



SPONG HILL

PART III

CATALOGUE OF INHUMATIONS

East Anglian Archaeology 21

Norfolk Archaeological Unit, Norfolk Museums Service, 1984

EAST ANGLIAN ARCHAEOLOGY

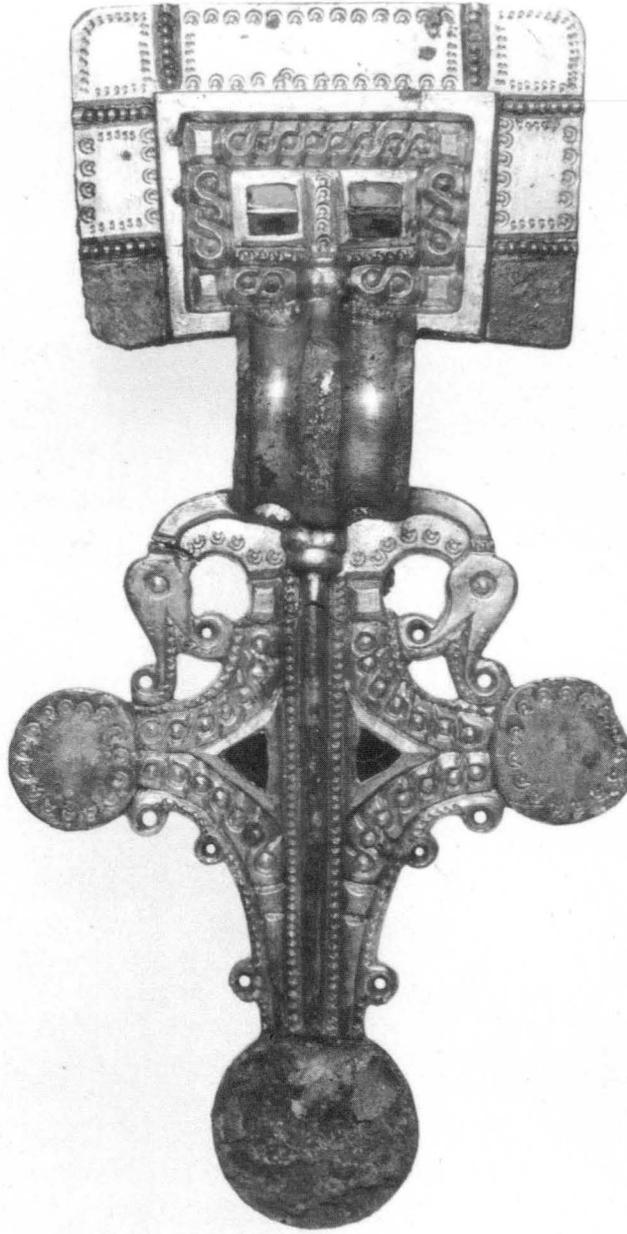


Photo: M.Sharp

BXN 31

Frontispiece: Inhumation 24: Square-headed brooch 5a
(Fig.81). Scale approx. 1:1.

**The
Anglo-Saxon
Cemetery
at Spong Hill,
North Elmham
Part III:
Catalogue of
Inhumations**

**by Catherine Hills,
Kenneth Penn
and Robert Rickett**

with contributions from
H. M. Appleyard, Mark A. Brisbane,
Elisabeth Crowfoot, Brian Gilmour,
Michael J. Hughes, Julie Jones,
Helen C. M. Keeley, Donald Mackreth,
Peter Murphy, Glenys Putnam, Karen
Wardley, Jacqui Watson

**East Anglian Archaeology
Report No. 21, 1984**

**Norfolk Archaeological Unit
Norfolk Museums Service**

EAST ANGLIAN ARCHAEOLOGY
REPORT No. 21

Published by
The Norfolk Archaeological Unit
Union House
Gressenhall
Dereham
Norfolk NR20 4DR

in conjunction with
The Scole Archaeological Committee Ltd.

Editor: Peter Wade-Martins

Scole Editorial Sub-Committee:
Alan Carter, Director, Norwich Survey
David Buckley, County Archaeologist, Essex Planning Department
Peter Wade-Martins, County Field Archaeologist, Norfolk Museums Service
Stanley West, County Archaeological Officer, Suffolk Planning Department

Typed by Joan Daniells
Printed by Witley Press, Hunstanton

© THE NORFOLK ARCHAEOLOGICAL UNIT 1984

ISSN 0307 2460

For details of *East Anglian Archaeology*, see last page

This volume is published with the aid of a grant from
the Department of the Environment

Cover Illustration The excavation of the cruciform brooch in
inhumation 57.
Photo: David Morgan
(*Ref. BAP 26*)

CONTENTS

THE ANGLO-SAXON CEMETERY AT SPONG HILL, NORTH ELMHAM Part III: Catalogue of Inhumations

	Page
List of Contents	iii
List of Plates	v
List of Figures	v
List of Tables	vi
Contributors	vii
Acknowledgements	viii
I. Summary	1
II. Introduction	1
III. Burial Ritual	1
Body position	1
Orientation	2
Coffins	6
Broken objects	6
Flint packing	8
Sex	8
Social Structure	8
IV. Chronology	11
Stratigraphy	11
Typology	12
V. The Human Bones by Glenys Putnam	15
VI. The Textiles by Elisabeth Crowfoot and Julie Jones (with Fibre Analysis by H.M.Appleyard and Julie Jones)	17 21
VII. Organic Samples by Peter Murphy	29
VIII. The Pottery Fabrics by Mark A. Brisbane	29
IX. Analysis of Soil Samples from Inhumation 31 by Michael J. Hughes	32
X. Trace Element Analysis of Samples from Inhumations 40 and 42 by Helen C.M. Keeley	34 34
XI. The Romano-British Brooch 26/6 by Donald Mackreth	36
XII. Shield Construction	37
XIII. X-Ray Fluorescence Analysis of 'Bronze' Objects by Karen Wardley	38 38
XIV. Conclusions	41
References	41
Bibliography	42
Note on Catalogue	48
Catalogue of Inhumations	50
Appendix I Organic material associated with metal objects by Jacqui Watson with Comments by Catherine Hills	157

Appendix II	X-radiographs of two objects: the weaving batten (24/3) and the sword (40/5) by Brian Gilmour	Page 160
Index		165

LIST OF PLATES

Frontispiece	Inhumation 24. Square-headed brooch
Pl. I	Inhumation 40 with ring-ditch and associated inhumations
Pl. II	Inhumation 41 with ring-ditch
Pl. III	Inhumation 50
Pl. IV	Inhumation 58
Pl. V	Inhumation 40
Pl. VI	Inhumation 31
Pl. VII	Inhumation 40 (detail)
Pl. VIII	Inhumation 44 (detail)
Pl. IX	Inhumation 45 (detail)
Pl. X	Inhumation 46 (detail)
Pl. XI	Wrist-clasps
Pl. XII	Annular brooches
Pl. XIII	Square-headed, equal-armed and disc brooches
Pl. XIV	Cruciform brooches and pendants
Pl. XV	Textile and leather remains
Pl. XVI	Inhumation 5: X-ray of organic material
Pl. XVII	Inhumation 30: X-ray of grave-good 5, purse-mount
Pl. XVIII	Details of grave-goods: 22/3; 31/4, 5; 40/5
Pl. XIX	Pots from inhumations 3, 8, 14, 22, 27 and 42

LIST OF FIGURES

	Page
Fig. 1	3
Fig. 2	4
Fig. 3	5
Fig. 4	9
Fig. 5	13
Fig. 6	13
Fig. 7	20
Fig. 8	35
Fig. 9	37
Fig. 10	49
Fig. 11	50
Figs. 12-67	51-112
Plans and sections of inhumations 2-58 (excluding '21', plan only of 30)	
Fig. 68	116
Fig. 69	116
Fig. 70	117
Fig. 71	118
Fig. 72	119
Fig. 73	120
Fig. 74	121
Fig. 75	122
Fig. 76	123
Fig. 77	124
Fig. 78	125
Fig. 79	126
Fig. 80	127
Fig. 81	128
Fig. 82	129
Fig. 83	130

	Page
Fig.84 Grave-goods from inhumation 27	131
Fig.85 Grave-goods from inhumations 28 and 29	132
Fig.86 Grave-goods from inhumation 31	133
Fig.87 Grave-goods from inhumation 31	134
Fig.88 Grave-goods from inhumations 30, 32 and 33	135
Fig.89 Grave-goods from inhumation 36	136
Fig.90 Grave-goods from inhumations 34 and 37	137
Fig.91 Grave-goods from inhumation 38	138
Fig.92 Grave-goods from inhumation 38	139
Fig.93 Grave-goods from inhumation 39	140
Fig.94 Grave-goods from inhumation 39	141
Fig.95 Grave-goods from inhumation 40	142
Fig.96 Grave-goods from inhumation 40	143
Fig.97 Grave-goods from inhumation 41	144
Fig.98 Grave-goods from inhumations 41 and 42	145
Fig.99 Grave-goods from inhumations 43, 44 and 45	146
Fig.100 Grave-goods from inhumation 45	147
Fig.101 Grave-goods from inhumation 46	148
Fig.102 Grave-goods from inhumations 46, 47 and 48	149
Fig.103 Grave-goods from inhumation 49	150
Fig.104 Grave-goods from inhumations 50 and 51	151
Fig.105 Grave-goods from inhumations 51, 52, 53 and 54	152
Fig.106 Grave-goods from inhumations 55 and 56	153
Fig.107 Grave-goods from inhumation 57	154
Fig.108 Grave-goods from inhumation 57	155
Fig.109 Grave-goods from inhumation 58	156
Fig.110 Weaving batten (24/3) and sword (40/5): simplified conjectural diagrams	162
Fig.111 Plan of cemetery (in folder at back)	

LIST OF TABLES

	Page
Table 1 Phosphate analyses of soil samples from inhumation 31	33
Table 2 Trace element analysis of soil samples from inhumation 42	34
Table 3 X-Ray fluorescence analysis of the bronze inhumation grave-goods	39
Table 4 Grave-goods arranged numerically	114
Table 5 Grave-goods arranged according to sex of burial	115

CONTRIBUTORS

H.M.Appleyard, F.T.I.,
Consultant on fibres

Mark A.Brisbane, B.A.,
Archaeological Officer, Southampton City Museums

Elisabeth Crowfoot,
Consultant on archaeological textiles

Brian Gilmour,
Lincoln Archaeological Trust

Catherine Hills, M.A., Ph.D., F.S.A.,
Lecturer in post-Roman archaeology, University of Cambridge

Michael J.Hughes, B.Sc., Ph.D.,
Principal Scientific Officer, British Museum Research Laboratory

Julie Jones, B.A., B.Sc.,
Conservation Department, York Archaeological Trust

Helen C.M.Keeley, B.Sc., D.I.C., Ph.D., M.I.Biol., F.R.G.S.,
Ancient Monuments Laboratory, Department of the Environment

Donald Mackreth, B.A., F.S.A.,
Director of Excavations, Nene Valley Research Committee

Peter Murphy, M.Phil.,
Environmental Archaeologist, Centre of East Anglian Studies,
University of East Anglia

Kenneth Penn, B.Ed.,
Research Assistant, Spong Hill Excavation,
Norfolk Archaeological Unit

Glenys Putnam, M.A.,
Research Fellow, Lucy Cavendish College, Cambridge

Robert J.Rickett, B.A.,
Research Assistant, Spong Hill Excavation,
Norfolk Archaeological Unit

Karen Wardley, M.A.,
Assistant Conservation Officer, Norwich Castle Museum,
Norfolk Museums Service

Jacqui Watson, Dip.Cons.,
Ancient Monuments Laboratory, Department of the Environment

ACKNOWLEDGEMENTS

Thanks must again go primarily to the owners of the land, Simon Thompson and his father, for their continuing co-operation.

The project has continued to be financed by the Department of the Environment which has given annual grants for excavation and post-excavation work, allowing both Kenneth Penn and Robert Rickett to be employed as full-time research assistants. Staff and volunteers were as listed in Parts I and II, with the addition of Nicholas Wickenden, finds assistant in 1978.

The grave-goods were conserved at Norwich Castle Museum by Sylvia Turner, Kate Starling and Karen Wardley and also by Julie Jones (née Manser), at the Institute of Archaeology, London University and at the Department of Archaeology, Leeds University. Details of tinning, solder, silvering and gilding, and the composition of the 'bronze' objects were established by Karen Wardley, using equipment at Bradford University. Karen Wardley thanks Stanley Warren and Arnold Aspinall of the School of Archaeological Sciences at Bradford University for allowing her to use the equipment, and for providing much valuable help and advice. A number of technical details were observed and recorded by Julie Jones in her dissertation (Manser 1977). The staff of the archaeology and conservation departments of Norwich Castle Museum, and Norfolk Archaeological Unit and the Department of Archaeology, Cambridge University, have, as noted in Part II, provided a variety of advice and assistance.

The text of this volume is by Catherine Hills, incorporating some observations and suggestions made by Kenneth Penn and Robert Rickett, and contributions by a number of specialists. Where possible, specialist reports and identifications have been incorporated into the main text of the catalogue, so that all the information relating to each inhumation can be found together in one place. The details under the headings 'Bones' and 'Pot Fabric' for each inhumation are taken from the reports written by the relevant specialists, as are the identifications of organic material and metallurgical details, while the general part of each of these reports appears separately after this introductory section. The textile report has not been treated in this way, although the presence of textile adhering to, or associated with, each specific object is recorded in the main catalogue. The grave-goods and Figs.9 and 69 have been drawn by Kenneth Penn, the others, except Fig.7, by Robert Rickett. The photographs were taken by Graham Pooley (Norfolk Archaeological Rescue Group), Derek Edwards, Robert Rickett and David Wicks (Norfolk Archaeological Unit), Mick Sharp and David Morgan.

Specialist reports are as follows: bones: Glenys Putnam (Lucy Cavendish College, University of Cambridge); textiles: Julie Jones (York Archaeological Trust), H.M. Appleyard and Elisabeth Crowfoot; organic samples: Peter Murphy (University of East Anglia); pot fabrics: Mark A. Brisbane (Southampton Museums Service); samples from inhumation 31: Michael J. Hughes (British Museum); samples from inhumations 40 and 41: Helen C.M. Keeley (Ancient Monuments Laboratory); Romano-British brooch: Donald Mackreth (Nene Valley Research Committee); analysis of metal objects: Karen Wardley (Norwich Castle Museum). Identifications of specific items, all included in the main catalogue: tin beads: Colin Shell (Department of Archaeology, University of Cambridge); wood of bucket: Carole Keepax (Department of the Environment); leather: Karen Wardley, Chris Calnan (Norwich Castle Museum) and B.M. Haines (British Leather Manufacturers Research Association); wood associated with metal-work: Sylvia Peglar (Department of Botany, University of Cambridge); bucket and bowl fittings and repair clips: Carole Morris (Department of Archaeology, University of Cambridge); Roman Coins: Richard Reece (Institute of Archaeology, University of London) and Tony Gregory (Norfolk Archaeological Unit); Roman pottery: Tony Gregory; prehistoric pottery and worked flint: Frances Healy (Norfolk Archaeological Unit). All the iron was

X-rayed at Norwich Castle Museum or at the Ancient Monuments Laboratory, Department of the Environment.

At a late stage in the preparation of this report the organic remains adhering to some of the metal objects were re-examined by Jacqui Watson of the Ancient Monuments Laboratory and she was able to provide more precise identifications than had previously been thought possible. Her report appears as Appendix I since it was not possible to incorporate all the detail in the body of the catalogue text. We are grateful to her for examining this material at very short notice and for providing a report so promptly.

A further contribution was kindly provided by Brian Gilmour of Lincoln Archaeological Trust, who has examined X-radiographs of two objects from inhumations, the weaving batten (24/3) and the sword (40/5). His comments appear as Appendix II. We are grateful for this contribution.

Helpful comments have been offered by a number of colleagues as well as those listed above as specialists, including Mrs.M.Guido of the Bead Study Trust and H. Härke, Hameln, W.Germany. The authors are grateful to all those listed for their assistance.

All the material has, as before, been placed on loan to the Norfolk Museums Service. All the finds in this volume are in the Norwich Castle Museum, but, until the publication of the site is completed, the records will be housed in the Norfolk Archaeological Unit at Gressenhall ¹.

I. SUMMARY

This volume is the third in the series of catalogues of burials from the Anglo-Saxon cemetery at Spong Hill, North Elmham, Norfolk (site 1012). It contains descriptions and illustrations of the fifty-seven inhumations, fifty-six from the north-eastern part of the cemetery, excavated from 1975 to 1978, and the single inhumation, No. 1, from the middle of the cemetery, excavated in 1974. This volume, like the previous two, is designed primarily as a factual presentation of the material and contains only preliminary analysis and limited discussion of topics specifically related to the inhumations.

No corrigenda to Part II are included here as it seems more appropriate to publish any in a future volume. Parts IV and V will contain catalogues of the cremations excavated between 1979 and 1981.

II. INTRODUCTION

Fifty-seven inhumations were excavated at Spong Hill during the seasons from 1974 to 1978, as part of the total excavation of this Anglo-Saxon cemetery, which has otherwise produced more than two thousand cremations of fifth- and sixth-century date (Fig. 1). (The numbers run to 58 because a periglacial feature was originally erroneously identified as an inhumation and numbered as 21). Three of the graves, 6, 15 and 25, contained neither grave-goods, bones nor body or coffin stain and have been identified solely on the basis of size, shape and orientation. Two similar pits, 591 and 700, have not been included because their edges were never very certain. The case for 700 is perhaps stronger, but it appeared only as a shallow depression at the bottom of several intercutting ditches.

Full discussion of the material from these burials must await, not only the full publication of the rest of the cemetery at Spong Hill, but also that of other recently-excavated Anglo-Saxon cemeteries from East Anglia, notably Morningthorpe ², but some introductory discussion of burial ritual and chronology is included here.

III. BURIAL RITUAL

BODY POSITION (Fig.3)

Although most of the bones had disappeared, fragments and occasional larger pieces did survive (p. 15). All but seven of the graves contained grave-goods, laid out in a fairly consistent pattern. From these two sources of information it is possible to reconstruct the arrangement of many of the burials. It is clear that the majority, at least forty-three, had their heads approximately to the west, while only two, 19 and 44, had a reverse orientation with heads to the east (Fig.2). It is less easy to determine the position of the rest of the body. Sufficient bones survived in 1, 10, 36 and 55 to show that these bodies had been extended, while 23 had been extended with crossed legs and 50 lay on its side, facing north with legs bent and one knee pointing upwards (Pl.III). All of those listed so far were male burials except for 10, whose sex could not be determined. Three female graves, 19, 44 and 47 were crouched, facing north. This group includes the two with anomalous east-to-west orientation while the third, 47, was also treated oddly with large flints put in the top of the grave pit. The position of the grave-goods and the shape and size of the stain in 42 suggest a further crouched burial as does the shape and size of 43. All the possible crouched burials, except 19, intersected the ring-ditch surrounding 40. Several other graves, all female, contained grave-goods lying to one side of the pit which might indicate further crouched burials or simply

bodies lying on their sides.

Bodies in coffins must, in most cases, have been extended: only the stain from 57 and the two chamber graves, 31 and 40, are wide enough to allow any other position. The grave-goods in those three suggest the body was laid out to one side, along the northern edge for the two male burials, 31 and 40, the southern for the female burial, 57. The following thirteen graves had sufficient bones and/or coffin stains to show they were extended: 1, 10, 13, 14, 22, 27, 32, 36, 41, 51, 55 and 56. Wood, possibly from coffins, came from 2, 11, 12, 18, 24 and 45, but 24 was a large, wide, grave which might have contained a wide coffin. Only five of these, therefore, can be added to the list of probable extended burials. Many of the burials where insufficient evidence for the position of the body survived seem likely to have been extended, from the shape of the pit and the position of such grave-goods as were present.

The 'normal' ritual was, therefore, burial in a coffin, oriented approximately west to east, the body extended. The clear deviations from this are also anomalous in other respects and are all, except 19, associated with the ring-ditch surrounding 40; they are all also female, or unsexed.

ORIENTATION

(Figs. 2, 3)

If the orientation of the graves is examined more precisely some variation becomes apparent. In the graves where a coffin stain or bones survive these are not always in exact alignment with the grave pit, and the pits are not always very regular in outline. It is not possible, therefore, to be very precise in measuring orientation. It is clear, however, that the majority of the graves had a similar alignment, within twenty degrees of due west to east or the reverse, mostly towards west-north-west to east-south-east (Fig. 2). Several graves were aligned west-south-west to east-north-east or the reverse: 12, 20, 36, 42, 47, 56 and 58. Of these, only 47 and 56 were on exactly similar alignments, and the remainder do not seem to form a homogeneous group in spatial or any other terms.

Another group is perhaps more distinct: 6, 7, 9, 15, 33, 52 and 53. These all have similar, although not identical, alignments north-west to south-east or the reverse. An eighth grave, 43, which has an even more northerly alignment, appears to have been aligned on the ring-ditch around inhumation 40. Too much stress should not be laid on the grouping of these inhumations, since five have unknown orientations, including two, 6 and 15, which had neither surviving bones nor grave-goods and are, therefore, only tenuously identifiable as graves. The numbers are also too small for the grouping of these graves, some in the north-west corner of the inhumation cemetery, others near the ring-ditches, to have much significance. Nevertheless, it is perhaps worth noting that of the seven inhumations from the whole cemetery which had a pot as their only grave-good, four, 7, 9, 52 and 53, belong to the group discussed here, and the other three are 43 and 47, both associated with the ring-ditches, and 4, from the north-western corner of the cemetery close to some of those graves with atypical alignments. The poverty of the group overall is noticeable: as listed above, two have no grave-goods, four contained a pot and even the remaining grave, 33, had only three beads in addition to a pot. Two of them, 52 and 53, seem from their size to have been child burials; two, 9 and 33, were female and the others could not be aged or sexed.

Variety in orientation of graves has been explained as an indication of the position of the sun, and, therefore, the time of year, when the grave was dug (Hawkes 1976), but it can also be explained simply in terms of local topography: graves may have been aligned on prominent features in the cemetery, such as paths or walls, or simply on previous burials (Rahtz 1978). This might produce a chronological pattern, with series of approximately contemporary burials in rows or groups. Orientation has been used

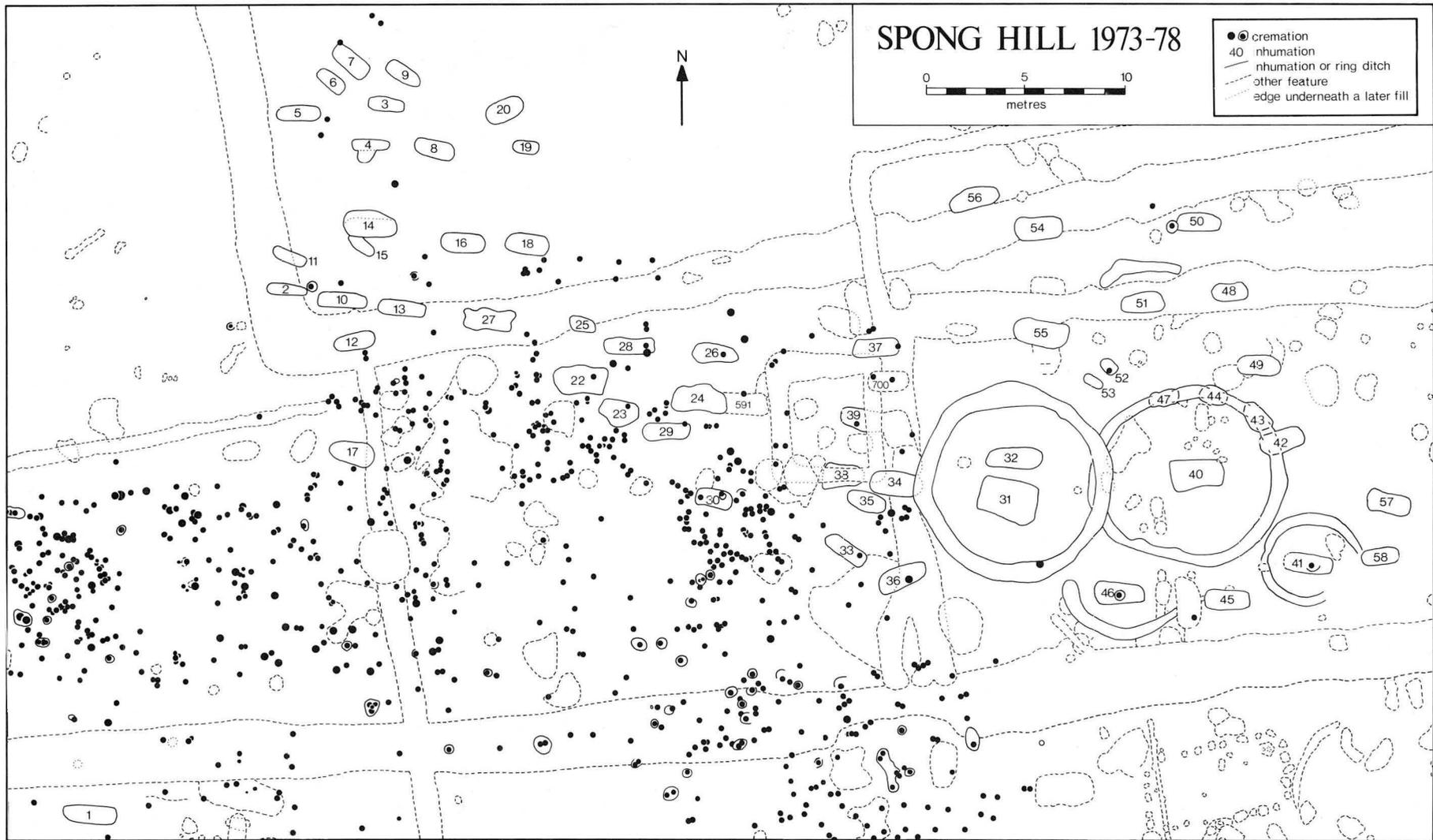


Fig.1. Plan of part of the cemetery 1973-78, showing inhumations (numbered).

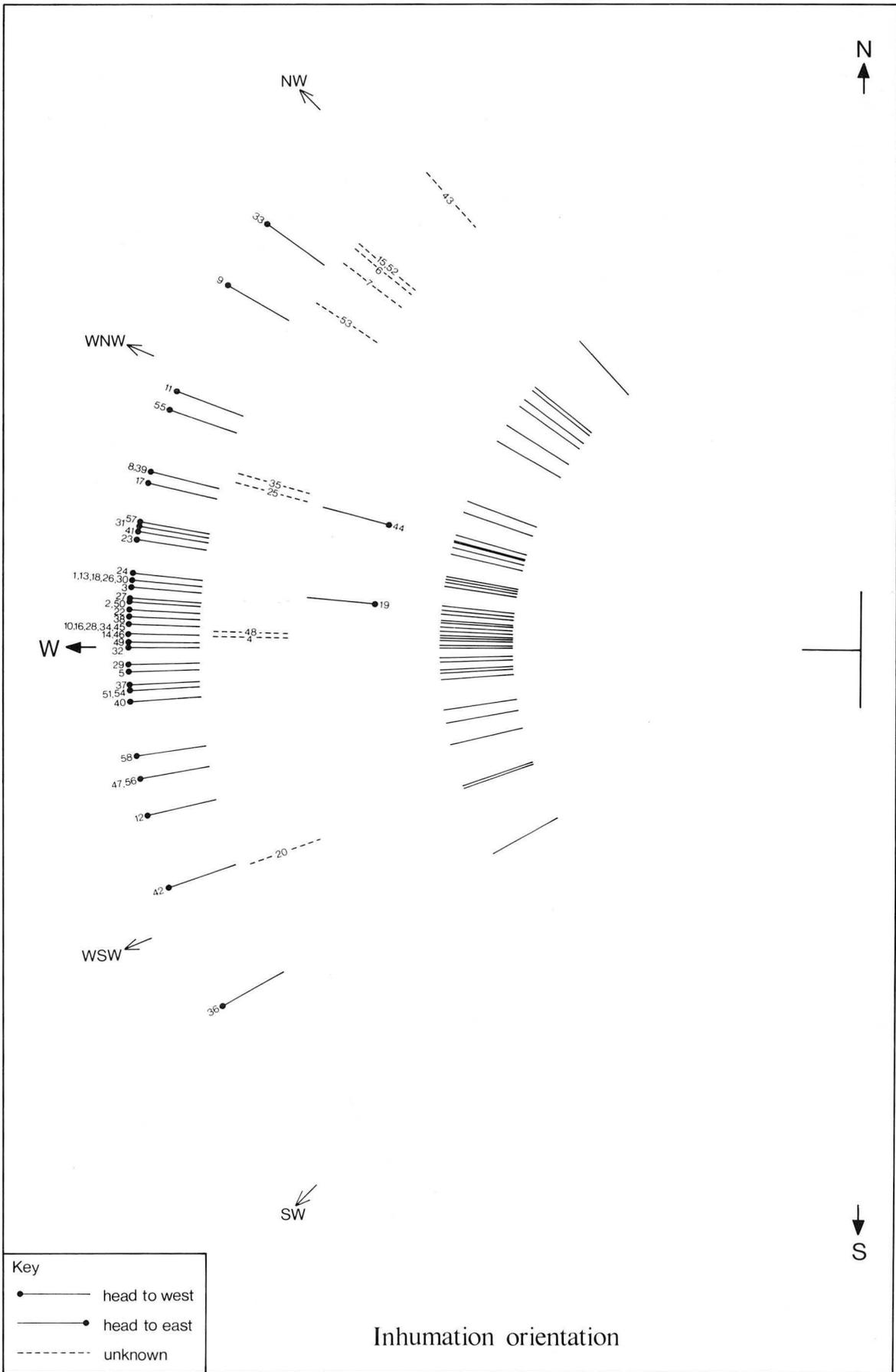


Fig.2. Inhumation orientation diagram.

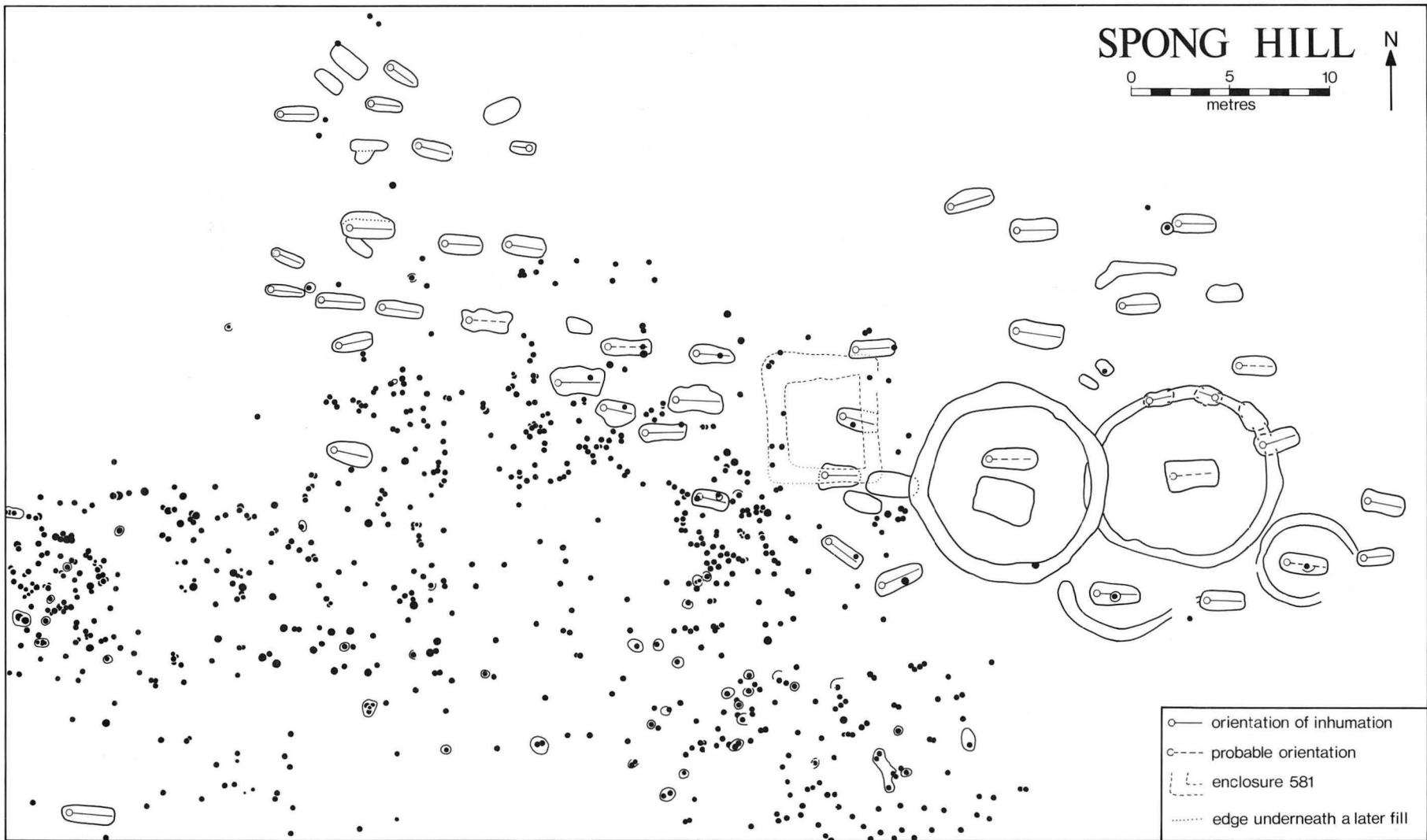


Fig.3. Plan of inhumations showing orientation of burials (where known).

on this basis in phasing cemeteries, for example at Lankhills (Clarke 1979, fig.10). The number of inhumations from Spong Hill is probably not sufficient for any such pattern to be detectable. In any case, there is some evidence for inhumations with very different orientations having been contemporary: 31 and 32 lie together as a pair in the middle of a ring-ditch, yet they do not have the same alignment and in other cases ring-ditches appear to influence alignment so that, for example, 43, 44 and 47, which have very different alignments, seem likely to have been contemporary.

COFFINS

Wooden coffins were preserved as soil stains in a number of graves, more frequently in the deeper pits, while actual wood survived in contact with some more substantial metal objects. Graves other than those listed here probably also contained coffins which have left no traces. There were thirteen clear coffin stains, eight further graves with traces of wood which are likely to have been part of a coffin, and several more graves with diffuse stains which might have been the remains of coffins.

Two graves (31 and 40) had much larger turf and timber constructions, described here as chambers. Except for a few small metal rings found near the edges of some coffins they had no metal fittings and must have been pegged or jointed (Late Saxon coffins excavated recently at Barton-on-Humber, where the wood itself is often well-preserved, are consistent with the Spong Hill stains (pers.comm. W.Rodwell)). The thickened stain at the end of the coffin in 32 was probably the collapsed end. Occasional traces of charcoal might be explained as the result of using deliberately charred boards. Most of the coffins were rectangular, without any clear tapering end, and they were narrow, except for the wide stain in 57. Compression and inward collapse of the sides may have exaggerated their narrowness. Leather associated with several of the objects from 24 suggests either that the body was wrapped in leather or, perhaps, that it was put into a leather-lined coffin - this grave also produced a substantial piece of oak wood. The two chambers of 31 and 40 may have been constructed within the pits: in 31 there was a rectangular timber construction, partly wedged with flints; in 40 there were heaps of flints and turves at each end, over which a turf lid, presumably supported by a wooden framework, had been laid. The lid of 31, which had been disturbed, may also have been of turf as well as wood.

