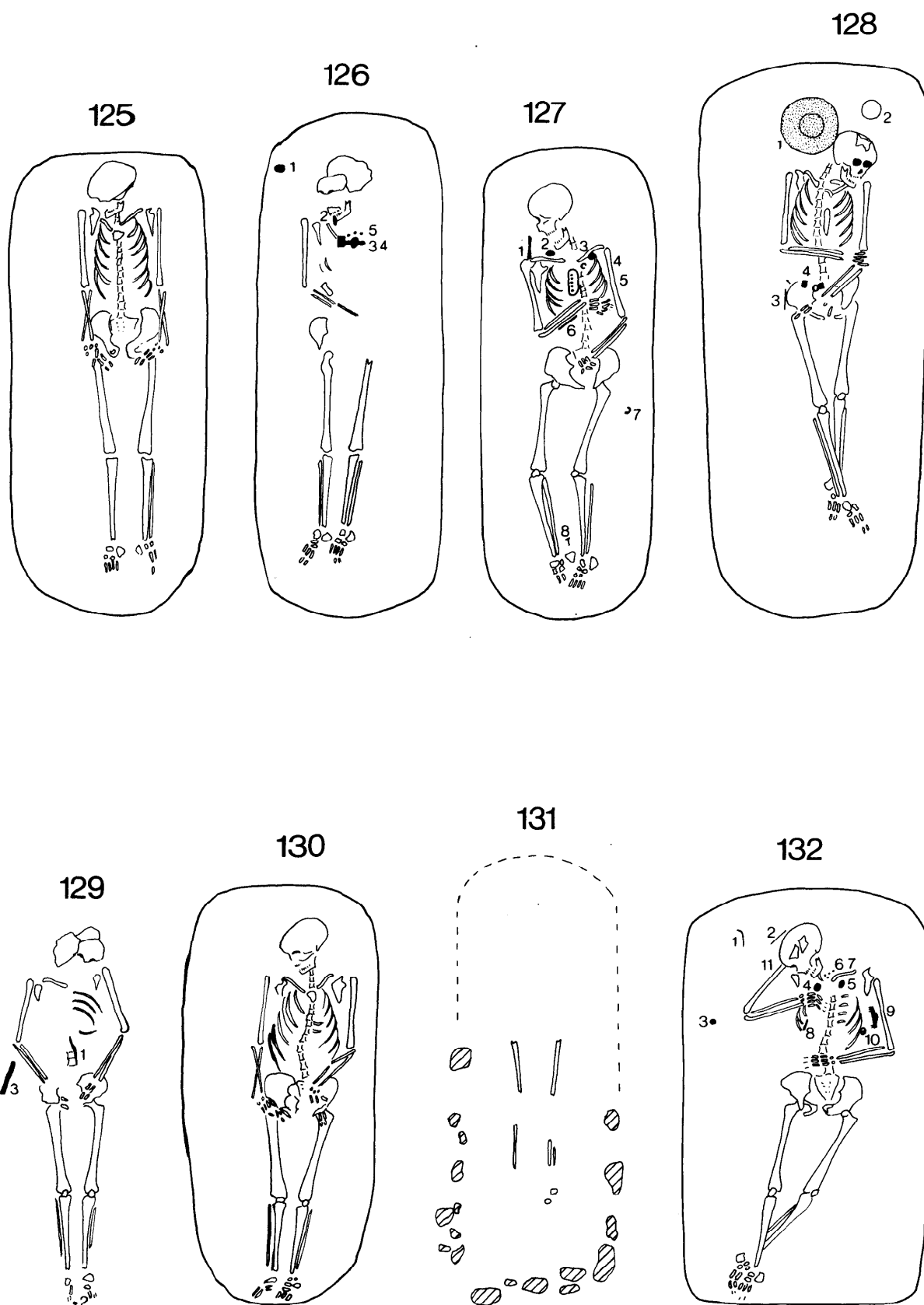


Figure 82 Grave plans 125-132 (scale 1:24)

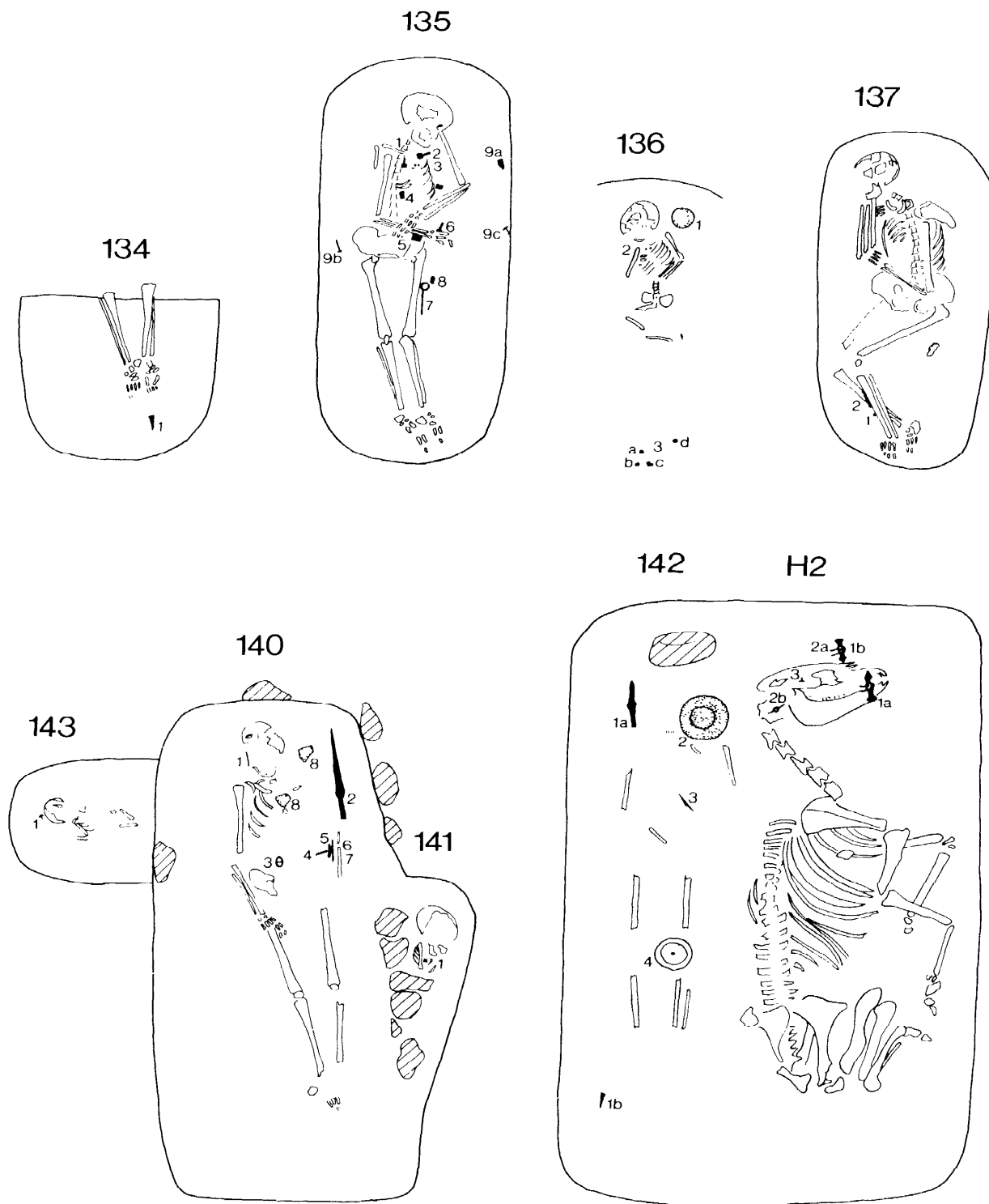


Figure 83 Grave plans 134-137, 140-143, horse grave 2 (scale 1:24)

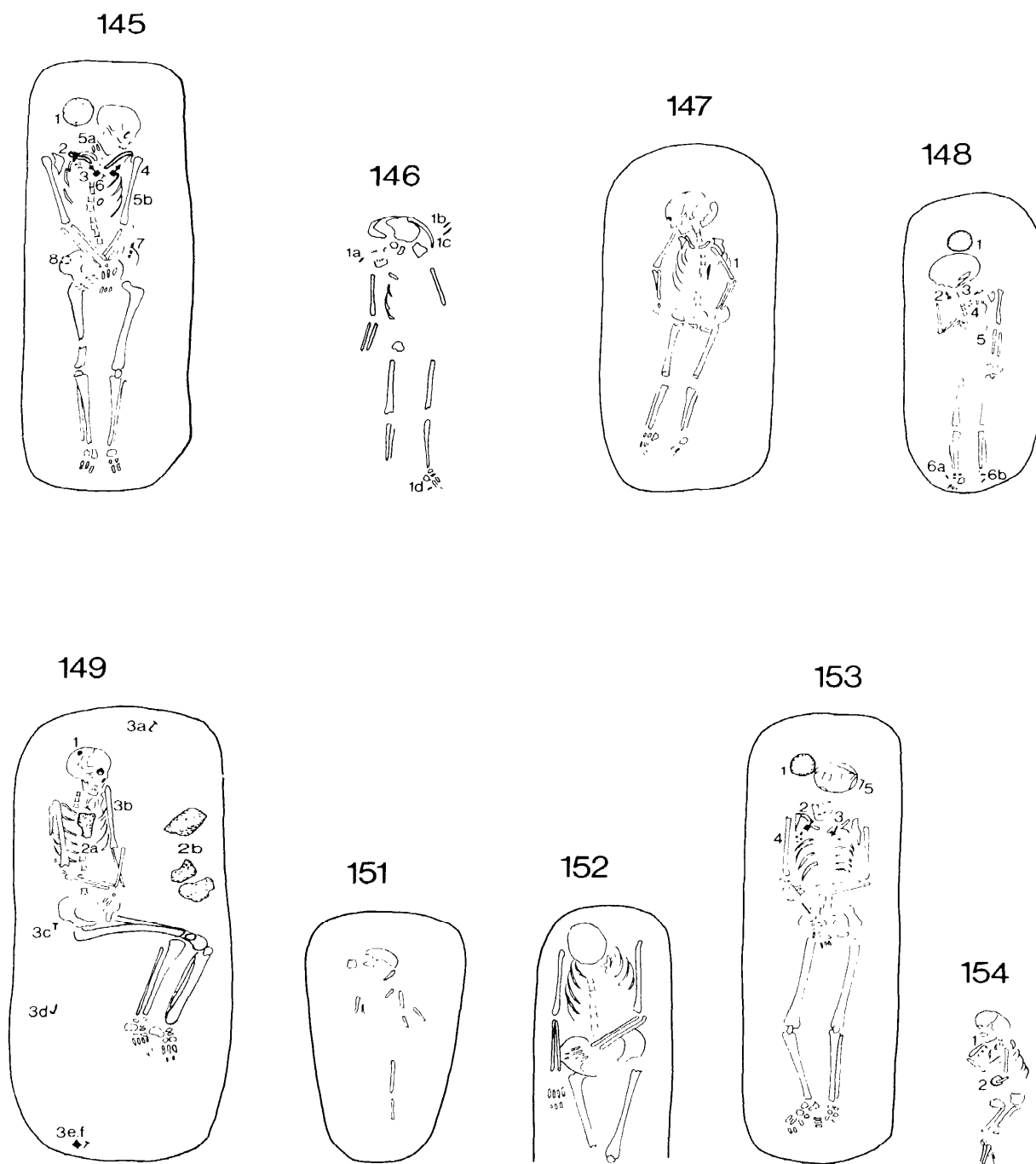


Figure 84 Grave plans 145-149, 151-154 (scale 1:24)

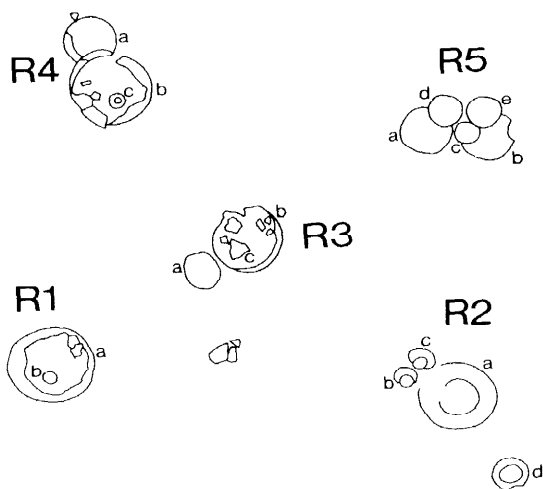
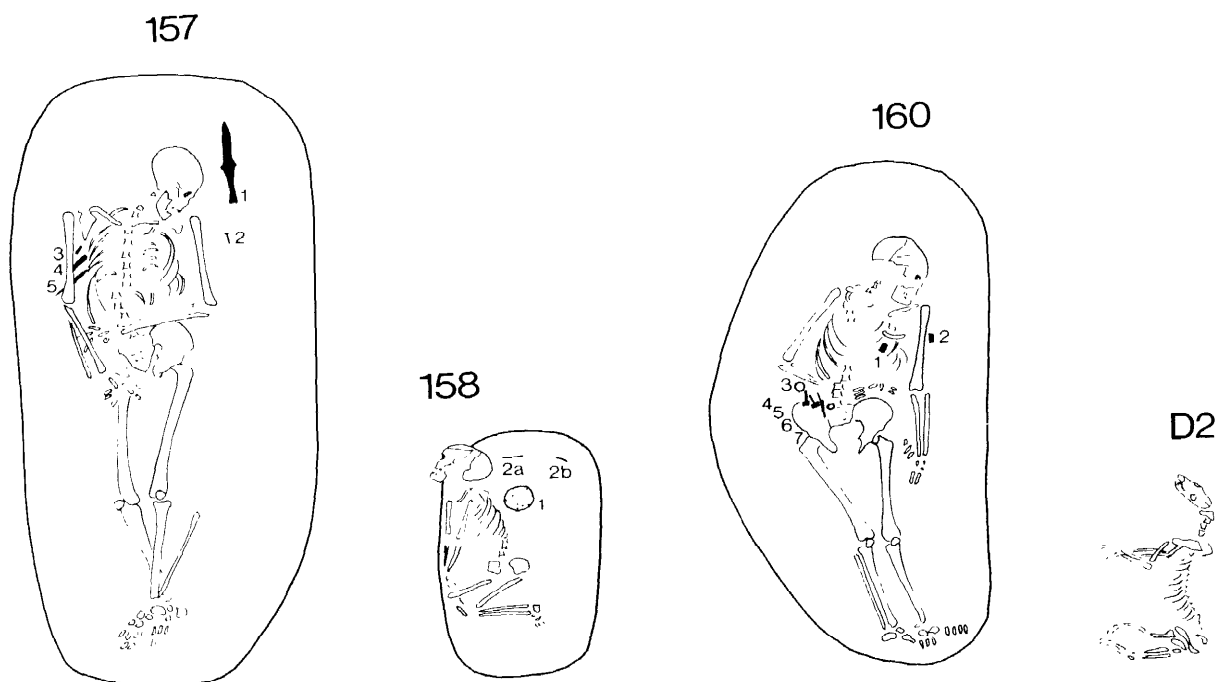