BROKEN AND WORN OBJECTS

Some of the grave-goods were broken when found. Of these, some are small fragile objects which may simply have suffered more severely than larger objects from the natural processes of decay. Other items look as if they were worn or broken when buried: surfaces are sometimes so worn that decorative detail has disappeared and the edges of thin pieces are often damaged. The end of one cruciform brooch, 58/3a, has been broken off and the broken edge smoothed, either deliberately, or by long wear subsequent to the damage (Fig.109). Parts of the terminals of three small-long brooches, 18/6, 42/5 and 42/6 (Figs.77 and 98) are missing, as are decorative strips from some wrist-clasps. Other objects are damaged in such a way that they could not have been usable when buried: part of the loop of the annular brooch 12/2 is missing, as is part of the pin from the second annular in the same grave (Fig.75). Pins are missing or partly missing from a number of brooches, although this is sometimes the result of the corrosion and disintegration of an iron pin. Catch-plates are broken in several cases as are the hooks or attachment holes on some wrist-clasps.

On some objects there are signs of repairs: a strip of bronze was soldered to the broken catch-plate of a small-long brooch, 2/4 (Fig.70) and similar strips have been used to mend wrist-clasps. There are holes through the knobs of a florid cruciform brooch, 2/1 (Fig.70), which seem to be a repair, and the thread wound round this brooch and others, such as 38/7a (Fig.91) may have been intended to attach the brooch to clothing due to a broken pin. However, the beads still attached to, or adhering to,

brooches such as 26/5 (Fig.83) suggest that some of these threads are the ends of necklace strings. The pierced overlaps on a pair of annular brooches, 44/3 and 4, (Fig.99) are also probably for necklace suspension and not mends.

Such damage suggests that the objects were not new when buried, but how long they had been in use cannot really be estimated since it would depend on variables such as whether brooches were worn every day or only for best. That brooches and wrist-clasps are often not in matching pairs is another indication of relative age: either part of a set had been lost and a single new, but different, item was obtained to make a pair, or what was buried was a deliberate selection of oddments. It is not possible to suggest on this basis that old, broken and less valuable items were thought suitable for burial, as all metalwork may have been so scarce that it was used and still valued even when damaged.

Some objects certainly were buried in very good condition: brooches such as 18/3, 24/5a and 39/1a (Figs.77, 81, 93) have sharp edges and very clear detail. The condition of metalwork is clearly an important consideration in the reconstruction of chronologies based on typology, but it is extremely difficult to quantify 'wear' or to assess its significance.

Damaged bronze objects can be explained in terms of long use and value: it is less easy to explain other broken objects. Thirty-seven of the inhumations contained pottery, parts of forty-four pots altogether, as well as a few Anglo-Saxon sherds, which may have been deliberately deposited, from grave fills. Only fifteen of the pots are complete, or nearly so, and one of these has been assembled from sherds. Fourteen are present only as sherds or parts of bases and the rest are more or less incomplete. The complete pots, and even those broken in half, could have had a function as containers for offerings of food or drink: at least ten of the pots have surviving organic residues on the surface³. The smaller sherds, however, could only have functioned as tokens. In one case a complete pot, 57/2 and half of a second pot, 57/3, had been deliberately broken at burial. Sherds from 42 could also be reassembled, and the sherds under the leg bones of 23 suggest that part of a pot had been dropped into the grave before the body was put in. Pots were clearly an important part of the burial ritual since they occur in so many graves, but there must have been variants in the ritual involved, with some pots carefully placed in the grave, perhaps containing offerings, while others were deliberately smashed. The importance of containers is underlined by the fact that several graves which did not contain pots had alternatives. In two graves with otherwise unusually elaborate grave-goods there were more elaborate containers: a bronze bowl in 24 and a bronze-bound bucket in 40, which also had a wooden bowl. The only grave-goods in 34 were repair clips from a wooden bowl or bowls, and similar bowls may have been put in other graves, for if they had not been mended with metal strips no trace would be expected to survive, so that apparently empty graves may in fact have been equipped with wooden bowls.

Because the weapons and knives from male graves are made of iron, it is not easy to distinguish ancient deliberate or accidental damage from more recent corrosion. The spear shafts from 31 and 40 may have been broken at burial since in both cases the spearhead was found above the chamber lid, while the ferrule was on the bottom of the pit, under the lid and lying flat as if placed there, not as if it had fallen through the lid after it and the spear shaft had decayed (Figs.40 and 49). The shield from 31 may also have been broken, as it is difficult to see how the boss and the two appliquéés, which can be seen from surviving wood grain to have been attached to different planks, could have decayed and slipped down to the bottom of the pit together so neatly: there was no room for the whole shield board between the boss and the bottom of the pit (Fig.40). Possibly part of the board was sawed off before burial. All the shields except 31/3 lay flat across the shoulder or waist region of the body. If they were laid on top of the coffin

there would have been room for a shield board: if inside, there would not. One boss, 40/4, had clear traces of wood on its upper surface which might indicate burial under a coffin lid; there were, however, no clear traces of a separate coffin within the chamber and the wood probably came from the lid of the chamber itself, within which there was ample space for a whole shield board. Some of the bosses are now broken but it is not clear that this is the result of anything other than rusting. One spearhead, 54/2, appears to have an old break but this may have been caused by the collapse of the coffin lid rather than deliberate breaking at burial, since the shaft was found close to, and sloping down from, the head (Fig.63).

Except for the broken pots and possibly the spears mentioned there is not any clear evidence for deliberate destruction or 'ritual killing' of grave-goods, although some appear to have been old when buried.

FLINT PACKING

Large irregular lumps of flint, which occur naturally on the site, were found in both the chamber graves, between the chamber and the pit of 31 and at the ends, under heaps of turves, in 40. Large flints also defined part of the edges of 12 which was dug through a ditch fill. In all these cases the flints appeared functional, used as packing or support of pit edges or chambers. In the upper part of the fill of 47, however, several very large flints had been put in the middle of the grave, above the head and feet. No other inhumations were treated in this way and the stones are far too large to have been accidentally backfilled. The bones from this grave are those of a young adult female who had suffered during her life from periods of ill-health and possibly starvation (p.102). This is a case where it does not seem too imaginative to suggest that this might have been a deliberate sacrifice, or at least someone who was regarded with sufficient suspicion for it to be felt necessary to weight her down with stones, perhaps to stop her spirit from rising and haunting the living, as suggested for similar burials at Winnall (Meaney and Hawkes 1970, 31 and pl.1).

SEX

(Fig.4)

The grave-goods fall into two very clear groupings of jewellery and weapons (Table 3) which are easily explicable in terms of male and female burials. There is one bead from a male grave, but this is the amber sword bead from 40, a carefully-shaped large bead quite unlike the irregular or small biconical beads found in female graves. There are three main categories of object common to both sexes: pottery, knives, and buckles, as well as various miscellaneous fragments and fittings.

Where possible, the graves were sexed on the basis of the bones as well as the grave-goods, the two analyses being done separately and only compared when complete. Where both bones and grave-goods allowed sexing, the two methods confirmed each other, although the condition of the bones was such that in most cases only tentative identifications could be made (p.15-16). The combined list shows twenty-seven female, sixteen male and fourteen unsexable graves. Some of the latter may have been children, but since several small graves, (19, 44 and 47) contained adult bones this can only be suggested with confidence for the two very small graves, (52 and 53). This leaves twelve graves furnished with pots, wooden bowls, a pot and a knife or with no objects at all. These might all have been male graves, burials of men who for some reason did not bear arms: because they were unfree or had not reached the age of puberty, or for some other reason such as priesthood. This would give a more balanced sex ratio, but it cannot be demonstrated, or assumed, that that was the case.

SOCIAL STRUCTURE

This cannot be considered here in any detail, in isolation from the rest of the cemetery, but it should be remembered as a factor which may have caused as much, if not

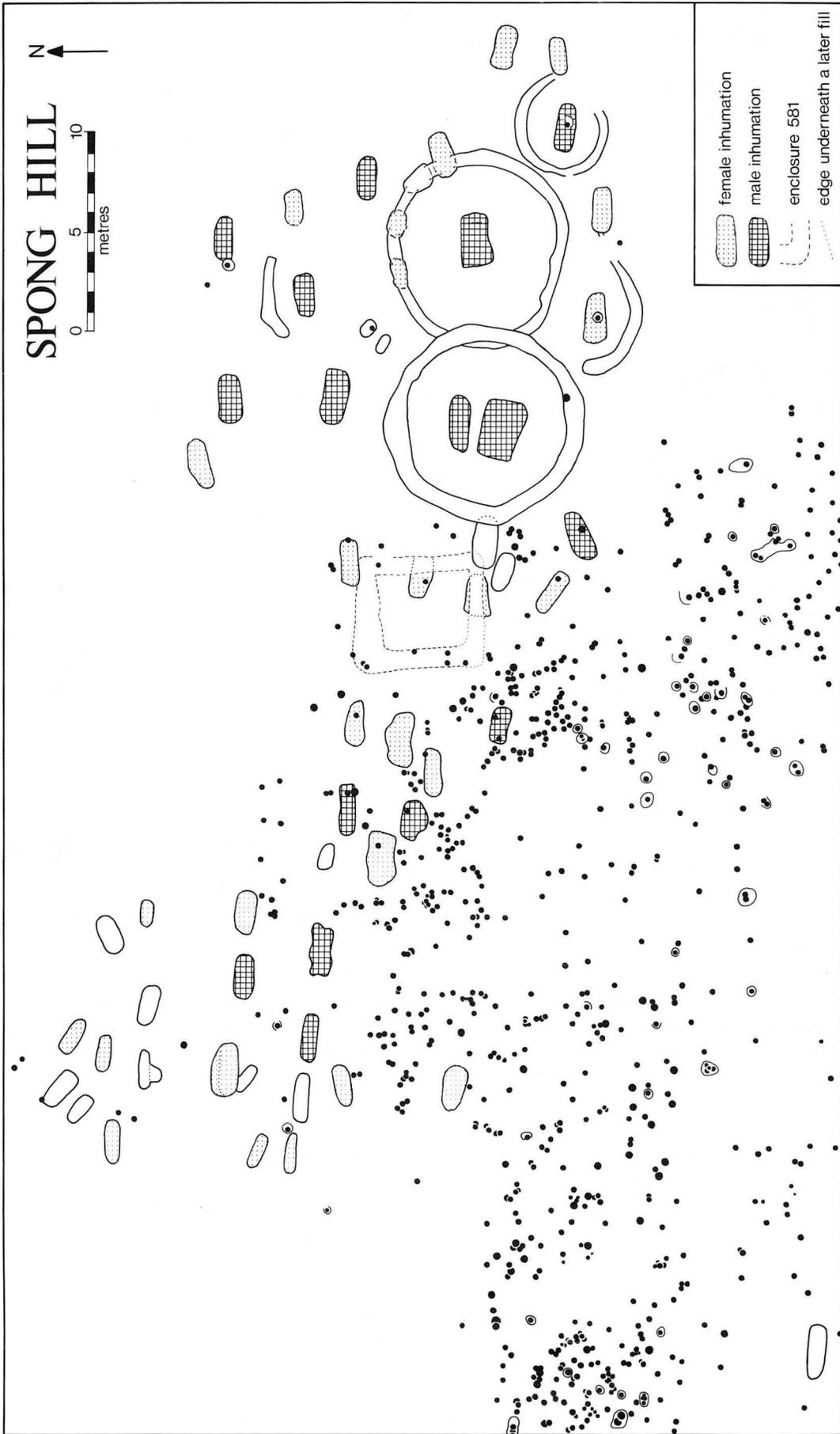


Fig.4. Plan of inhumations showing sex of burials (where known).

more, variation amongst the burials as changes in fashion over time. It is clear from the previous section that there were marked differences in the way male and female burials were equipped: there may have been further distinctions relating to age and perhaps to marital status which the poor bone preservation does not allow us to begin to examine (Pader 1982). It is also probable that there were chronological changes, which may have related as much to burial ritual as to styles of brooches or pots. Graves without associated objects may have been those of the poorer section of the community, or they may have been buried at a time when it was no longer the custom to bury grave-goods, or they may have belonged to a family or religious sect which never did bury objects in graves.

It is, therefore, dangerous to attempt to set up a scheme by which all the graves can be ranked according to a series of numerical values, whether derived from the number of objects in the grave or from an estimate of the intrinsic value of each. It is possible to select a number of very simple 'wealth indicators' and to use them to define a group of 'rich' graves, but this may be partly misleading and should be regarded as very tentative. Imported objects, precious metals, objects containing a large amount of any metal, and graves whose construction would have involved extra expenditure of time and energy are all perhaps signs of relative importance. These characteristics do, in fact, coincide: the one imported bronze bowl was found in a grave (24) which contained numerous objects, including a large gilt brooch and an iron weaving batten. There are no gold objects but both the chamber graves contained gilt objects and, as well as 24, there were gilt objects in 57, another female burial with at least a substantial, if not enormous, assemblage of grave-goods. It is less easy to see 42, which contained gilt wrist-clasps, as 'wealthy' in any other respect. Only three graves contained silver, all female, all associated with a range of other objects: there were silver clasps and a silver ring in 5, which contained more beads than any other grave; a silver ring in 38, together with three brooches and beads made from bronze, crystal and jet as well as the more usual glass and amber; and a silver ring in 46, again with many other objects and also surrounded by an arc of a ring-ditch.

Of the male graves, the two within chambers, (31 and 40) each contained objects unique in the cemetery: shield appliqué and a sword in its scabbard, two of the gilded objects mentioned above. Both contained shields, as did five other graves. One of these, (41) was definitely surrounded by a small ring-ditch and another, (51) possibly also lay within a ditch. In fact, all the shield graves, except 36, lay in empty patches of the cemetery and they could all have been surrounded by ring-ditches which would not have intersected with other inhumations or even with cremations. The visible ring-ditches were extremely shallow and others could well have disappeared completely (Fig. 5). All the graves with shields also contained spears, including all five of the spears with iron ferrules as well as spearheads only, and all, except 36, contained buckles.

It could be suggested that the two chamber graves 31 and 40, which contained elaborate and unusual objects and which would have taken some trouble to construct, were the most important burials in the cemetery, while the other shield burials might represent a second rank of males. Amongst the females, 24 and 46 might be seen as the most elaborate, followed by other graves with silver objects, or more than two brooches, but it is really more difficult even to suggest an order for the female graves. In any case, not only would such ordering be based on highly subjective judgements, but burial practice does not always reflect social status in any very straightforward manner, if at all.

IV. CHRONOLOGY

STRATIGRAPHY

(Figs. 1, 5, 111*)

A number of the inhumations cut natural features or features of earlier date: 1 and 20 cut periglacial disturbances, 49 cut an Iron Age pit or post-hole, while nine graves cut the early Roman ditch system (197 and 492) and six cut the later Roman ditch, 569/570. Features of unknown date or function were cut by 30, 45, 49 and 55, while 33 and 36 cut pits of Roman or later date. Another pit, 591, was cut by 24. This feature has already been mentioned as resembling, in its final excavated form, an inhumation. It did produce one sherd of Anglo-Saxon pottery, but the uncertainty over its original shape means it cannot be identified as a further burial. None of these relationships, except perhaps the last, has any bearing on the internal organisation of the cemetery.

Cremations cut a number of inhumations and were scattered in the fill of two. It is also noticeable that whereas elsewhere around the perimeter of the cemetery burials cease very abruptly, amongst the inhumations there is a thin scatter of outlying cremations. This is not easily definable at the western end of the inhumations, but six cremations (1441, 1569, 1570, 1571, 1573 and 1495) (Hills 1977B, fig. 156, to which 1573 should be added to the south of inhumation 4) are clearly separate from the rest of the cremation cemetery. None of these intersects with an inhumation, although 1571 is very close to inhumation 7. All, except 1571, which contained part of an annular brooch and had a pot with stamped decoration, were fragmentary, without associated grave-goods or decorated pots. The same lack of diagnostic features is apparent amongst the cremations from the eastern end of the inhumations where seven were scattered amongst the ring-ditches, all at least 5 metres away from the main cremation area. Of these, 2141 and 2137 had no apparent relationship with any inhumations, 2021 cut the ring-ditch around inhumations 31 and 32, 2140 cut inhumation 50, and 2142 cut inhumation 52. These might all be accidental relationships, but it is difficult not to believe that 2136, in the middle of 46, and 2138, in the middle of 41, are deliberate juxtapositions, probably contemporary burials. The scattered cremation 2139 in the fill of 46 also appears likely to have been deliberately deposited since there are no other cremations in that part of the cemetery to provide accidentally disturbed bones. Two of these cremations (2136, 2139) were unurned and the remainder were contained in plain or fragmentary pots, the only associated grave-goods being two iron rings, part of a bone comb and a bronze fragment (Hills and Penn 1981, 48, 56).

Twelve other cremations cut inhumations but these lay on the northern edge of the cremation cemetery and probably simply represent later burials. The pots from these cremations are either plain or stamped, including three from different stamp groups. These last cremations, on the outer edge of the cemetery, were probably late burials, spreading into an area no longer visibly occupied by inhumations. They suggest that the inhumations were not the latest burials on the site.

Only two inhumations intersected with each other directly, 14 probably cutting 15, but the sequence was not clear enough for much to be built on the relationship; in any case, 15 was a small empty grave with only tenuous claims to be considered as such.

There is, however, one sequence which is provided by the ring-ditches and the small square enclosure, 581. Not all the details of their stratigraphy are clear. This is partly because some of the ditches were very shallow and partly because the fill of the inhumation pits was always very difficult to distinguish from the surrounding soil (whether undisturbed sand and gravel or ditch fill), presumably because they had been

* All certain and uncertain relationships are shown on Fig. 111 at back of volume.

backfilled almost immediately with the same material that had been dug out of them. Most were detectable clearly only at the top, where a thin skin of topsoil had sunk into the pit, and at the level of the burial deposit. The coincidence of several ditches and their recuts along the same line between the square enclosure and the ring-ditches further confused the situation.

There were some relationships which could be determined and others which seemed probable. The ring-ditch surrounding inhumations 31 and 32 cut the ditch 569/570, inhumation 34, and the ring-ditch surrounding inhumation 40. Inhumations 31 and 32 were, therefore, buried later than 34 and 40. Three inhumations, 43, 44 and 47, were aligned on the ring-ditch surrounding 40, and were, therefore, contemporary with, or later than, 40. The ditch was too shallow (a matter of centimetres) for a sequence to be apparent. The relationship of inhumation 42 to the same ring-ditch was also not clear although a lengthwise section does suggest that the ditch cut the grave (Fig. 51), although the section at right angles to this did not show the same sequence at all clearly. This burial was probably crouched and is, therefore, linked by burial ritual to other burials around this ring-ditch. If it was earlier, perhaps there was not any very great gap in time between its burial and the others and perhaps there was a deliberate juxtaposition between 42 and 40, as also there appears to have been (irrespective of which came first) between 40 and 43 and 44 and 47. Another inhumation, 46, lay within the arc of a ring-ditch which appears to have respected, and, therefore, to have been later than, the ditches around both 31/32 and 40. Inhumation 45 cut the end of the ditch around 46, although the odd shape of this ditch, and its interruption by another feature, leave this relationship less than secure.

The square enclosure, 581, cut inhumation 38 and was itself cut by several cremations, so that it must have belonged to a limited phase of the cemetery's use. Its relationship with inhumations 34, 37 and 39 was unfortunately not clear, so that it cannot be linked via 34 to the ring-ditch sequence. The function of this enclosure is unknown: it surrounded nothing apart from two small pits which produced only prehistoric flint flakes.

The arrangement of most of this eastern group of inhumations suggests that they clustered around one or both of the large ring-ditches, presumably both originally surrounding mounds. Either 40 or 42 seems to have been the initial burial, followed or accompanied by 43, 44 and 47. Some of the others may have followed before the construction of 31 and 32 with their mound and ditch, which also cut 34. After this 46 was buried and then, probably, 45.

TYOLOGY

The chronology of metalwork of the early Anglo-Saxon period from East Anglia is due for reassessment in the light of recent excavations, including that at Spong Hill, so no very detailed discussion will be attempted here. It is, however, possible to say that, on the basis of existing chronologies, most of the material published here is neither relatively early nor late, and could, therefore, be conventionally assigned to the period from the end of the fifth century to the mid- or late sixth century. The probable exception to this is the sword from inhumation 40, which, from the scroll decoration on the scabbard mouth, might be rather earlier. At the other end, even the florid cruciform brooches are not of the latest type, and there seems no reason to put anything as late as the seventh century.

Most of the weapons belong to fairly long-lived but relatively early types. Twelve of the sixteen male graves contained spearheads, which can be more or less satisfactorily classified according to Swanton's typology (Swanton 1973). Five, or perhaps six, have angular blades with concave sides (32/1, 40/1, 41/1, 51/2, 54/2, ?27/2) and belong to Swanton's type H, probably all H2. The corrugated blades (36/3 and 13/1) appear

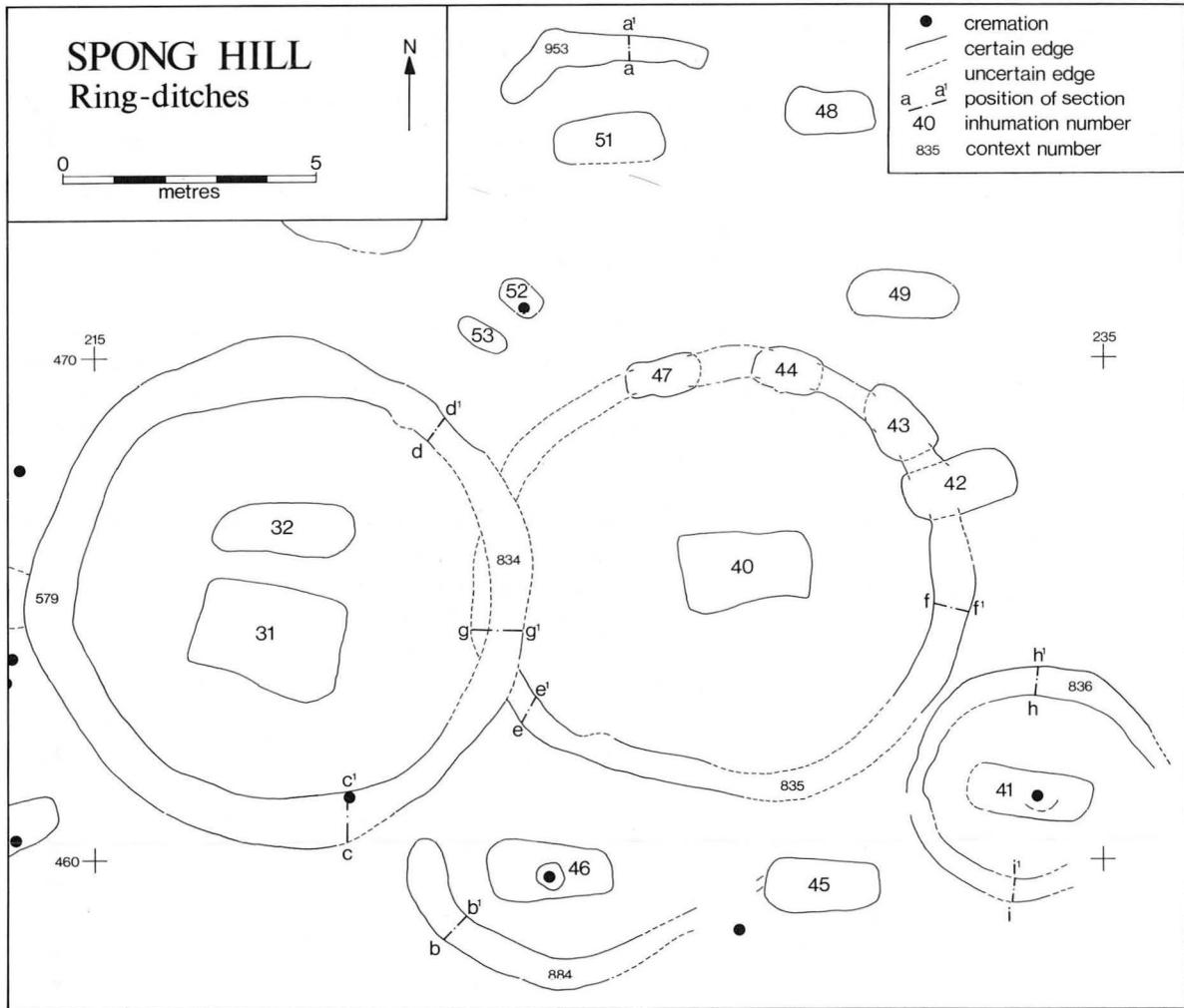


Fig.5. Plan of ring-ditches.

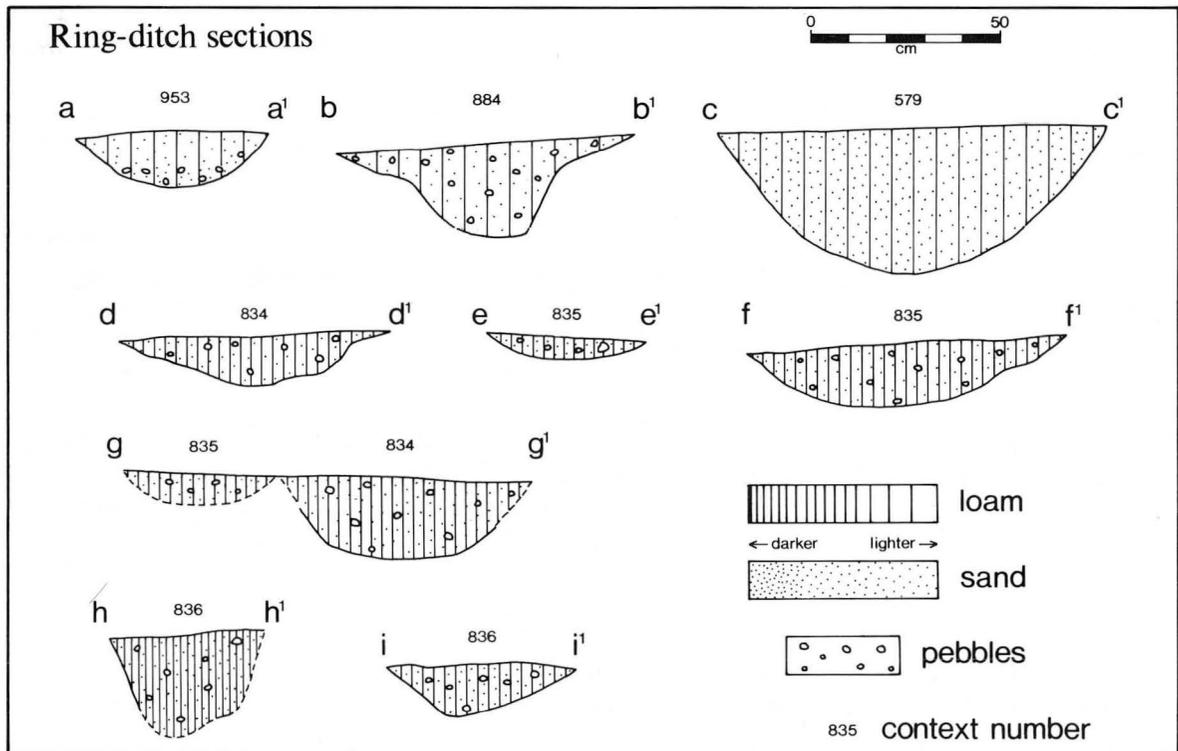


Fig.6. Sections of ring-ditches.

to belong respectively to types J and L, with similar date ranges to H, from late fifth to early or mid-sixth centuries. The small angular blades (28/2 and 50/1) belong to type E1, which may have a relatively early date, rather fifth than sixth century, although the associations of this type are not very numerous. The narrow leaf-shaped blade (31/1) can probably be assigned to D1, a type with a long chronological range from the fifth to the seventh centuries. The narrow angular blade (49/3) does not fit happily into Swanton's scheme, since it could apparently belong either to the relatively early F1 or to E2, a later type.

Seven inhumations contained shield bosses. Of these, 31/3, 41/5 and 49/2 have very low, slightly convex domes, while 36/1 and 51/1 are slightly taller but probably not significantly different from the other three; all five belong to the earlier phases of the Anglo-Saxon settlement, the fifth and perhaps early sixth centuries. The two slightly taller bosses (27/4 and 40/4) should be relatively later, perhaps sixth rather than fifth century, but the two types are long-lived and overlap (H.Härke, pers.comm.). The association of 40/4 with a possibly early sword and the stratigraphically early position of inhumation 40, particularly in relation to inhumation 31 which contains an 'earlier' shield boss, would certainly support an overlap in dating for the two types.

The jewellery from the female graves is not susceptible of very close dating, and indeed there has perhaps been too much emphasis in the past on chronological explanations of stylistic variation which might instead reflect the different tastes and skills of individual craftsmen as well as the status of owners. In conventional terms at least, none of the jewellery would seem to be either very early or very late. Eight graves contained cruciform brooches, which can be classified according to Åberg (Åberg 1926, 28-56) as follows: Group II: 26/5 and 46/3; Group III: 22/4 and 6; Group IV: 22/3, 39/1a, 45/8 and 58/3; Group V: 2/1 and 8, 57/7. The florid cruciforms of Group V have been further classified (Leeds and Pocock 1971) and in this system 57/7 belongs to Vc while 2/1 and 8 are closest to Vf except that they do not have zoomorphic lappets. Åberg began his sequence with Group I in the middle of the fifth century and put Group II in the first half of the sixth century, but these dates could probably be put back somewhat. Leeds saw the East Anglian florid types as relatively early within Group V, perhaps late sixth- rather than seventh-century. The three square-headed brooches include one (18/3) which is not easily classifiable, but the other two (24/5a and 38/7) have clear parallels illustrated by Leeds (Leeds 1949, pls. 50, 127, 128), mostly from other Norfolk cemeteries, particularly Kenninghall. The elaborate brooch, 24/5a, is a good example of Leeds' type B1 which he put relatively early, perhaps before rather than after the middle of the sixth century. The plainer 38/7 is really, as Leeds himself says, closer to the small-long type of brooch. This, like most other categories of Anglo-Saxon metalwork, Leeds also discussed at length (Leeds 1945), but with more emphasis on regional variation than chronology. These are mostly very simple brooches which might have had a long life as cheaper copies of the larger and more elaborate ones: six graves contained small-longs, including one pair (5/6a and b) which might more properly be described as Group II cruciforms.

It might be possible to suggest that some graves were broadly contemporary on the basis of objects from different graves made in the same workshop. Details of stamps, techniques of pin attachment or metal composition might all be useful in this direction and a preliminary study of some Spong brooches from a technological view already exists as an unpublished dissertation (Manser 1977). The simpler, more numerous brooches, such as annulars, are likely to be most useful here. For example, all the annulars which are decorated with groups of transverse grooves all have a recessed bar pin attachment, whereas the wider stamped brooches all have a hole through one side for the pin. Some of the stamps on these brooches may have been made by the same die: 12/1 and 38/8a and b for example, or 2/3 and 45/1 and 2, but, unfortunately, it is difficult to demonstrate this as these particular stamps are all very small simple circles

which could perhaps have been exactly duplicated. This would be well worth pursuing with regard to links between, as well as within, cemeteries.

Pottery stamps have been recognised as a useful field of study for some time, but only eleven of the pots found in inhumations were decorated, and not all of those were stamped. Three do belong to stamp-linked groups: 3/1a and 8/1, with cremation 1937C, form Stamp Group 46 (Fig.68) and 16/1 belongs to Stamp Group 40, which otherwise consists of cremations 2248 and 2249 (Hills and Penn 1981, fig.84). It is a pity that all three cremations listed here were disturbed, without reliable associations. They were all found in a large disturbance 5 to 15 m south of the relevant inhumations, probably an urn-digger's pit (Hills and Penn 1981, figs.2, 193). Another pot (42/2) is not definitely part of Stamp Group 7, although its stamps share distinctive motifs with that group, and may yet prove to be variants within its large repertoire.

A comparison of suggested dates for male and female graves shows an odd situation, in that the male graves seem slightly earlier than the female, although both focus on the sixth century. This might be because work on shields and spears is more recent than work on some types of brooch, and we now allow for an earlier starting date for Anglo-Saxon typological sequences. This underlines the need for reassessment of all the material together, from chronological and other viewpoints. It is notable that the most straightforward stratigraphical relationship, that between 40 and 31, is apparently reversed by the typological sequence of their shield bosses. The sword and bucket from 40 may also be of different dates and, in fact, these elaborate graves are as likely as any to have contained heirlooms. The only strong link to foreign chronologies is given by the bronze bowl (24/1) which may have been imported from the Rhineland, where such bowls are numerous and usually dated to the sixth century (Richards 1980).

V. THE HUMAN BONES by Glenys Putnam

The inhumation cemetery at Spong Hill contained fifty-seven graves. The soil acidity was such that most of the bones had been destroyed. Nineteen graves contained no bones at all and none of the remainder had a full complement, most having only teeth surviving. Many of the surviving bones are from female graves, the bone having been preserved by copper in the bronze brooches. This has made teeth and facial bones survive differentially because the brooches are usually near the head.

A demographic analysis of a cemetery with a full complement of bones should provide age analysis, sex ratios and information on the disease and nutritional status of the population. It will be appreciated from the notes on each grave that such a full analysis is not possible for this cemetery.

Throughout the bones have been aged and sexed using the data provided by Gy. Acsadi and J. Nemeskéri (1970).

Analysis of the surviving bones from the Spong Hill inhumation cemetery gave the following data:

Age:	Female:	17-25	25-35	35-45
		4	3	1
	Male:	17-25	25-35	35-45
		2	nil	3

1 child aged c. 12 years and 2 children's graves (grave size only)

Sexed from bones:		Sexed from grave-goods and bone:	
Female	17	Female	27
Male	6	Male	16
Nil*	<u>35</u>	Nil*	<u>15</u>
	<u>58</u>		<u>58</u>

* (This category includes 3 children and all graves with no bones)

* (Empty graves, unsexable graves and children)

When sexing is based on the bones alone, the deviation of the observed sex ratio (17 female: 6 male) deviates significantly from a 1:1 ratio ($\chi^2_1 = 5.26 : P < 2.5\%$). When sexing is based on the bones and the grave-goods, the observed ratio (27 females: 16 males) is not significantly different from a 1:1 ratio ($\chi^2_1 = 2.82 : P > 5\%$). The large nil sample could contain more males but it is most likely to represent the lower stratum of the society buried without grave-goods. As the children's graves are smaller they are easily seen from the plan and the figure is likely to be correct.

The age at death of the females is approximately 25 and that of males approximately 30. The average ages at death, taking the highest values available from the data, are 37 years for the males and 31.5 years for the females. It is not possible to give closer ages because of the condition of the bones. This would be a young age at death for the period using the means of the highest values. Wells quotes mean ages at death of: Males 38.2, Females 35.8 (Wells 1980) and combined ages at death of: 37 years (Wells 1980) 33.9 years (Wells 1967). These are mean ages at death without inclusion of death before 18 years; all of Middle or Late Saxon date.