Figure 85 Grave plans 157-158, 160, dog grave 2, Romano-British cremations 1-5 (scale 1:24)

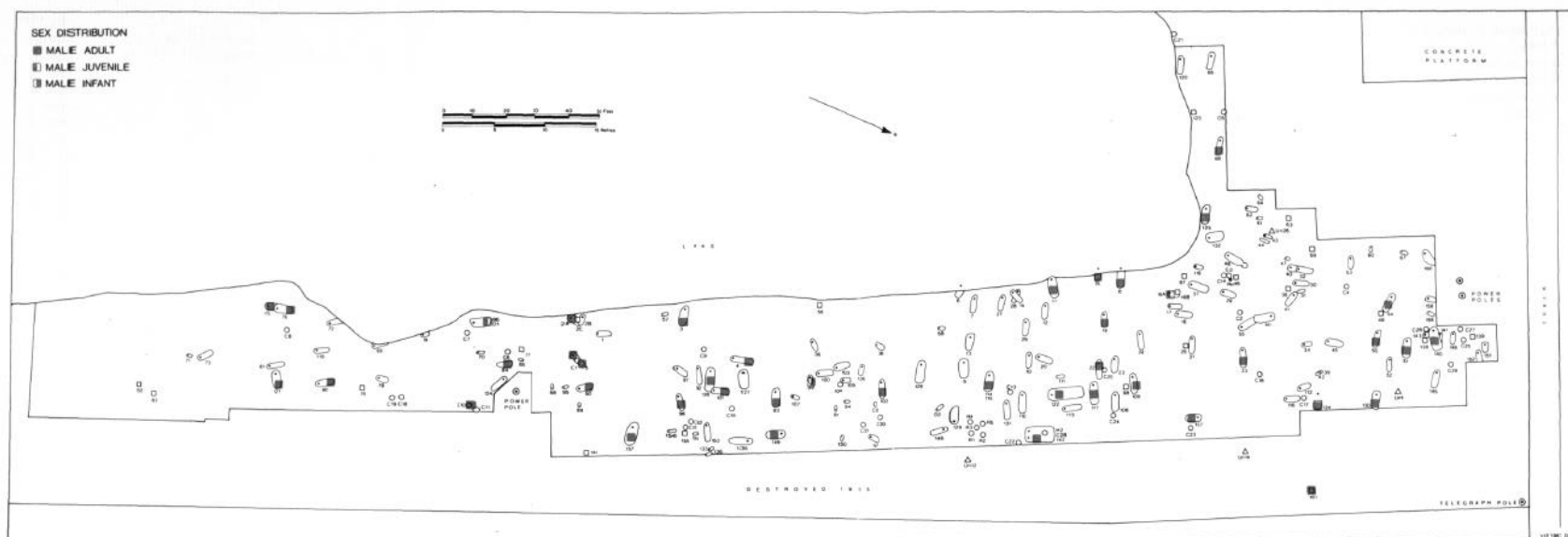


Figure 86 Distribution: sex, male

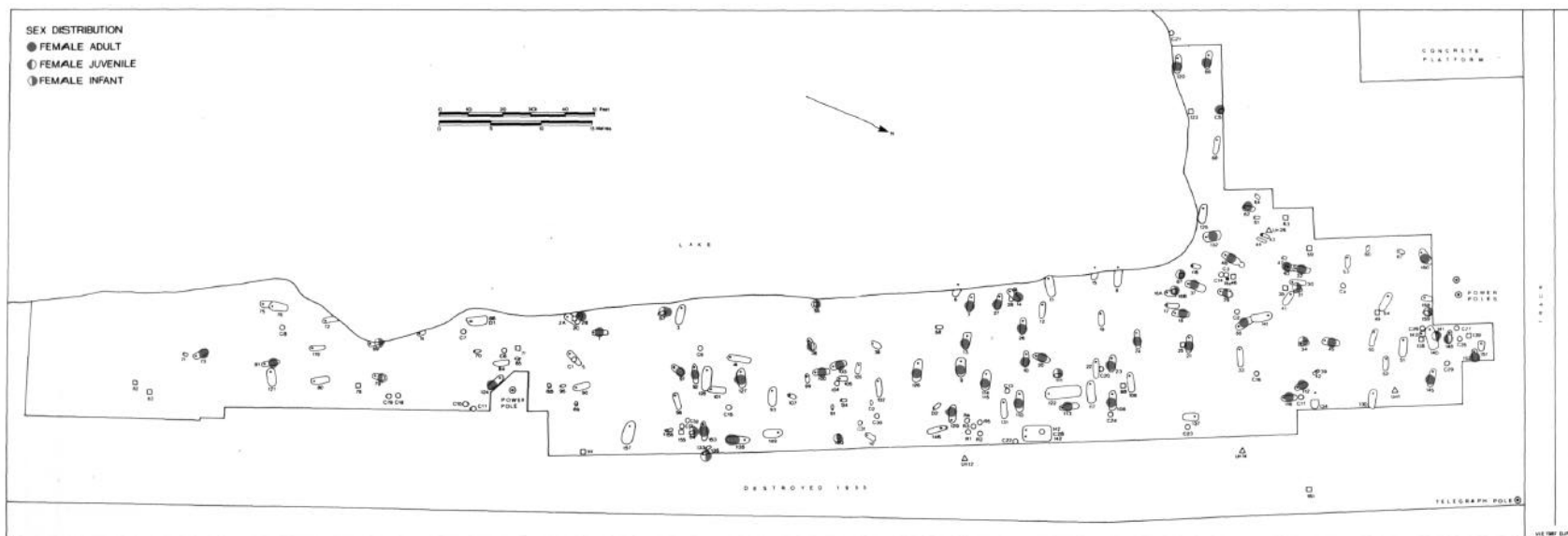


Figure 87 Distribution: sex, female



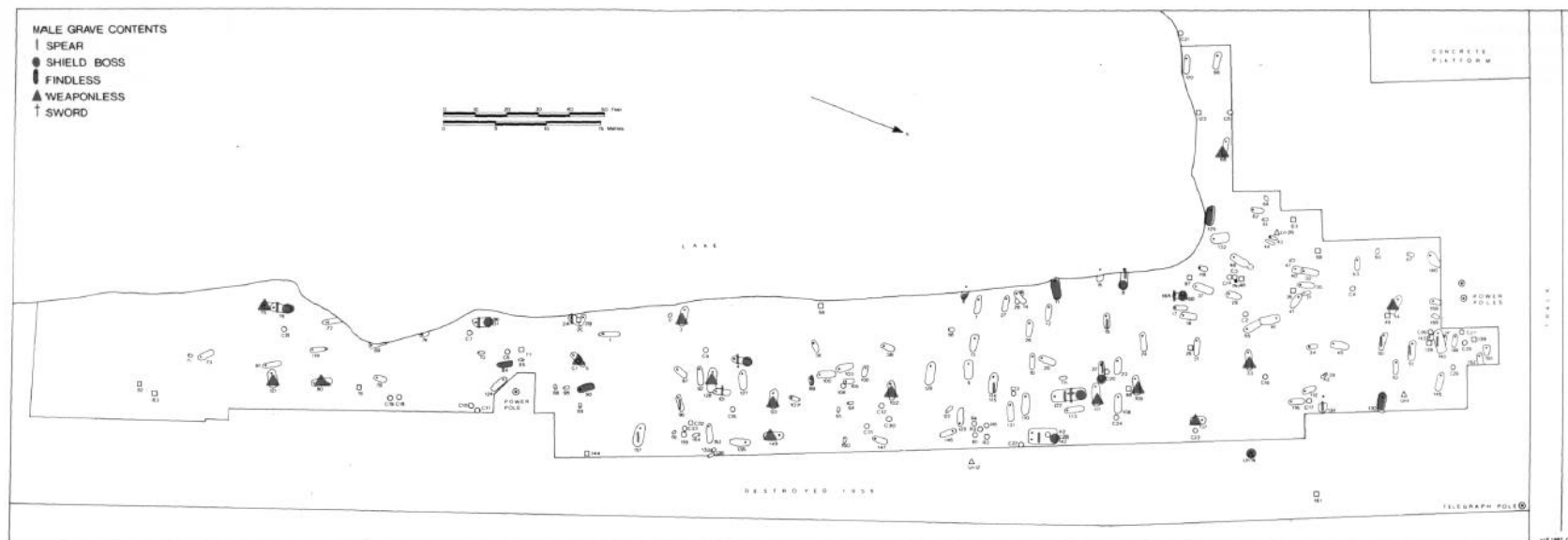


Figure 88 Distribution: male graves, contents

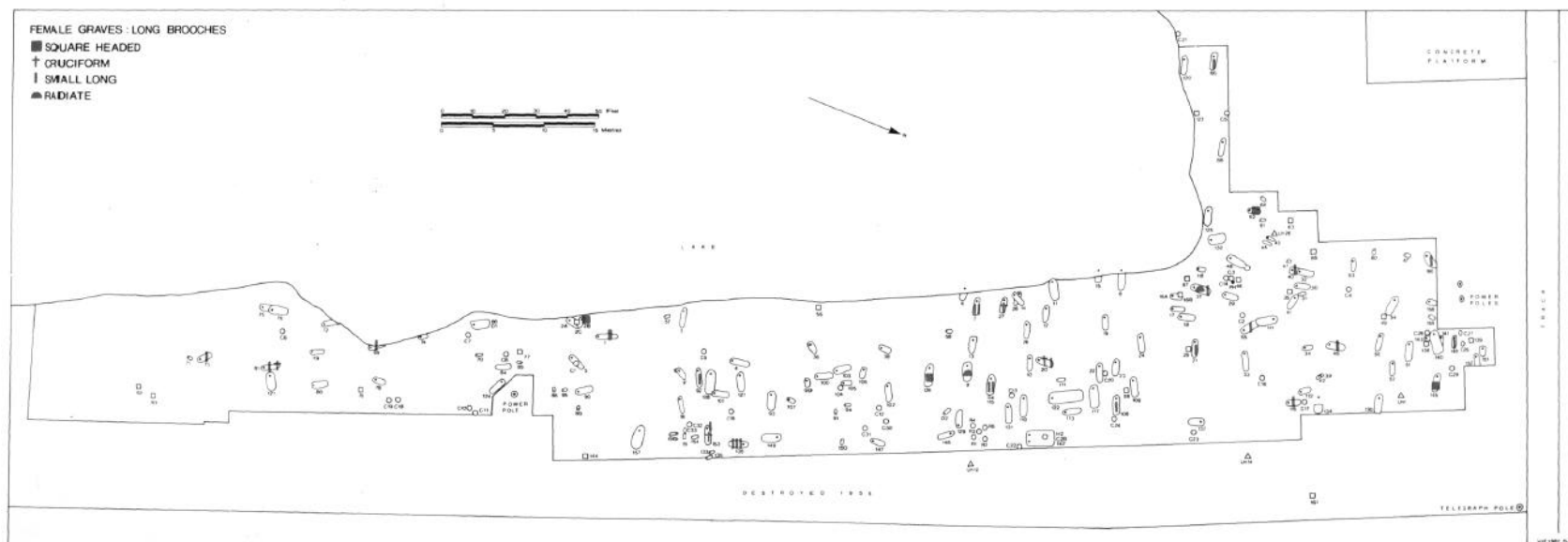


Figure 89 Distribution: female graves, long brooches

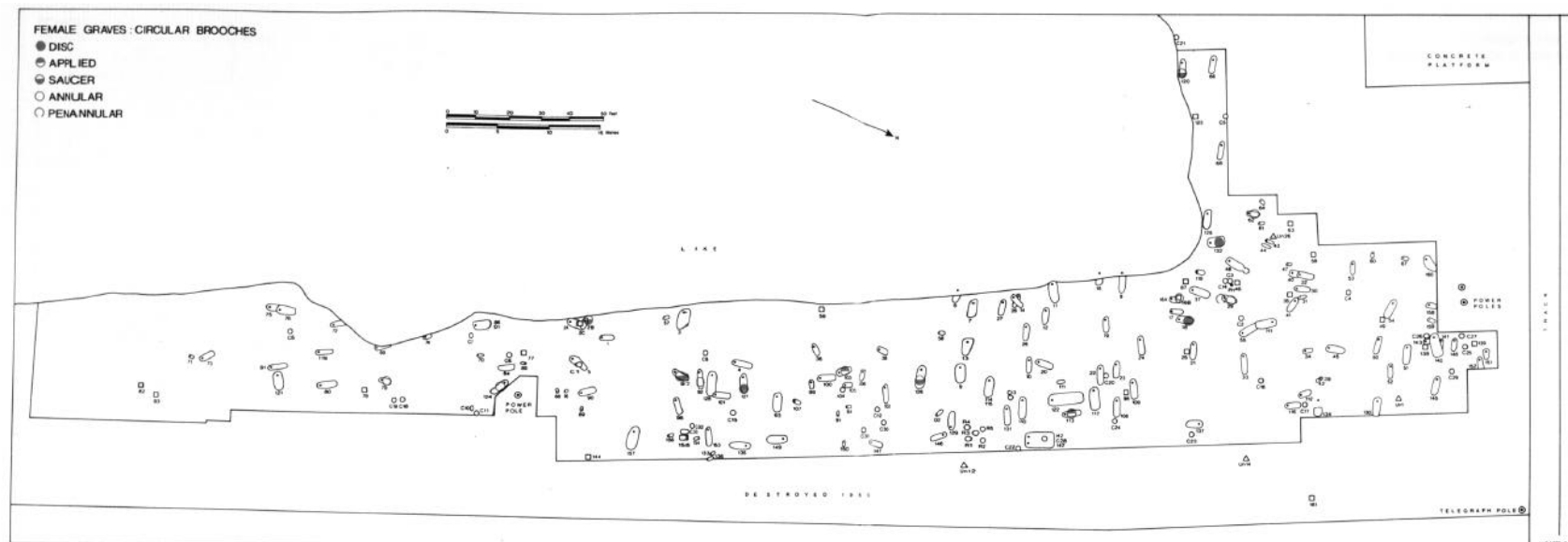


Figure 90 Distribution: female graves, circular brooches

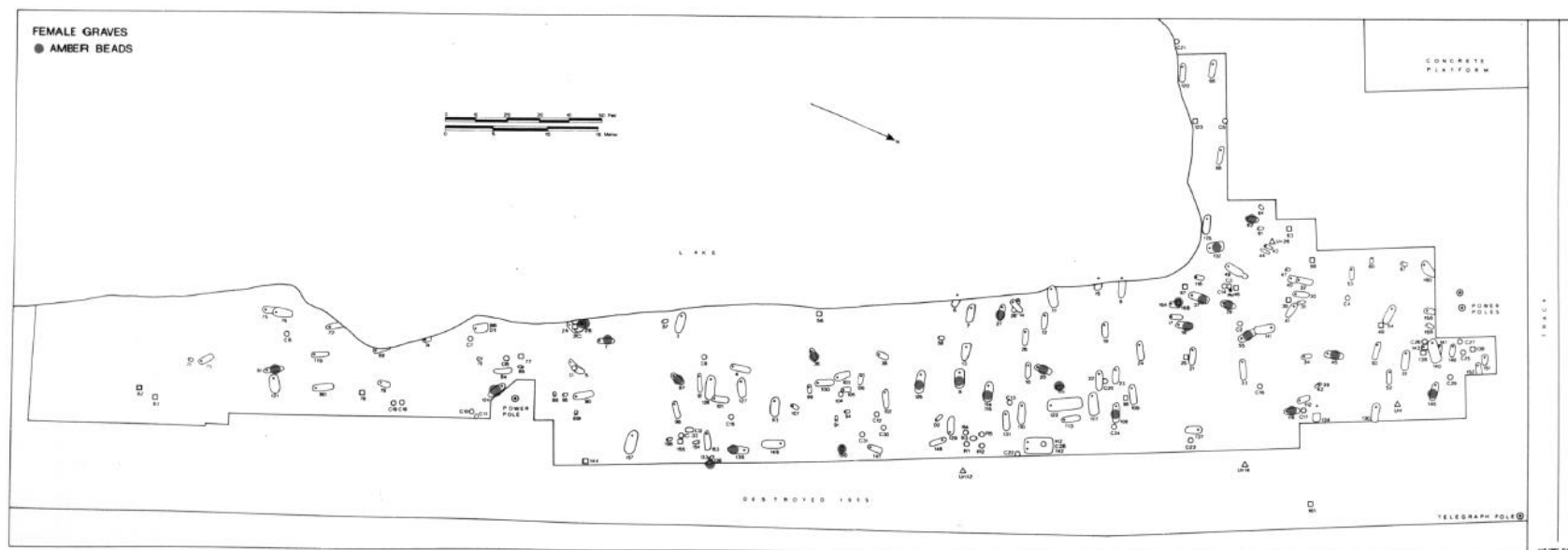


Figure 91 Distribution: female graves, amber beads

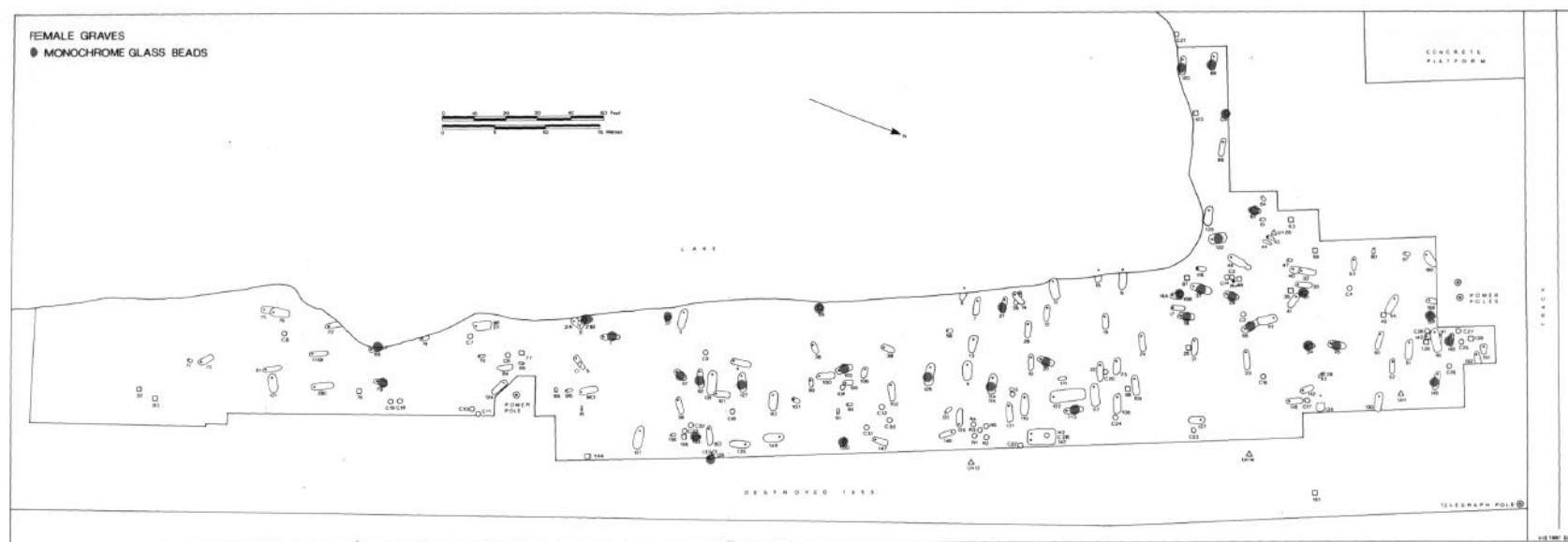


Figure 92 Distribution: female graves, monochrome glass beads

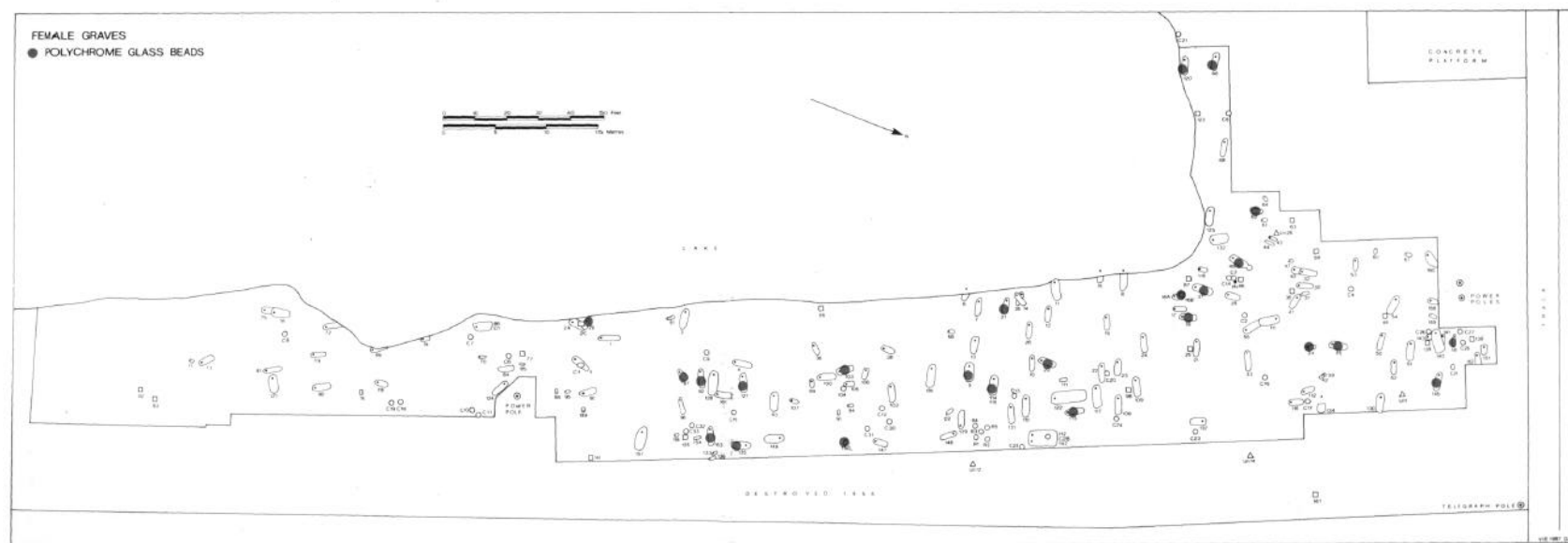


Figure 93 Distribution: female graves: polychrome glass beads

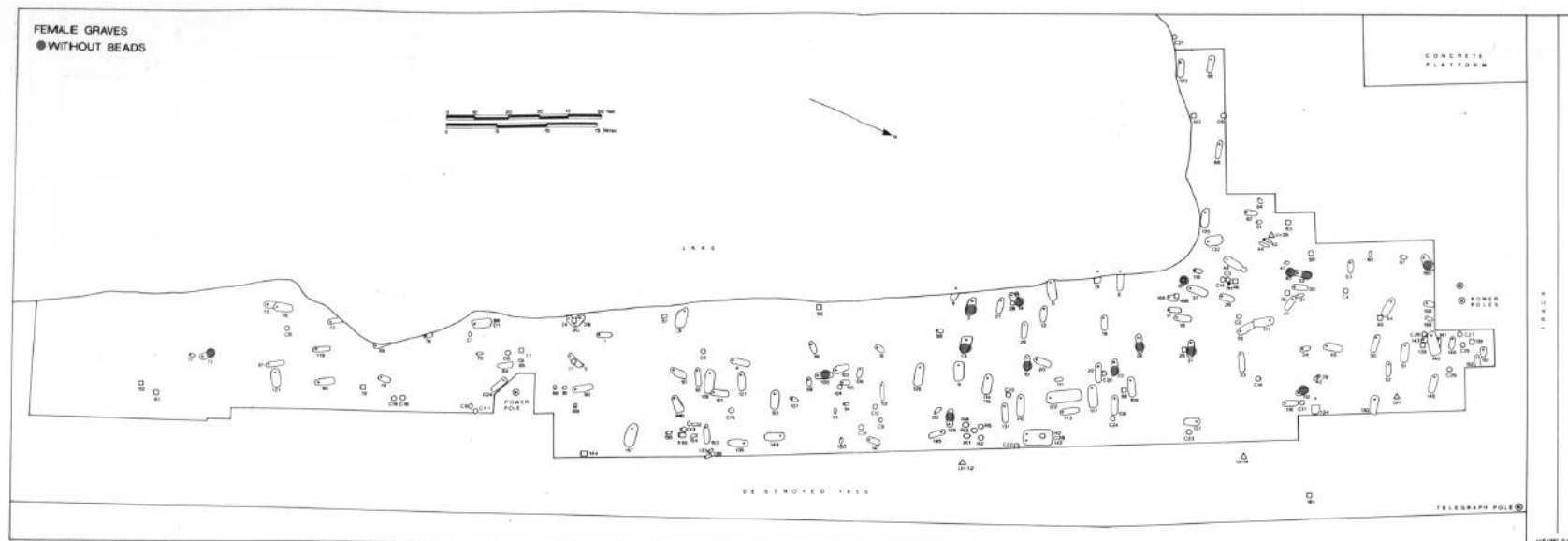


Figure 94 Distribution: female graves without beads

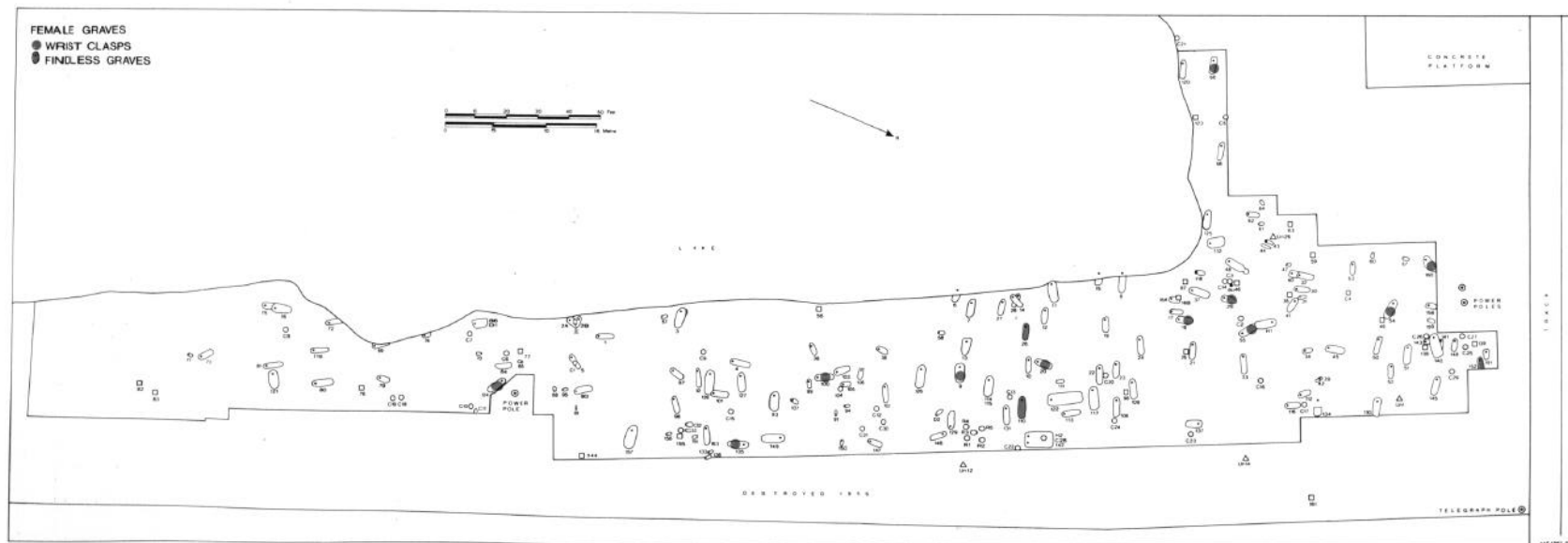


Figure 95 Distribution: female graves, wrist clasps, findless graves

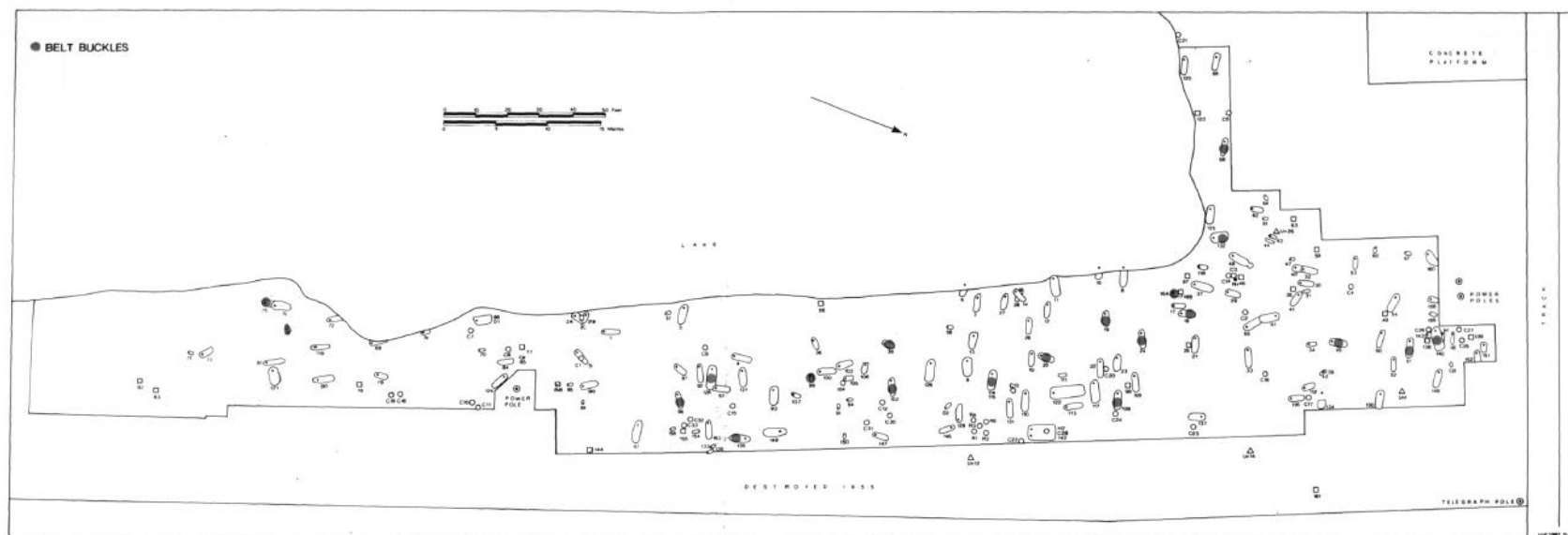