The comparable cemeteries of the Early Saxon period at Bergh Apton had few remaining bones (Green and Rogerson 1978), that at The Paddocks, Swaffham, gave an average combined age at death of 35.9 years (Wells 1976) but this is a very small sample. The report for Morningthorpe, Norfolk, is unpublished.

The early age at death at Spong Hill is probably taken from too small a sample as it does indicate atypically early age at death, using either method of calculation. Female deaths frequently peak at the age of childbirth but there are usually survivors, if only the infertile. Child deaths are represented by only one child of known age and two supposed child graves. Again this is atypical and not supported by the cremation evidence (Putnam forthcoming) which indicates a high rate of child mortality.

Grave 31 has a child buried with a male. This has been noted before from Fingle-sham, Kent (Duckworth Archives, Cambridge University), where two males were buried with young (twelve-years old) males.

Grave 44 shows a different ritual from most of the rest of the cemetery. The grave is orientated west to east (east to west being the norm for the cemetery), and the female burial is crouched. The skull was sufficiently well preserved to show a strongly dolichocephalic tendency well observed in East Anglian Romano-British populations. This grave is a possible native burial. Both the shape of the skull and method of burial strongly suggest that this female is not an Anglo-Saxon. Her skull, although not measurable, resembles most strongly the Romano-British skulls from Brandon in the Duckworth Collection, Cambridge University (Putnam forthcoming). Her method of burial is that of Neolithic crouched burial and is not normally found in Anglo-Saxon cemeteries. There is no known recorded native burial site for the contemporary period with which to compare this burial.

The population of the Spong Hill inhumation cemetery shows dental disease only in the teeth of two females who suffered from linear enamel hypoplasia, indicating episodes of

ill-health or malnutrition during growth. No caries is present which is typical of most Early Saxon populations. As noted for the relevant graves in the catalogue, wearing of the enamel of the incisors to the pulp in young people occurs and could be a mark of occupation or an indicator of perfect occlusion.

There is little else to indicate ill-health or to explain the short life-span, which compares so badly with the slightly later population at Nazeingbury, Essex (Putnam 1978), and Red Castle, Thetford (Wells 1967). The reason for this in the Spong Hill Anglo-Saxons is at present not clear. It could be due to infectious disease or a lack of economic stability typical of migrant populations, producing sudden famine. The analysis of this potentially interesting area of the cemetery is brief because so little bone has survived.

VI. THE TEXTILES

FIBRES AND SPINNING by Elisabeth Crowfoot and Julie Jones

The preservation of fibres in the Spong Hill cemetery was poor (p.21). In six cases vegetable fibres were identified, one certainly flax, and possible animal fibres also in six: although from the evidence of other cemeteries these were probably all sheep's wool, the fibres were too friable and too heavily obscured by mineral deposits for more definite identification. Samples beneath a knife in one inhumation (38), showing the spinning direction of the threads and a clear weave structure, were found to be completely replaced by these deposits, as in an 'earth replacement' noted at Sewerby, Yorkshire. In all the other textile fragments preserved the fibres had been replaced by metal oxides from the objects with which they had been in contact.

The spinning, in flax and in wool, is Z throughout, with the exception of six twills (inhumations 24, 37, 39, 56, 57 and 58) where the threads are Z-spun in one system, S in the other; no selvages are preserved on these fabrics, but in Anglo-Saxon twills with mixed spinning the Z-spun yarn is normally the warp. In five tablet-weaves the weft thread is Z-spun, S-plyed.

WEAVES

The weaves are those generally found in Anglo-Saxon cemeteries, tabby (plain) weave, four-shed and three-shed twills, and tablet-weaves.

Tabby weaves (Fig.7, No.1a) survive in twelve inhumations. One of these (on 38/8) has been identified as flax, and most of the others, from their medium to high counts and the soft folds in which they are held, are probably also linen from headveils and shirts. Two possible exceptions, rather coarser oxidised remains from a woman's sleeve (inhumation 5) and perhaps from a cloak (inhumation 58) are more likely to be wool. One warp-face replacement, lying near the hilt of the weaving batten in inhumation 24, may indicate a narrow band used as a hanging loop.

Twill weaves predominate, as in most East Anglian cemeteries. Many, as far as can be seen from such small fragments, were probably simple four-shed 2/2 constructions (Fig.7, No.1b) but in possibly six cases these have had either chevron (herring-bone) reverses, or broken diamond (lozenge) patterns, though they vary in style and quality (Fig.7, Nos.2, 3, 4); this certainly applies to the two with mixed spinning, though both would probably have been woollen fabrics, and from their position, on brooches, cloaks or overdresses. The coarse twill in inhumation 39 is a loose weave, liable to pull diagonally, with only one reverse visible on the fragments that survive, perhaps a simple wide chevron pattern (Bruce-Mitford 1975, SH 2, fig.327). In the finer fabric from inhumation 24, (d), the pieces are too small and deteriorated for the pattern to be clear,

but some reverses suggest a broken diamond.

Among the twills with Z-spinning in warp and weft, one of the better preserved examples, from inhumation 24/3, the weaving batten, demonstrates the difficulty in telling from very small remains whether the weave has a diamond or simple chevron pattern. Here part of the end of the weave is preserved; only one diamond survives of the regular pattern shown in another possible fragment (Fig.7, Nos.2 and 3) and the weave continues in simple chevrons for at least twenty throws before the finishing tablet-weave border. A flax twill with a 'work-box' from Kempston, Bedford, shows diamonds with a large adjoining area of chevron twill. In fragments on the annular brooches from inhumation 12, replaced pieces from brooch 12/6 (Pl.XV) show reverses and an area of damaged threads that suggests possible diamonds, while that on the pair (12/2) identified as (?)flax shows no reverses, though its similar appearance and position suggest it comes from the same fabric.

The oxidised inhumation 12 fragment shows a scrap of tubular selvedge (Fig.7, No. 5) a practical and hard-wearing type of side edge, also present in inhumation 24 and possibly 57, which appears first in Europe in the Danish Bronze Age, then in finds of c. A.D. 400 (Hald 1950, 155-157), and later in a number of Anglo-Saxon cemeteries, on flax weaves at Wakerley, Northants, Barrington and Haslingfield, Cambridge, on wool at Broomfield Barrow, Essex, Wakerley and Sewerby, Yorkshire, and replaced at Bergh Apton and Fonaby (Crowfoot, E. 1978, 106; 1981, 96). The tubular edge is wider in the inhumation 24 example.

The diamond patterns at Spong Hill show the centre most commonly found in Anglo-Saxon twills (Bruce-Mitford 1975, SH 1, SH 9, SH 12, 445, 447; Crowfoot, E. 1967, 21; 1969, 51; 1978, 104; 1981, 97; Crowfoot, G.M. 1951, 31).

Of two fragments of three-shed twill (inhumation 31, 32) the finer lies in folds on the inhumation 31 knife, so that areas showing both sides of the weave, the 2/1 (warp face) and 1/2 (weft face) are clear (Fig.7, Nos. 1c, 1d). The three-shed construction has been regarded as unsuited to the warp-weighted loom in use among the Anglo-Saxons (Hoffman 1964, 251-253), and in Scandinavia it does not seem to appear till the Viking period. On the Continent, however, it has a much earlier history, with Iron Age finds (Hundt 1963, 180f; Schlabow 1976, 81). The first example in England comes from a Roman hoard of the first century A.D. from Corbridge (Wild 1970, 101). But the distribution in the Anglo-Saxon period, with a variety of styles and qualities in flax and wool, seems to suggest local production rather than imported goods (Bruce-Mitford 1975, 446, 450; Crowfoot, E. 1966, 29; 1978, 105; 1981, 97-98; Crowfoot, G.M. 1952, 190; 1953, 61, and unpublished) and this may perhaps imply a continued use of the two-beamed loom after the Roman withdrawal (Wild 1970, 69ff.).

Tablet-weaves have been found in seven inhumations. Two are weave borders. On the weaving batten from inhumation 24 is a clear end-border, with the tufts of the cut warp ends clearly visible, threaded back through the four-hole tablet-twists; the end loops are broken, and there may have been a wider border than the eight twists in the widest portion preserved, though other English examples are narrow - six twists at Coombe, Kent (Crowfoot, E. 1967, 38, fig.6) and four at Broomfield Barrow - as are also earlier examples from the Migration Period in Norway and Denmark (Hald 1950, figs. 50b, 59; Hougén 1935, pl.XIII.7). In the other border, from inhumation 42/5, the edge loops again are missing, and only four twists survive; it was probably a side or starting border, since there is no sign of protruding warp ends here (Henshall 1959, 18-21, fig.8; Hoffmann 1964, 154ff.).

The other tablet-weaves are patterned braids that would have been woven separately and then sewn on as decoration on men's and women's upper garments. Two varieties

of pattern technique have been found in Anglo-Saxon graves, and both are represented here. In four inhumations (31, 38, 45, 46) the braids would have had simple edges of four-hole twists, but in their centres an in-woven pattern of which the diagonal lines are occasionally clear, though all the Spong Hill examples are badly damaged. These designs would have been emphasised by the use of colours, as can still be seen in some fragments, purple (or red) and blue, with yellow or white, from Fonaby (Crowfoot, E. 1981, 98-99). Replaced examples clearly in the same technique have been recorded from Mucking, Portway East, Hampshire, and Bergh Apton (Crowfoot, E. 1978, grave 37). The braid in the wrist-clasps from inhumation 5 is very different, with four-hole twists lying in chevrons throughout (threaded left and right), decorated with brocading or embroidery, the pattern weft seen in one place as a paired thread passing over and under the twists, and in others as a thread wrapping round two twists of the warp as in a soumak weave (Fig. 7.6). Possible brocaded patterns on tablet-weaves have been noted from Bergh Apton (Crowfoot, E. 1978, 106) and on a braid from a sixth-century brooch from Bekesbourne, Kent.

Miscellaneous

On some objects replaced, unwoven threads can be seen, parallel S-plyed threads on a cruciform brooch from inhumation 22 that may perhaps come from a fringe, and a fragment of three-plait on an annular brooch from inhumation 14. Other plyed threads, round the arms of the florid cruciform brooch, inhumation 2/8, were probably used to fasten on the side pieces, as in the coarse vegetable, i.e. flax, plyed threads on a cruciform brooch at Wakerley (grave 74).

COSTUME by Elisabeth Crowfoot

The arrangement of the brooches in women's burials, a smaller pair lying in front of the shoulders, and a large central brooch above or between them, is particularly clear in the plans of inhumations 14, 22, 26, 38 and 39. As with many Anglo-Saxon graves in Eastern England, particularly those from Fonaby, Lincolnshire and Sewerby, Yorkshire, this arrangement suggests a woman's costume with features in common with the Pannonian dress of the early centuries A.D. (Garbsch 1965, 11, pls. 1, 8, 13, 16.1), perhaps something like that shown by Charlotte Blindheim as an interpretation of the Viking brooches and textile remains from Birka (Blindheim 1945, 143ff. fig. 3) - a long-sleeved underdress, and an overdress of more solid fabric, either with bands over the shoulders, or simply formed of a rectangle of woollen cloth, folded and caught on the shoulders by the pair of smaller brooches. The large brooch in these graves would probably have fastened the cloak, or perhaps a blanket wrapped round the body; the tabby weaves, often in soft folds on the front of the brooches or tucked in behind them, suggest that a veil or head-cloth may have been held in this way for burial (see inhumations 12, 14, 22 and 42). The tablet-weaves point to decorative details, that in inhumation 31 perhaps a belt, those from the brooches of inhumation 38, 42, 45 and 46 from braids decorating the neckline or top edge of the overdress, and that in the wrist-clasps of inhumation 5 a braid cuff, a feature shown clearly on the underdress in the Pannonian reliefs, and clearly preserved in other Anglo-Saxon examples (Crowfoot, G.M. 1951, 27ff; 1953, 189ff.).

The number of twill weaves in inhumation 24 at first appears confusing. The diamond or chevron twill with Z/S spinning (d), clearly pinned by the big square-headed brooch, and also lying on top of brooch 6, would naturally come from the cloak, and the flax twill with tubular selvedge (e) held by both annular brooches (6, 7) from the underdress or shift. The coarser Z-spun twill (c) with the group of objects (4) could be from the skirt of the overgarment, but the presence here also of a very similar twill to (a), the fine diamond twill on the weaving batten, could be explained by the excavator's suggestion that both objects and batten were laid on the top of the coffin, perhaps wrapped in a fine woollen cloth; twill (c) in this case perhaps comes from a bag or smaller cloth containing some of the iron objects.

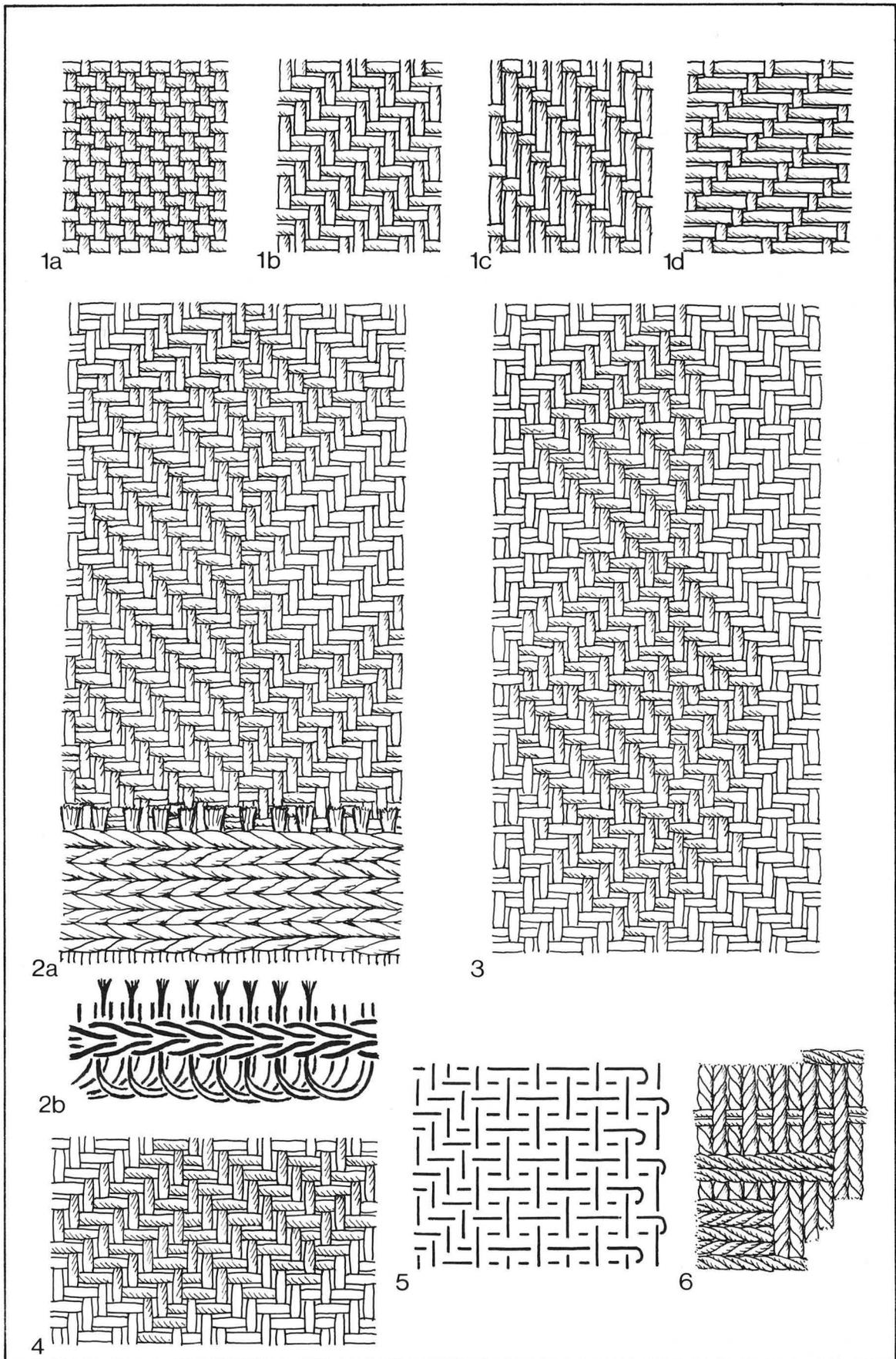


Fig.7. Textiles diagram (key opposite).

The Textiles

FIBRE ANALYSIS by H.M.Appleyard and Julie Jones

A sample of twill from inhumation 12/2 was examined by Julie Jones, and identified as a bast fibre, possibly flax. Samples from six graves were later analysed by H.M. Appleyard, who reported as follows:-

- Inhumation 24/6 Two samples examined from weave (a) were of vegetable fibre, but in very poor condition; from what can be seen almost certainly flax.
- Inhumation 24/7 Fibres in even worse condition, but again probably flax.
- Inhumation 38/2 (a) Two samples examined appear to be completely replaced by mineral deposits, no sign of fibres could be found.
- Inhumation 38/8 (b) Vegetable fibre, with the narrow lumen and general appearance of flax.
- Inhumation 42/4 (Twill) Very badly degraded, some fragments animal fibre, some medullated; also animal tissue, skin or leather.
- Inhumation 42/5 (b) (Tablet-weave) This is animal fibre, but there is far too much degradation and too little evidence of scale structure to say more.
- Inhumation 42/6 (a) (Twill) Fibres probably of animal origin, but specimen very brittle and a considerable amount of mineral deposit.
- Inhumation 45/1 (a) (Tablet-weave) Sample very brittle and friable, with much deposits, fibres very bad, but fragments consistent with animal fibres.
- Inhumation 57/7 (a) (Twill) These are animal fibres, but their condition is such that it is not possible to say what type, though some are fairly coarse and medullated.
- Inhumation 57/7 (b) (?Textile against a) In very bad state, deposits and some seeds, but almost certainly some vegetable fibre.
- Inhumation 58/3 (a) (Twill) A few very small fragments of badly degenerated animal fibres, and vegetable matter similar to some grasses.
- Inhumation 58/3 (b) (Twill) Fibres again in very poor state, but looking like flax.

Key to Fig.7 (opposite)

1. Weaves: (a) Tabby weave. (b) Four-shed (2/2) twill.
(c) Three-shed twill, 2/1 (warp face). (d) 1/2 (weft face).
2. (a) Broken diamond twill with tablet-weave end border (inhumation 24/3).
(b) Possible passage of returned warp ends (loops missing on weave).
3. Broken diamond twill, inhumations 24, 40. The shaded portion shows the best area preserved (inhumation 24/4a).
4. 2/2 twill with chevron reverses. Area preserved in inhumation 12/6 shaded.
5. Diagram of tubular selvedge, the edge flattened to show passage of weft; on 7 warps, as in inhumation 12/6.
6. 4-hole tablet-weave, twists in chevrons, with brocaded pattern (inhumation 5/6).

TEXTILE CATALOGUE

Note: The abbreviation 'replaced' is used for 'fibres replaced by metal oxides'. The spinning direction of yarns is indicated by the letters Z and S, the probable warp thread being placed first. Overall measurements of best fragments are given in cms, and weave counts in threads per cm, except where otherwise stated.

<u>Grave No.</u>	<u>Object</u>	<u>Position</u>	<u>Fibre</u>	<u>Spin</u>	<u>Weave</u>	<u>Count</u>	<u>Measurement</u>	<u>Comments</u>
2	1	florid cruciform brooch	round arms of cross back	replaced	Z,S-ply	-	-	threads, ?fastening on side pieces
				replaced	Z/Z	?twill	-	very deteriorated scraps, pin
	2	small-long br.	back	replaced	Z/Z	2/2 twill	-	scraps, deteriorated
	3	annular brooch	back	replaced	Z/Z	2/2 twill	-	as above
	4	small-long br.	back	replaced	Z/Z	2/2 twill	-	traces round pin
	8	florid cruciform brooch	pinhead	replaced	Z/Z	2/2 twill	16-18/14-16	5.0x3.5 even spinning and weaving
3	2	annular brooch	along pin	replaced	Z/Z	2/2 twill	c.8/4 on 5 mm	1.0x0.5 crushed patch, coarse fibred threads lying above
	4	buckle	back	replaced	Z/Z	2/2 twill	-	- deteriorated scraps, coarse
5	6a	small-long brooch, R	back front	(a) replaced deteriorated	Z/Z Z	2/2 twill -	9/8 -	c.3.0x4.0 small area clear, under ?skin scraps and fibres
	6b	small-long brooch, L	back	?(a) replaced	Z/Z	?twill	-	- coarse, ?(a) on 6a; skin
	6d	wrist-clasps	detached back	(b) replaced (c) deteriorated	Z/Z Z/?S-ply	tabby 4-hole tablet, brocaded	10/8 10 twists, 8 wefts	c.1.0x1.0 1.0x0.9 rather open weave twists in chevrons, Z, S, pattern brocaded (Fig.7, No.6)
11	2	annular brooch	back	replaced	Z/Z	-	-	- traces, weave not clear
12	2	annular brooch	front, back other side of pin	(a) replaced (b) bast ?flax	Z/Z Z/Z	tabby 2/2 twill	15/12 18/16	1.5x1.7 1.5x2.7 in five layers or folds underneath weave (a)
	6 (Pl.XV)	annular brooch	front, back	?(b) replaced	Z/Z	2/2 chevron twill, tubular selvedge	18/17	c.1.2x1.0 uneven spin, close weaves, one very coarse thread; see p.18; weave, selvedge (Fig.7, Nos.4, 5)

<u>Grave No.</u>	<u>Object</u>	<u>Position</u>	<u>Fibre</u>	<u>Spin</u>	<u>Weave</u>	<u>Count</u>	<u>Measurement</u>	<u>Comments</u>
13	1 spearhead	shaft	replaced	Z/Z	?tabby	g.16/14(est.)	g.3.5x1.2	scattered traces
	3 knife	under leather	replaced	Z	-	-	-	?lining, or threads inside leather sheath
14	2 Fe.ring	over most of	replaced	Z/Z	2/2 twill	15-16/12-14	0.8x1.4, 1.2x1.5	clearest areas, spinning and weaving even
	3 annular brooch	front, back	(a) replaced	Z/Z	2/2 twill	16/12-13	3.0x2.0, 2.5x2.0	folds both ends pin
		back	(b) replaced	Z	3-plait	units 4-thread	L.1.7, w.0.7	lying across (a)
	4a small-long brooch	back	(c) replaced	Z/Z	tabby	12/10	g.2.2x1.8	folds in lump
	4b annular brooch	back	(a) replaced	Z/Z	2/2 twill	16/14	-	scraps, folds as on 3
18	3 square-headed brooch	back	(a) replaced	Z/Z	tabby	-	-	tiny fragments, both weaves too small for count
		back	(b) replaced	Z/Z	2/2 twill	-	-	
	6 small-long brooch	back	?(c) replaced	Z/?	-	-	-	confused threads, spin of one system not clear
19	2 annular brooch	lumps, ring	replaced	Z/Z	2/2 twill	g.10/10	1.2x1.2	very solid close spin, one system thicker thread
22	3 cruciform brooch	front in knob, & on pin	(a) replaced (b) replaced	Z/Z Z,S-ply	tabby threads	20/14 -	1.0x1.2 -	fragments lying side by side, ?from fringe
		front	(c) replaced	Z/Z	?2/2 twill	-	0.7x0.5	scraps, coarser than (a)
	4 small cruciform brooch	under bone fragments	(c) replaced (b) replaced	Z/Z Z,S-ply	2/2 twill threads	- -	- -	scraps ?fringe or string
	6 small cruciform brooch	on pin	(c) replaced	Z/Z	2/2 twill	16/15 (8/7-8 on 5 mm)	-	scrap
	8 Ae.buckle	on Fe.pin	(d) replaced	Z/Z	2/2 twill	12/12 (6 on 5 mm)	1.0x0.8	even spin & weave
	9 latch-lifter	patches	replaced	Z/Z	?twill	-	-	
24	3 weaving batten (Pl.XV, e)	one side of blade	(a) replaced	Z/Z	broken diamond twill, with tablet	18-20/17-19 8 twists/5-6	g.9.0x2.0, at widest	very fine even weave; end border, edge missing, cut warp ends run back

<u>Grave No.</u>	<u>Object</u>	<u>Position</u>	<u>Fibre</u>	<u>Spin</u>	<u>Weave</u>	<u>Count</u>	<u>Measurement</u>	<u>Comments</u>
24 (cont.)					border 4-hole tabby	(on 5 mm) c. 16/6-7		through twists (Fig.7, No.2a)
4a	girdle-hanger	along blade, near hilt behind cross end	(b) replaced ?(a) replaced	Z/? Z/Z	broken diamond twill	c. 14/14	L.3.0, w.1.1-2 c. 2.5x2.2	warp face tape, weft hidden, ?hanging loop in folds (Fig.7, No.3)
4c	Fe. ring	one side	(c) replaced	Z/Z	2/2 twill	c. 12/12	0.8x1.1	coarser threads, no re- verses
4d	?latch-lifter	on all bits	(a) replaced	Z/Z	broken diamond twill	18/15	c. 4.0x4.0	in folds obscuring pattern
5a	square-headed brooch	behind (a) pin head	(c) replaced (d) replaced	Z/Z Z/S	2/2 twill broken diamond or chevron	12/12 7/6-7 on 5 mm	3.5x1.8 c. 1.5x1.2	as on 4c very even spin and weave, reverse
		detached	(d) replaced	Z/S	twill	-	-	tiny scraps, centre damaged
6	annular brooch	back, pin detached	(e) replaced ?(e) deteriorated, ?flax	Z/Z Z/Z	2/2 twill 2/2 twill	- c. 13-14/12	c. 2.3x2.3 1.5x0.7	folds held by and below pin even spinning, weaving
		under pin & detached	(e) replaced	Z/Z	tubular selv. on twill	?15-16 warps	L.1.8, w.0.9 c. 1.4x1.3	fragment selvedge (Fig.7, No.5) and traces twill, twisted round pin
		front, against (e)	(d) replaced	Z/S	broken diamond or chevron twill	c. 16/16	c. 2.5x1.0	two adjoining deteriorated fragments
7	annular brooch	back, ring	(e) vegetable, ?flax	Z/Z	broken diamond twill	c. 16/16 (estimated)	-	not (a); for discussion see p.19
26	4a knife	near tip	(a) replaced	Z/Z	2/2 twill	12/12	1.2x1.0	even spin & weave; looks like flax
	5a cruciform brooch	pin hinge	(b) replaced	Z/Z	tabby	10/10	1.8x1.2	fine threads, open weave
	6 disc brooch (Roman)	pin hinge	(a) replaced	Z/Z	twill	c. 8 (4 on 5 mm)	-	deteriorated, fragments with 'skin' over

Grave No.	Object	Position	Fibre	Spin	Weave	Count	Measurement	Comments	
27	7a	purse mount	one side	replaced	Z/S	?twill	c.6/6 (3 on 5 mm)	1.1x0.6	very loose open weave, under wood and grass
28	4	Fe.buckle	both sides	replaced	Z/Z	?twill	-	-	coarse threads, folds, deteriorated surface
29	1, 2	annular brooches	detached	replaced	Z/Z	twill	-	-	small scraps, weave confused
	6	Fe.fitting	one side	replaced	Z/Z	2/2 twill	12/10-11	1.1x2.0	coarse spin, uneven weave
31	8	near knife	detached	?(b) replaced	-	?tablet-weave	-	-	see below
	8a	knife	under blade and tang	(a) replaced	Z/Z	2/1 twill	c.18/16 (9/8 on 5 mm)	2.1x0.8	scraps, folded back, ?hilt to show 1/2 side (Fig.7, No.1, c, d)
			under (a), & opposite edge near hilt	(b) replaced	Z, S/ Z, S-ply	tablet, 4-hole, patterned	9 twists/ 8 wefts per 5 mm	1.3x0.8, 0.6x0.8	pattern diagonal lines, area underneath twill
	8b	Fe.object	one side	(b) replaced	Z, S/ Z, S-ply	as above	c.18/11	c.1.2x1.0	very damaged, twists & plied wefts clear; folds ?fine weave lapping edge
32	2	buckle	underneath, & fragments	replaced	Z/Z	2/1 twill	c.14/14 (7/7 on 5 mm)	1.9x1.4, 1.0x1.0	parts clear, uneven spin, even weave
36	1	shield grip	detached scrap	replaced	Z/Z	2/2 twill	c.6/6 on 5 mm	1.3x1.8	even spin & weave
	3	spearhead	along blade, & folding edge in one area	replaced	Z/Z	2/2 twill	16-18/12 12-14/12	1.2x1.5 1.0x3.0	probably all same weave, closer packed in parts lying parallel, very few crossing; ?torn edge
				replaced	Z	threads	-	1.3x1.3	
37	7a, b	Fe.scraps, Ae.scraps	pieces from pin?	replaced	Z/Z	2/2 twill	9/c.9	c.1.0x1.0	and smaller; scraps in folds most pieces, even spinning
38	1c	Ae.buckle	underside	(a) replaced	Z/Z	2/2 twill	4/4 on 5 mm	c.0.7x0.7	coarse yarns, threads against belt leather
	2	Fe.knife	on earth, & inside sheath	(a) ?replaced	Z/Z	2/2 twill	9/8 (est.) c.10/10	0.9x0.5, 1.8x0.7	fibres (p. 17) coarse, fragment mixed with grass
	4b	Fe.rings	patches	(a) replaced	Z/Z	2/2 twill	c.10/10	-	very similar to above
	7a	square-headed brooch	front	(b) replaced	Z/Z	tabby	14/12-14 (est.)	1.8x0.7	mass small folds, soft, gathered by pin

<u>Grave No.</u>	<u>Object</u>	<u>Position</u>	<u>Fibre</u>	<u>Spin</u>	<u>Weave</u>	<u>Count</u>	<u>Measurement</u>	<u>Comments</u>
38 (cont.)		round bow, catch	replaced	Z	threads	-	-	coarse, wound round under (b)
8	annular brooch	detached	?(b) flax	Z/Z	tabby	c. 14/14, 16/13,	0.7x0.5	scraps, uneven spin
		detached	(c) replaced	Z/Z	2/2 twill	c. 14/14 (est.)	0.4x0.5	even spin and weave
		back, pierced by pin, under frags. (b)	(d) replaced	Z/Z, S-ply	tablet, 4-hole, 10 twists diagonal pattern		1.6 wide	broken twist edge; twists SZSZ, then centre pattern, braid (p. 19)
		under (d)	(c) replaced	Z/Z	twill 2/2	-	-	traces visible under braid
9	annular brooch	detached	replaced	Z, S-ply	thread	-	L. 1.0 cm	
39	1 cruciform brooch	back, pin-head & detached	(a) replaced	Z/S	2/2 chevron twill	9/9	c. 4.0x2.0	lump; weave loose, pulled; S yarn variable, some thick
	2 annular brooch (Pl. XV)	detached	(a) replaced	Z/S	2/2 chevron twill	9/9-10	3.5x3.5	as above, some S threads damaged; reverse 2 cm from torn edge (p. 17)
	6 Fe. buckle	on pin underneath	(b) replaced	Z/Z	2/2 twill	14/12	3.0x2.0	even spin, weave; folds tight folds, appearance suggests flax
			(c) replaced	Z/Z	?tabby	c. 14/14	2.0x1.2	
	7 annular brooch	under pin above (b)	(b) replaced	Z/Z	2/2 twill	13-14/12	2.5x3.0	other confused scraps
			(a) replaced	Z/S	twill	-	-	deteriorated traces
40	4 shield grip (Pl. XV)	on handle	replaced	Z/Z	2/2 broken diamond twill	12/12	3.5x2.3, 4.5x4.5	even spinning and weave, larger area small scraps
41	12 Fe. knife	near to	replaced	Z/Z	2/2 twill	c. 12/12 (6/6 on 5 mm)	0.8x0.6	very even spin & weave
			deteriorated ?wool	Z/Z	2/2 twill	-	0.8x0.7	probably same
	12B Fe. frag.		replaced	Z/Z	2/2 twill	-	1.0x0.6	as above
42	4 wrist-clasps	under side	(a) ?animal	Z/Z	2/2 twill	15/13	2.0x1.8	lumps, piece with imprint
	5 small-long brooch	front, back, and detached	(a) replaced	Z/Z	2/2 twill	16/14	1.4x1.9	regular spin and weave
			(b) animal (wool)	Z/Z	tablet, 4-hole border	4 twists (4 mm)/ 16 wefts	L. c. 1.1 cm	border, twists S, Z, S, Z only; on detached scrap, 4 mm twill joining border on (a) (p. 18)

<u>Grave No.</u>	<u>Object</u>	<u>Position</u>	<u>Fibre</u>	<u>Spin</u>	<u>Weave</u>	<u>Count</u>	<u>Measurement</u>	<u>Comments</u>
42 (cont.)								
6	small-long	back, front, under wood against bow & on head	(a) animal (c) deteriorated	Z/Z Z/Z	2/2 twill tabby	15/14, 13/12 c.14/13 (est.)	3.0x2.5 6.0x5.0 -	thick layer, deteriorated; c.6 layers or folds tiny fragments, open weave
45	1 annular brooch	behind pin	(a) ?animal	Z/Z, S-ply	tablet	-	1.5x0.6	very deteriorated area
		detached, from pin	(b) replaced	Z/Z	2/2 twill	c.12/12	1.0x0.7	even spin; tablet twist on one side
	2 annular brooch	below pin	(a) replaced	Z/Z, S-ply	tablet, 4-hole, diagonal	c.18 twists, 10 wefts	c.1.0x1.0	with break in middle; pattern diagonal, i.e. braid (p.19)
	8 brooch	underneath & on soil	(b) replaced	Z/Z	2/2 twill	c.12/12	1.7x1.7	not clear, fragments, traces, soil impressions, broken threads
46	1 equal-armed brooch	pinhead, & on pin	(a) replaced	Z/Z, S-ply	tablet, 4-hole, diagonal	14 twists, c.10 wefts	1.4x1.3, 1.2x1.3	pattern weave, broken centre, diagonal pattern braid (p.19)
	2 equal-armed brooch	pin catch	(a) replaced	Z/Z, S-ply	tablet	-	-	traces, as on 1
	3 cruciform brooch, 1, 2, 3	detached	(a) replaced	Z/Z, S-ply	tablet,	-	-	damaged lumps
			(b) replaced	Z/Z	2/2 twill	14-15/c.12 (6 on 5 mm)	1.0x0.6, 0.6x0.6	hard even spin, weave, folds held by pin, appear- ance flax
49	2a shield grip	one piece	(a) replaced	Z/Z	2/2 twill	9/8 (4 on 5 mm)	c.1.1x1.5	coarse threads, weave rather open
	2b buckle		(b) replaced	Z/Z	2/2 twill	c.16/14	c.3.5x2.8	very close even spin & weave
	3 spearhead	tip and edge	(a) replaced	Z/Z	2/2 twill	10 (est.)/7-8	c.4.5x1.0	fragments, some detached
51	6 buckle		replaced	-	?twill	-	-	very deteriorated
56	5 brooch	on wood	deteriorated, ?wool	Z/S	2/2 twill	-	1.5x0.5	coarse fibred threads, surface deteriorated

<u>Grave No.</u>	<u>Object</u>	<u>Position</u>	<u>Fibre</u>	<u>Spin</u>	<u>Weave</u>	<u>Count</u>	<u>Measurement</u>	<u>Comments</u>
57	7 cruciform brooch	from pin	?(a) replaced	Z/S	2/2 twill	-	-	small fragments, pulled bias
		against back	(a) animal	Z/S	2/2 twill	14/12-14	2.5x1.5, 1.3x1.0, c.2.3x1.8	lying with leather; pulled to look like tablet twists, layers jammed together; may possibly have reverses
8	annular brooch	against (a) detached	(b) vegetable ?(c) deteriorated	Z/ Z/Z	- twill	- -	- -	deteriorated weave? (p.18) lumps with very deteriorated fabric adhering
9	annular brooch	on ring	?(c) replaced	Z/Z	2/2 twill, chevron, ?tubular selv.	13/12 (6 on 5 mm)	1.5x1.3	in folds as pinned; reverse near corner; long threads at broken edge, selvedge or edge turned under
		detached	?(b) deteriorated	Z/Z	tabby	est.24-20/ 16	2.5x2.5 mm, 4.3 mm	tiny scraps, lying on leather and ?grass
58	3 cruciform brooch	back, against metal on pin	(a) animal (b) ?flax	Z/Z Z/Z	2/2 twill 2/2 twill	est.c.10/10 -	1.3x1.0, 2.0x1.5 -	crushed, slightly pulled diagonally small areas, even, closer weave
	4a ?knife	on blade	?(a) replaced	Z/Z	2/2 twill	est.c.12/12	1.5x1.0	
	4b ring	on metal	(c) replaced	Z/S	2/2 twill	c.10/8 (5/4 on 5 mm)	1.3x0.7	coarse open weave; fragments deteriorated from this or (a)
			replaced	Z	threads	-	L.1.5 cm	coarse, side by side, ?fringe
6	annular brooch	soil around	(d) replaced	Z/Z	tabby	c.10/8 (5/4 on 5 mm)	0.5x0.5	clearest area, even spin and weave

VII. ORGANIC SAMPLES
by Peter Murphy

The freely-draining, well-aerated sand and gravel fills of the graves generally did not provide suitable conditions for the preservation of organic materials. Several of the samples of 'organic stains' consist of little more than dark humose sand. However, material buried in proximity to metal grave-goods was in a better state of preservation. The wood samples fall into two categories: material completely replaced by insoluble metal compounds; and wood preserved by the fungicidal and bactericidal action of metal salts in the surrounding soil without being heavily impregnated with metal compounds. The replaced wood is hard and brittle, but the remaining wood samples are soft and crumbling. The cell structure of the wood is generally badly deformed, and in most cases it is not even possible to be sure whether ring-porous or diffuse-porous wood is present. A brief examination of some of the ironwork showed that there are various plant remains in the corrosion products, but it was not considered worthwhile to identify them all. Textile and (?)leather fragments have been preserved by similar means, and inhumation 45 produced some metal-replaced impressions of fly puparia. Bronze wrist-clasps from inhumation 29 show metal-replaced fossils of nematode worms on their inner surfaces. Small fragments of bone are present in a few samples. Inhumations 3 and 40 produced off-white porous concretions of powdery material. (See notes on organic remains in the individual Catalogue entries.)