Figure 96 Distribution: belt buckles

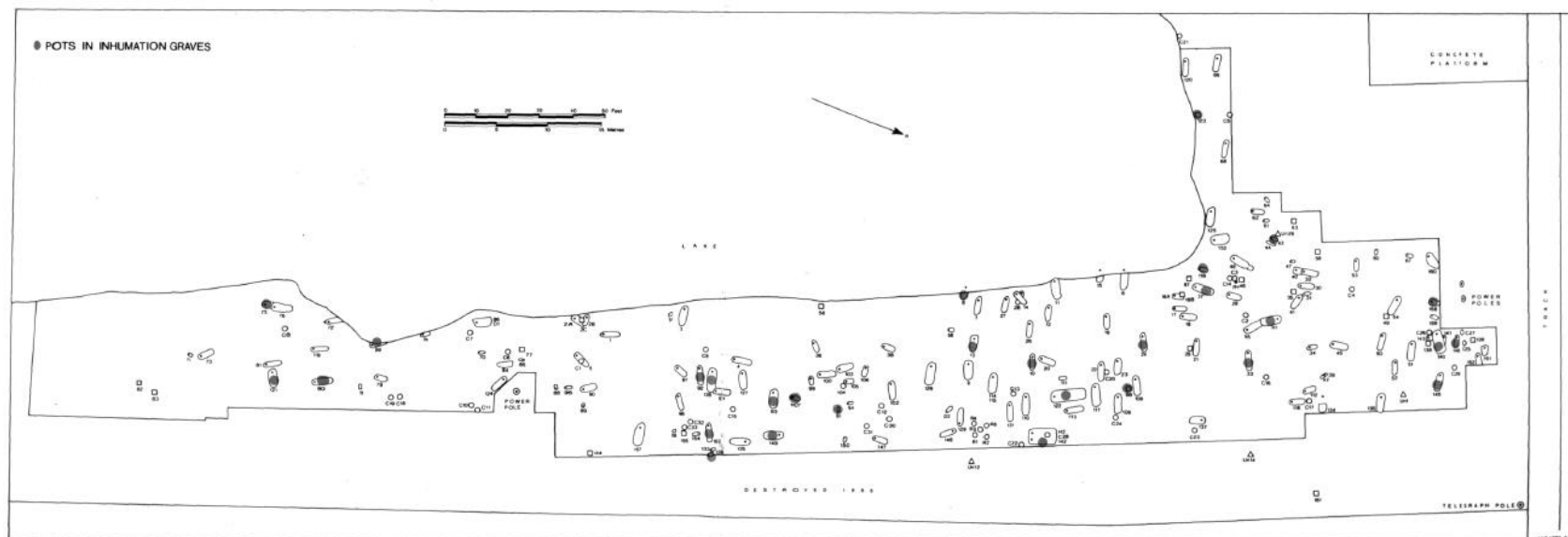


Figure 97 Distribution: pots in inhumation graves

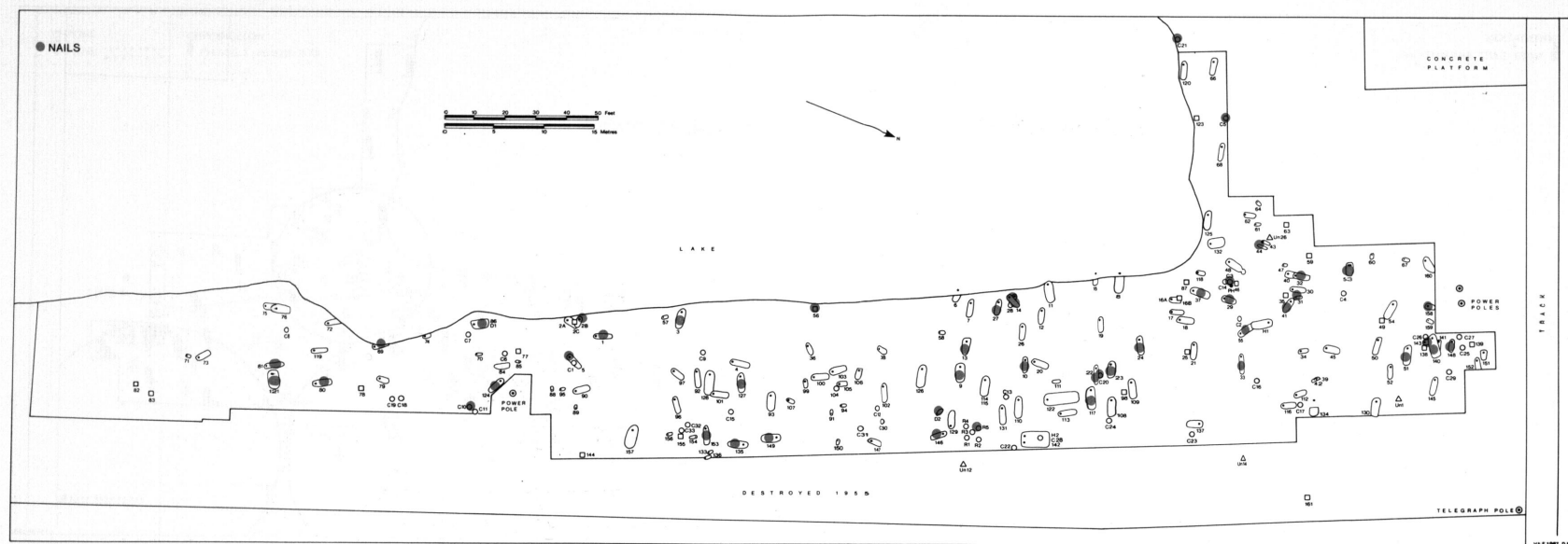


Figure 98 Distribution: nails

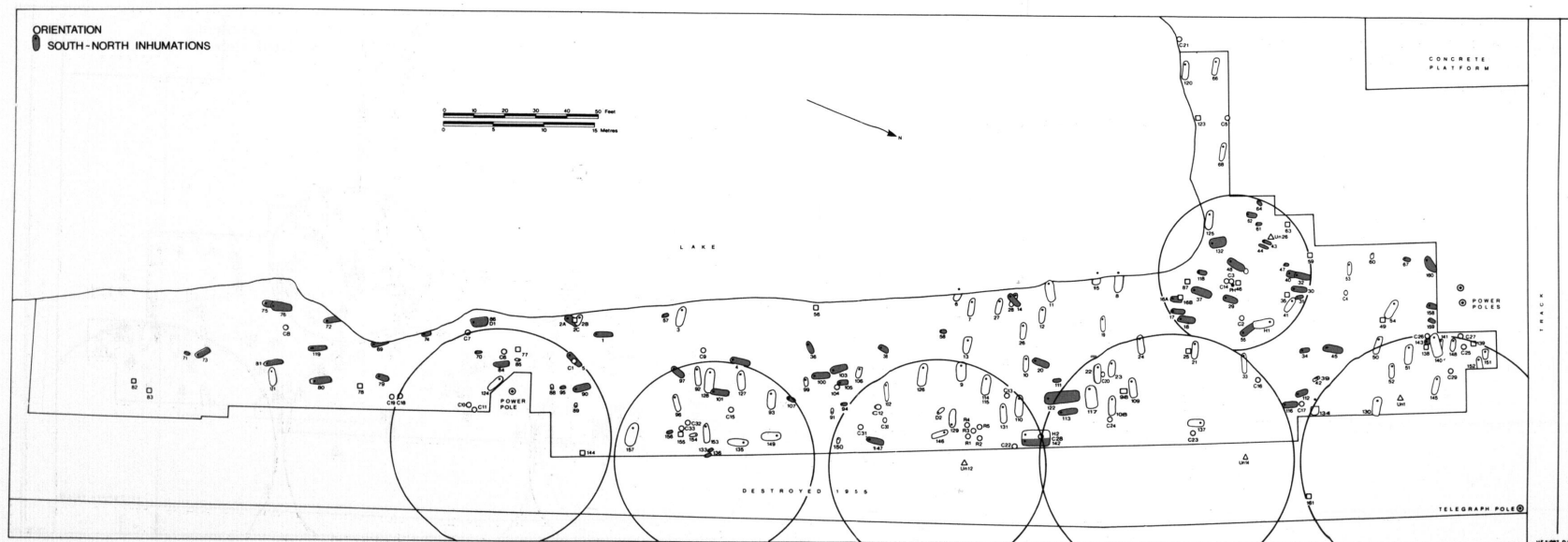


Figure 99 Distribution: orientation, south-north inhumations

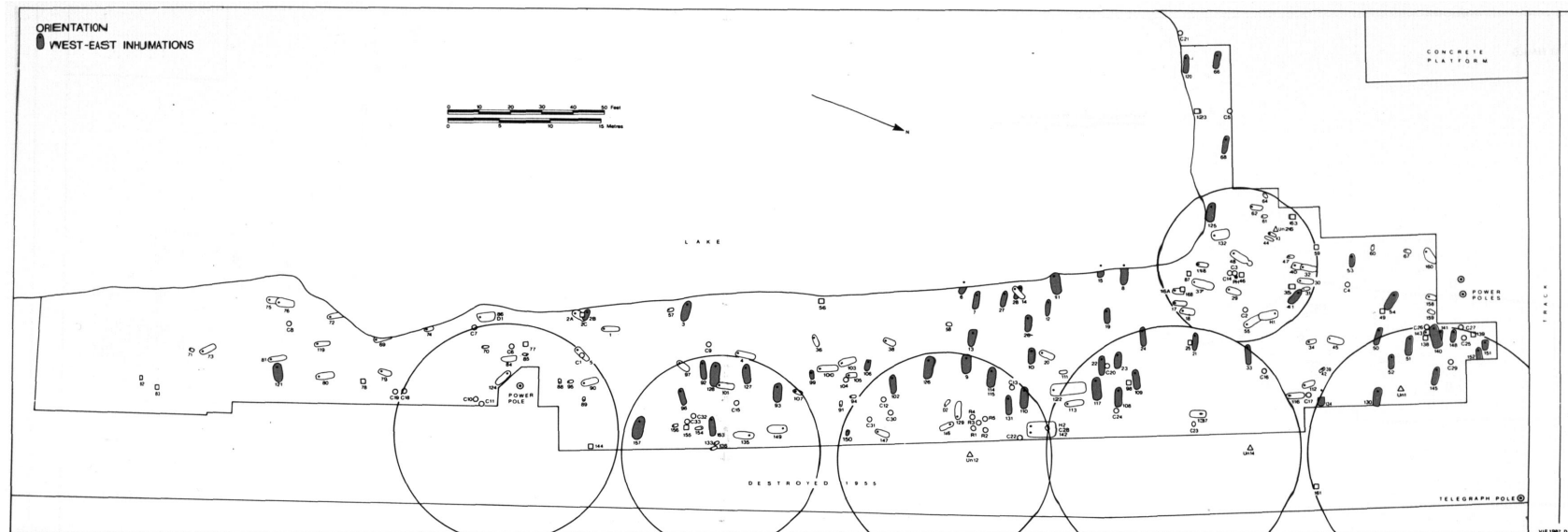


Figure 100 Distribution: orientation, west-east inhumations

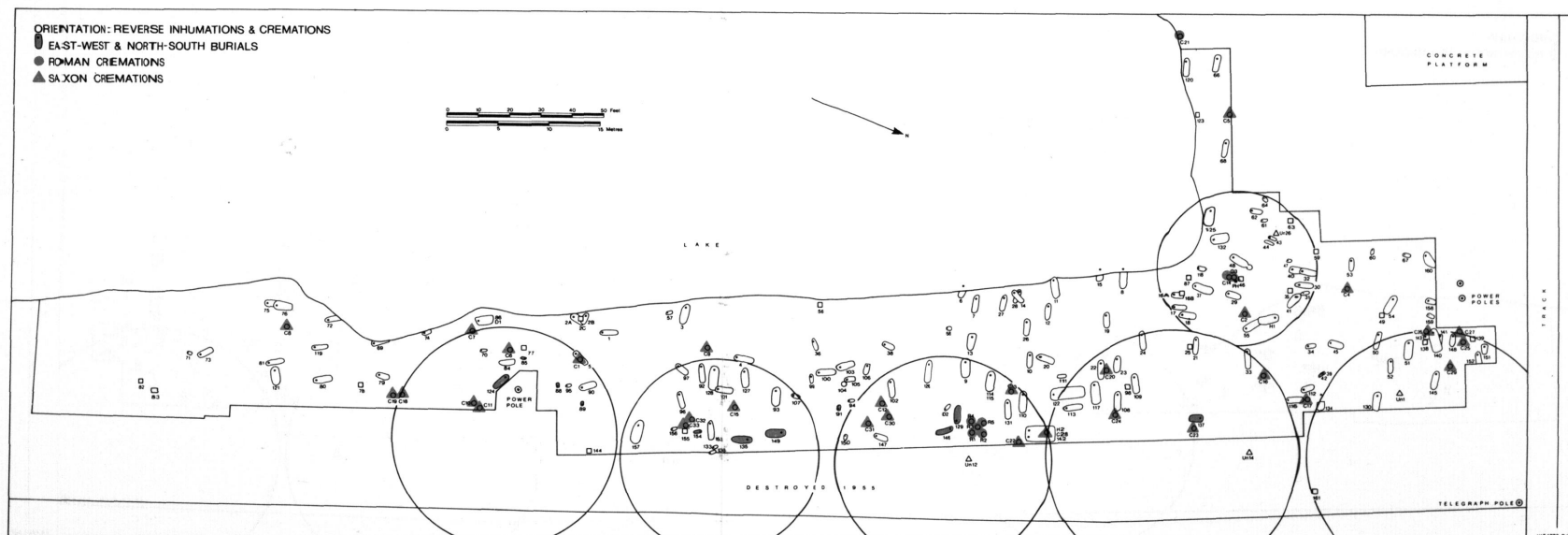


Figure 101 Distribution: reverse inhumations and cremations