Impressions of plant material on pot 27/1 and other pottery will be discussed in a future volume.

VIII. THE INHUMATION POTTERY FABRIC ANALYSIS
by Mark A. Brisbane

METHODOLOGY

As with the cremation urns and domestic pottery from this site, the pottery for the inhumation burials was examined under binocular microscope in order to identify common mineralogical inclusions and other inclusions such as 'grog' and organic material. The pottery was then assigned to fabric groups based upon the presence/absence and density of these inclusions. It soon became clear that this pottery grouped into the same fabric types as the cremation urns (Brisbane 1980). The same group numbers have therefore been used for the inhumation pottery as for the cremation urns.

In order to test these groups a selection of sherds from most fabric groups was examined in thin-section and these are briefly discussed below. A fuller discussion of the petrology of the urns, the inhumation and domestic pottery will appear in a future volume.

THE FABRIC GROUPS

Fabric Group I

This group is distinguished by a high amount of quartz and quartzite inclusions which together usually comprise more than 75% of the total number of mineral inclusions. Other inclusions in small amounts include flint/chert, feldspars, and glauconite. More than 25% of the total fabric (i.e. the inclusions and the clay matrix together) is composed of mineral inclusions. These inclusions occur in sizes varying from very fine to coarse (0.05 mm to 1 mm or larger) but are most often around 1 mm and give a densely gritted appearance to the fabric.

The following pottery is of Fabric Group I:

2/6; 3/1a; 4/3; 5/1; 9/1; 11/3; 13/2; 14/1; 17/1; 26/2; 38/6; 41/12 Fill;
42/1; 44/1; 47/1; 51/4; and 53/1.

Petrology. Six of these (13/2, 17/1, 38/6, 47/1, 51/4, and 53/1) were examined in thin-section and showed signs of all the mineral inclusions mentioned above. Feldspar (plagioclase predominantly, but also microcline and orthoclase) was occasionally more common than expected, especially in 17/1 where it was approximately 25% of the total mineral inclusions. Mica-schist, garnet, and metamorphic quartzite also occurred presenting a clear indication of detrital minerals derived from the East Anglian glacial drift geology (Double 1924). A local source is, therefore, likely.

Fabric Group II

This group is characterised by sandstone inclusions. Although not always in large quantities, these average a fairly high percentage of the total mineral inclusions and appear as clusters of loosely cemented, white or pink, glassy grains. They give the pottery a sandy feel.

The following occur in Fabric Group II:

4/1; 16/1; 22/1; 39/3; 45/10; 48/3; and 56/2.

Petrology. Four of these were examined in thin-section (39/3, 45/10, 48/3, and 56/2). Three contained some feldspars, quartz, and flint, but in much smaller quantities than for Group I, and one (56/2) contained no feldspars nor flint. Although not inconsistent with a local drift geology source, presumably a boulder clay, it seems likely that the clay source is different to that of Group I.

Fabric Group III

This group includes organic tempering usually chaff, but occasionally other carbonaceous material such as grass or cereal grains, notably barley. Some sherds, usually base sherds, show signs of 'grass-marking' and/or 'grass-wiping', although this in itself is not related to pottery fabric and is thus not necessarily diagnostic of this particular fabric group. What is diagnostic is the deliberate addition of organic materials as a temper to make the clay more elastic. While mineral inclusions do occur, they are less frequent than, for instance, in Groups I and II suggesting that the mineral inclusions are part of the clay matrix and are not tempering agents themselves, unlike the chaff, etc.

The following occur in Fabric Group III:

23/1; 33/1; and 38/5.

Petrology. A sherd from 38/5 was examined in thin-section. Abundant chaff was clearly visible throughout the clay matrix. Some fine quartz and flint were also present. Interestingly this section showed clear evidence for pot 38/5 being coil made. (For further information on Spong Hill pottery technology see Brisbane 1981).

Fabric Group IV

The distinctive tempering in this group is the small particles of brick-red grog c. 2 mm in diameter. This grog resembles pulverised pieces of tile or brick. Like Group III above, the pottery in this group lacks the quantities of mineral inclusions which are characteristic of Groups I and II, although quartz, quartzite, flint and feldspars do occur, as occasionally do small amounts of chaff. Again like Group III, Group IV shows the deliberate addition of a tempering agent to a clay matrix.

The following occur in Fabric Group IV:

4/2; 8/1; 27/1; 43/1; 52/1; 55/3; 57/2; 57/3; and 58/1.

Petrology. All of the above were thin-sectioned in order to examine in more detail

The Inhumation Pottery Fabric Analysis

the character of the grog. As with most Spong Hill urns that have grog added to them, all of the above had grog which contained minute particles (c. 0.08 mm) of microcline feldspar and quartz, indicating that the grog was derived from a pre-existing ceramic source, most likely crushed brick or tile. This similarity adds weight to the suggestion that this fabric group represents a distinct method of pottery production.

Fabric Group V

This group is characterised by chalk and/or calcite inclusions. In both the urns and the inhumation pottery percolating ground water has often leached out these inclusions leaving either rhombic or sub-angular voids. Other mineral inclusions are normally absent although sands may occur. The general appearance however is one of the diagnostic grits occurring prominently in a fine to medium sandy fabric.

The following occurs in Group V: 28/1.

Petrology. This single example was thin-sectioned. No calcite was visible, but chalk did occur suggesting a chalky boulder clay source, presumably local.

Fabric Group VI

The pottery of this fabric group contains well-rounded opaque inclusions of red and black iron ore. While other inclusions, predominantly quartz, occur with the irons, their presence in significant amounts (i.e. greater than 8% of the total mineral inclusions) suggests either a different boulder clay source or a different method of production using an alternative tempering agent. Unfortunately, it is difficult to distinguish between these two possibilities at present, although thin-sectioning and grain-size analysis may be able to resolve this in the near future.

The following occur in Group VI:

36/2 and 42/2.

Fabric Group VII

This group is made up of cremation urns which contain soft, white or yellow mineral inclusions, spherical in shape and which are almost certainly worn limestone particles. This is suggestive of a non-local source although further petrological work is required.

None of the inhumation pottery occurred in Fabric Group VII.

Fabric Group VIII

The pottery in this group has a distinctively large quantity of fairly sizeable mica flakes, up to 3 mm in size. Varying amounts of quartz, quartzite, and feldspar are also present. Mica seems to be a moderately common ingredient in the glacial drift detritus and its relative profusion in conjunction with feldspar would suggest the exploitation of a boulder clay with mica occurring in it rather than mica being added as a tempering agent.

The following occur in Group VIII:

3/1b; 7/1; 18/Fill; 18/1; 30/1; and 37/5.

Petrology. Four of the above were thin-sectioned; three of which (7/1, 18/1, and 30/1) exhibited large amounts (greater than 10% of total mineral inclusions) of biotite (black mica), while one (37/5) contained biotite and small amounts (c. 2%) of chlorite (green mica). Quartz and feldspars, particularly microcline, were also present. In 18/1 the biotite occurred in the interstices of the feldspar, again suggestive of glacial drift detritus.

Fabric Group IX

This group is distinguished by shell inclusions with small amounts of quartz sands. The clay matrix has remarkably few inclusions giving the sherds a smooth appearance. Shell is an extremely rare inclusion at Spong Hill in all types of pottery, viz. urns, domestic ware, and inhumation pottery. From such a small sample it is difficult to determine whether the shell is fossilised or freshwater derived, but in either event it is most likely indicative of the exploitation of a different clay source, probably non-local.

The following occurs in Fabric Group IX: 23/4.

Petrology. A sherd of 23/4 was thin-sectioned. This contained a moderate amount of shell (c. 8%), quartz, and flint/chert. The shell bore little resemblance to fossilised shell structure and is more likely to be fresh water derived.

DISCUSSION

In general the fabrics of the inhumation pottery bear a striking resemblance to that of the cremation urns. As we are dealing almost exclusively with glacially-deposited clays, the slight variations in the amount of mineral inclusions present are readily acceptable and are not indicative of further significant fabric differences.

Furthermore, within each fabric group, the types of mineral inclusions encountered and their relative amounts remain remarkably similar for the urns and the inhumation and domestic pottery.

Interestingly, none of the inhumation pottery nor any of the domestic pottery so far examined has been manufactured in Fabric VII, the limestone group. It would appear that this group is made from a non-local source and one limited solely to cremation urn production.

IX. ANALYSIS OF SOIL SAMPLES FROM INHUMATION 31 FOR PHOSPHATE

by Michael J. Hughes

ANALYSIS FOR PHOSPHATE

Twelve samples were taken from the fill and surrounds of inhumation 31 (Fig.8). Each sample weighed 200 g or more and all were of coarse sand containing, in some cases, sizeable proportions of abraded stone (flint). Each sample was sieved through a 2 mm brass sieve to remove the stones and 20 g portions of the sieved sample were then digested with hydrochloric acid to extract the phosphate. The measurement of the extracted phosphate was carried out by a molybdenum blue colorimetric method originally described by Murphy and Riley (1962) and used for soil phosphate determinations by Sieveking *et al.* (1973).

RESULTS AND DISCUSSION

The results are given in Table 1 and do not show any very high phosphate values. The soil samples 1-8 (Fig.8) were all taken within the area of the remains of the wooden box, while samples 9-12 were control samples taken outside the box and of, apparently, undisturbed natural soil. The groups do not overlap and the average content of phosphorus in 1-8 is higher than in control samples 9-12 by about 60%. This indicates that there is more phosphorus (i.e. phosphate) in the soil taken from the feature than in the control samples of soil taken outside the feature. The difference between the control samples and the feature samples is not as great as the high values found in the Anglo-Saxon grave 662 at Mucking at the level of the soil silhouette - values recently confirmed by soil analyses of grave 963 at Mucking (Keeley, Hudson and Evans 1977). However, it is not clear that any of the soil samples from Spong Hill were taken from the level equiva-

Analysis of Soil Samples from Inhumation 31 for Phosphate

lent to the soil silhouettes at Mucking, and when the vertical section through both the Mucking graves is considered it is obvious that the phosphate is very much concentrated in a thin (10 cm) layer of soil at the level of the silhouette. Above the silhouette in grave 963 the phosphate concentration seems to be in the range 400-1000 ppm phosphorus and in grave 662 it is 600-900 ppm. These figures should be compared with 450-550 ppm phosphorus in the fill of the feature at Spong Hill; however no high values of phosphorus were found in the twelve Spong Hill samples, to correspond to those from silhouette level in Mucking graves 662 and 963. It is, therefore, of some importance to establish the exact location of the Spong Hill samples in relation to the bottom of the box. The samples 1-4 (Fig.8) are described as at 'coffin-lid' level, 5-8 are 'above the floor of the box (c. 1 foot below 1-4)' and control samples 9-12 are at the same depth as samples 5-8, but outside the box. It therefore appears that the samples 5-8 could be at some distance above the floor of the box, and hence not at the equivalent of the silhouette levels in the Mucking graves.

CONCLUSIONS

Since the phosphate results are not high enough to be regarded as providing positive evidence for the presence of a body, it seems that there are two possible interpretations of the results neither of which can be excluded as unlikely:

- i) The feature did not contain a body, or it was robbed soon after burial
- ii) The feature contained a body, but the soil samples were not taken from the level at which it actually lay, so the phosphate results fail to show a dramatic difference between those in the grave and the 'control' samples taken outside the grave.

TABLE 1. PHOSPHATE ANALYSES OF SOIL SAMPLES FROM INHUMATION 31

Results are given in parts per million phosphorus in the dried sieved (less than 2 mm) soil.

Soil Sample Number	Phosphorus (ppm)
1	552
2	495
3	552
4	473
5	495
6	455
7	470
8	478
9	408
10	250
11	345
12	235

Average 1-8 (samples within wooden box) = 495 ppm (std. devn = 37)

Average 9-12 (control samples outside box) = 310 ppm (std. devn = 81)

X. TRACE ELEMENT ANALYSIS OF SOIL SAMPLES FROM
INHUMATIONS 40 AND 42
by Helen C.M. Keeley

It has been shown (Keeley, Hudson and Evans 1977) that the presence of a body stain or 'silhouette' in a grave may be associated with high levels of manganese in the darkly-stained soil, representing an accumulation of this element in relation to concentrations in the surrounding soil and, also, expected levels in body tissue and bone. This work was carried out on samples from excavations at the multi-period site of Mucking, Essex (summarised in Jones 1975). When body stains were found in graves at Spong Hill, where soils are also derived from sands and gravels, it was decided to carry out comparative analyses.

Samples were collected by the excavators from two graves, as instructed by Peter Murphy. Grave 42 was fairly simple and sample locations are shown in Fig.8; grave-goods were present. Grave 40 was considerably more complex than 42. It consisted of a large wood-lined pit with heaps of topsoil or turves at each end. Within the wooden box, but to one side, was a rich burial - unfortunately this was not central and thus the sample columns missed the burial itself, as shown in Fig.8.

All the soil samples from grave 40 and ten from grave 42 were analysed by A.Saunders as part of an M.Sc. project and the details, including methods used, are reported elsewhere (Saunders 1978). Subsequently four samples from level 11 in grave 42 and a sample of natural gravel were analysed by Clive Winter at the School of Environmental Sciences, University of East Anglia, for phosphorus, manganese and copper by X-ray fluorescence on request of the author.

RESULTS

Samples from grave 40 were analysed for Cobalt (Co), Copper (Cu), Iron (Fe), Manganese (Mn), Phosphorus (P), pH, moisture content and loss on ignition. Cobalt concentrations were variable, but did not appear to be related to grave features. Very high copper concentrations at the base of the grave probably resulted from the presence of the grave-goods, as would be expected. Iron concentrations showed little variation with depth; manganese tended to decrease with depth and levels were not obviously related to grave features. Phosphorus content was particularly high at C15 and could indicate the presence of an inhumation. pH, moisture content and loss on ignition showed little variation. The ten samples from grave 42 which were analysed, were from upper layers (1 and 6); consequently any variations in the parameters measured could not be related to the presence of an inhumation. In general, this exercise proved extremely unsatisfactory, partly due to non-coincidence of samples with expected body location and partly due to analytical difficulties (Saunders 1978).

TABLE 2. TRACE ELEMENT ANALYSIS OF SOIL SAMPLES
FROM INHUMATION 42

Sample	P	Mn	Cu
Natural gravel	12,941	34,320	3,421
B11	19,018	14,592	72,407
C11	16,092	17,136	12,680
D11	35,010	21,909	42,492
E11	14,137	15,061	5,040

Note: these results only show relative differences between samples, not actual amounts of a given element.

SPONG HILL; soil samples taken from three inhumations
for trace element analysis

SSS soil sample area

A
1 • soil sample

••••• soil stain of turf or wood

••••• dense soil stain of turf or humified wood

≡≡≡ grain showing in humified wood

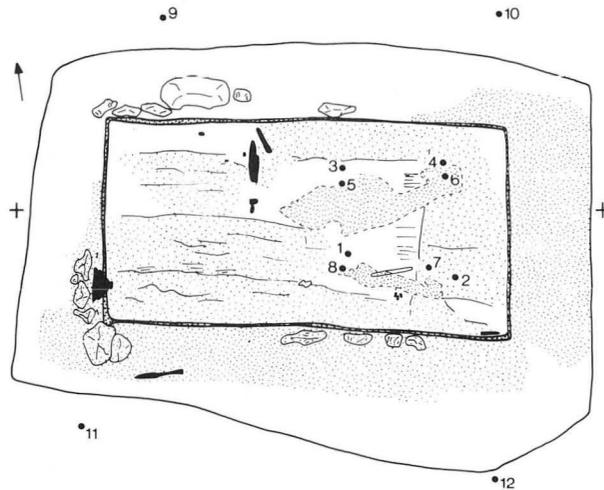
□ cleanish sandy gravel with loamy patches

▨ dark brown sandy pebbly loam

▨ yellowy-brown loamy sandy gravel

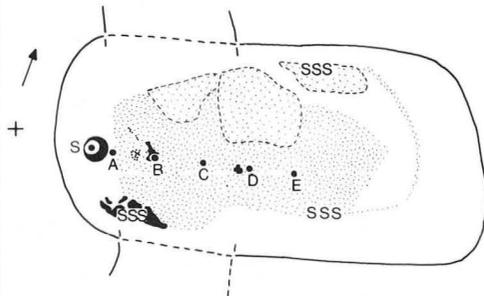
□ clean sand

Inhumation 31



0 1 2
metres

Inhumation 42



Inhumation 40

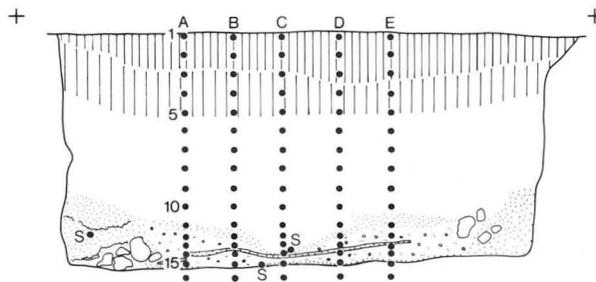
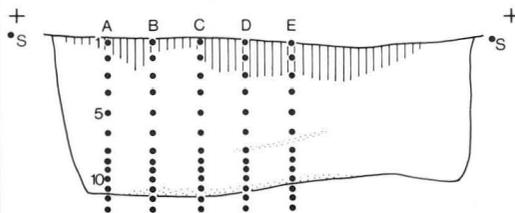
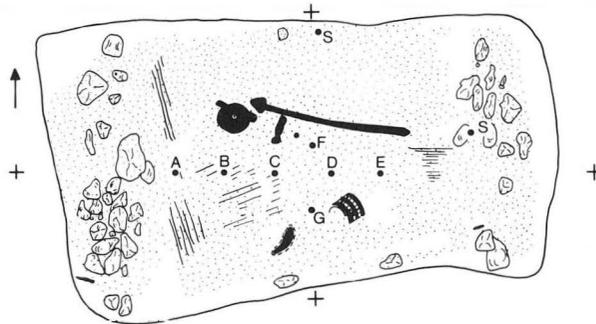


Fig.8. Samples from inhumations 31, 40 and 42.

Subsequently four samples from level 11 in grave 42 and a sample of natural gravel were analysed by XRF for P, Mn and Cu and the results are shown in Table 2.

Phosphorus levels in all samples from level 11 were higher than in the natural gravel; B, C and D would appear to be most likely associated with a body stain. Mn concentrations were lower than in the natural gravel, and, thus, the Mn accumulation found at Mucking in body stains does not repeat itself here. In fact there seems to have been some loss of Mn from the system at this point. High Cu concentrations were no doubt associated with the presence of grave-goods, as would be expected.

CONCLUSIONS

At Spong Hill the presence of inhumations appears to be indicated by higher levels of P than in the surrounding soil. It was confirmed that a body stain existed in grave 42 and may have existed in grave 40, but this was less clear for reasons described previously. Mn accumulation in body stains was not found and Cu levels were completely dominated by the presence of grave-goods.

XI. THE ROMANO-BRITISH BROOCH, 26/6 (Fig.83, Pl.XIII) by Donald Mackreth

The sprung-pin was held to the brooch by means of a single pierced lug behind the plate. The original pin was replaced by an iron one in antiquity. The plate is circular, has a raised border and is divided into three major concentric zones. The central one is deep and once had a paste setting, now missing. Each of the other two, which are separated by a double moulding with a deep 'V' and with the inner one beaded, contains a row of stamps in the outer half. Each stamp is in the shape of a 'double axe head' and has, raised in the bottom, a saltire. The brooch was carefully finished, gilded on the front and tinned or silvered on the back.

At 4.3 cm diameter, this brooch is one of the largest of its class. The family to which it belongs is distinctive, always having the same sprung-pin fixing arrangement, has two or more zones and, when relatively well preserved, it has gilding and silvering. The shape, however, may be oval and there may also be subsidiary settings for paste gems; although such gems are usually conical, one or two have intaglios and a few are finished with an array of ribs in the centre. It is clear that there was a range of sizes and designs emanating from a single workshop (Branigan 1977, 119, fig.26, 505; Dickinson 1979, fig.3, 12a; Cottenham, Cambs., to be published; Pitt-Rivers 1887, 41, pl. X, 5). The range of stamps is wide including elongated 'S's, lozenges, arcs, double leaf motifs, crosses as here, circle-and-dot, dot-in-triangle and 'W's, and there may be others which have not come to the writer's notice (Atkinson 1916, 35, pl.IX, 35; Bushe-Fox 1949, 121, pl.XXXI, 63; Ashbee 1954, 16, fig.5, 1; Dudley 1967, 60, fig. 24, 237; cross variation: Nan Kivell 1927, 328, pl.II, E; Boon 1974, fig.19, 1; Durobrivae, private collection; Cricklade, Wilts., to be published). The type derives from a plate brooch, circular or oval with enamelled zones, which has exactly the same spring-fixing arrangement (Hunter and Kirk 1954, 59, fig.26, 1) and which may always have had a raised central setting: where this survives it is usually in the form of a paste intaglio (Atkinson 1916, 35, pl.IX, 34; Boon 1974, fig.19, 3) or what was probably a conical boss (Dudley 1967, 54, fig.22, 197), and these two details point to a further connection between the two series.

The enamelled series is usually placed in the second century and the poor record of finds from datable contexts may possibly be an indication of this. However, like so many poorly dated brooches usually assigned to the second century, they may have continued in use into the third (Bushe-Fox 1949, 117, pl.XXIX, 48). The dating of the gilded examples is also poor and is mostly derived from the Continent where specimens, un-



Photo: R.J.Rickett

VZ 14

Plate I. Inhumation 40 (partially excavated) and associated inhumations (fully excavated). From the east.

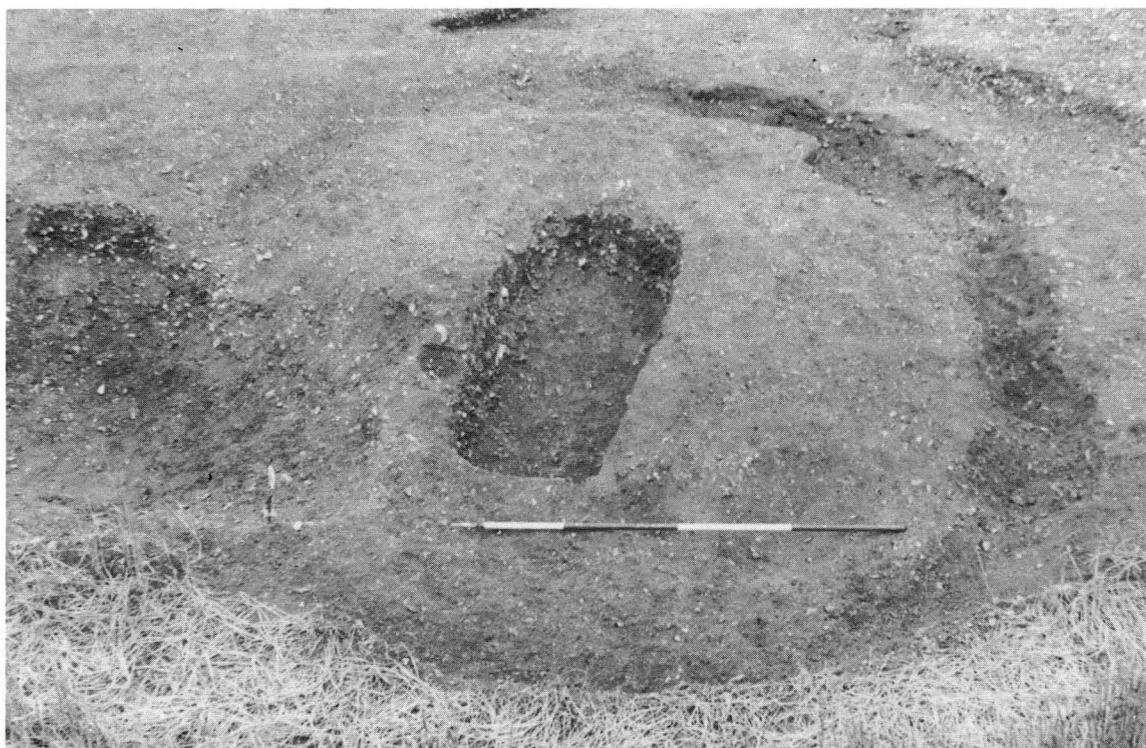


Photo: R.J.Rickett

VZ 7

Plate II. Inhumation 41 with ring-ditch (fully excavated). From the east.

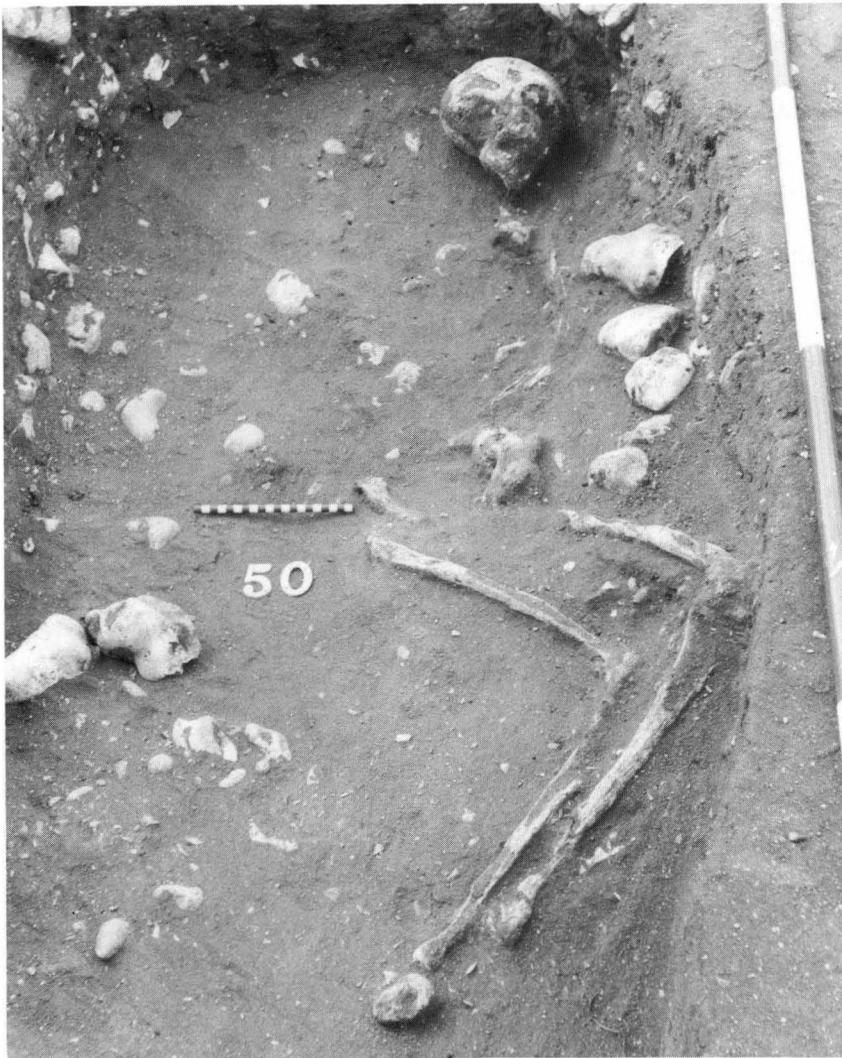


Photo: R.J.Rickett
Plate III. Inhumation 50 during excavation. From the east.

VZ 16



Photo: D.Morgan
Plate IV. Inhumation 58 during excavation, showing skull remains and soil stains. From the east.

BAQ 8

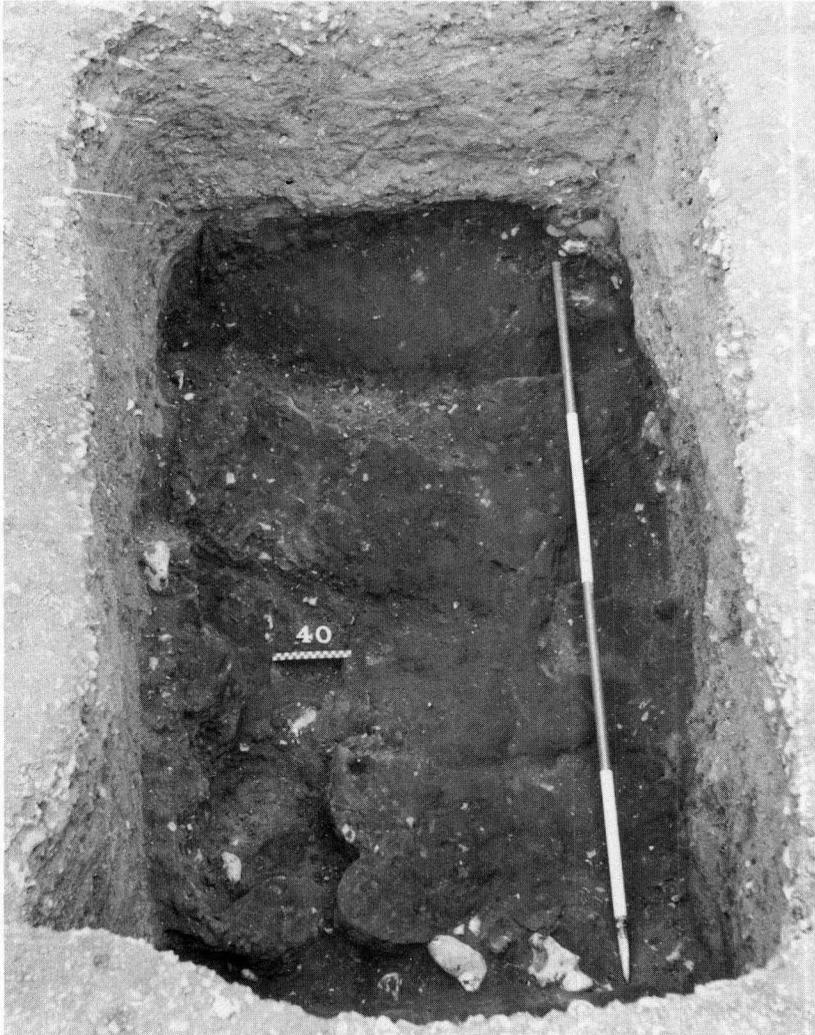


Photo: J. Lockett
Plate V. Inhumation 40 excavated to the top of the collapsed chamber. From the east.

WM 3

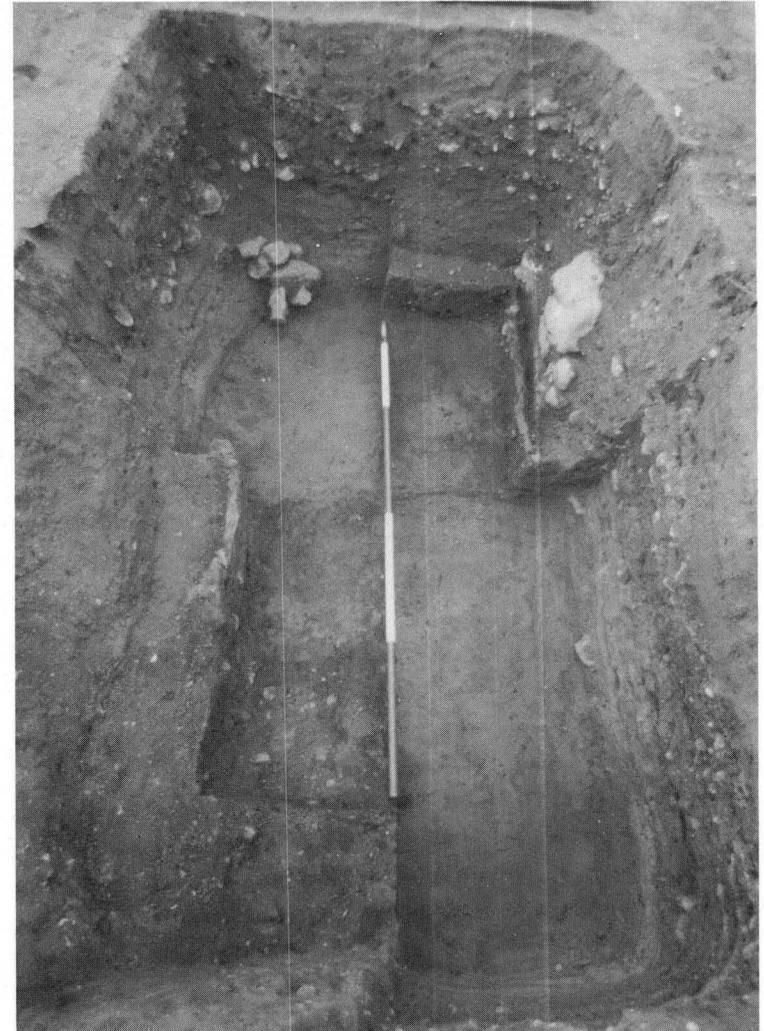


Photo: D.A. Edwards
Plate VI. Inhumation 31 during excavation of the chamber in quadrants. From the east.

QT 16

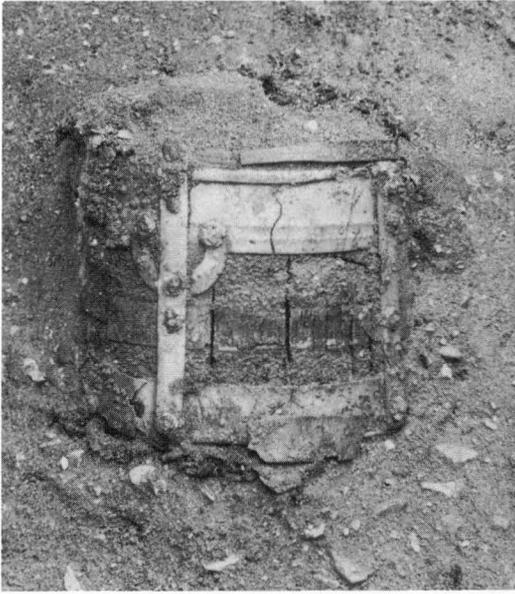


Photo: J. Lockett VZ 24
Plate VII. Inhumation 40 (detail),
bucket (in situ).



Photo: R. J. Rickett VY 31
Plate VIII. Inhumation 44 (detail) show-
ing skull with pot and two
annular brooches (in situ).



Photo: R. J. Rickett VY 36
Plate IX. Inhumation 45 (detail), grave-
goods (in situ).



Photo: R. J. Rickett VZ 12
Plate X. Inhumation 46 (detail), grave-
goods (in situ).

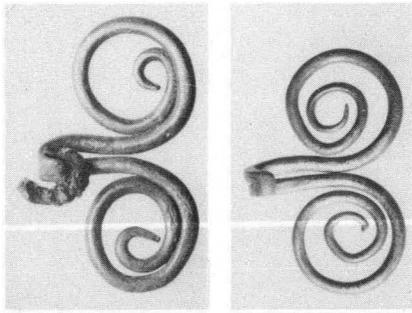


Photo: M.Sharp BXN 21
 (a) Inhumation 5 - 4 and 5.

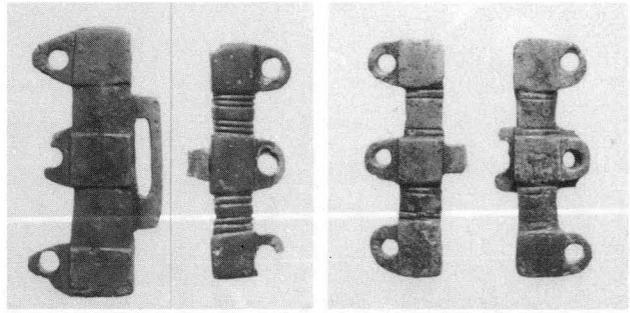


Photo: M.Sharp BXK 34
 (b) Inhumation 29 - 3, 4 and 5.

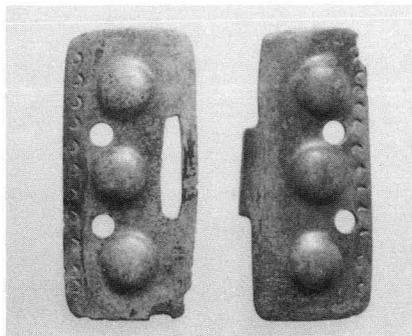


Photo: M.Sharp BXN 13
 (c) Inhumation 37 - 1.

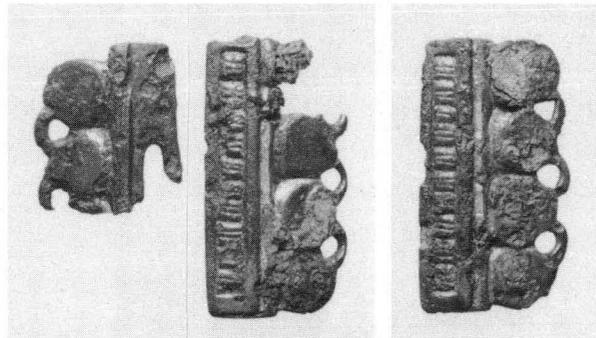


Photo: M.Sharp BXP 26
 (d) Inhumation 42 - 4.

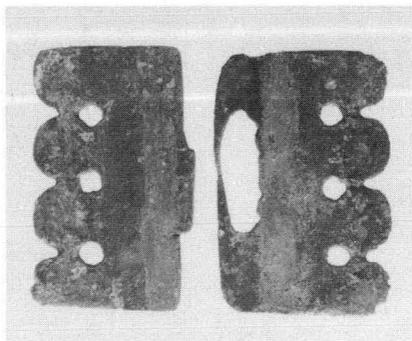


Photo: M.Sharp BXR 35
 (e) Inhumation 48 - 1.

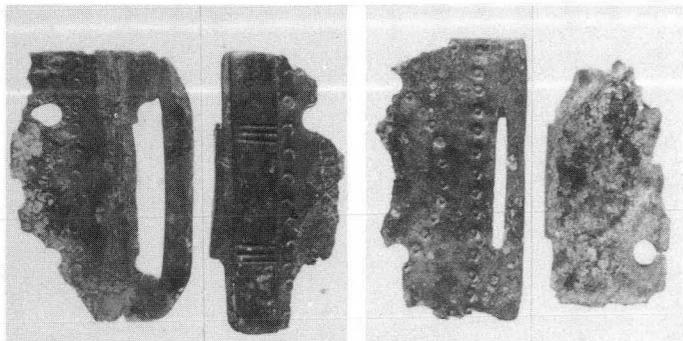


Photo: M.Sharp BXR 25
 (f) Inhumation 57 - 5 and 6.

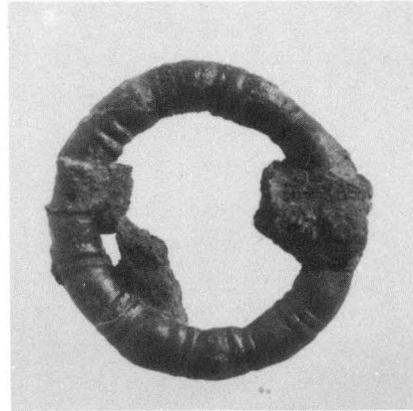
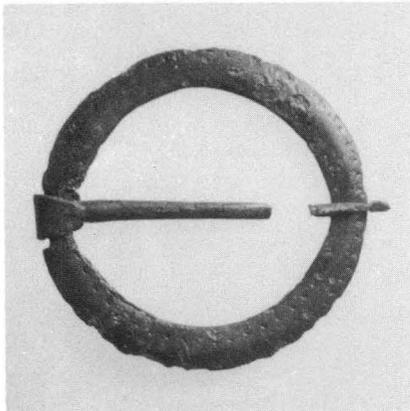


Photo: M.Sharp
(a) Inhumation 19 - 1 and 2.

BXP 8

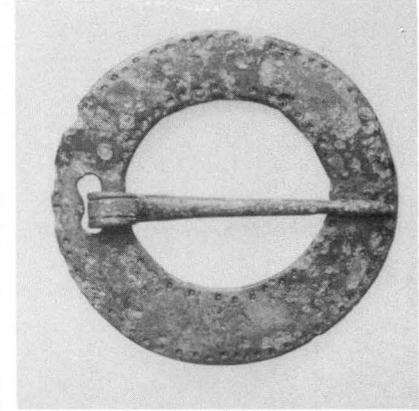
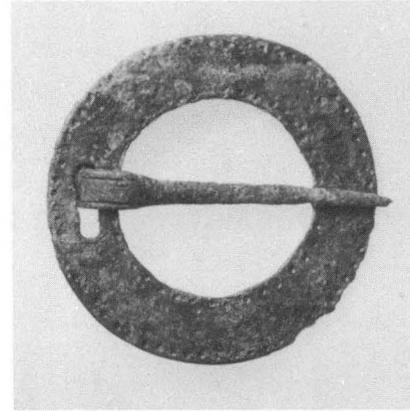


Photo: M.Sharp
(b) Inhumation 37 - 3 and 4.

BXP 30

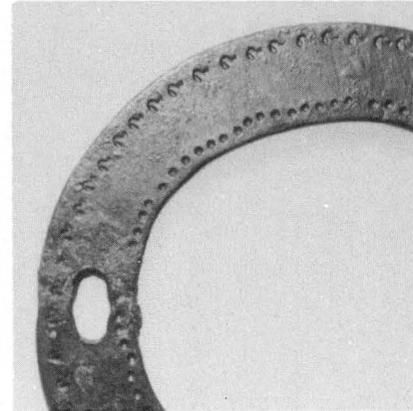


Photo: M.Sharp
(c) Inhumation 39 - 2a. (Detail scale approx. 2:1).

BXP 15

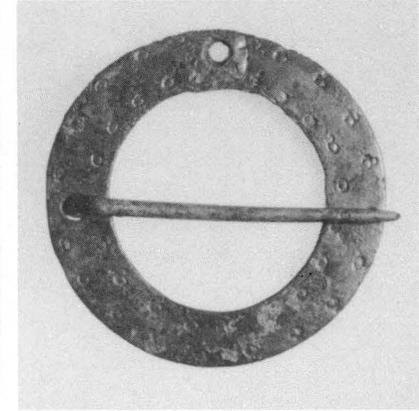
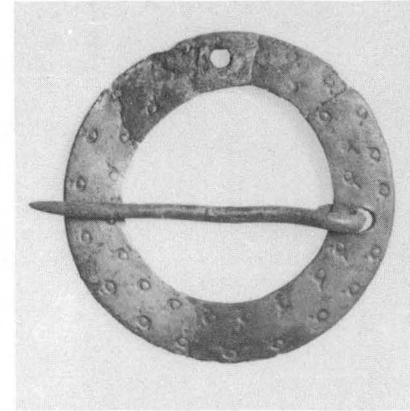


Photo: M.Sharp
(d) Inhumation 44 - 3 and 4.

BXP 16



Photo: M.Sharp BXP 11
 (a) Inhumation 18 - 3.

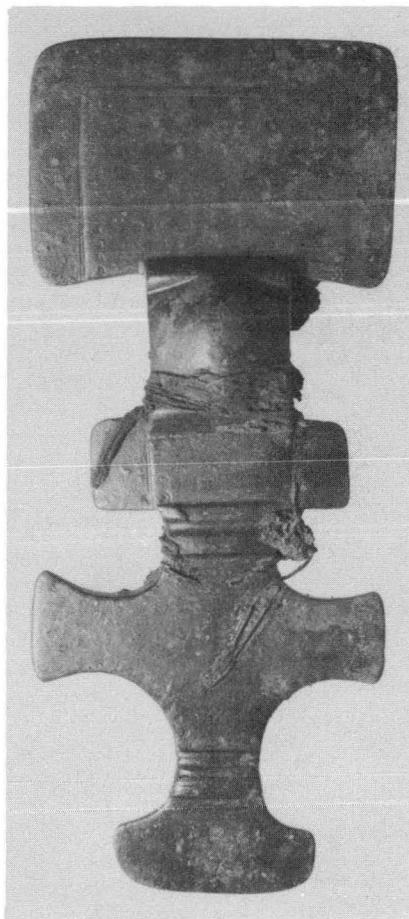


Photo: M.Sharp BXP 2
 (b) Inhumation 38 - 7a.

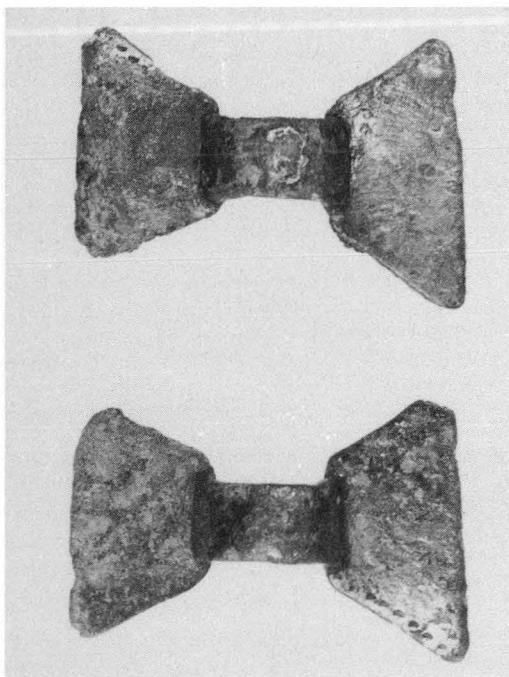


Photo: D.Wicks CAZ 37
 (c) Inhumation 46 - 1 (bottom) and 2 (top).

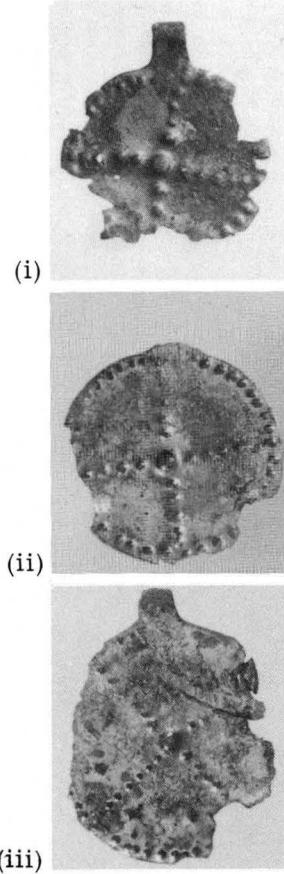


Photo: M.Sharp BXN 33
 (d) Inhumation 26 - 6.

Plate XIII. Square-headed, equal-armed and disc brooches. Scale approx. 1:1.



Photo: M.Sharp
(a) Inhumation 2 - 8.



(b) Photo (i) M.Sharp BXN 20
(ii) & (iii) G.Pooley VL1 VL5
Inhumation 11(i) 11-1
(ii) SF 144 (iii) SF 145

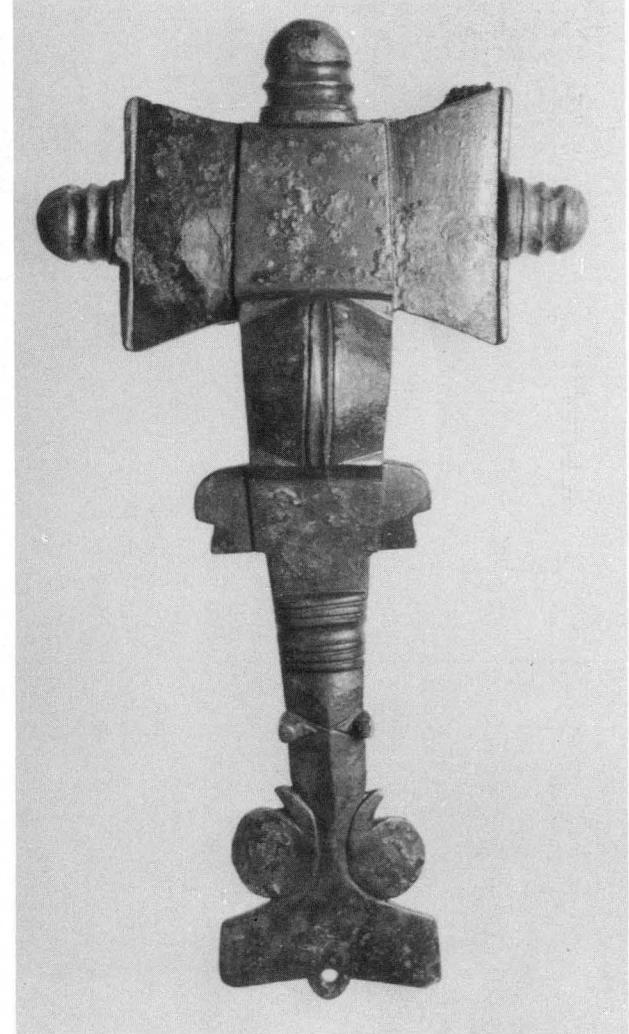


Photo: M.Sharp
(c) Inhumation 39 - 1a.

BXP 23

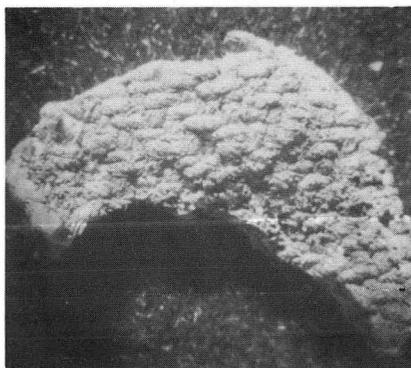


Photo: J.Manser
(a) Inhumation 12 - 6. Scale approx. 4:1.

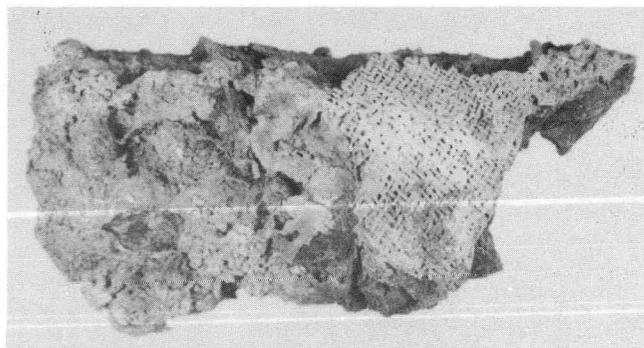


Photo: G.Pooley
(b) Inhumation 40 - 4. Scale approx. 1:1. BNF 20

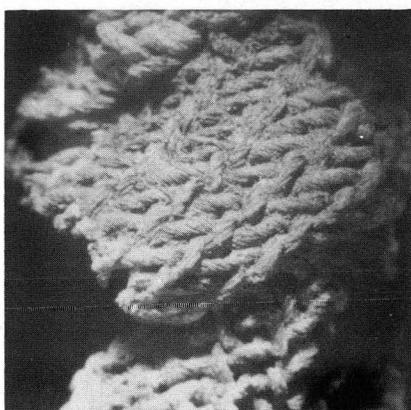


Photo: J.Manser
(c) Inhumation 39 - 2a. Scale approx. 4:1.

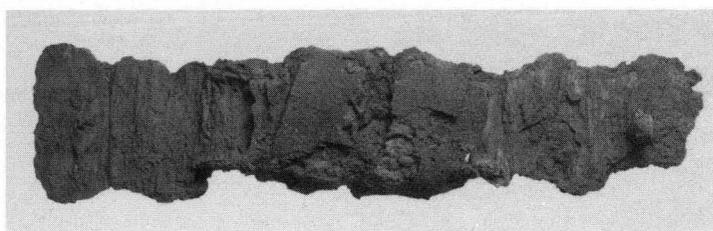


Photo: M.Sharp
(d) Inhumation 31 - 3 showing leather binding strips. Scale approx. 1:2. BXT 17

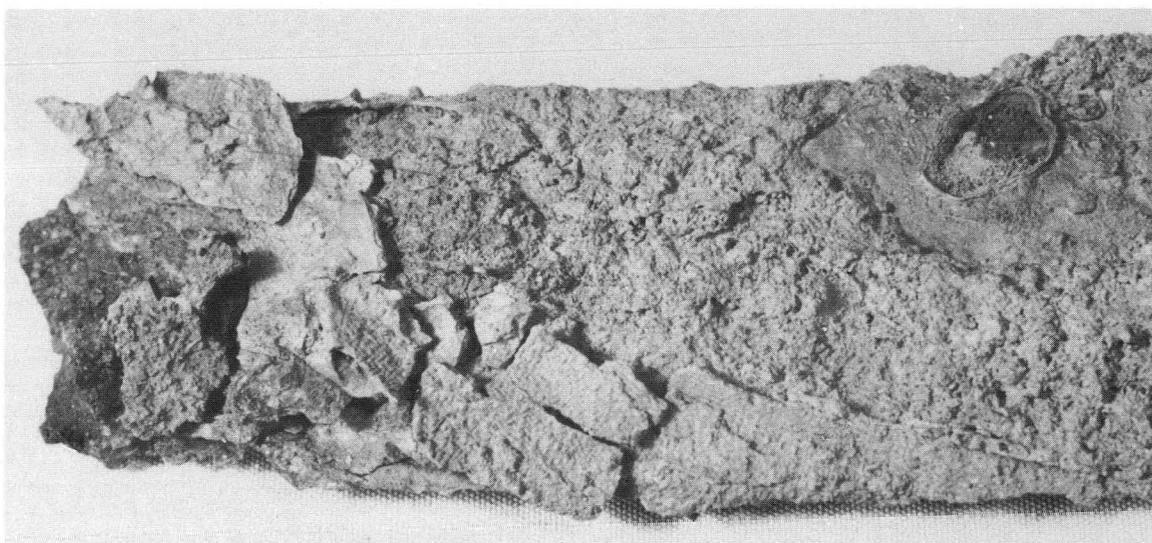
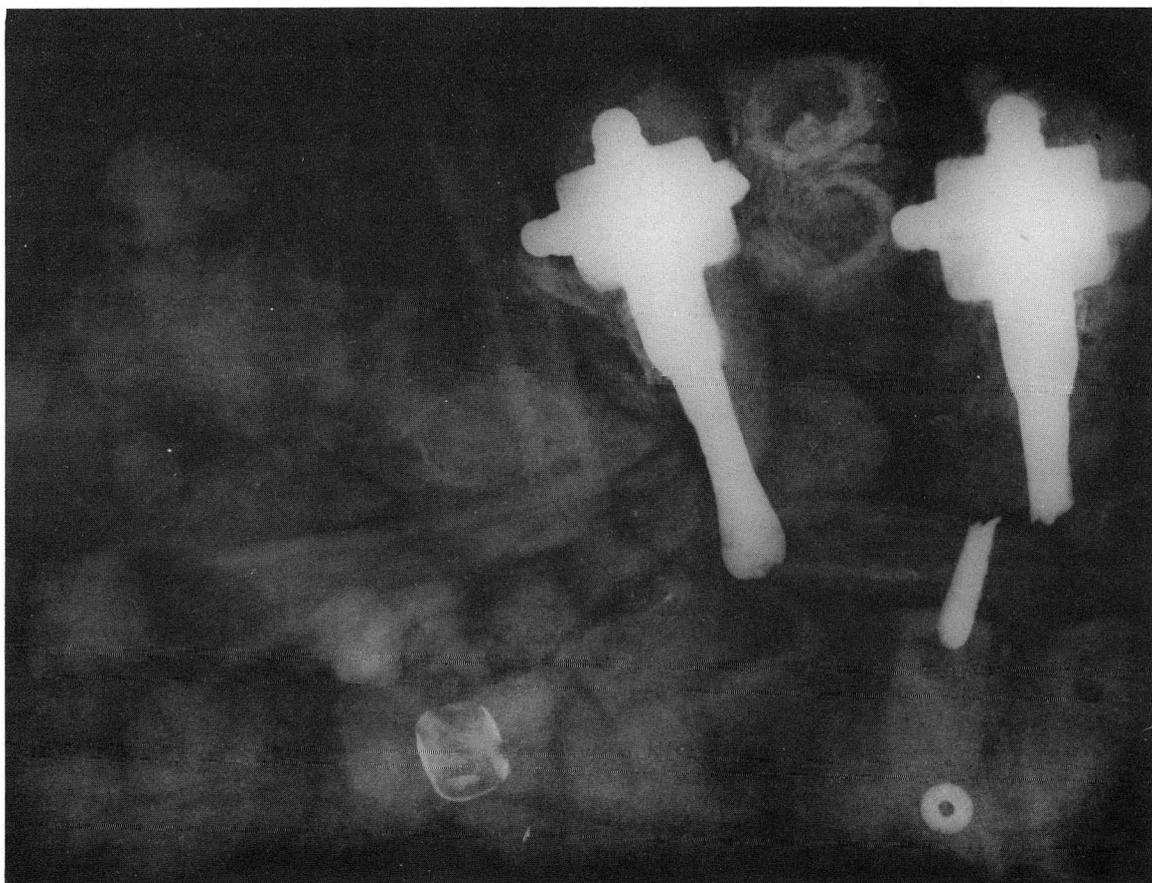
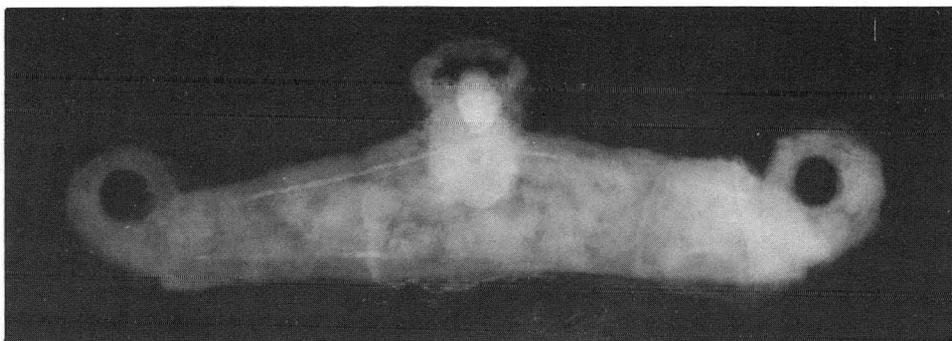


Photo: D.Wicks
(e) Inhumation 24 - 3. Scale approx. 1:1. CAV 27



X-Radiograph: J.Manser

Plate XVI. Inhumation 5. Organic material containing grave-goods 6 a-d (detail) showing 6a broken, orientation uncertain. Scale approx. 1:1.



X-Radiograph: K.Wardley

Plate XVII. Inhumation 30 - 3. Pursemount. Scale approx. 1:1.

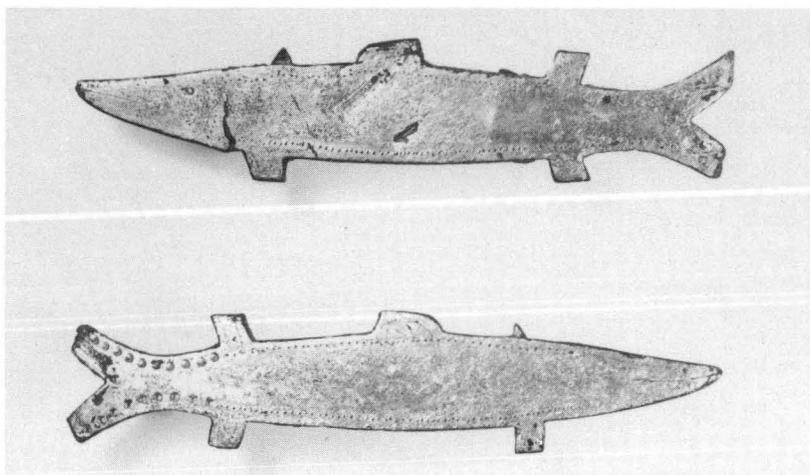


Photo: D.Wicks CAZ 25
 (a) Inhumation 31 - 4 (bottom) and 5 (top), shield appliques.
 Scale approx. 1:1.



Photo: M.Sharp BXN 25
 (b) Inhumation 22 - 3 (detail). Scale
 approx. 2:1.



Photo: G.Pooley BCG 7
 (c) Inhumation 40 - 5 (detail). Scale
 approx. 1:1.



Photo: D.Wicks
(a) Inhumation 3 - 1a.

CAJ 34

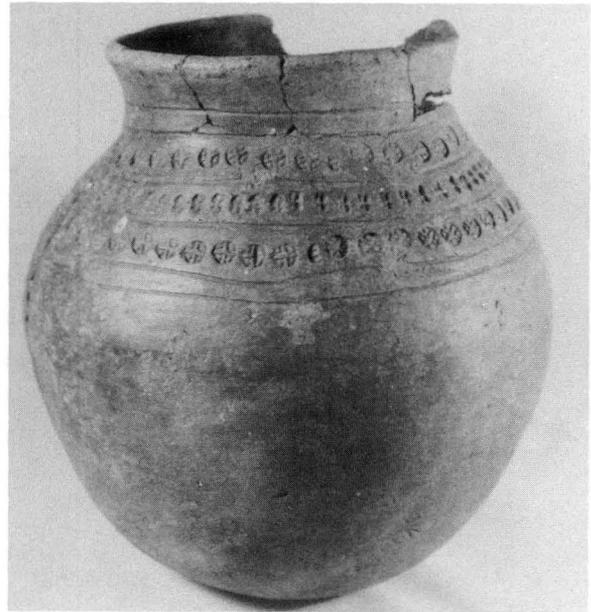


Photo: D.Wicks
(b) Inhumation 8 - 1.

CAJ 26



Photo: D.Wicks
(c) Inhumation 14 - 1.

CAJ 32

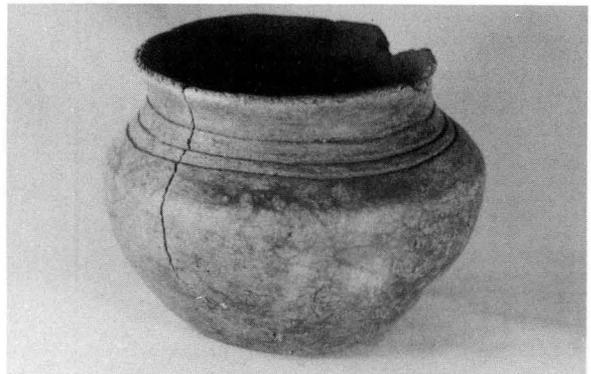


Photo: D.Wicks
(d) Inhumation 22 - 1.

CAJ 29



Photo: D.Wicks
(e) Inhumation 27 - 1.

CAJ 28



Photo: D.Wicks
(f) Inhumation 42 - 2.

CAJ 35

like in Britain, are uncommon. The abundant number known from Britain suggests that the type is British. The distribution is wide in lowland England, but it is not possible to localise its centre of manufacture. Two examples from Zugmantel and one from Saalburg should have been lost before c.A.D.260 when both sites were abandoned (Böhme 1972, 110, Taf.29, 1132, 1134: *ibid*, 9-10). One from Augst was found with third-century pottery (Riha 1979, 88, Taf.13, 309). Another from Fishbourne came from a robber trench dated to the late third or early fourth century (Cunliffe 1971, 106, fig.40, 43). As there is no satisfactory evidence that the type was used in the fourth century, and its antecedents belong firmly to the earlier tradition of enamelled brooches, it is doubtful if the present specimen should be considered to have survived in use after c. A.D.300, or even as late as that.

Dickinson sought to derive one type of Saxon brooch from examples of the gilded brooch under review (Dickinson 1979), but the dating evidence is against this. Disc brooches are not characteristic of the suite of brooches to be found in the fourth century, indeed, as round brooches are usually to be found only on representations of late Emperors, it is conceivable that it was a form reserved exclusively for the highest in the Empire. That a number have been found in Saxon cemeteries need occasion no surprise when it is considered that first- and second-century Roman brooches are surprisingly common finds and, as these gilded round or oval brooches are amongst the very latest native British brooches in use, there should be a higher proportion of these present than of other types. In the present case, the presence of an iron sprung-pin shows that it had been repaired by a Saxon as copper alloy brooches of the Roman period were always furnished with pins of the same material: iron was the material used most often for pins in the Early Saxon period and the method of attachment was the same as that on the present brooch. It is just possible that this was a factor in a preferred selection of this type for re-use in the Saxon period quite apart from the normal use of disc or plate brooches amongst the Early Saxons.

XII. SHIELD CONSTRUCTION (Fig.9)

A recent discussion of the construction of Anglo-Saxon shields (Härke 1981) has interpreted them as being made from boards, not from laminated layers of wood, as had previously been suggested. The shield bosses from inhumations 27, 31, 36, 40, 41, 49 and 51, support Härke's interpretation. All of them have traces of wood on the underside, showing one direction of grain and one layer of wood, which is consistent with

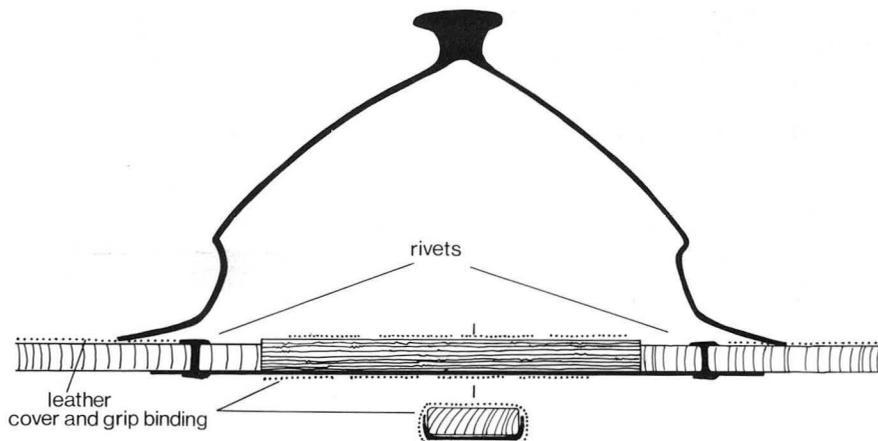


Fig.9. Shield construction.

boards, but not with lamination. The lengths of the rivets suggest a thickness of boards comparable with the 6 to 8 mm observed by Härke. On all but 40/4 a layer of leather can be seen immediately under the iron flange, between it and the wooden boards (Figs. 86, 97, 104). The grips from all the Spong Hill shields consist of narrow iron strips with splayed ends and bent-up sides, pierced by iron rivets. Within the iron there are traces of wood, in some cases with grain at right angles to the iron, in others running in the same direction. Iron and wood have leather binding strips wound around them. They could have been attached by several of the methods suggested by Härke, including that where the wood of the grip is, in fact, part of the shield board, left as a bridge when openings to the grip had been cut through. Grips with grain along the iron must have had separate pieces of wood, as the iron is fastened at right angles to the boards of the shield. The wood and leather are presumably intended as padding to make the grip comfortable and to give it some flexibility. The rivets at each end of the grip may have been attached to the board before the boss as Härke suggests. Although the grip would not have extended beyond the rim of the boss the five rivets which attach each boss to its board are not differentiated in length, so far as one can now see, as would have been necessary if two of them had been designed to piece a double thickness of iron. Impressions on the grain suggest the grips were fastened slightly off-centre, as would be expected, to give room for the knuckles. The leather between wood and iron under the flanges of the bosses must represent a leather covering over the wood which would have been the surface presented to an attacker. It is not possible to say whether this leather covering was treated or decorated in any way.

XIII. X-RAY FLUORESCENCE ANALYSIS OF THE BRONZE* INHUMATION GRAVE-GOODS

by Karen Wardley

A sample of bronze inhumation grave-goods from Spong Hill had been studied previously by Julie Jones, and chemical spot-tests had been carried out on a small proportion of these. Results of these tests indicated the presence of tin, silver, and gilding on some surfaces; this has been noted in the catalogue thus (J. Jones). The present study was performed to confirm previous results, applying a more accurate technique, and to extend the analysis consistently to all bronze objects in the group.

The bronzes were examined first with a binocular microscope for traces of surface coatings. They were then taken to the Department of Archaeological Sciences at the University of Bradford, where analysis by X-ray fluorescence spectrometry could take place. This technique was chosen because it is entirely non-destructive, not requiring the removal of a small sample, and the analysis relates only to a thin surface layer of the object, which is appropriate for the detection of tinning, silvering or gilding.