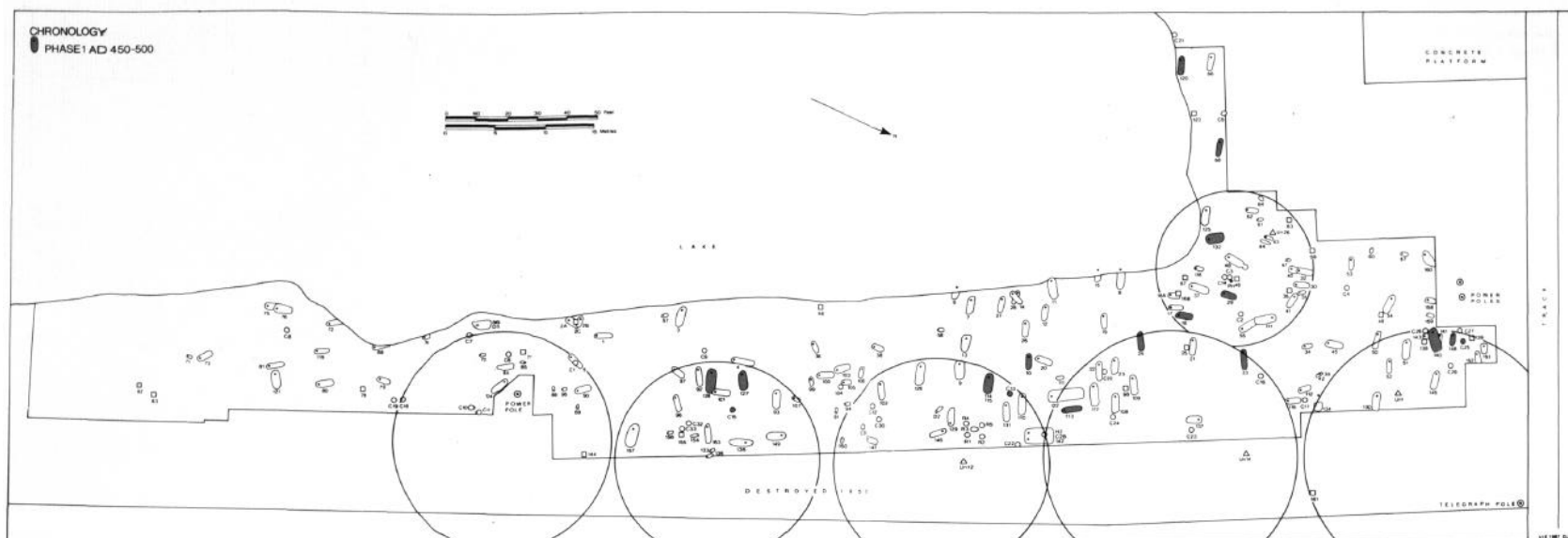


Figure 102 Chronology: phase 1, AD 450-500

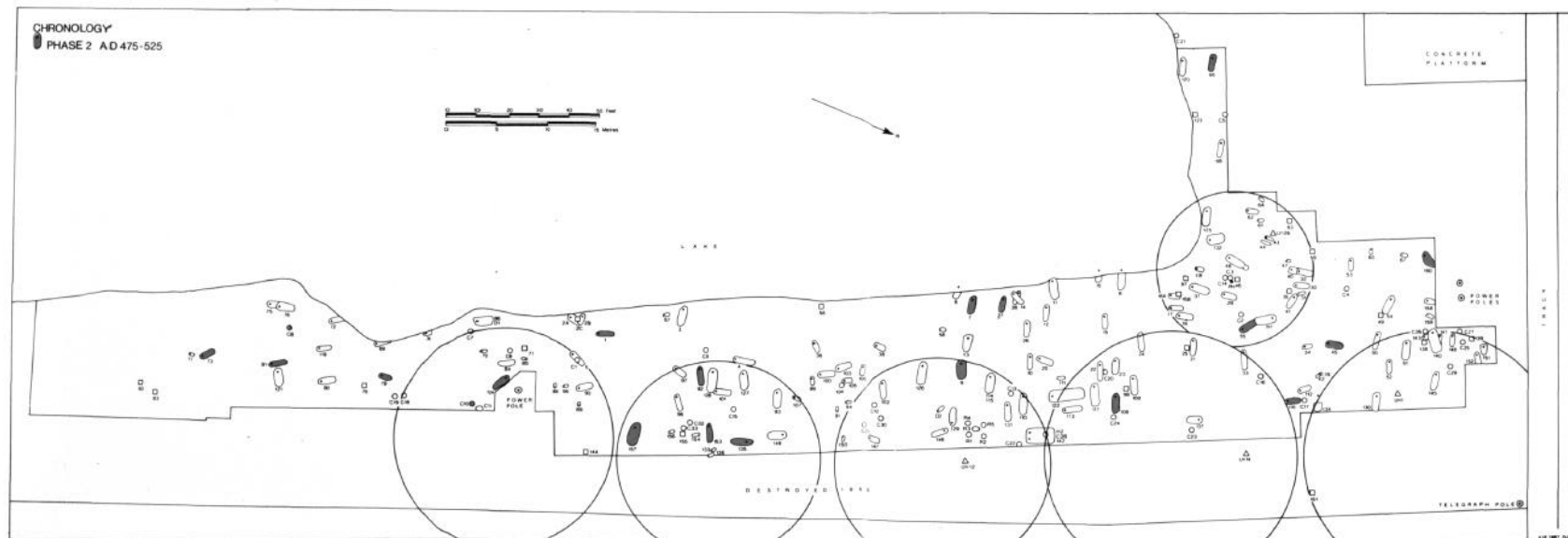


Figure 103 Chronology: phase 2, AD 475-525



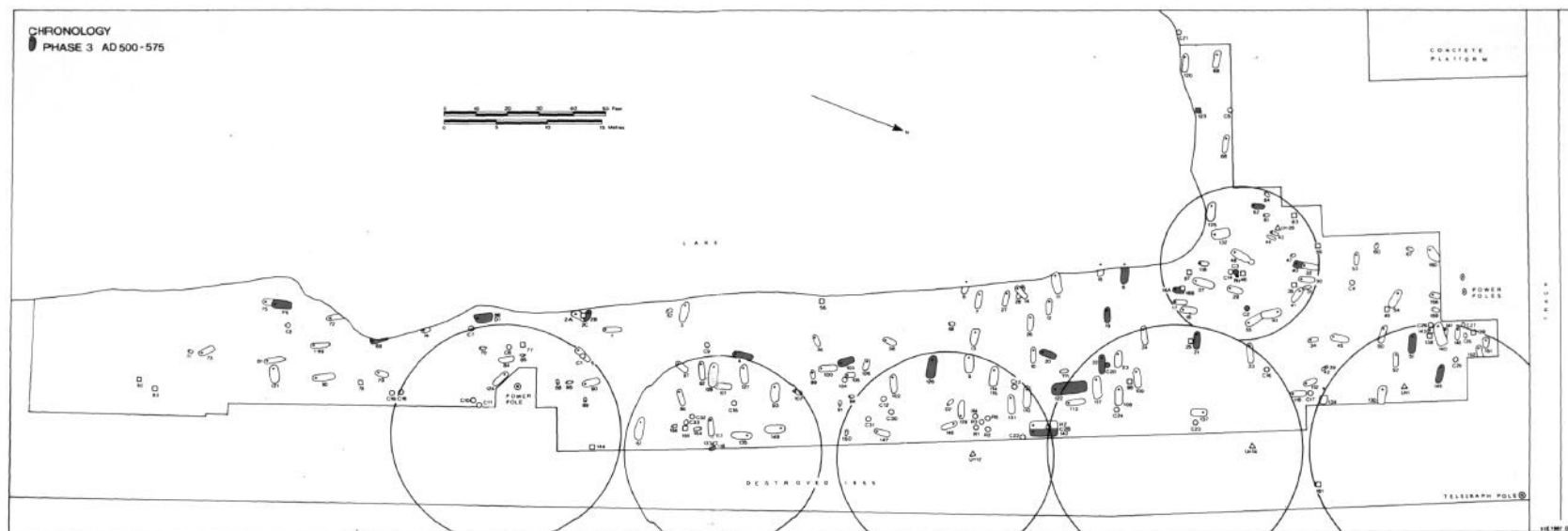


Figure 104 Chronology: phase 3, AD 500-575

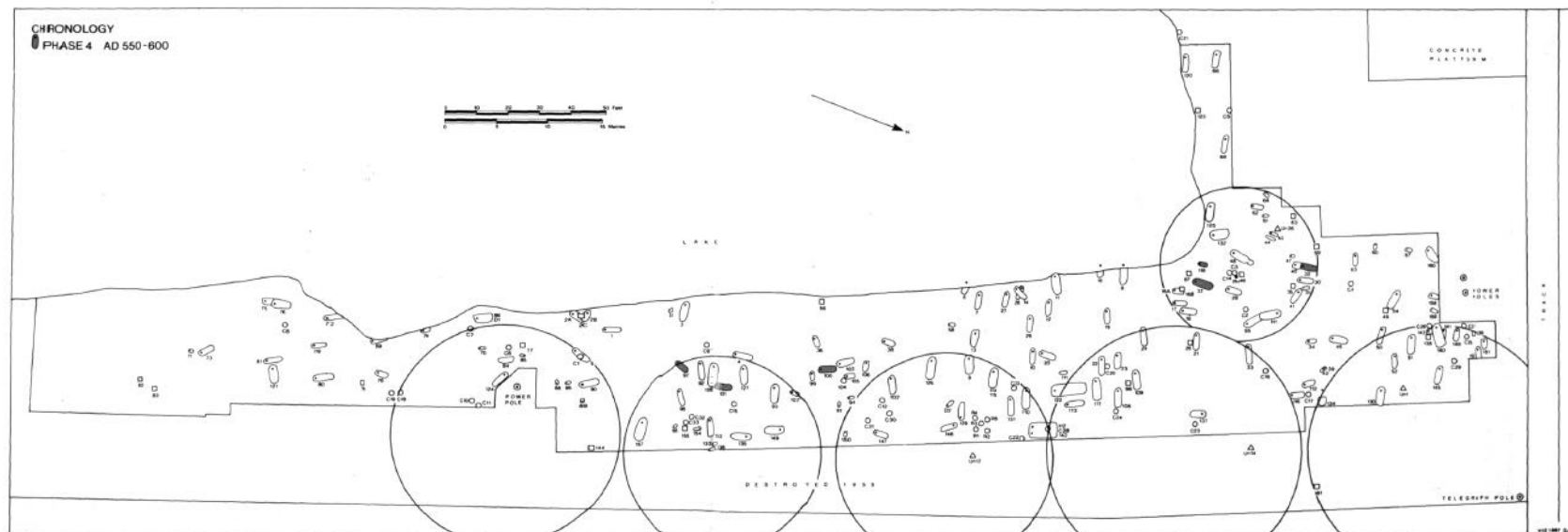


Figure 105 Chronology: phase 4, AD 550-600

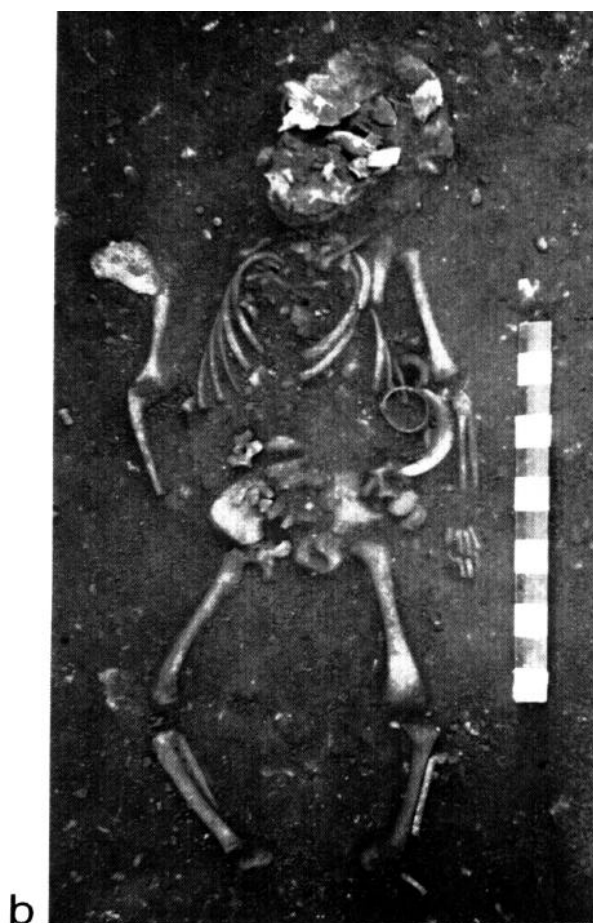
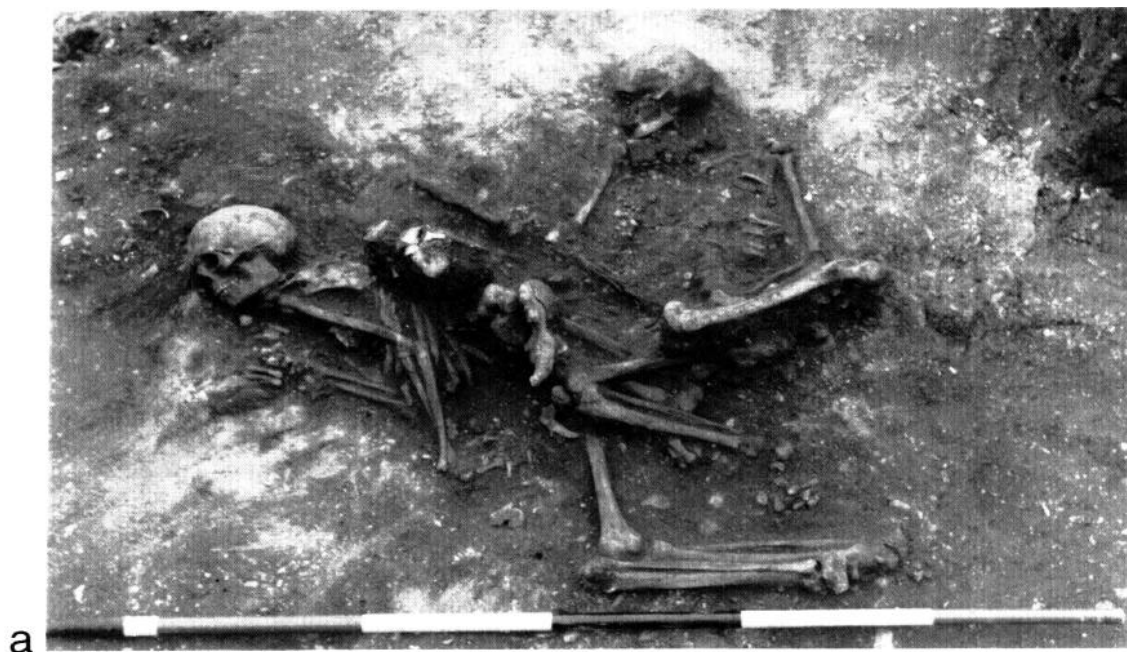
a



b



*Plate 1 a. Cemetery site in 1955 Looking north, showing the bulldozed track; b. horse grave 1, bronze strips*