TABLE 3 (p.39) Key

<u>Metallurgical Content</u>	<u>Surface Appearance</u>
1 = over 10%	A No visible sign of surface coating
2 = 1% - 9%	B White metal surface visible
3 = 0.1% - 0.9%	C White metal solder visible
4 = 0.01% - 0.09%	D Gilding visible
ND = not detected	E 'Silvery' patina

* 'Bronze' is used to describe all copper alloys.

Object	Surface Appearance	Copper Cu	Zinc Zn	Lead Pb	Tin Sn	Iron Fe	Nickel Ni	Silver Ag	Antimony Sb	Gold Au	Mercury Hg
2/1 Florid cruciform brooch	A	1	2	2	1	3	4	4	4	ND	ND
2/2 Small-long brooch	A	1	2	2	2	3	ND	4	ND	ND	ND
2/3 Annular brooch	E	1	2	2	2	3	ND	4	4	ND	ND
2/4 Small-long brooch	E	1	2	1	1	3	ND	4	ND	ND	ND
2/8 Florid cruciform brooch	A	1	2	2	2	3	ND	4	4	ND	ND
3/2 Annular brooch	A	1	2	1	1	3	ND	4	4	ND	ND
5/6a Small-long brooch	A	1	2	2	1	3	4	4	ND	ND	ND
5/6b Small-long brooch	A	1	2	2	2	3	ND	4	ND	ND	ND
11/2 Annular brooch	E	1	2	1	2	3	ND	4	ND	ND	ND
12/1 Annular brooch	A	1	2	2	2	3	ND	4	4	ND	ND
12/2 Annular brooch	A	1	2	2	2	4	4	4	ND	ND	ND
12/6 Annular brooch	A	1	2	2	2	4	ND	4	4	ND	ND
14/3 Annular brooch	E	1	1	2	1	3	4	4	4	ND	ND
14/4a Small-long brooch	A	1	2	2	2	4	4	ND	ND	ND	ND
14/4b Annular brooch	A	1	2	2	2	3	ND	4	4	ND	ND
16/2 Strap end	E	1	2	2	2	3	ND	4	ND	ND	ND
16/4 Belt studs	B	1	2	1	1	3	ND	4	ND	ND	ND
18/3 Square-headed brooch	A	1	2	1	2	4	4	4	4	ND	ND
18/6 Small-long brooch	A	1	3	1	2	4	4	4	4	ND	ND
19/1 Annular brooch	E	1	2	2	2	4	4	4	ND	ND	ND
19/2 Annular brooch	E	1	2	2	2	4	4	4	ND	ND	ND
22/3 Cruciform brooch	C	1	2	2	1	4	ND	4	ND	ND	ND
22/4 Cruciform brooch	C and E	1	2	2	1	4	4	4	ND	ND	ND
22/6 Cruciform brooch	A	1	4	2	2	2	4	4	ND	ND	ND
24/4a Girdle hanger	A	1	2	2	2	2	4	4	ND	ND	ND
24/4b Girdle hanger	A	1	2	2	2	3	ND	4	ND	ND	ND
24/4e Strap end	A	1	2	2	2	4	4	4	ND	ND	ND
24/4f Strap end	A	1	2	2	2	4	4	4	ND	ND	ND
24/6 Annular brooch	A	1	2	2	2	2	4	4	4	ND	ND
24/7 Annular brooch	A	1	2	2	2	3	ND	4	4	ND	ND
26/1-7 'Tin' beads	B	4	ND	1	1	4	ND	ND	ND	ND	ND
26/3 Sheet fragment	B	1	3	1	1	4	ND	4	ND	ND	ND
26/5 Cruciform brooch	E	1	2	2	1	4	ND	4	ND	ND	ND
29/1 Annular brooch	A	1	2	2	1	3	4	ND	4	ND	ND
29/2 Annular brooch	A	1	2	2	1	3	ND	4	4	ND	ND
29/3 Wrist clasp	C	1	2	2	1	4	ND	4	ND	ND	ND
29/4 Wrist clasp	B and C	1	2	2	1	4	4	4	ND	ND	ND
33/3 Pierced sheet	A	1	3	2	1	4	4	4	ND	ND	ND
37/1 Wrist clasp	A	1	2	2	2	4	4	4	4	ND	ND
37/2 Wrist clasp	A	1	2	2	2	4	4	4	4	ND	ND
37/3 Annular brooch	A	1	2	2	1	3	4	4	4	ND	ND
37/4 Annular brooch	A	1	2	2	1	4	ND	4	4	ND	ND
37/7 Bronze sheet frags.	E	1	2	2	1	4	4	4	4	ND	ND
38/1a Girdle hanger	A	1	2	2	2	3	4	4	ND	ND	ND
38/1b Girdle hanger	A	1	2	2	2	3	4	4	ND	ND	ND
38/7 Square-headed brooch	A	1	2	2	2	4	ND	4	4	ND	ND
38/8 Annular brooch	E	1	2	2	1	4	ND	4	4	ND	ND
38/9 Annular brooch	E	1	2	2	2	4	4	4	4	ND	ND
38/11 'Hook' of wrist clasp	E	1	2	2	2	4	4	4	4	ND	ND
38/11 'Eye' of wrist clasp	E	1	2	2	1	4	4	4	4	ND	ND
39/1 Cruciform brooch	A	1	2	2	2	4	4	4	4	ND	ND
39/2 Annular brooch	A	1	2	2	2	4	ND	4	4	ND	ND
39/7 Annular brooch	A	1	2	2	2	4	4	4	4	ND	ND
40/2 Bucket strips	A	1	2	2	1	4	4	4	ND	ND	ND
41/6 Fitting	B	1	2	2	1	4	4	4	4	ND	ND
42/4 'Hook' of wrist clasp	D	1	4	2	2	4	4	4	4	1	1
42/4 'Eye' of wrist clasp	D	1	4	2	2	4	4	4	4	1	1
42/5 Small-long brooch	A	1	2	2	2	2	4	4	4	ND	ND
42/6 Small-long brooch	A	1	2	2	2	3	4	4	ND	ND	ND
44/3 Annular brooch	A	1	2	2	2	3	4	4	4	ND	ND
44/4 Annular brooch	A	1	1	2	2	3	4	4	4	ND	ND
45/1 Annular brooch	A	1	2	2	2	3	4	4	4	ND	ND
45/2 Annular brooch	A	1	2	2	2	3	4	4	ND	ND	ND
45/8 Cruciform brooch	A	1	2	2	1	3	4	4	4	ND	ND
46/1 Equal-armed brooch	A	1	2	2	2	3	4	4	4	ND	ND
46/2 Equal-armed brooch	B	1	2	2	1	3	4	4	4	ND	ND
46/3 Cruciform brooch	C	1	2	2	1	2	ND	4	4	ND	ND
46/5 Wrist clasp	A	1	2	2	2	3	4	4	4	ND	ND
46/7 'Eye' of wrist clasp	A	1	2	2	2	3	4	4	ND	ND	ND
46/7 'Hook' of wrist clasp	C	1	1	2	1	3	4	4	ND	ND	ND
48/1 'Hook' of wrist clasp	C	1	1	2	2	3	4	ND	ND	ND	ND
48/1 'Eye' of wrist clasp	A	1	2	2	?	3	4	4	ND	ND	ND
54/1 Buckle	A	1	1	2	2	3	4	4	4	ND	ND
56/4 Spangle	B	1	2	2	2	3	4	4	4	ND	ND
56/5 Annular brooch	A	1	2	2	2	3	4	4	ND	ND	ND
56/6 Annular brooch	A	1	2	2	2	4	4	4	4	ND	ND
57/5 'Hook' of wrist clasp	D	1	2	2	2	4	4	4	4	4	ND
57/5 'Eye' of wrist clasp	C	1	1	2	1	3	4	4	ND	ND	ND
57/6 Wrist clasp	A	1	1	2	1	3	3	4	ND	ND	ND
57/8 Annular brooch	A	1	1	2	2	4	ND	4	4	ND	ND
57/9 Annular brooch	A	1	2	2	2	ND	ND	4	ND	ND	ND
58/3 Cruciform brooch	A	1	2	2	2	3	4	4	ND	ND	ND
58/6 Annular brooch	A	1	2	2	1	3	4	4	4	ND	ND

TABLE 3. X-RAY FLUORESCENCE ANALYSIS OF THE BRONZE INHUMATION GRAVE-GOODS (key p.38)

The limitations in using this technique must also be stated. The results are primarily qualitative, although, by comparison with a known standard, some indication of quantity can be obtained. The equipment used at Bradford was such that the exact spot where the X-ray beam hit the surface could not be pin-pointed, so it was not always possible to analyse a precise area. Nor, because of the differing sizes and shapes of the objects, could the surfaces to be examined be placed in identical positions and at similar angles to the X-ray beam, which could cause some inconsistencies in the analytical data. The analysis could also be affected by the presence of corrosion products on the metal surface, and the phenomenon of surface enrichment, where a higher concentration of certain elements occurs on the exterior of an object as compared to the interior.

The results were compared with those from a known standard, a gun-metal which contained 83% copper, 6% zinc, 6% tin, 4% lead, and traces of iron, nickel, arsenic and antimony. Two other standards, containing silver and gold, were also used. Comparison with these standards allowed approximate percentages of the elements present in the bronzes to be calculated.

The results have been tabulated to indicate the surface appearance of the objects, and the approximate metallurgical composition of the metal surfaces.

Results

From these results (Table 3) it can be seen that most of the bronzes consisted of copper with a fairly high tin content (over 10% in about a quarter of the objects). Lead and zinc were present as alloys in all the samples. Traces of iron, nickel, silver and antimony were detected in many of the objects. The high tin content was probably responsible for the 'silvery' appearance of the patina on the objects classed as 'A', and surface enrichment of tin and lead may also have added to this effect.

Where a white metal surface was visible (objects categorised as 'B'), this was due to surface tinning. In 16/4 and 26/3 a higher lead content indicates some sort of lead/tin alloy may have been used. 26/7 ('tin' beads) proved to consist of about 80% tin alloyed with about 20% lead. There was no indication that any surfaces had been silvered.

The white metal solder (on objects categorised as 'C') was found to be tin, although in three cases (46/7, 48/1 and 57/8) there was a higher percentage of zinc present, so possibly the solder was a tin/zinc alloy.

Gilding was visible on two sets of wrist-clasps, 42/4 and 57/5. In the case of 57/5, gold was only detected as a trace, but this was probably because the X-ray beam was not focussed on the actual gilding. For 42/4, gold was clearly detected on both parts of the clasp, as was mercury.

This presence of mercury suggests that the gold was applied by the mercury - or fire-gilding technique (Oddy 1980).

This study is really only a beginning, and could be usefully extended if the objects were analysed more thoroughly by testing several areas on each one. If it was possible to take samples from the objects, other analytical techniques could be used, for example, X-ray diffraction and atomic absorption spectrometry. It is hoped that this might be possible in the future.

XIV. CONCLUSIONS

The inhumations at Spong Hill were partly contemporary with the cremations at the same site, since three inhumations contained pots from workshops which also produced cremation urns. The thin scatter of cremations amongst the eastern group of inhumations also suggests a deliberate juxtaposition especially in the case of the two instances where cremations were buried exactly in the middle of inhumations. The cremation in the fill of 46 is also probably contemporary, although the cremated bones from 23 might be the remains of a disturbed earlier cremation. Some cremations were later than some inhumations: the pattern of the cremation cemetery suggests that it simply expanded to the north-east, ignoring what must have been earlier inhumations. If it could be established that any strong difference of date existed between separate parts of the inhumation cemetery, it might be suggested that the central area, overlaid by cremations, was the earliest and that later inhumations, at the edges, were, in fact, amongst the latest burials on the site. The three 'latest' brooches, the florid cruciforms, did in fact come from two graves (2 and 57) at extreme opposite ends of the cemetery and there are other connections between the two ends: possible die-links between metalwork from 12, 38, 2 and 45, and the distribution of atypical body position or grave orientation. However, one could as well argue the reverse: that two separate groups of inhumations were established first, those in the middle coming later. It does not really seem from the grave-goods that there is such a great chronological range between any of the inhumations, and relatively late brooches, cruciforms of Group IV, were found in 22 and 36, from the central area. On the whole, it seems likely that there was a period when the site was still used for cremations but no longer for inhumations. On the other hand, none of the material from the inhumations, except perhaps the sword scabbard, showed the close affinities with pre-migration Continental pottery and metalwork which can be observed amongst some of the cremations. It seems reasonable to interpret the inhumations as an episode during the use of the cemetery at Spong Hill, in its middle phases.

The earliest of the eastern group, chamber grave 40 and its attendant burials, might be seen as the founder burial of a small new separate cemetery whose occupants were in some way different from the rest of the community. It is interesting that amongst the relatively early burials are some which were crouched. This is a rite which may owe something to native British practices: one of these burials (44) has a skull of 'British' rather than Saxon type (p. 16). The burials around 40, and the one next to the other chamber grave, 32, might be members of the family or dependants of the occupants of the chamber graves, but it is also possible that some of them, particularly the flint-packed grave, 47, were sacrifices. The people practising inhumation might have been newcomers or simply people with different beliefs from their neighbours, but in that case perhaps one would not expect them to have taken such a prominent position in the cemetery. Perhaps they were the leading family of the district who had contacts with other communities where inhumation was usual and they imported the idea. This raises the interesting question as to why the latest burials seem to have been cremations. Had this group lost its pre-eminence or its peculiar beliefs - or had they moved to start a new cemetery elsewhere? There should, perhaps, be a seventh-century cemetery somewhere in the area, to bridge the gap between Spong Hill and the earliest development of North Elmham.

REFERENCES

1. Accession no. NCM L1976.1.
2. County site no. 1120: report now in preparation by Andrew Rogerson, Barbara Green and Susan White at the Norfolk Archaeological Unit.
3. It is hoped that some of these deposits will be analysed.

BIBLIOGRAPHY

- Åberg, N., 1926
The Anglo-Saxons in England (Cambridge)
- Acsadi, Gy., and Nemeskéri, J., 1970
A History of Human Life Span and Mortality
Akademiai Kiado (Budapest)
- Ashbee, P., 1954
'The Excavation of a Cist-Grave Cemetery and associated Structures near Hughtown, St Mary's, Isles of Scilly, 1949-50', Archaeol.J. CXI, 1-25.
- Atkinson, D., 1916
The Romano-British site on Lowbury Hill in Berkshire (Reading)
- Blindheim, C., 1945
'Vernesfunnene og kvinnedrakten i norden i Vikingtiden', Viking IX, 143-62
- Böhme, A., 1972
'Die Fibeln der Kastelle Saalburg und Zugmantel', Ber. des Saalburg Museums XXIX, 5-112
- Boon, G.C., 1974
Silchester: The Roman Town of Calleva (Newton Abbot)
- Branigan, K., 1977
Gatcombe Roman Villa (Brit.Archaeol.Rep. 44, Oxford)
- Brisbane, M.A., 1980
'Anglo-Saxon burials: pottery, production and social status', in Rahtz, P., Dickinson, T., and Watts, L., (eds.), Anglo-Saxon Cemeteries 1979. The Fourth Anglo-Saxon Symposium at Oxford. (Brit.Archaeol.Rep. 82, Oxford), 209-16
- Brisbane, M.A., 1981
'Incipient markets for early Anglo-Saxon ceramics: variations in levels and modes of production' in Howard, H., and Morris, E.L., (eds.), Production and Distribution: A Ceramic Viewpoint. (Brit.Archaeol.Rep. International Series 120, Oxford), 229-42
- Bruce-Mitford, R., 1975
The Sutton Hoo Ship Burial I (London)
- Bushe-Fox, J.P., 1949
Fourth Report on the Excavations of the Roman Fort at Richborough, Kent, Soc.Ant.Res.Rep. XVI
- Clarke, G., 1979
The Roman Cemetery at Lankhills, Winchester Studies 3. II, ed. Biddle, M., (Oxford)
- Crowfoot, E., 1966
'The Textiles', in Hutchinson, P., 'The Anglo-Saxon Cemetery at Little Eriswell, Suffolk', Proc. Cambridge Antiq. Soc. LIX, 29-32
- Crowfoot, E., 1967
'The Textiles', in Davidson, H.R.E., and Webster, L., 'The Anglo-Saxon burial at Coombe, Kent', Medieval Archaeol. XI, 37-9

- Crowfoot, E., 1969 'Textiles', in Tester, P.J., 'Excavations at Fordercroft, Orpington', Archaeol.Cantiana LXXXIV, 50-3
- Crowfoot, E., 1978 'VI The Textiles', in Green, B., and Rogerson, A., 'The Anglo-Saxon Cemetery at Bergh Apton, Norfolk', E.Anglian Archaeol.7, 98-106
- Crowfoot, E., 1981 'IV The Textiles', in Cook, A.M., 'The Anglo-Saxon cemetery at Fonaby, Lincolnshire', Occ. Papers in Lincolnshire History and Archaeology 6, 89-101
- Crowfoot, G.M., 1951 'Textiles of the Saxon period in the Museum of Archaeology and Ethnology', Proc.Cambridge Antiq.Soc. XLIV, 26-32
- Crowfoot, G.M., 1952 'Anglo-Saxon tablet-weaving', Antiq.J. XXXII, 189-91
- Crowfoot, G.M., 1953 'The Textile Remains', in Leeds, E.T., and Shortt, H., An Anglo-Saxon cemetery at Petersfinger, near Salisbury, Wilts., 61 (Salisbury)
- Cunliffe, B., 1971 Excavations at Fishbourne II: The Finds, Soc. Ant.Res.Rep.XXVII
- Dickinson, T.M., 1979 'On the Origin and Chronology of the Early Anglo-Saxon Disc Brooch', in Hawkes, S.C., Brown, D., and Campbell, J., (eds.) Anglo-Saxon Studies in Archaeology and History I (Brit.Archaeol.Rep. 72, Oxford) 39-80
- Double, I.S., 1924 'The petrography of the later Tertiary deposits of The East of England', Proc.Geol.Ass.35, 332-58
- Dudley, D., 1967 'Excavations on Nor'nour in the Isles of Scilly, 1962-6', Archaeol.J. CXXIV, 1-64
- Garbsch, J., 1965 Die norisch-pannonische Frauentracht im 1. und 2. Jahrhundert (Münchner Beiträge zur Vor- und Frühgeschichte 11; Munich)
- Green, B., and Rogerson, A., 1978 'The Anglo-Saxon Cemetery at Bergh Apton, Norfolk', E.Anglian Archaeol.7
- Hald, M., 1950 Olddanske Textiler (Copenhagen)
- Härke, H., 1981 'Anglo-Saxon laminated shields at Petersfinger - a myth', Medieval Archaeol. XXV, 141-4
- Hawkes, S.C., 1976 'Orientation at Finglesham: sunrise dating of death and burial in an Anglo-Saxon cemetery in East Kent', Archaeol.Cantiana 92, 33-51
- Henshall, A.S., 1959 'Textiles on the back of a brooch from Blewburton

- Hill', in Collins, A.E.P. and Collins, F., 'Excavations on Blewburton Hill, 1953', Berkshire Archaeol.J. LVII, 68-72
- Hills, C.M., 1977a 'A chamber grave from Spong Hill, North Elmham', Norfolk', Medieval Archaeol. XXI, 167-76
- Hills, C.M., 1977b 'The Anglo-Saxon cemetery at Spong Hill, North Elmham, Part I', E.Anglian Archaeol. 6
- Hills, C.M., and Penn, K.J., 1981 'The Anglo-Saxon cemetery at Spong Hill, North Elmham, Part II', E.Anglian Archaeol. 11
- Hoffman, M., 1964 The Warp-weighted Loom, Studia Norvegica 14 (Oslo)
- Hougen, B., 1935 Snartemofunnene (Oslo)
- Hundt, H.J., 1963 'Eine Leinenumwickelte Schwertscheide der Hallstättzeit', Mainfränkisches Jahrbuch für Geschichte und Kunst 15, 180-5
- Hunter, A.G., and Kirk, J.R., 1954 'Excavations at Campsfield, Kidlington, Oxon., 1949', Oxoniensia XVII-XVIII, 36-62
- Jones, M.U., 1975 'Mucking: The Saxon Cemeteries', Current Archaeol. V, No.3, 73-80
- Keeley, H.C.M., Hudson, G.E., and Evans, J., 1977 'Trace Element Contents of Human Bones in Various States of Preservation: 1. The Soil Silhouette', J.Archaeol.Sci. 4, 19-24
- Leeds, E.T., 1945 'The distribution of the Angles and Saxons Archaeologically considered', Archaeologia XCI, 1-106
- Leeds, E.T., 1949 A Corpus of early Anglo-Saxon Great Square-headed Brooches (Oxford)
- Leeds, E.T., and Pocock, M., 1971 'A survey of the Anglo-Saxon Cruciform Brooches of Florid Type', Medieval Archaeol. XV, 13-36
- Macalister, A., unpubl. 'Crania of the British Isles', Duckworth Archives, Cambridge
- Manser, J., 1977 'A Technological Study of the "Bronze" Brooches excavated at Spong Hill, Norfolk, 1972-76', (unpubl. dissertation, Inst. of Archaeology, Univ. of London)
- Meaney, A.L., and Hawkes, S.C., 1970 Two Anglo-Saxon Cemeteries at Winnall, Winchester, Hampshire (Soc. Medieval Archaeol., Monograph ser. No.4; London)
- Murphy, J., and Riley, J.P., 1962 'A modified single solution method for the determination of phosphate in natural waters', Analy-

- tica Chimica Acta 27, 31-6
- Nan Kivell, R. de C., 1927 'Objects found during excavations on the Romano-British site at Cold Kitchen Hill, Brixton Deverell, Wilts.', Wiltshire Archaeol. and Nat.Hist. Mag. 43, 327-32
- Oddy, W.A., 1980 'Gilding and Tinning in Anglo-Saxon England', in Oddy, W.A., (ed.) Aspects of Early Metallurgy, (British Museum Research Laboratory) 129-34
- Pader, E.J., 1982 Symbolism, Social Relations and the Interpretation of Mortuary Remains (Brit.Archaeol.Rep.Internat. Series 130; Oxford)
- Pitt-Rivers, A.H.L.F., 1887 Excavations in Cranborne Chase I (privately printed)
- Putnam, G., 1978 'Analysis of the skeletal material', in Huggins, P. J., 'Excavations of Belgic and Romano-British farm with Middle Saxon Cemetery and Churches at Nazeingbury, Essex, 1975-6', Essex Archaeol. Hist. 10, 54-63
- Putnam, G., forthcoming 'The pagan Saxon population of East Anglia' (PhD. thesis in progress, Univ.of Cambridge)
- Rahtz., P.A., 1978 'Grave Orientation', Archaeol.J. 135, 1-14
- Richards, P.M., 1980 'Byzantine Bronze Vessels in England and Europe: The origins of Anglo-Saxon trade' (unpubl. PhD. thesis, Univ.of Cambridge)
- Riha, E., 1979 Die Römischen Fibeln aus Augst und Kaiseraugst, Forschungen in Augst 3
- Saunders, A., 1978 'Trace element analysis of soil from graves' (unpubl. M.Sc. dissertation, Inst.of Archaeology, Univ.of London)
- Schlabow, K., 1976 Textilfunde der Eisenzeit in Norddeutschland. Göttinger Schriften zur Vor- und Frühgeschichte 15
- Sieveking, G. de G., Longworth, I.H., Hughes, M.J., Clark, A.J., and Millett, A., 1973 'A new survey of Grimes Graves, Norfolk', Proc. Prehist. Soc. 39, 182-218
- Swanton, M.J., 1973 The Spearheads of the Anglo-Saxon Settlements (Roy.Archaeol.Inst.Monograph; London)
- Wells, C., 1967 'Report on the human skeletons', in Knocker, G. M., and Wells, C., 'Excavations at Red Castle, Thetford', Norfolk Archaeol. XXXIV, 155-86
- Wells, C., 1976 'The Skeletal material', in Hills, C.M., and

Wade-Martins, P., 'The Anglo-Saxon cemetery at The Paddocks, Swaffham', E.Anglian Archaeol. 2, 33-41

Wells, C., 1980

'The human bones' and 'A detailed description of the burials', chapters 12 and 13 of Wade-Martins, P., 'Excavations in North Elmham Park, 1967-72', E.Anglian Archaeol. 9, 247-374

Wild, J.P., 1970

Textile Manufacture in the Northern Roman Provinces (Cambridge)

October 1983

CATALOGUE OF INHUMATIONS

NOTE ON CATALOGUE

Plans and sections: The graves were excavated horizontally, except for the two chamber graves and 42, which were quadrant and standing sections drawn. For the others, the 'sections' for 1-39 are a combination of profiles drawn of the empty grave, and projections of burial deposits reconstructed from plans, photographs and recorded levels of objects. For 40-58 running sections were kept, drawn as the grave was excavated in spits, and so these are true sections, not profiles.

Grave-goods, coffin and body are all drawn as they appeared in the ground, without schematization or more than minor corrections from examination of the objects after conservation. A few iron objects, surrounded by corrosion in the ground, may appear larger on the plan than when illustrated separately. Attempts were made to recover as much information as possible about organic material, so that objects were lifted in blocks of decayed wood and/or textile or bone, which in some cases obscured parts of objects or even complete objects, which therefore do not appear on the plan. There was a delay between excavation and conservation for some of these blocks and they had not always been sufficiently carefully labelled as to orientation and exact position in the grave, so that some objects cannot be located precisely on the plan. This is noted in the descriptions of the relevant graves. There are also one or two obscurities in the field plan which could not be resolved: these are also noted in the grave description. These weaknesses in the record, and an inadequate photographic coverage for the earlier series of graves, are the responsibility of C.Hills alone.

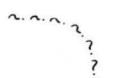
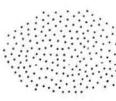
Grave-good drawings: These are, as far as possible, in numerical order but in a few cases it was felt more important to put all the objects from one grave together, if possible on facing pages, and here the numerical sequence has been broken. All iron objects are published at 1:2 except for the sword (40/5) and the weaving batten (24/3), which are both at 1:4, an iron pin (37/7a) at 1:1, and iron buckles which are at 1:1 in conformity with bronze buckles. Pots are at 1:3. All other objects are published at 1:1 except for the bronze bowl (24/1), at 1:2. Stamps from bronze objects are illustrated at 2:1. All the iron objects have been X-rayed and where this shows a clearer outline, or additional detail, this has either been incorporated into the drawing or is shown separately as an outline beside it.

Descriptions: These have been kept strictly factual and should be self-explanatory. Relevant specialist information has been incorporated into the text for each grave. Context numbers were sometimes assigned to the fill of grave pits: where this is the case, the contexts are described in the introductory description of the grave and their contents listed at the end under 'Fill'. Otherwise finds were simply recorded as 'from fill of inhumation x' and these are also listed under 'Fill'.

Abbreviations: N, S, E, W: north, south, east, west
 XRF : X-ray fluorescence
 (n.ill) : not illustrated

Context numbers are underlined, thus 836.

KEY: Inhumation plans and sections

	certain edge		periglacial feature
	uncertain edge		edge underneath a later fill
	sequence uncertain		edge seen in plan but not in section
	soil stain of turf or wood		dense soil stain of turf or humified wood
	grain showing in humified wood		organic remains
	wood and organic remains		cremated bone
	bone		bone stain
	teeth		grave-good
	pottery		small find
	stones		

KEY: Inhumation fills

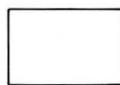
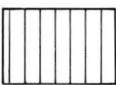
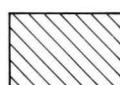
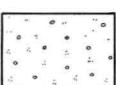
	cleanish sandy gravel with loamy patches		dark brown sandy pebbly loam
	yellowy-brown loamy sandy gravel		dark grey-brown sandy loam ?turf
	disturbed sandy loam with grey, brown and black patches		clean sand

Fig. 10. Keys to inhumation plans and sections and inhumation fills.

CATALOGUE OF INHUMATIONS

INHUMATION 1 (Fig.11)

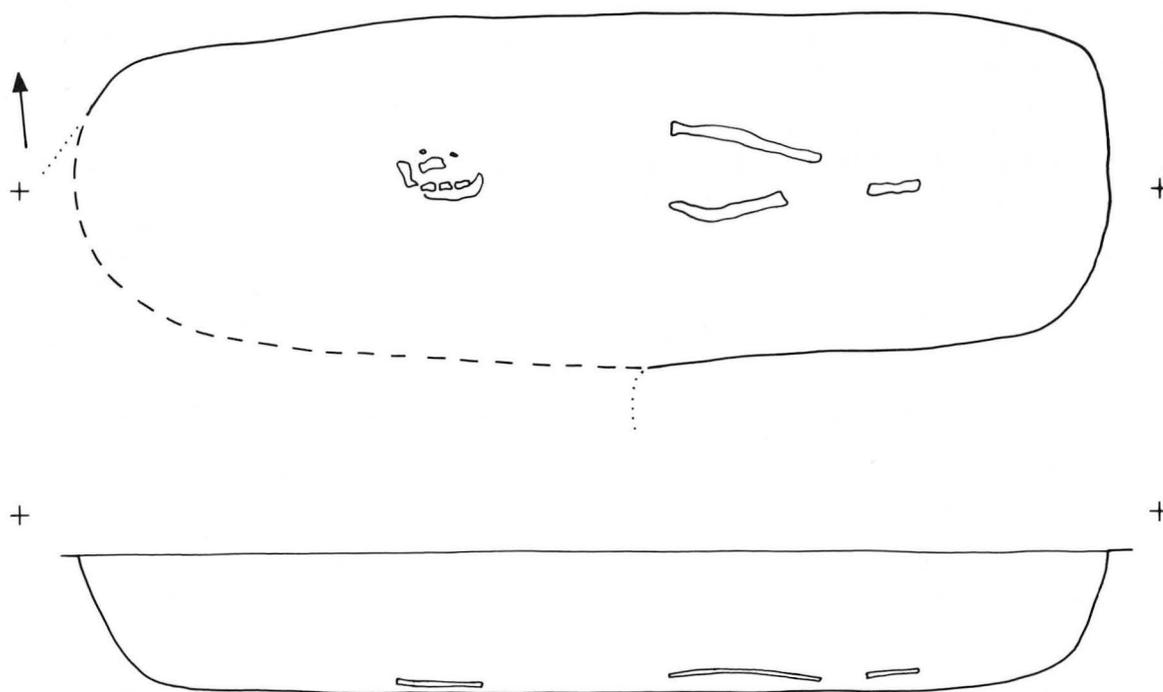


Fig.11. Inhumation 1. 1:20.

Description: Oriented W-to-E. Shallow pit, isolated in area otherwise occupied by cremations; body apparently extended with legs crossed (Fig.11).

Bones: Adult, sex unknown.

Three small fragments skull, four small fragments unidentifiable long bone.

Grave-goods: None.

Fill: (161) Struck flint: four blades, five flakes; three heat-shattered pebbles; potsherds: one Iron Age rim, one other prehistoric, six Roman including two early Roman, one possibly Anglo-Saxon, eight indeterminate (n.ill).

INHUMATION 2 (Figs.12, 70, 71, Plate XIV)

Description: Oriented W-to-E. Most edges unclear as it cut ditch 197; grave backfilled with ditch fills and not detected until burial deposit reached. Body probably extended, grave-goods over neck/shoulders region: from W, brooch (3), beads (5), brooch (2), organic mass, mostly wood including one fragment with beetle bore-hole, probably remains of coffin, over brooches (1), (4) and (8). Wood lifted as block with brooches and orientation of block later lost, so that positions of brooches are not certain: plan is drawn from visible parts of heads of (1) and (8) but (4), although in correct approximate position and relationship to other objects, may have been the other way around. Pot (6) lay on N edge of grave, as did knife and ring (7), further to E (Fig.12).

Associations: Cut ditch 197.

Bones: Female, 20-25 yrs.

Teeth only: three molars, wear indicating age 20-25; three pre-molars, very worn; one incisor, no wear. Teeth preserved by copper from adjacent brooch. Size and wear pattern indicates female age 20-25. No dental disease or enamel hypoplasia.

Grave-goods:

1. Bronze, florid cruciform brooch, pair to (8); iron pin now missing, cross bar still in

INHUMATION 2 (cont.)

position; threads wound around both side knobs and diagonally across head, possibly part of necklace string; replaced textile around cross bar; catch-plate broken. Head: near-rectangular, slightly splayed wings, top knob cast in one with head, side knobs separate, attached by cross bar through loops, one knob broken and hole bored through as mend in antiquity. Knobs in form of human masks with heavy eyebrows, eyes and nose above spatulate beard terminal; moustaches end in beaked birds' heads and are accentuated by band of incised or rouletted lines. Bow: narrow rectangular faceted panel at each end, angle down centre. Foot: flat trapezoidal panel between flat trilobed lappets; transversely grooved section; double mask terminal: upper mask has eyebrows, eyes and nose only, running into second, lower, mask which has curled eyebrows, moustaches and flat spatulate terminal, slightly broken. Very small semi-circular stamps define the central and side panels of the head-plate, the terminals of the knobs, panels at each end of and below the bow, the sides of the bow and triangular panels on it, the lappets, the centre and sides of the upper mask on the foot and the foot terminal. There are no certain traces of silvering or tinning on any of the terminals (see XRF analysis) (Fig.70).

2. Bronze small-long brooch; surface worn. Head: rectangular with indentations at either side of bow, decorated with stamps around edge and with two pairs of incised lines across sides. Bow: convex, faceted. Foot: tripartite, flat incised and faceted panel; raised grooved panel; spatulate terminal. Edges of foot defined by 'S' stamps and bevelled around one curved edge. Catch-plate immediately below bow, traces textile on spring (see XRF analysis) (Fig.70).

3. Bronze annular brooch; pin missing, in three pieces with traces of textile and other organic material covering one piece. X-ray shows a single indentation for pin loop. Underside plain, upper surface decorated with crossed lines between two groups of transverse lines, and with rows of circular stamps around inner and outer edges (see XRF analysis) (Fig.70).

4. Bronze small-long brooch; part of iron spring behind head, pin missing. Catch-plate behind upper part of foot is a repair, soldered on. Head: trefoil plain. Bow: faceted, convex. Foot: tripartite: flat panel; raised panel; spatulate terminal (see XRF analysis) (Fig.70).

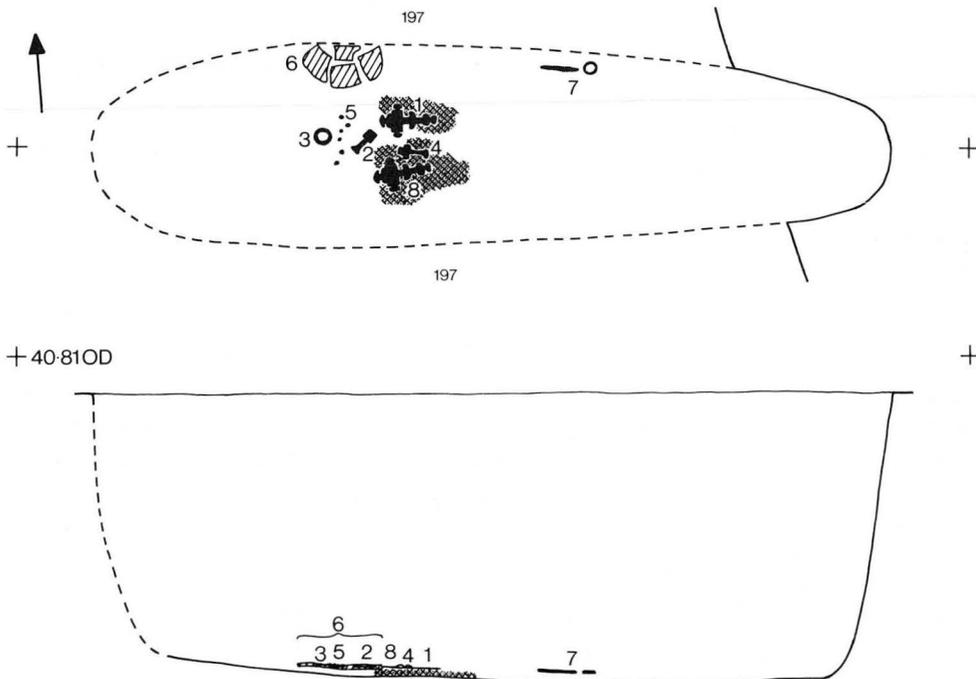


Fig.12. Inhumation 2. 1:20.