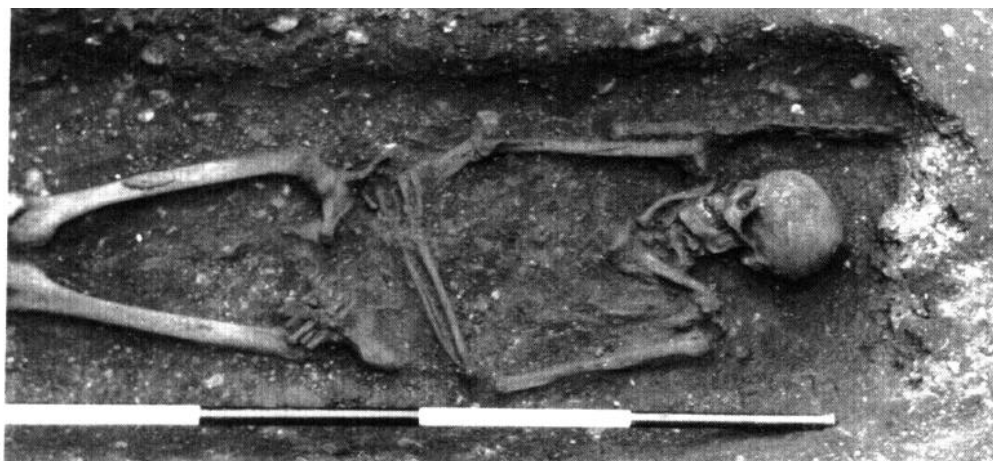


*Plate 2 a. Graves 2A, B, and C; b. grave 31*

a



b



c

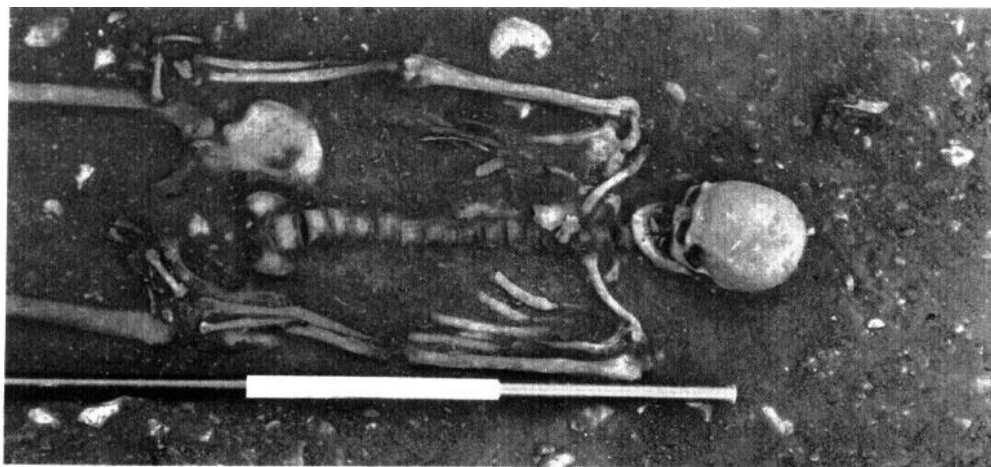


Plate 3 a. Grave 33; b. grave 51; c. grave 54

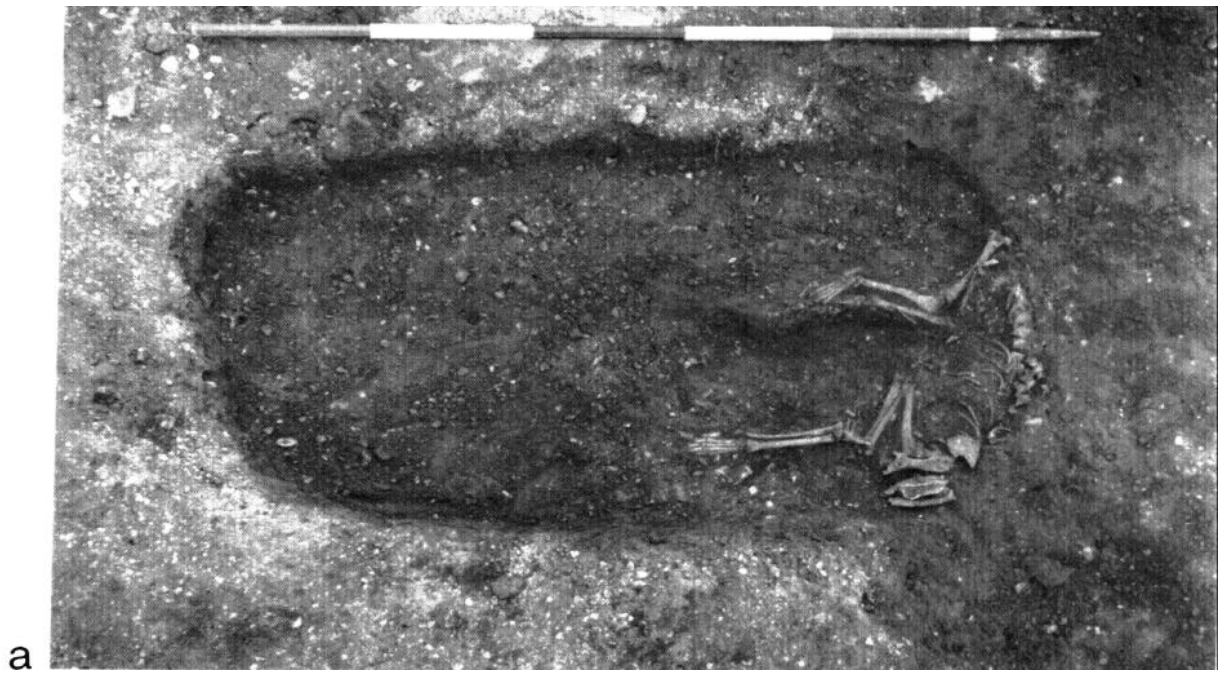


Plate 4 a. Grave 86, dog at depth 25cm; b. grave 86, boy at depth 55cm



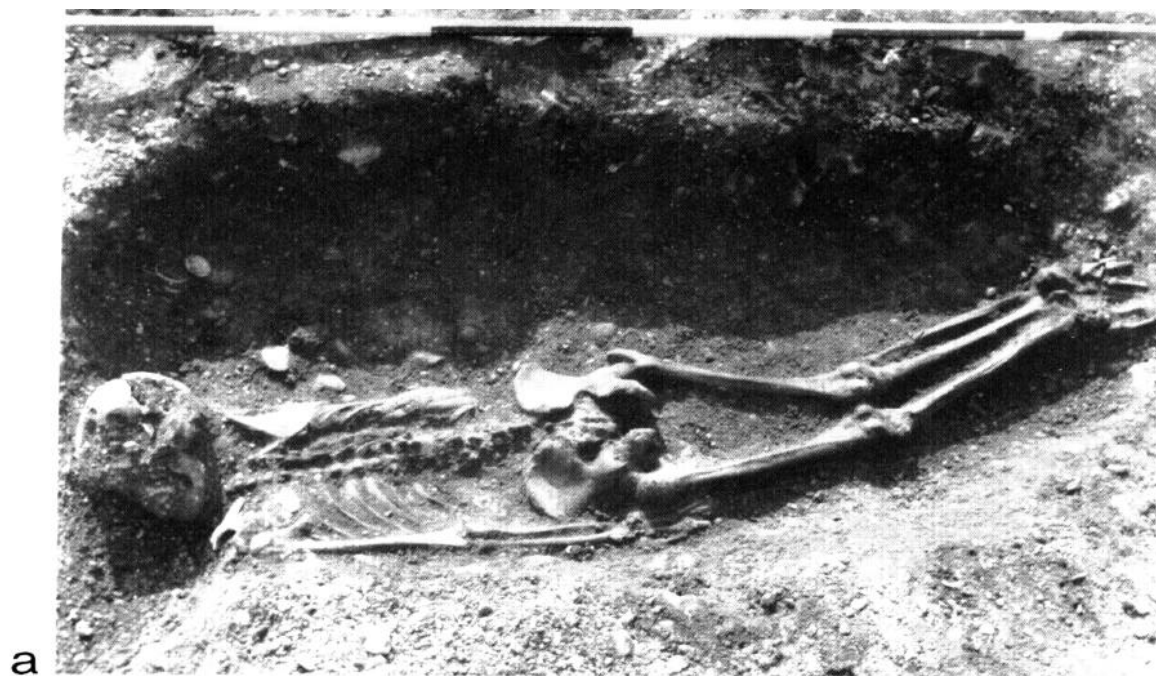


Plate 5 a. Grave 103; b. grave 142, horse grave 2

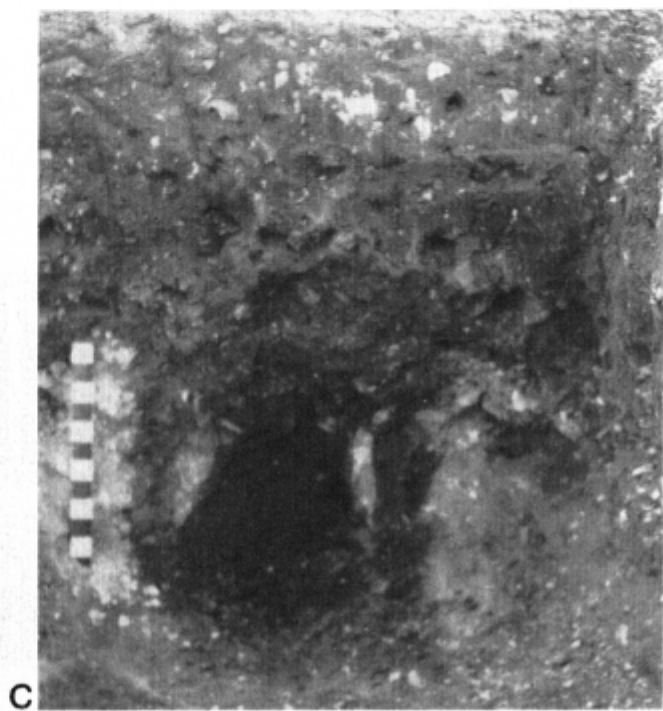
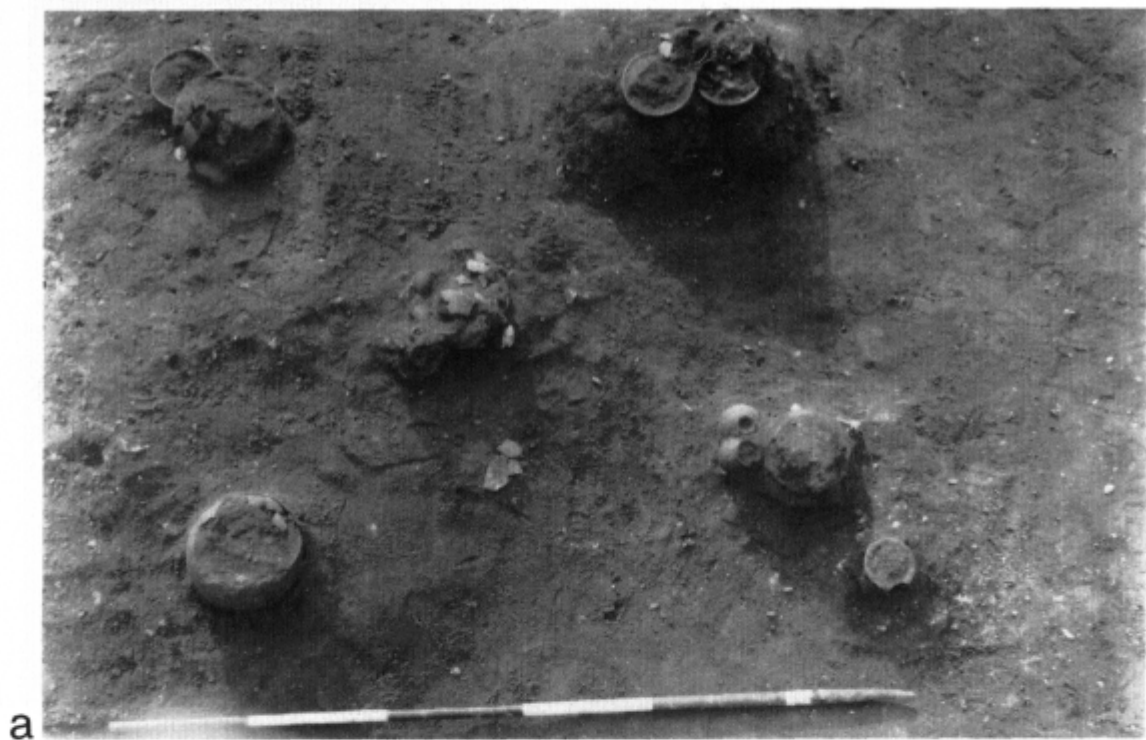
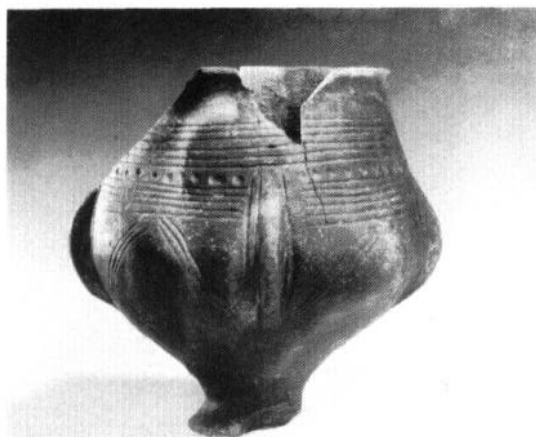


Plate 6 a. Romano-British cremations 1-5; b. cremation 14; c. posthole near cremation 14

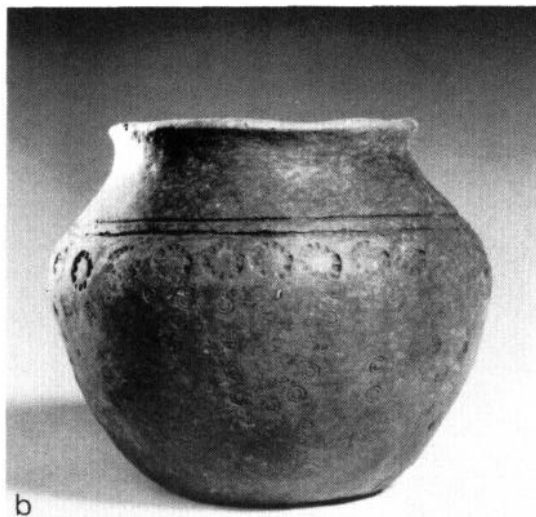


Plate 7 a. Spearhead 51/1; b. spearhead 157/1; c. pot 33/1; d. bronze bowl 65/4 (scale 1:2)

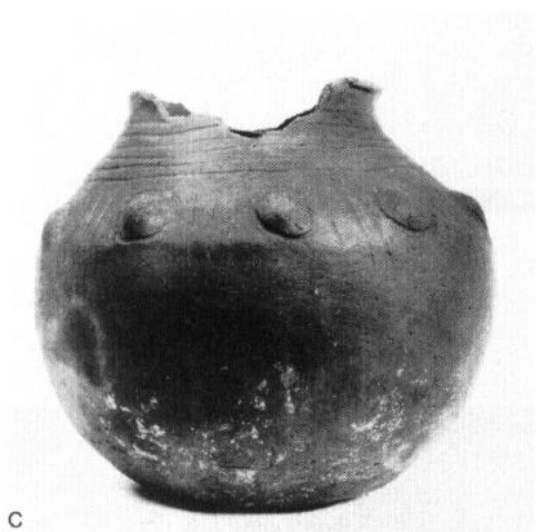




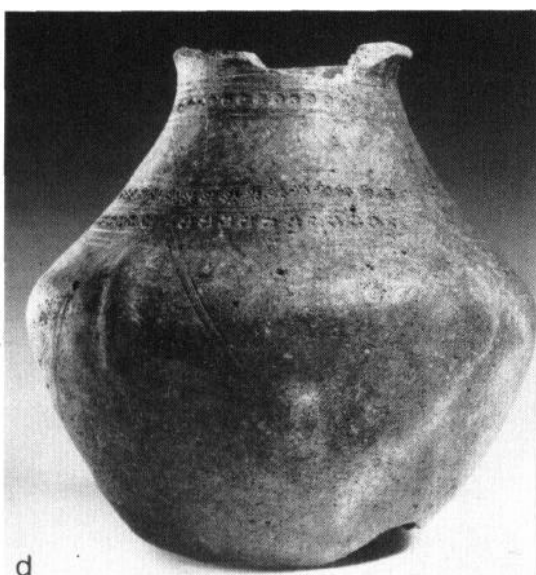
a



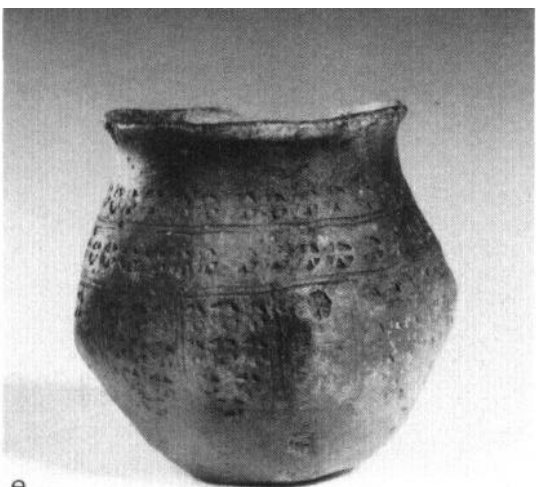
b



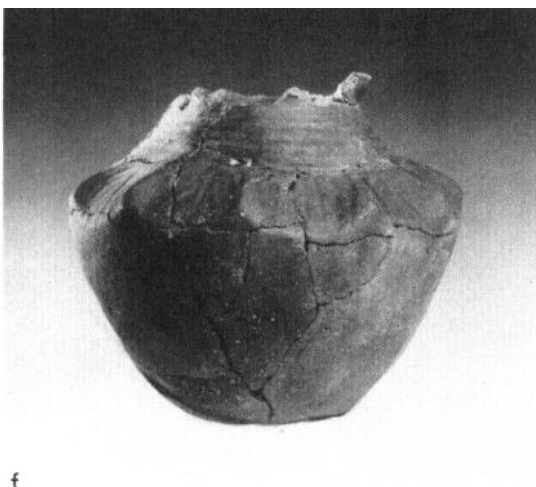
c



d

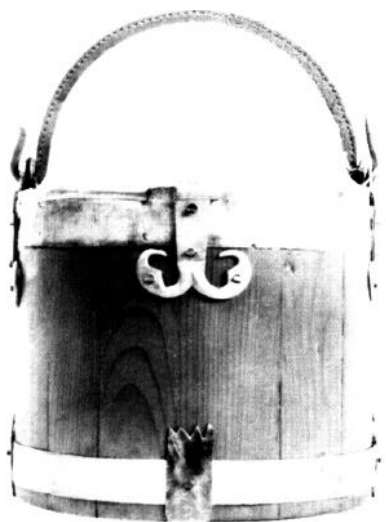


e



f

*Plate 8 Pots. a. 10/1a; b. 69/1; c. 122/1; d. 142/2; e. C2/2; f. C10/1 (scales b and e at 1:2; a, d, and f at 1:3; c at 1:4)*



a



b

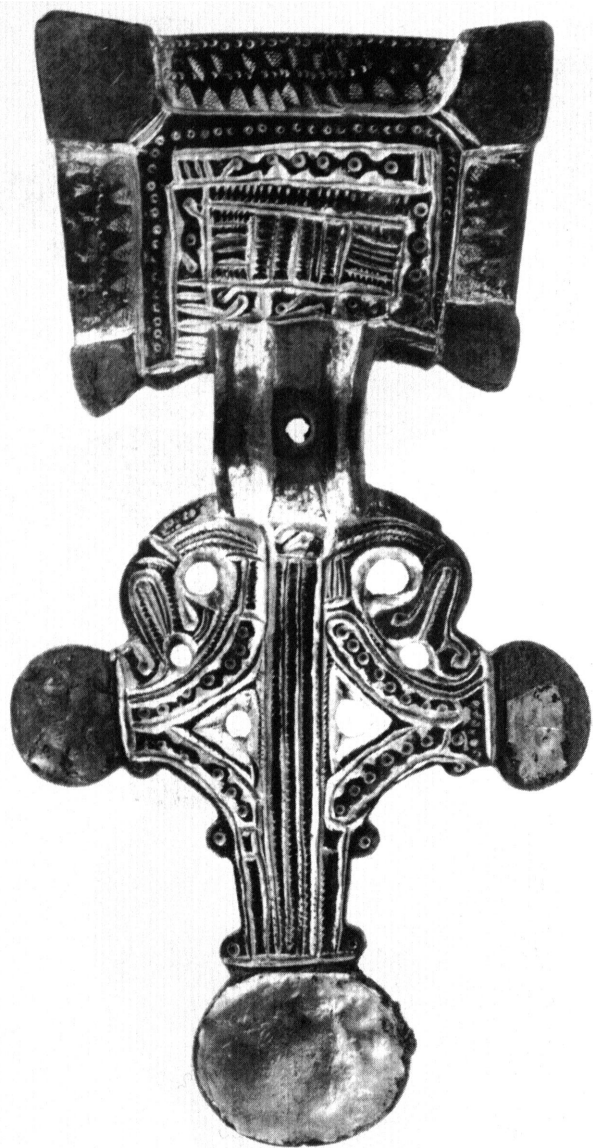


c



d

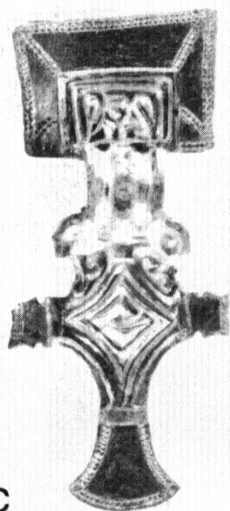
Plate 9 a. Reconstructed bucket 65/5; b. glass bowl 33/2; c. Glass claw beaker 122/3; d. glass cone beaker 128/2 (scale 1:2)