INHUMATION 2 (cont.)

5. Seven glass beads; two dark blue, translucent, annular; two dark blue translucent, globular; one pale blue translucent, annular; one green translucent, flattened globular; one red with green and yellow stripe, globular (Fig.70).
6. Pot; undecorated sherds from base and lower body. Fabric: Group I. (Fig.71).
7. a) Iron ring; square in section (Fig.71).
b) Iron knife; rivet through tang, X-ray shows second rivet hole nearer to blade, handle attachment (Fig.71).
8. Bronze, florid cruciform brooch, pair to (1); pin and cross bar still in position under large piece replaced textile; catch-plate complete; unbroken but surface corroded, stamps mostly worn away; form and decoration as (1) (see XRF analysis) (Fig.71, Pl.XIV).
9. Bronze fragment; small broken strip; could be part of repair to brooch catch-plate but not obviously from any specific brooch (Fig.70).
- Fill: (471) Potsherds: four Anglo-Saxon, three indeterminate (n.ill).

INHUMATION 3 (Figs.13, 68, 72, Plate XIX)

Description: Oriented W-to-E, no real indication of body position, head towards SW corner; grave-goods on bottom of pit, pot (1a) near N edge, pot (1b) from fill, position not recorded; fittings (3) towards E end, brooches (2) and (4) near SW corner, (2) possibly upside down. Off-white unidentifiable concretion found in grave near (3) (Fig.13).

Associations: None.

Bones: Sub-adult, under 17 yrs.

Teeth only: three unworn molars, age probably under 17, no sex; no dental disease or enamel hypoplasia.

Grave-goods:

1. a) Pot; approx. one-half surviving; decorated with three horizontal stamp rows defined by single horizontal lines around neck. Traces of organic residue on base. Stamps: 1a. Stamp Group 46. Fabric: Group I. (Figs.68, 72, Pl.XIX).
b) Pot; part of base of large vessel. Fabric: Group VIII. (Fig.72).
2. Bronze annular brooch; iron pin broken and covered with mass replaced textile or other organic material; indentation at one side for pin attachment; underside plain, upper surface

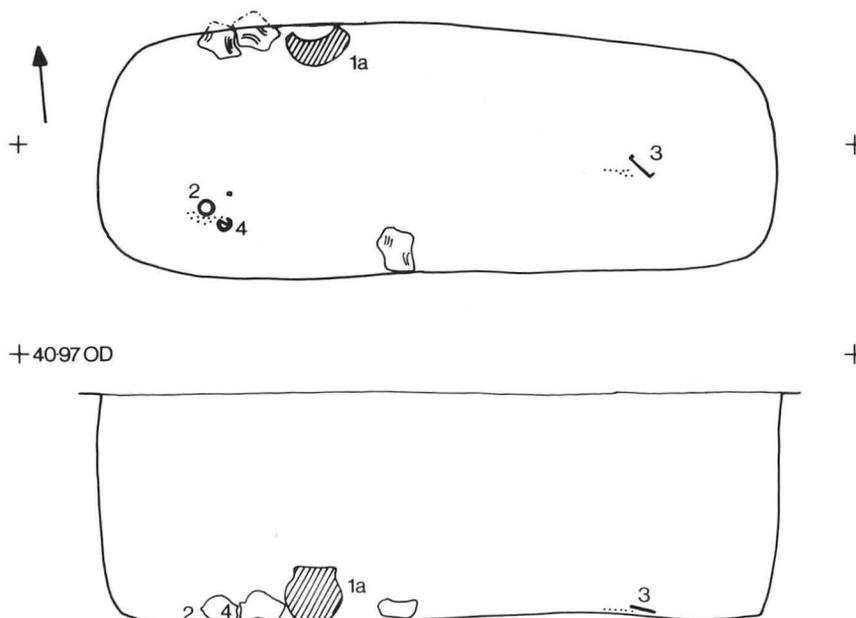


Fig.13. Inhumation 3. 1:20.

Catalogue of Inhumations

INHUMATION 3 (cont.)

decorated with four equally spaced groups of transverse lines and with 'V' stamps around inner and outer edges (see XRF analysis) (Fig.72).

3. Bronze sheet fragments; originally attached to wood, one piece bent in right angle; possibly box fittings or bowl repair (Fig.72).

4. Iron buckle; incomplete, loop possibly D-shaped; textile and possibly leather traces still adhering (Fig.72).

Fill: (468) Potsherds: one prehistoric, one Roman, six Anglo-Saxon: grave-good 1b, and five other pieces, with organic residue, possibly from grave-good 1a, five indeterminate (n.ill).

INHUMATION 4 (Figs.14, 72)

Description: Oriented W-to-E or reverse, no indication of body position; shallow 'extension'

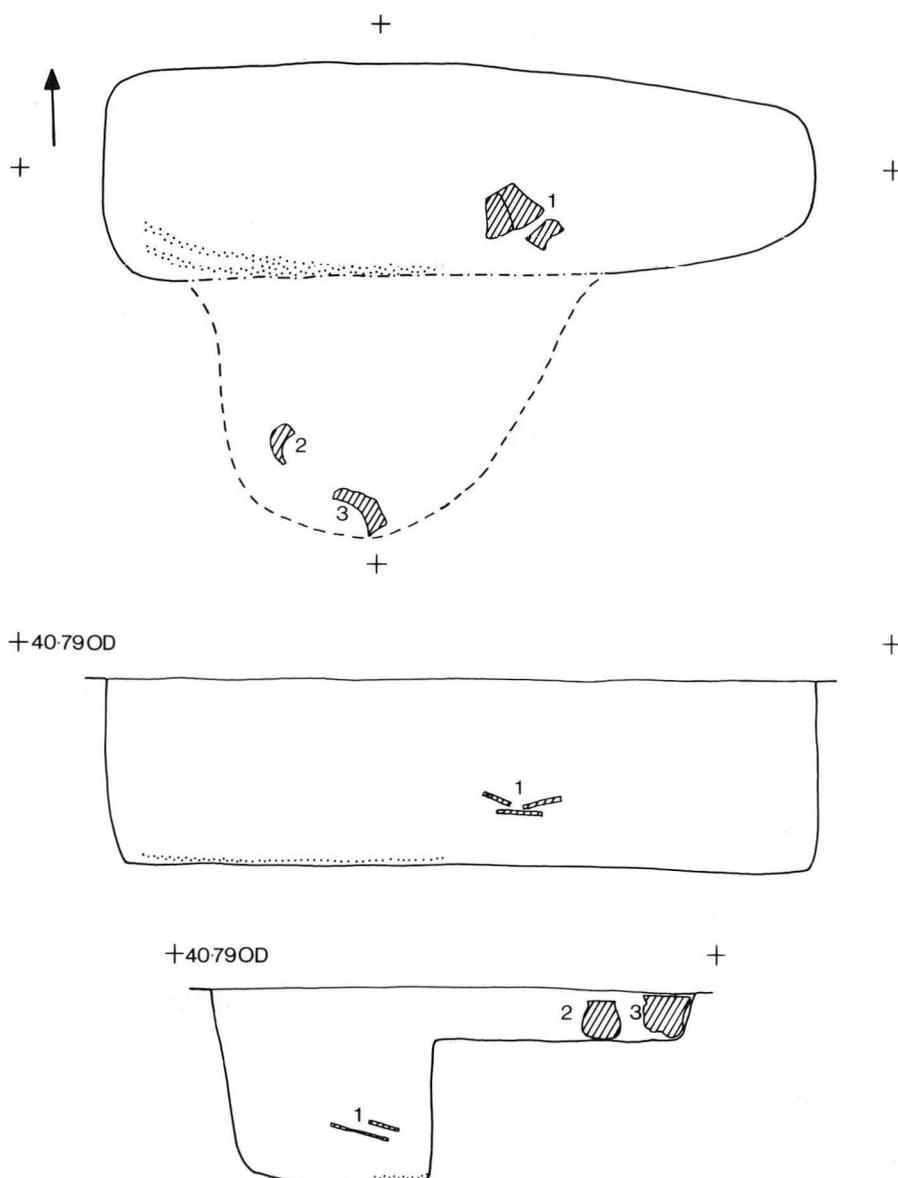


Fig.14. Inhumation 4. 1:20.

INHUMATION 4 (cont.)

from S edge contained two pots, (2) and (3) at higher level than rest of deposit. It is possible that these are, in fact, from small, shallow grave which intersected with 4 but no clear evidence for this. Pot (1) lay above bottom of pit, near middle of S side; dark deposit along S edge to SW corner on bottom of pit is probably remains of coffin (Fig.14).

Associations: None.

Bones: Adult. Sex unknown.

Fragments of adult long bone. No further identification possible.

Grave-goods:

1. Pot; sherds from plain wide-mouthed vessel, with organic residue. Fabric: Group II. (Fig.72).

2. Pot; base and part of rim of small plain vessel. Fabric: Group IV. (Fig.72).

3. Pot; part of base only, no visible decoration. Fabric: Group I. (Fig.72).

Fill: (472) No finds.

INHUMATION 5 (Figs.15, 72, 73, Plates XI, XVI)

Description: Oriented W-to-E; all grave-goods at bottom of pit, at W end: pot (1) near NW corner, ring (2) towards middle of S edge, other objects between these; positions brooches (6a, b), obscured by organic material. Many more beads (3) found than planned, but in same distribution, under those planned. Brooches and wrist-clasps (4, 5) both on same side, which suggests body on side or crouched, although pit long enough for extended burial. No coffin stain. Wrist-clasps (4, 5) each have a silver and an iron section, silver sections only planned as they were uppermost (Fig.15).

Associations: None.

Bones: Adult female.

A few bones survived, preserved by copper in brooches: clavicle, rib, metacarpal, vertebrae, and small fragment of radius on iron wrist-clasp.

Grave-goods:

1. Pot; complete small plain vessel, with organic residue. Fabric: Group I. (Fig.73).

2. Silver ring; wire bent into loop, ends twisted around each other (Fig.73).

3. Glass beads; a) seventy-three mid- to-dark blue translucent, most annular, some glob-

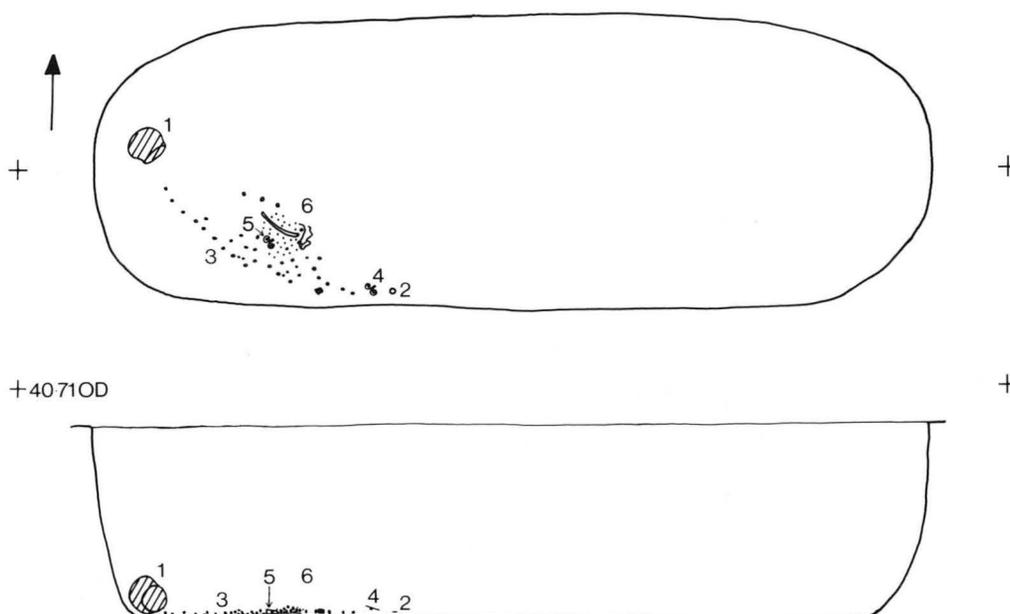


Fig.15. Inhumation 5. 1:20.

INHUMATION 5 (cont.)

ular; eleven purple translucent, two annular, remainder globular, parts of segmented beads. b) two blue translucent, annular; two white, globular; two white with crossing blue-black trails and spots, flattened globular; two white with crossing blue trails and red spots, one cylindrical, other cuboid; two yellow, globular; two yellow, cylindrical with lengthwise fluting; three green globular; one green with red spots, globular; one white with green crossing trails and red spots, globular; one yellow with red crossing trails and green spots, hexagonal; one red with yellow and green trail, globular; one large red with yellow and green panels, cuboid; one red with arched crossing yellow trails and white spots, cylindrical (Fig.73 selection only ill.).

4. Silver wrist-clasp; hook section, thick wire bent into double spiral on either side of central hook. Very small piece of iron is probably part of iron clasp (Fig.72, Pl.XI).

5. Silver wrist-clasp; hook section, attached to part of iron wrist-clasp (6d); thick silver wire bent into double spiral on either side of central hook (Fig.72, Pl.XI).

6. Block of organic material found to contain two brooches and beads (Pl.XVI):

a) Bronze small-long brooch; in two pieces (Pl.XVI), mass of replaced textile on back over pin and extending over front of head; surface damaged, detail not well preserved but apparently identical to (b). Head: trapezoidal, winged, half-round knobs cast in one with head, depressions at back of knobs. Bow: convex, longitudinal groove down middle. Foot: tripartite: flat section; faceted and grooved panel; spatulate foot. Traces only of incised and stamped decoration, also silvering (J. Jones), (see XRF analysis) (Fig.73).

b) Bronze small-long brooch; nearly pair to (a); textile on back, pin and spring missing, one knob broken. Head: trapezoidal, winged, vertical edges of central and side panels defined by small round stamps, half-round knobs cast in one with head, hollows at back. Bow: convex, narrow rectangular panels defined by incised lines at each end, longitudinal groove down middle. Small panels at corners of foot, possibly rudimentary nostrils, put this brooch and (a) on borderline between small-long and cruciform brooch types.(see XRF analysis) (Fig.73).

(6a) is longer than (6b) and has a wider head, otherwise they are a pair.

c) Glass beads; six or more translucent annular, remains several more similar; two purple translucent annular; one green; one white; one white with blue crossing trails, broken; one green-blue translucent melon; one white with red crossing trails and green spots, cuboid; one dark blue translucent, with opaque red spots, globular, broken (Fig.73); fragments of white bead with green trails and very small blue and purple fragments (n.ill).

d) Iron wrist-clasp, attached to (5); associated detached textile (Fig.72).

From grave altogether at least 120 beads; simpler small blue and purple in strings nearer neck, lying on top of larger, more highly decorated beads, probably in separate strings.

Fill: (473) Potsherd: Roman (n.ill).

INHUMATION 6 (Fig.16)

Description: Oriented NW-to-SE or reverse, no indication of body position. Shape, size and orientation of pit suggest this is an inhumation, but there were no bones or grave-goods to support this identification.

Associations: None.

Bones: None.

Grave-goods: None.

Fill: (474) No finds.

INHUMATION 7 (Figs.17, 74)

Description: Oriented NW-to-SE or reverse, no indication of body position. Pot (1) on bottom of pit near middle.

Associations: Cut by cremation 1571 at NW corner.

Bones: None.

Grave-goods:

1. Pot; sherds from base, no surviving decoration, with organic residue. Fabric: Group VIII. (Fig.74).

Fill: (475) No finds.

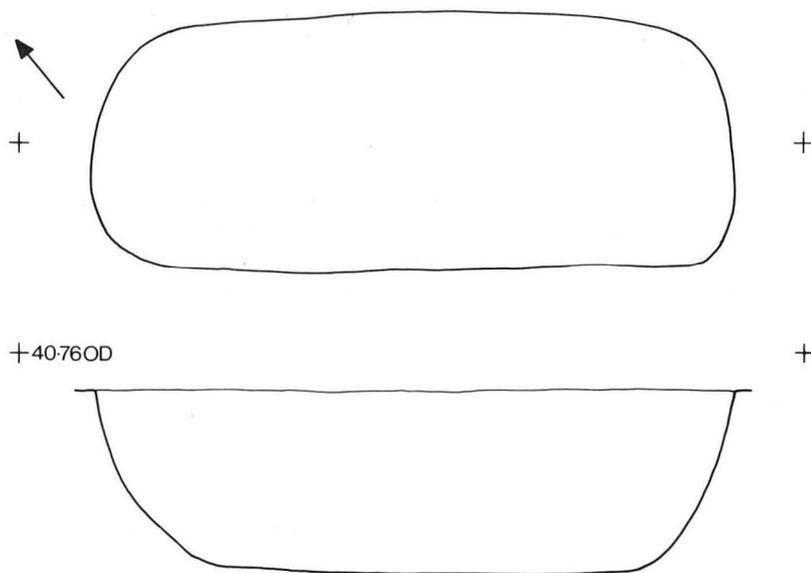


Fig.16. Inhumation 6. 1:20.

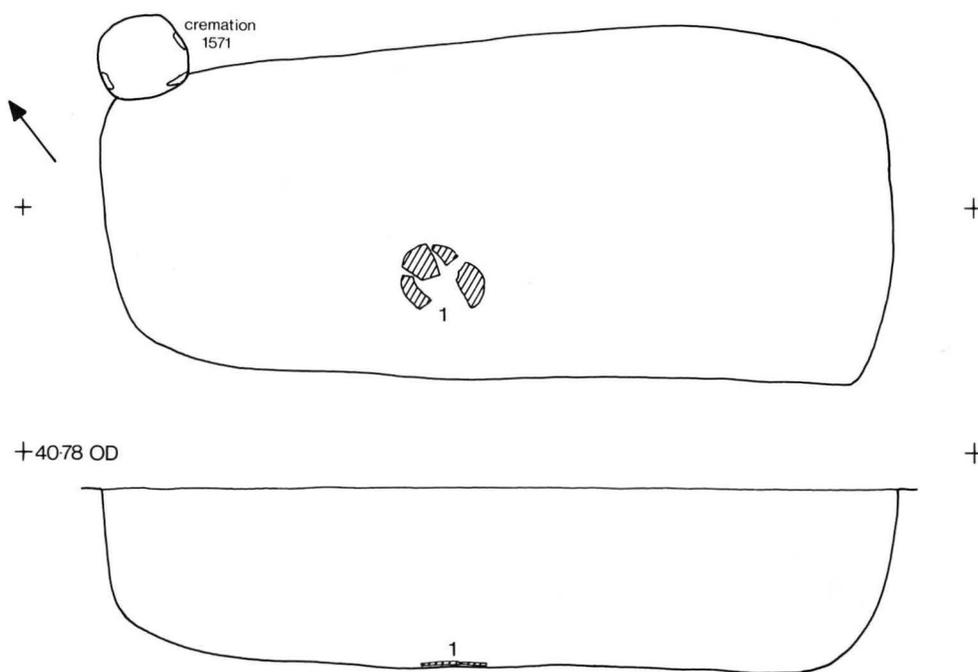


Fig.17. Inhumation 7. 1:20.

INHUMATION 8 (Figs.18, 68, 74, Plate XIX)

Description: Oriented WNW-to-ESE, edges unclear at ends because fill very clean and hardly distinguishable from natural sand/gravel. Pot (1) half-way up pit, at W end, knife (2) on bottom of pit, in middle. Traces of skull at W end on bottom of pit (Fig.18).

Associations: None.

Bones: Adult. Sex unknown.

Small fragments of unidentifiable bone.

Grave-goods:

1. Pot; complete except for small piece of rim. Three horizontal stamp rows defined by pairs of horizontal lines around neck. Stamps: 1a, 1g. Stamp Group 46. Fabric: Group IV. (Figs.68, 74, Pl.XIX).

2. Iron knife; broken at each end, white concretion on blade probably remains of leather sheath, horn on tang (Fig.74).

Fill: (476) Potsherds: one cabled rim, probably Iron Age, one indeterminate (n.ill).

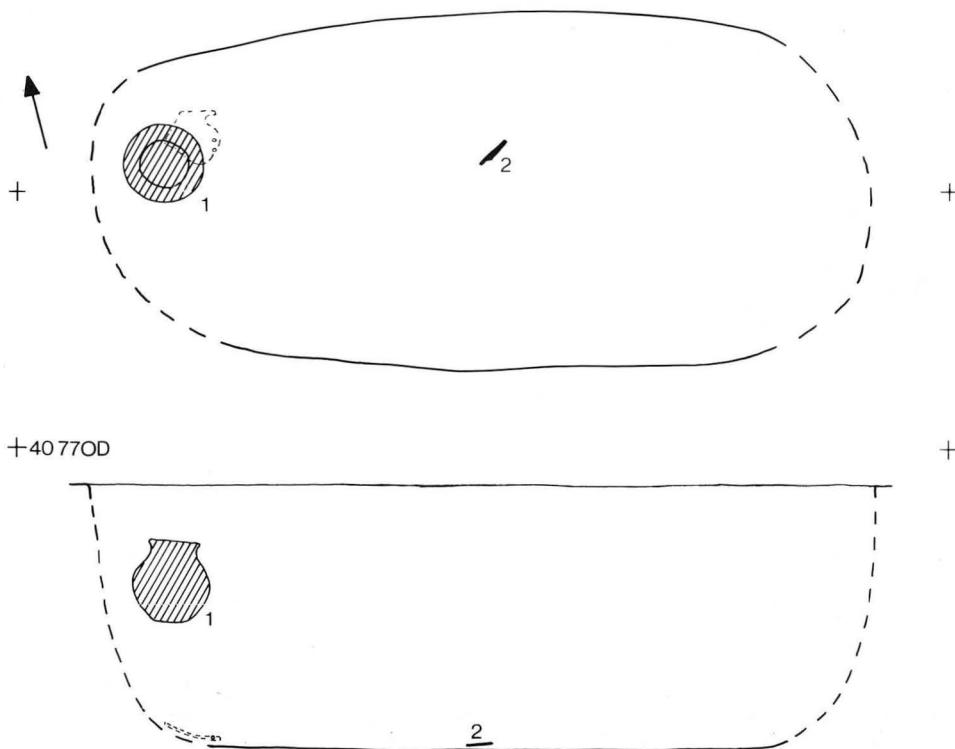


Fig.18. Inhumation 8. 1:20.

INHUMATION 9 (Figs.19, 74)

Description: Oriented NW-to-SE. Pot (1) on bottom of pit near SW corner, broken but no record of which direction it was lying so it is drawn on plan as if whole. Teeth in middle, near W end (Fig.19).

Associations: None.

Bones: Adult female.

Teeth only: one canine, one premolar, one molar, caps only, no roots. No dental disease or enamel hypoplasia.

Grave-goods:

1. Pot; small plain cup, piece missing from one side, with organic residue. Fabric: Group I. (Fig.74).

Fill: (477) Potsherd: Anglo-Saxon (n.ill).

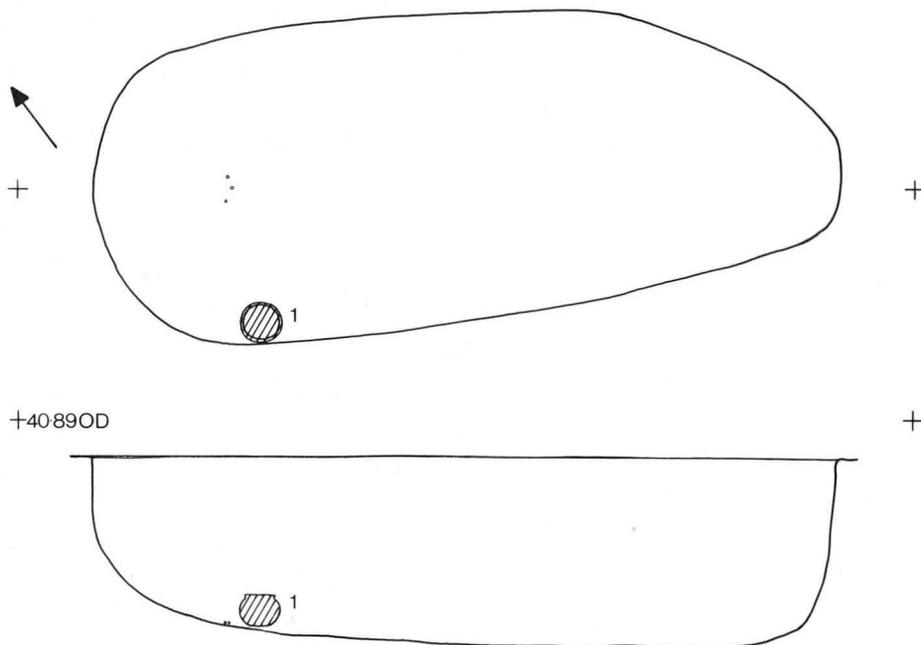


Fig.19. Inhumation 9. 1:20.

INHUMATION 10 (Fig.20)

Description: Oriented W-to-E, traces leg bones suggest body extended, part of coffin stain on bottom of pit (Fig.20).

Associations: None.

Bones: Leg bones exposed by excavator, but too decayed to be lifted. Size indicates adult.

Grave-goods: None.

Fill: (478) No finds.

INHUMATION 11 (Figs.21, 74, Plate XIV)

Description: Oriented WNW-to-ESE, W end uncertain as fills of ditch and grave not distinguishable above level of burial deposit. Grave-goods together on bottom of pit, near W end, probably head/shoulders region of body but no surviving bones to confirm this. Pendant (1), brooch (2) and pot (3) together partly under organic mass, fragment (4) also under mass near other objects, exact position not recorded. Small Finds Nos.144 and 145 were found before grave had been identified, within probable limits of grave, but at an unrecorded depth. Their similarity to grave-good (1) suggests they are part of the same necklace, perhaps slightly displaced by animal burrowing (Fig.21).

Associations: Cut ditch 197.

Bones: None.

Grave-goods:

1. Bronze pendant; upper surface silvered, traces solder at base of loop (J. Jones). Thin sheet disc with broken hook extending from one side, parts of edges broken; decorated with repoussé dots around edge and in cross over middle, some of dots pierced, possibly by wear, larger dot in middle (Fig.74, Pl.XIV).
2. Bronze annular brooch; bronze pin, made from flattened tube, broken; two small holes in edge of loop, perhaps result of poor casting. Underside plain, upper surface decorated with circular stamps around inner and outer edges, continuing under pin. Traces textile (see XRF analysis). (Fig.74).
3. Pot; sherds from base only. Fabric: Group I. (Fig.74).

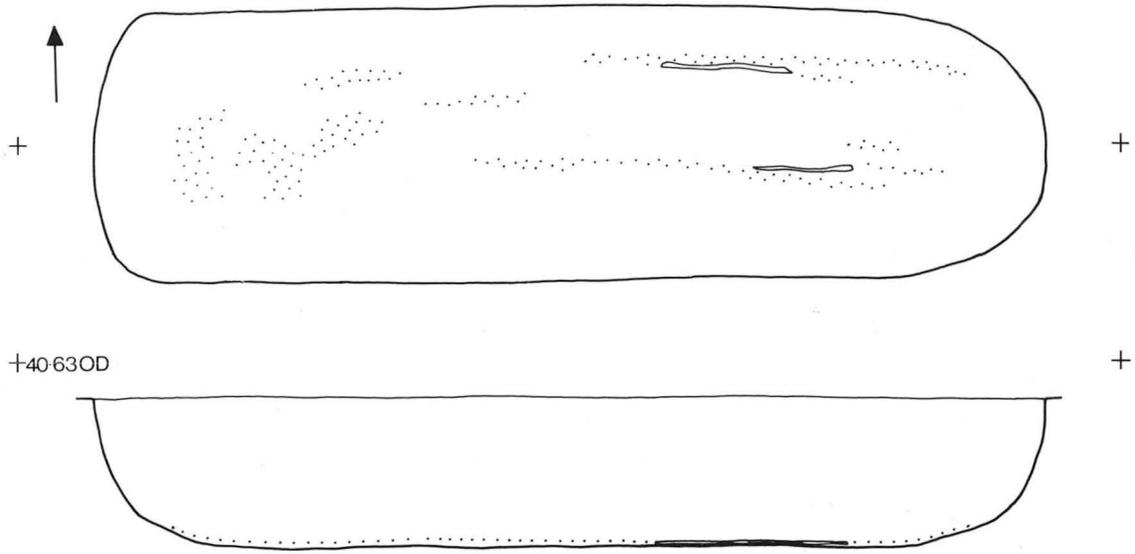


Fig.20. Inhumation 10. 1:20.

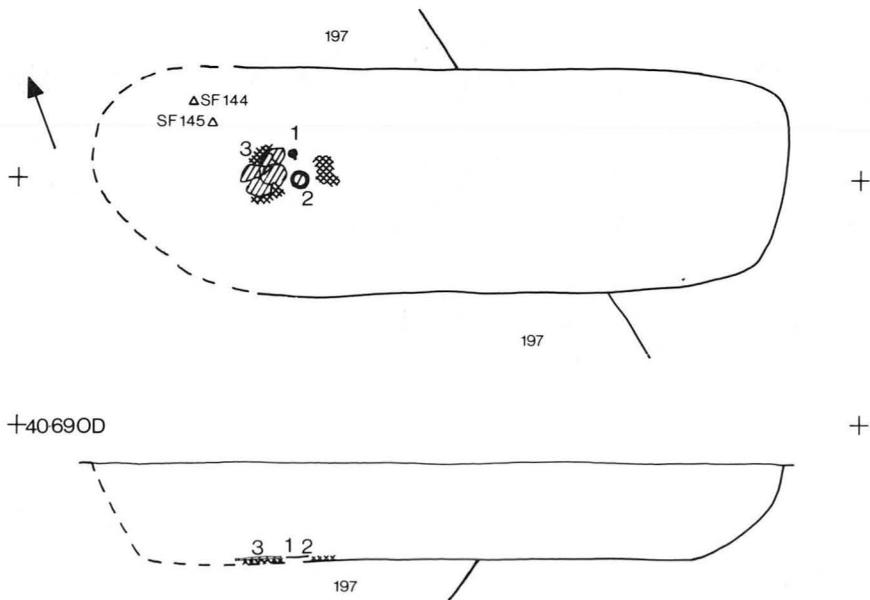


Fig.21. Inhumation 11. 1:20.

INHUMATION 11 (cont.)

4. Bronze fragment; piece of small cylinder decorated with transverse lines (Fig.74).
Fill: (480) Small Find No.144: Bronze pendant; silvered, shape and decoration as (1) (Fig. 74, Pl.XIV). Small Find No.145: Bronze pendant; shape and decoration as (1), loop repaired, disc near complete, silvered. Nematode impressions on back and front of this object suggest it had been in close contact with a body and support attribution of these finds to burial (Fig.74, Pl.XIV); struck flint: one core with both blade and flake scars, one flake; potsherd: one, possibly prehistoric (n.ill).

INHUMATION 12 (Figs.22, 75, Plate XV)

Description: Oriented WSW-to-ENE. Not recognized until partly excavated as part of ditch 197, W end uncertain but E end and much of N side defined by large flints. Grave-goods in cluster in W half of grave, probably over upper body; three annular brooches (1, 2, 6) not distinguished by number on original plan, so arbitrary symbol used for all, and all given same number (1) on published plan; ring (3) between brooches, beads (4) around and under brooches; organic material, wood of unidentifiable species, probably part of coffin, given number as grave-good (5), over and above other grave-goods (Fig.22).

Associations: Cut ditch 197.

Bones: None.

Grave-goods:

1. Bronze annular brooch; bronze pin missing except for loop through edge and separate fragments, otherwise complete; flat, underside plain, old crack, upper surface decorated

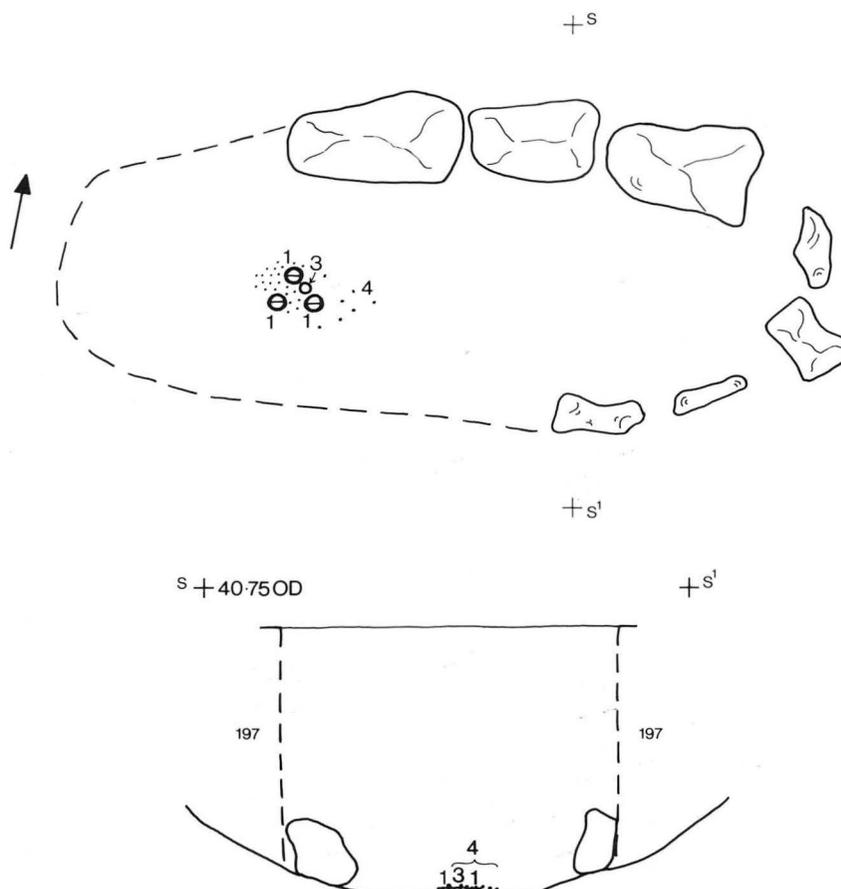


Fig.22. Inhumation 12. 1:20.

Catalogue of Inhumations

INHUMATION 12 (cont.)

with circular stamps around inner and outer edges; pin probably tubular, grooves on loop, (see XRF analysis) (Fig.75).

2. Bronze annular brooch; broken and incomplete, pair to (6); part of iron pin within folds of replaced textile, separate; hole for pin attachment broken, approx. one-third of opposite side of brooch broken and missing; flat, underside plain, upper surface decorated with semi-circular stamps around inner and outer edges (see XRF analysis) (Fig.75).