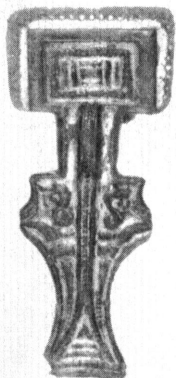
a



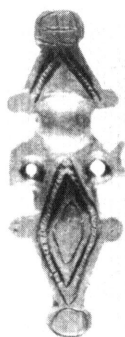
b



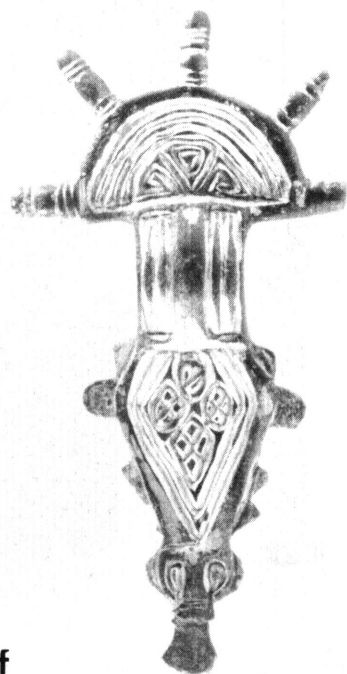
c



d



e



f

**Plate IO Square-headed brooches. a. 2B/1; b. 12613; c. 145/4; d. 62/2. Radiate brooches. e. 9/2; f. 37/2 (scale 1:2)**

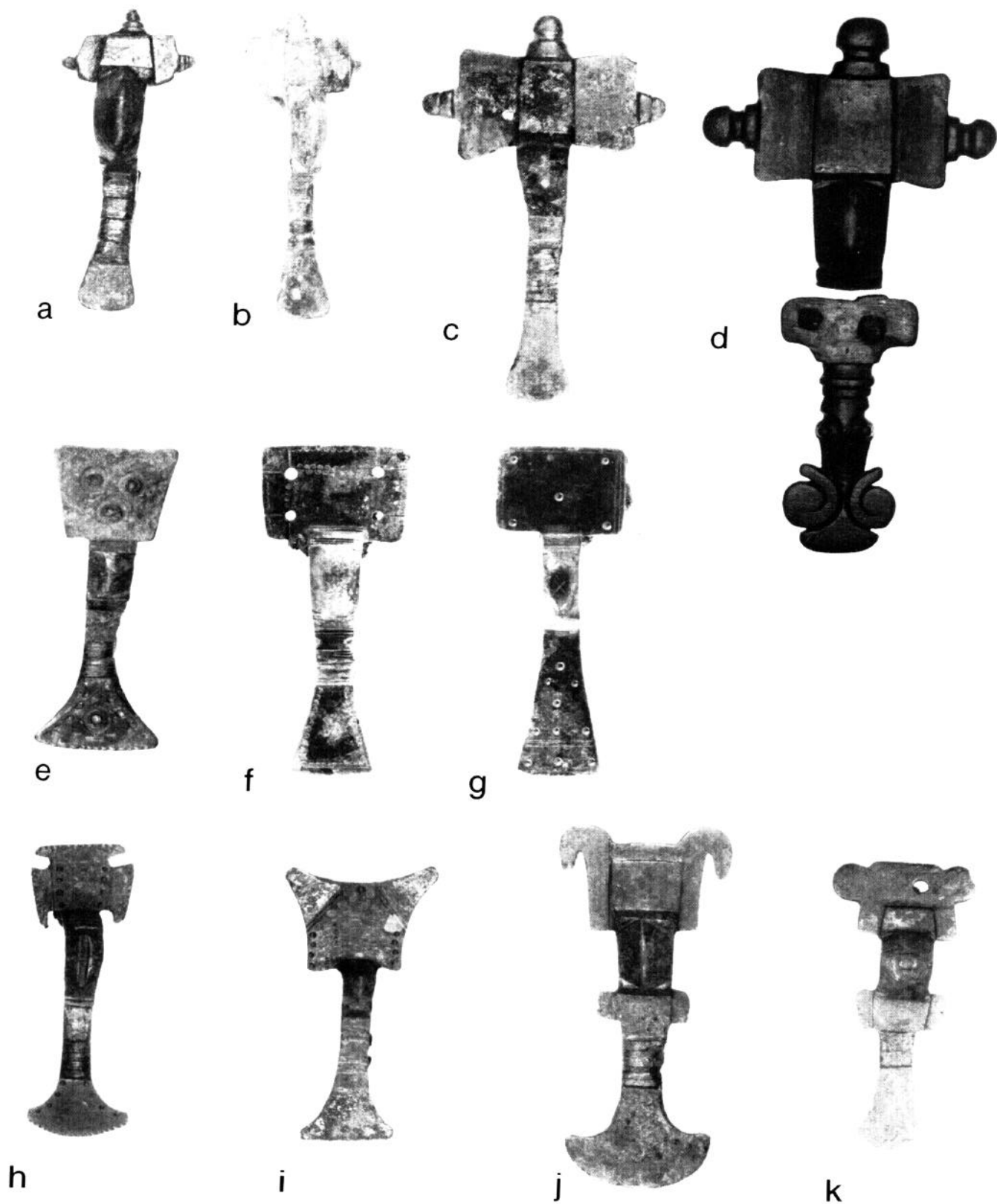
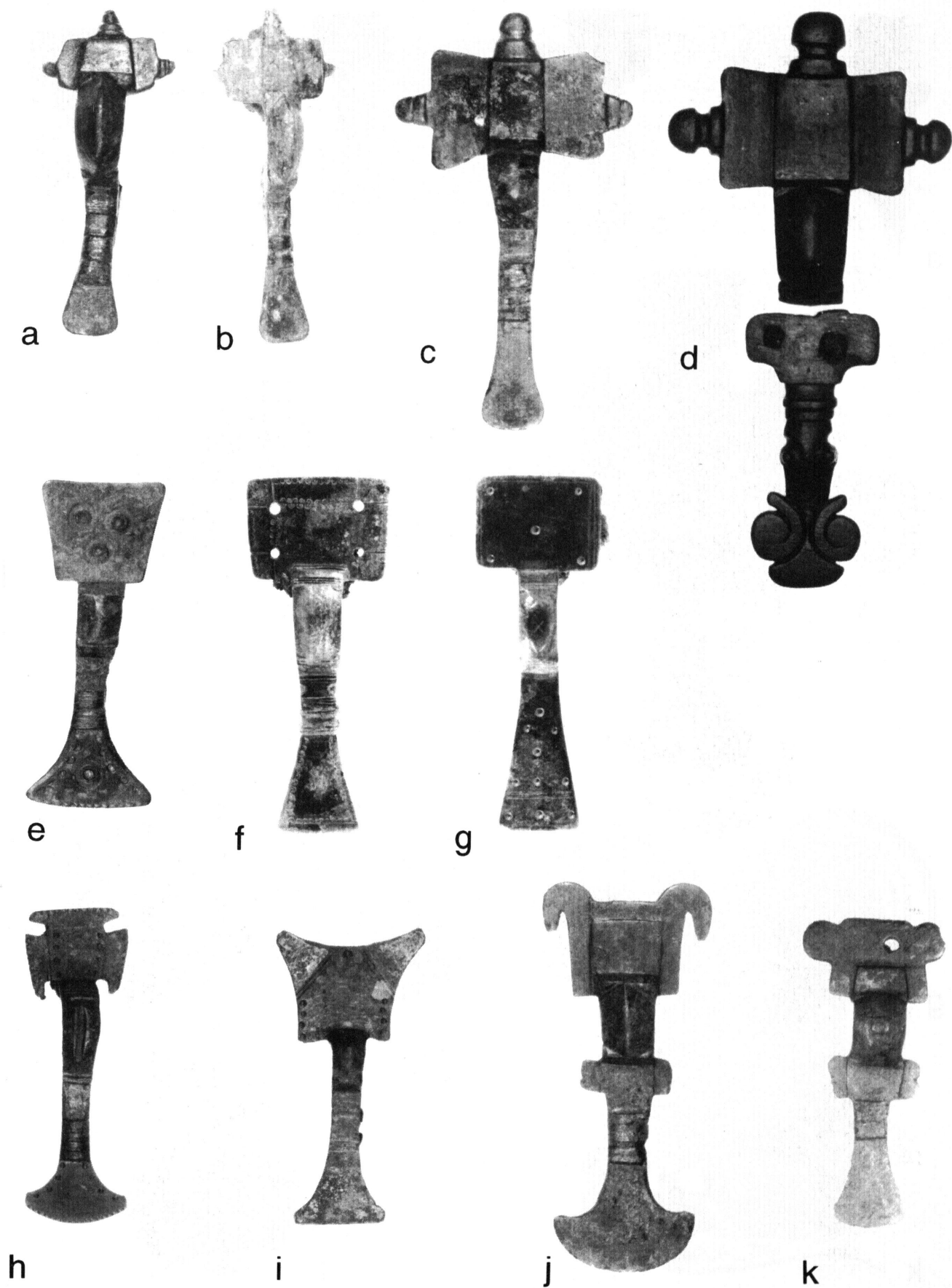
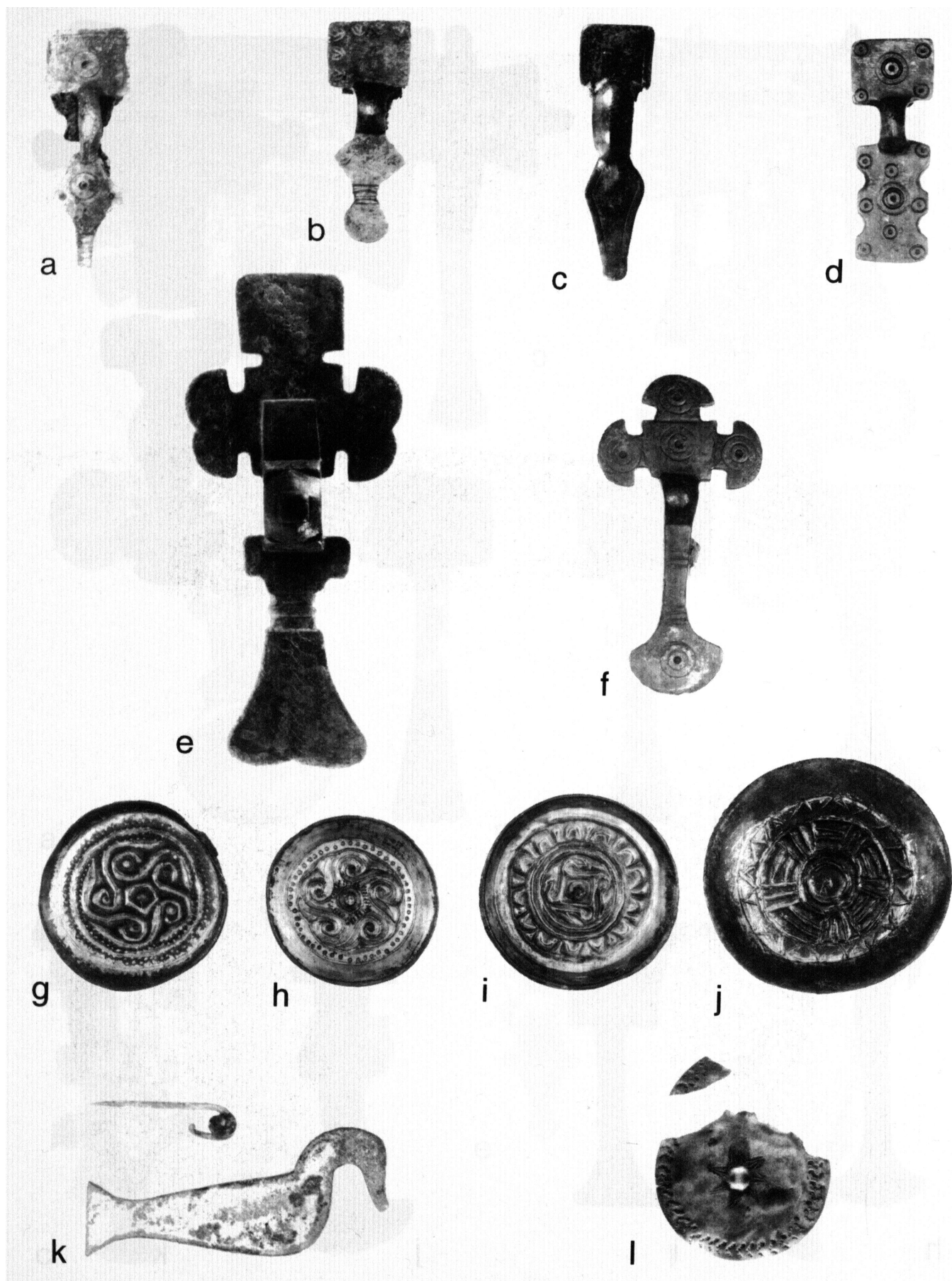


Plate 11 Cruciform brooches. a. 27/1; b. 153/3; c. 81/1; d. 20/1. Small long brooches e. 92/2; f. 7/1; g. 7.2; h. 108/1; i. 55/2; j. 37/3; k. 21/1 (scale 1:2)

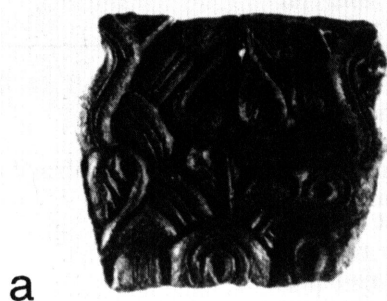


**Plate 11** *Cruciform brooch-es.* a. 2711; b. 153/3; c. 81/1; d. 20/1. *Small long brooches* e. 92/2; f. 7/1; g. 7.2; h. 108/1; i. 55/2; j. 37/3; k. 21/1 (scale 1:2)





**Small long brooches. a. 148/2; b. 69/2; c. 11412; d. 45/2; e. 40/1; f. 20/2. Saucer brooches. g. 97/1. Duck brooch. k. 68/1. Pendant. l. Un 1 (scale 1:2)**



a



b



c



d

**Plate 13** a. Bronze fragment, Un 2; b. strap-end 157/3; c. bucket mount 145/2; d. wrist clasp 54/4 (scale a, c, and d at 1:1; b at c 2:1)

Numbers in bold type indicate specialist reports and main discussions. Numbers in italics refer to illustrations. Abbreviations used are f - following, C - century.

Objects are Anglo-Saxon unless otherwise indicated.

- age
  - cremations, 31, 32, 35, 52-3, 65
  - inhumations, 31, 32, 33-4, 52-3
- amulet (*see also* pendants), boar's tusk, 35, 67, 96, 134f, 147
- anklets *see* bracelets & anklets
- Annable, F K, 1
- antler objects *see* beads; ferrules
- awl, Romano-British, 121
- balancing fork, Romano-British, 121
- bars, iron, 93, 111, 115, 141, 173, 179
- beads (*see also* amulets; pendants)
  - Anglo-Saxon, 8-18, 134f
  - analysis (glass), **77-80**
  - distribution of, 8, 45, 209-20
  - forms, 9-11
  - positions of, 8, 16
  - threads, 16, 72, 73, 75-6, 93-4, 106, 108
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## AN ANGLO-SAXON CEMETERY AT GREAT CHESTERFORD, ESSEX

In 1952, commercial gravel-digging in the fields north-west of the Roman town of Great Chesterford, Essex, uncovered evidence of Anglo-Saxon graves near the known position of one of the Roman cemeteries surrounding the town. As a result, 161 inhumation graves, 33 cremation graves, 2 horse graves and 2 dog burials were excavated on behalf of the Inspectorate of Ancient Monuments, and the positioning of some of the graves, together with other evidence, indicated the earlier presence of tumuli.

The adult female graves were well furnished with a variety of jewellery. Some of the men were provided with weapons as usual, but many were without weapons, and as some of these graves contained other items of interest the identity of these men comes into question. In addition, there was an unusually large percentage of children's graves, probably reflecting a more accurate picture than usual of the normal mortality rate in Anglo-Saxon times.