3. Bronze ring; complete, cast, undecorated; rounded triangular section (Fig.75).

4. Thirteen glass beads, two jet beads; jet: faceted, roughly cuboid; glass: one green/blue translucent melon; two green globular; one red; one purple translucent multiple; two dark blue translucent multiple; six separate segments of similar beads (Fig.75).

5. Wood (n.ill).

6. Small Find No.176. Bronze annular brooch; complete; part of selvedge and other pieces replaced textile around and pierced by iron pin; brooch slightly convex, underside plain, upper surface decorated with semi-circular stamps around inner and outer edges (see XRF analysis) (Fig.75, Pl.XV).

Fill: (483) No finds recorded separately from relevant layers of ditch 197.

INHUMATION 13 (Figs.23, 75)

Description: Oriented W-to-E, body extended. Coffin stain on bottom of pit, tapering towards E end. Spearhead (1) and knife (3) near SW corner, by right shoulder, to S of skull; sherds (2) near NW corner, probably outside coffin (Fig.23).

Associations: Cut ditch 197 but not seen until ditch emptied.

Bones: Male, 35-45 yrs.

Two large pieces skull, including one piece of temporal; part of maxilla with three molars; part of mandible with three molars; age from wear of molars 35-45. Moderate periodontal disease but no enamel hypoplasia.

Grave-goods:

1. Iron spearhead; broken and badly preserved; relatively short, broad blade, long socket; traces textile. Blade has corrugated section (Fig.75).

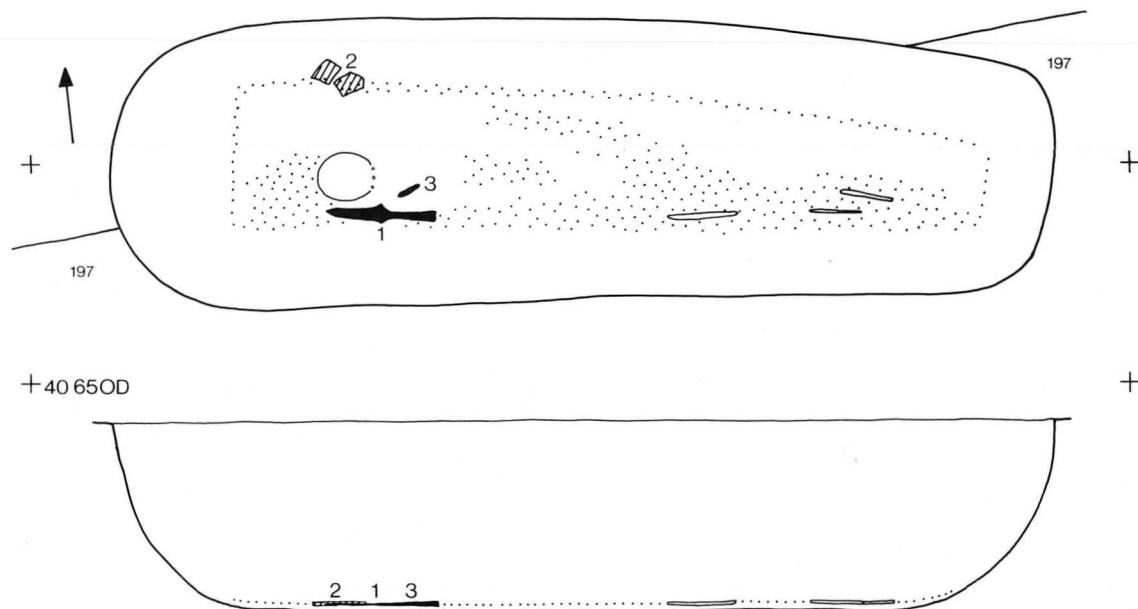


Fig.23. Inhumation 13. 1:20.

INHUMATION 13 (cont.)

2. Pot; part of rim of plain vessel. Fabric: Group I. (Fig.75).
 3. Iron object, possibly knife within decayed sheath (Fig.75, drawn from X-ray).
- Fill: (484) No finds.

INHUMATION 14 (Figs.24, 76, Plate XIX)

Description: Oriented W-to-E, no clear indication of body position except for head; shallow extension to N in which pot (1) was lying. Coffin stain over much of base of pit; ring (2) in middle of grave, possibly at waist, brooches (3,4) and beads (5) together towards W end of coffin, near head. Exact positions (4a) and (4b) obscured by organic material but observed during conservation to be back to back, (4a) face up, (4b) face down (Figs.24 and 76).

Associations: Intersected with inhumation 15: relationship not clear as intersection very slight and fills similar, but there was some indication that 14 was later than 15 (Fig.24).

Bones: Female, 17-25 yrs.

Teeth only: eight molars, four premolars; no dental disease, no enamel hypoplasia, wear slight.

Grave-goods:

1. Pot; very small thick-walled plain vessel. Fabric: Group I. (Fig.76, Pl.XIX).
2. Iron ring, possibly buckle loop; traces replaced textile on one side (Fig.76).
3. Bronze annular brooch; complete; iron pin pierced and covered by replaced textile; flat, underside plain, upper surface decorated with two groups of transverse lines and grooves opposite each other and faint incised lines around inner edge (see XRF analysis) (Fig.76).
4. a) Bronze small-long brooch; complete except for pin; mass replaced textile on back of head. Head: trefoil, semi-circular stamps around central rectangular panel and around edge of each mushroom-shaped extension. Bow: convex, facets at ends, stamps along edges, pair short curved lines at each end. Foot: tripartite: stamped and faceted panel; grooved and ridged panel; splayed terminal with bevelled and stamped edges, grooves at end. Bronze catch-plate below bow, behind foot.(see XRF analysis) (Fig.76).
- b) Bronze annular brooch; broken remains of iron pin in mass replaced textile; also remains of nematode worms; diagonal tooling marks on upper surface. Brooch flat, underside plain, upper surface decorated with two groups transverse lines and grooves opposite each other and with incised lines around inner and outer edges.(see XRF analysis) (Fig.76).
5. Amber beads; one broken, two flattened, discoid (Fig.76).

Fill: (485) Struck flint: one broken blade, one retouched flake; potsherds: two Iron Age, six Roman, nine indeterminate (n.ill).

INHUMATION 15 (Fig.25)

Description: Oriented NW-to-SE or reverse, no indication of body position; possibly not inhumation but pit of unknown date and function (Fig.25).

Associations: Intersected with inhumation 14, possibly cut by 14.

Bones: None.

Grave-goods: None.

Fill: (486) No finds.

INHUMATION 16 (Figs.26, 68, 76)

Description: Oriented W-to-E, teeth towards W end, otherwise no indication of body position. Pot (1) near teeth, strap-end (2), iron (3), knife (5) and rivets (4) in middle, possibly near waist, exact position of (5) not clear, obscured by organic mass (Fig.26).

Associations: None.

Bones: Male, under 18 yrs.

Teeth only: large unerupted cap of third molar. Male, probably under 18 yrs.

Grave-goods:

1. Pot; sherd only, part of decorated pot: three lines above and four below stamp row around neck, above vertical slashed bosses defined by pairs of vertical lines. Stamps: IVc. Stamp Group 40. Fabric: Group II. (Figs.68, 76).

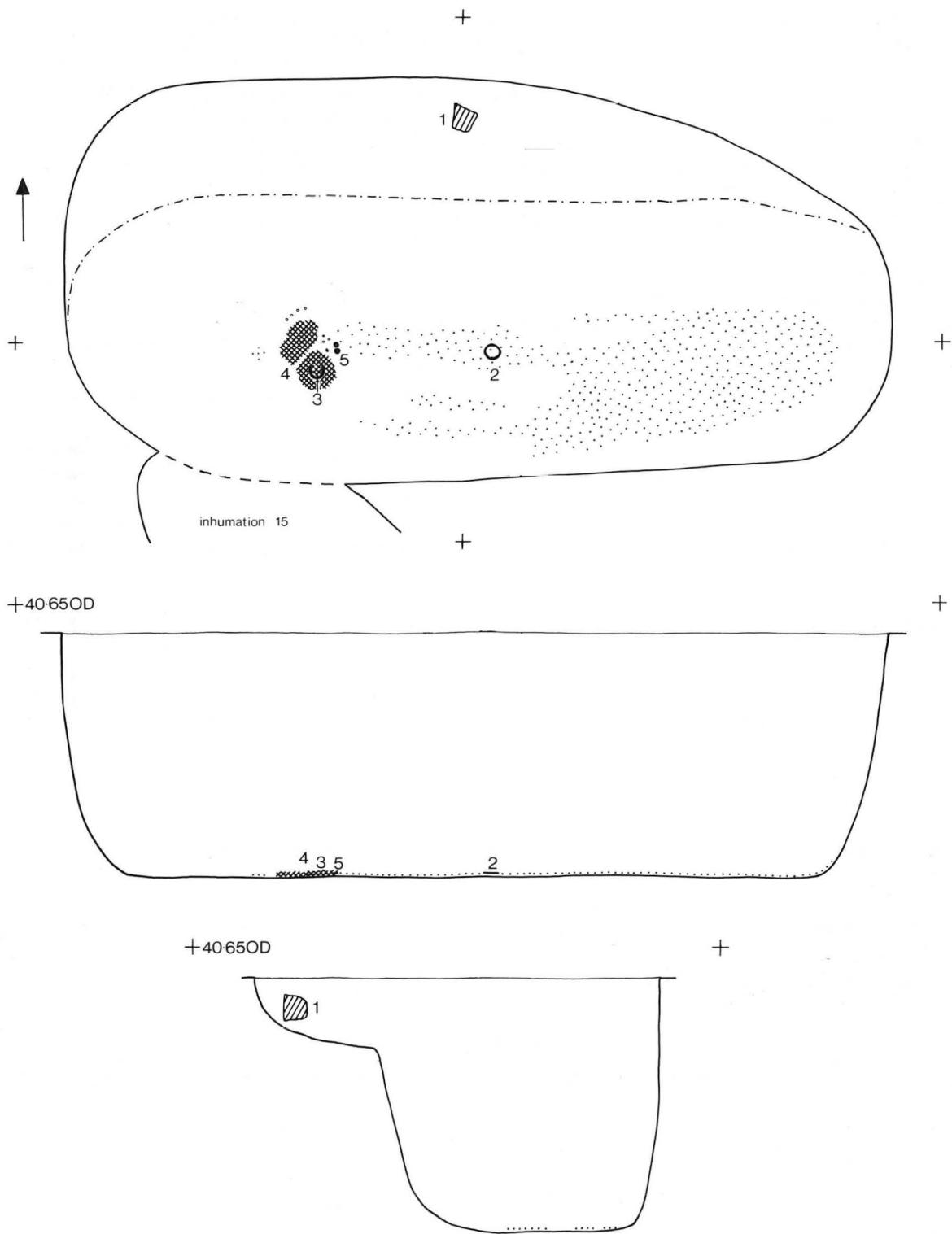


Fig.24. Inhumation 14. 1:20.

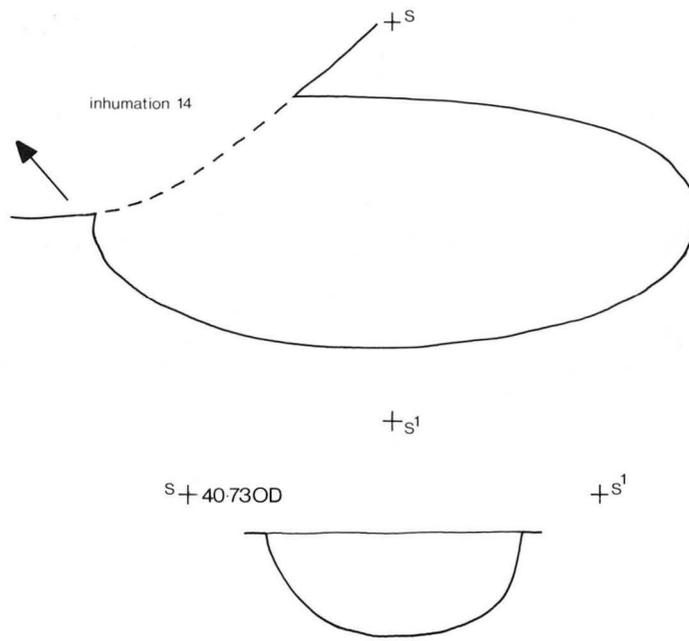


Fig.25. Inhumation 15. 1:20.

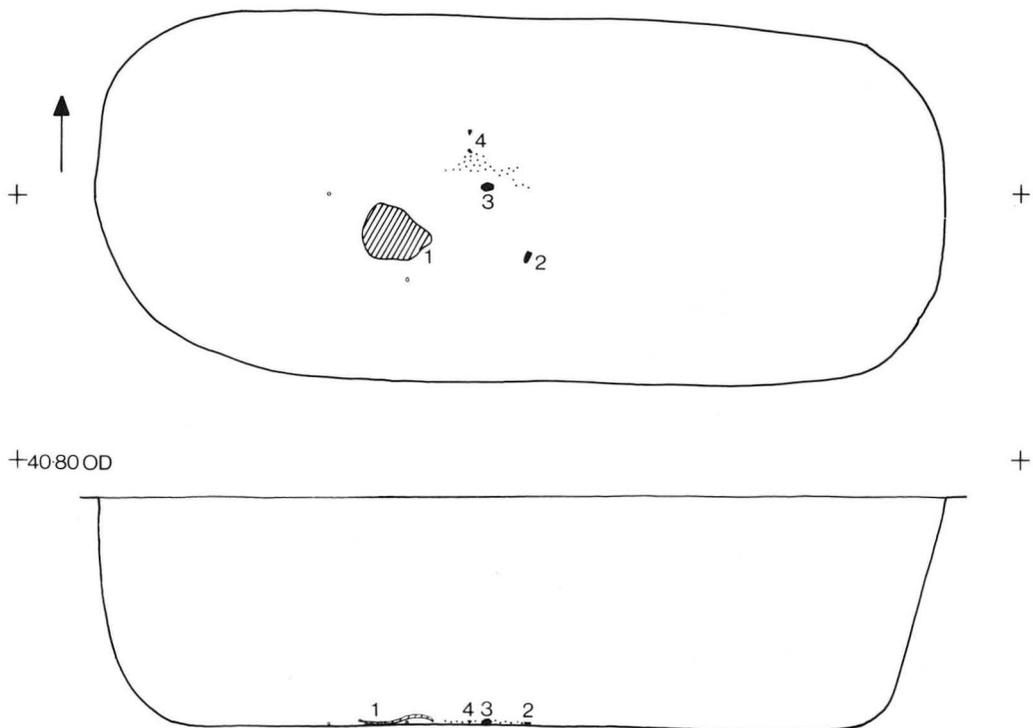


Fig.26. Inhumation 16. 1:20.

INHUMATION 16 (cont.)

2. Bronze strap-end; two narrow plates, tapering to a rounded point at one end, straight across at other end, pierced by a rivet hole near straight edge; originally soldered and riveted together, inner surfaces plain, tinned from solder with traces of tooling (J. Jones). Outer surfaces decorated: upper piece has row of nicks and a pair of incised lines across one end, a second pair of lines cutting off the point and forming a rectangular panel whose short edges are defined by semi-circular stamps; barred triangular stamps across neck; surface originally silvered (J. Jones); lower piece: pairs of incised lines around edges and point (see XRF analysis) (Fig.76).

3. Iron objects; small lumps of concreted iron and decayed organic material (n.ill).

4. Two bronze studs; flat kite-shaped heads, short central shafts cast in one with heads, upper surfaces tinned; possibly belt studs (see XRF analysis) (Fig.76). Also very small bronze and possibly leather fragments (n.ill).

5. Iron knife; traces of wooden handle and possibly remains of leather sheath (Fig.76).

Fill: Potsherd; samian, central Gaulish, second century A.D. Small Find No.1919 (n.ill).

INHUMATION 17 (Figs.27, 77)

Description: Oriented WNW-to-ESE, possibly wider at E end but this obscured by intersection with ditch 492; head at E end, body probably extended. Pot (1) near S edge, probably by shoulder; knife (2) on N side. Grave possibly overcleaned as grave-goods appear above level of bottom of pit (Fig.27).

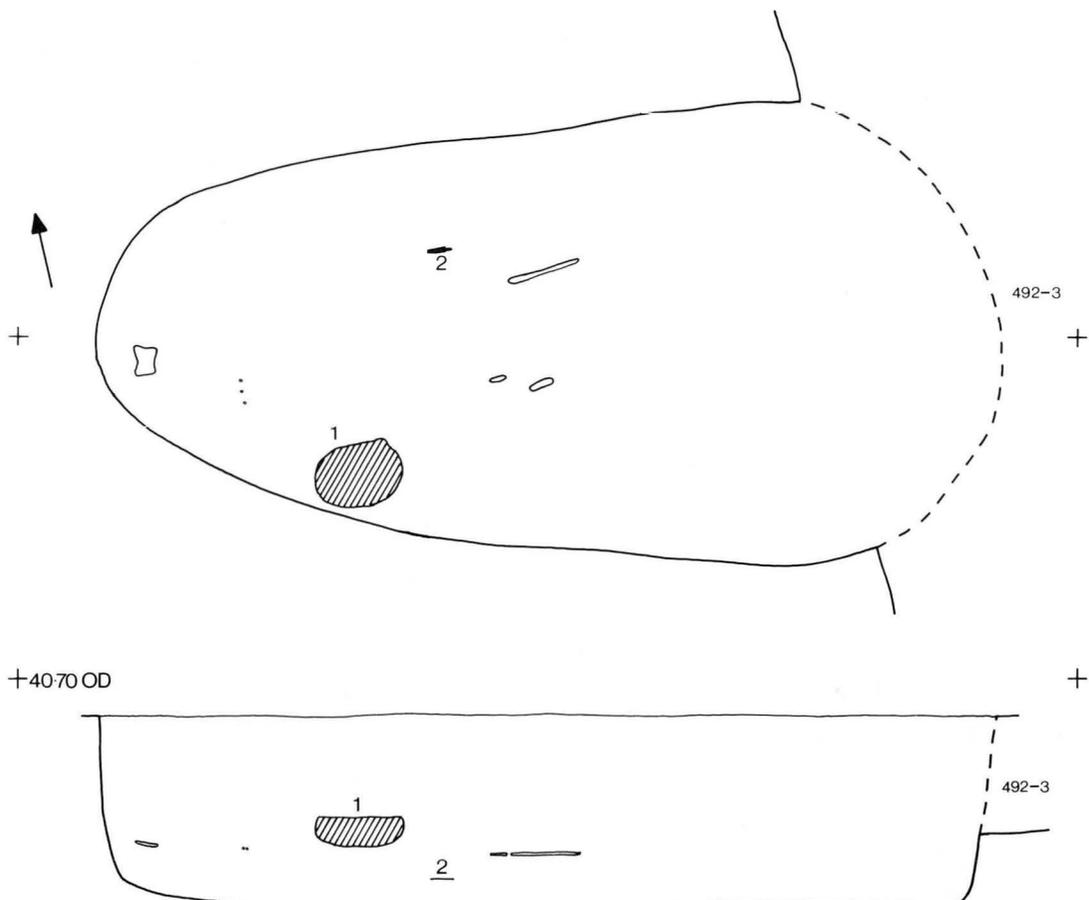


Fig.27. Inhumation 17. 1:20.

INHUMATION 17 (cont.)

Associations: Cut ditch 492 although this relationship not clear during excavation, deduced from function of 492 as part of early Roman field system.

Bones: Adult female.

One small piece temporal bone; one shattered molar.

Grave-goods:

1. Pot; incomplete, part side and base missing; plain wide-mouthed bowl. Pot cut vertically, possibly deliberate hole in base. Fabric: Group I. (Fig.77).
2. Iron knife; tip of blade broken, traces textile on blade (Fig.77).

Fill: (496) No finds.

INHUMATION 18 (Figs.28, 77, Plate XIII)

Description: Oriented W-to-E. Section reconstructed from plan, level of grave-goods approximate only; no indication of body position, except for head at W. Pot (1) found high in fill, above and to S of other grave-goods; brooches (3, 6) with beads (4) towards W end near head; bronze sheet (5) towards middle; wood (2) above (3), part of coffin, not grave-good, ring-porous, possibly oak (*Quercus*), Anglo-Saxon potsherds from fill possibly deliberately deposited, depth not recorded. (Fig.28).

Associations: None.

Bones: Age and sex unknown.

Two pieces humerus.

Animal bone: One piece black and burned animal bone, probably bovine.

Grave-goods:

1. Pot; sherds plain vessel. Fabric: Group VIII. (Fig.77).
2. Wood (n.ill).
3. Bronze square-headed brooch; surface silvered (J. Jones); most of iron pin missing, two loops behind head hold remains of iron spring; part of pin has replaced textile around it. Head: trapezoidal with round lobes at two outer corners; in middle, panel occupied by row of three chip-carved quatrefoil motifs, central panel and edges of head defined by semi-circular stamps, diagonal stamp rows from outer to inner corners. Bow: faceted with cen-

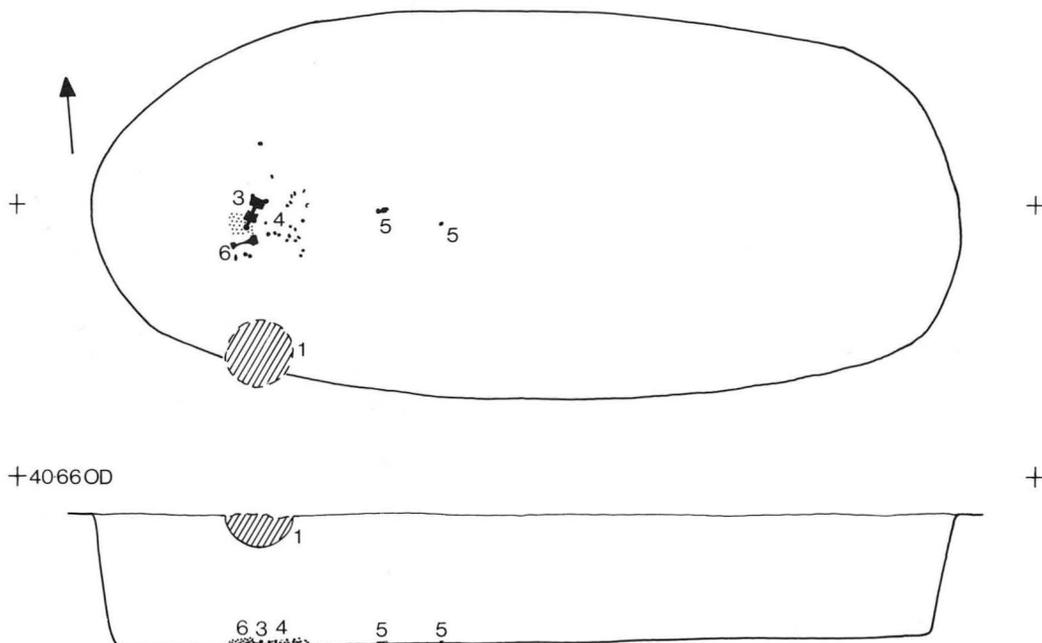


Fig.28. Inhumation 18. 1:20.

INHUMATION 18 (cont.)

tral flat panel. Foot: lappets below bow, rudimentary Style I chip-carved animals, each with head, beak and one limb, downward-biting; animals merge into round side lobes; terminal formed by third round lobe; semi-circular stamps define lobes and edge of foot (see XRF analysis) (Fig.77, Pl.XIII).

4. Twelve amber beads; nine narrow biconical; two flattened, round; one flattened, square; also fourteen glass beads: three small purple translucent annular; one segment of purple translucent multiple; one white; two light green cuboid; one yellow cylinder; two red with possible traces white or yellow stripes, fluted; one small white with red crossing trails and blue spots; two red with yellow and green stripes, cylindrical; one red with yellow and green stripes, cuboid (Fig.77).

5. Bronze sheet; rectangular piece made up from two joining fragments; traces of two rivet-holes on one side, other side slightly bent over; undecorated; possibly repair to wooden bowl (Fig.77).

6. Bronze small-long brooch; complete except for small piece of foot; surface worn; mass replaced textile over pin. Head: rectangular, defined by faint incised lines. Bow: convex, faceted panel at top, pair of longitudinal incised lines down centre. Foot, tripartite: flat panel with incised lines; grooved and ridged panel; spatulate terminal, defined by faint incised lines (see XRF analysis) (Fig.77).

Fill: Potsherds: two possibly prehistoric, three Anglo-Saxon, part of upper half of large plain vessel with organic residue, probably deliberately deposited. Fabric: Group VIII. (Fig.77).

INHUMATION 19 (Figs.29, 78, Plate XII)

Description: Oriented E-to-W, reverse to normal orientation; small size of grave pit and position of surviving bones suggest body was crouched. Brooch (1) in SE corner, slightly higher than brooch (2), by skull in NE corner (Fig.29).

Associations: None.

Bones: Probably female, 35 yrs.

Fragments skull and three teeth: one molar, wear pattern indicates age c. thirty-five; two canines, worn to pulp cavity; fragments legs shown on plan, now unidentifiable, traces only. Bones indicate elderly individual, probably female. Teeth show no disease but do have wear pattern common in Anglo-Saxons over the age of thirty in which incisors wear to pulp cavity, perhaps as the result of perfect occlusion causing the front teeth to rub against each other and wear, but perhaps because of specific repeated activities such as biting thread.

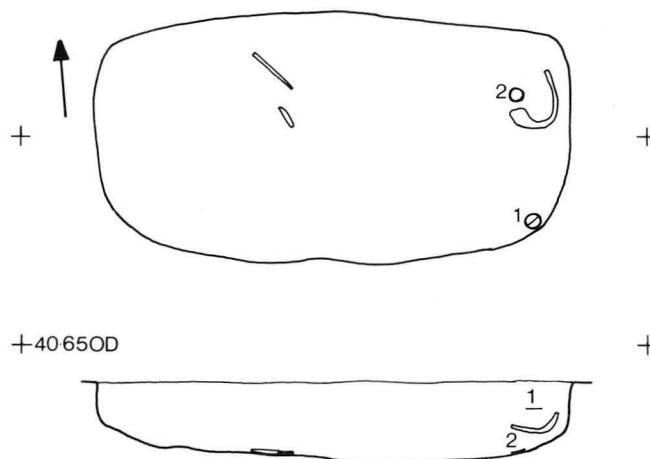


Fig.29. Inhumation 19. 1:20.

INHUMATION 19 (cont.)

Grave-goods:

1. Bronze annular brooch; very worn; complete with bronze tubular pin, waisted near tip; definitely not silvered (J.Jones). Brooch is flattened lozenge in section, underside plain, upper surface decorated with round stamps around inner and outer edges (see XRF analysis) (Fig.78, Pl.XII).

2. Bronze annular brooch; pin missing, lump iron concretion and replaced textile only surviving. Brooch silvered, thicker coating than usual, possibly foil applied to surface (J. Jones); semi-circular in section, decorated with transverse grooves and ridges (see XRF analysis) (Fig.78, Pl.XII).

Fill: No finds.

INHUMATION 20 (Fig.30)

Description: Oriented WSW-to-ENE or reverse, no indication of body position.

Associations: Cut periglacial feature originally numbered as inhumation 21.

Bones: Age and sex unknown.

Two fragments: one piece fibula , one unidentifiable.

Grave-goods: None.

Fill: Struck flint: one blade, one flake, one microlith; potsherds: three Roman, including two joining sherds, early Roman, eleven miscellaneous Iron Age, early Roman or Anglo-Saxon (n.ill).

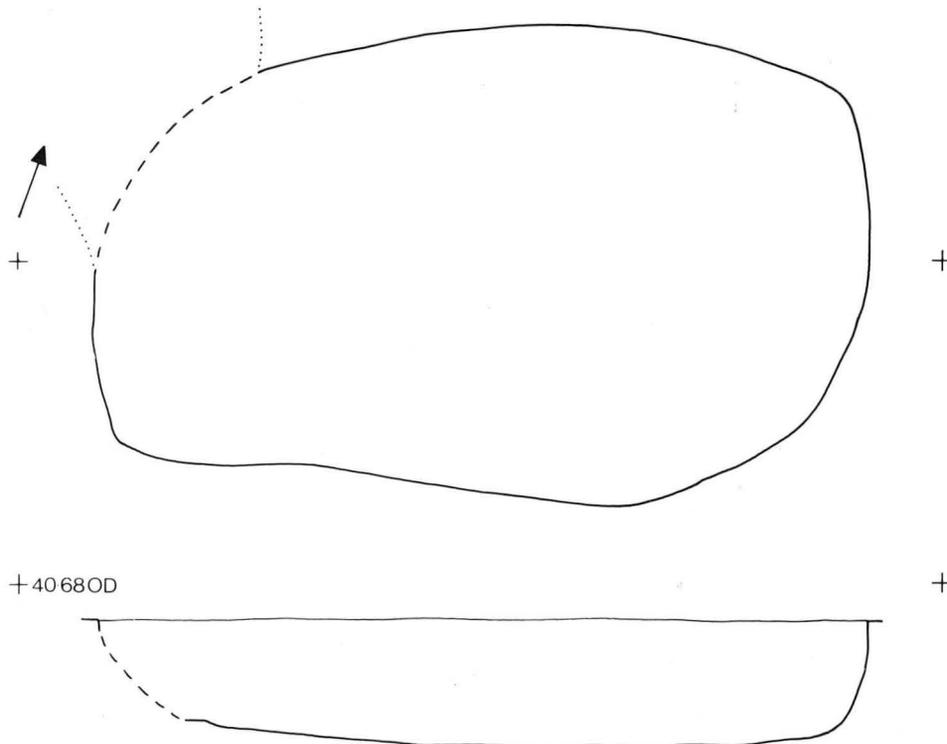


Fig.30. Inhumation 20. 1:20.

INHUMATION 21

Periglacial feature cut by inhumation 20. Mistakenly drawn and numbered as inhumation in Spong Hill Vol.2, Fig.193.

INHUMATION 22 (Figs.31, 78, 79, Plates XVIII, XIX)

Description: Oriented W-to-E, body probably extended; clear coffin stain slightly above recorded bottom of pit, either silting between digging of pit and deposition of coffin, or over-cleaning during excavation. Grave-goods all at level of coffin stain: pot (1) and spindle-whorl (2) near E end, brooches and beads (3-7) in cluster towards W end, probably shoulder region; knife (10) buckle (8) and latch-lifters (9) in middle of grave: (9) and (10) at angle to each other as shown but not clear which is which and buckle (8) concealed by corrosion of one of these objects, found during conservation. Organic material under brooches, traces textile and possibly wood (Fig.31).

Associations: Cut by cremation 1946.

Bones: Female, 25 to 35 yrs.

Small fragment skull. Teeth: nine molars, wear pattern indicates age 25 to 35; three pre-molars; five incisors. No tooth decay or disease. Size and wear of teeth indicate female aged 25 to 35 yrs.

Grave-goods:

1. Pot; complete, except for chips off rim and side; three horizontal lines around neck.

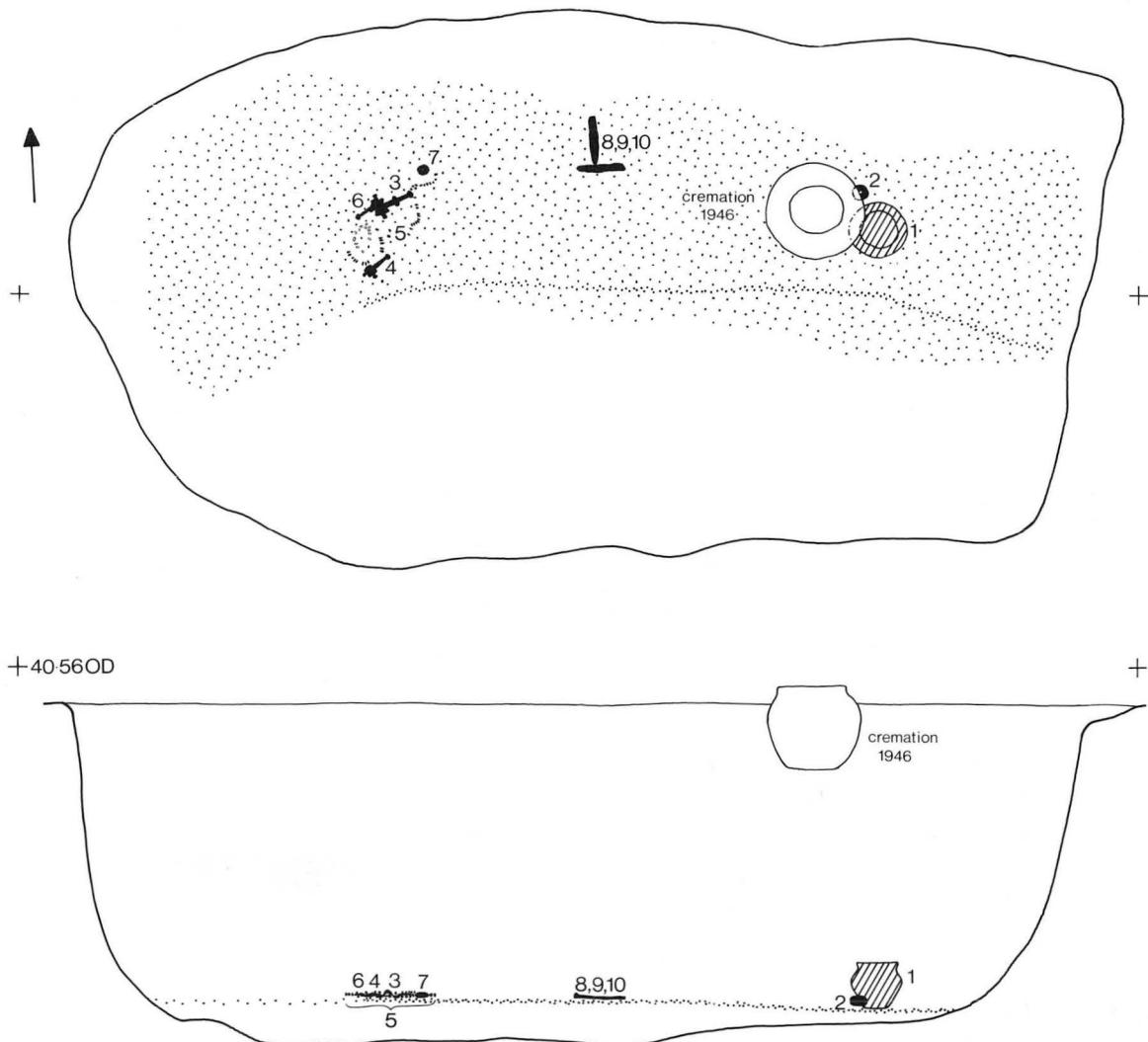


Fig.31. Inhumation 22. 1:20.

INHUMATION 22 (cont.)

Fabric: Group II. (Fig.78, Pl.XIX).

2. Pottery spindle-whorl; bun-shaped; organic and sand temper, fired irregularly (Fig. 78).
3. Bronze cruciform brooch; catch-plate broken, part of iron pin missing, remainder bent upwards from spring attached to loop at back of head; iron cross bar through side knobs; twine or string around spring, probably necklace string; some replaced textile. Head: central panel rectangular, splayed wings; three-quarters-round knobs, partly flattened at back, top knob cast in one with head, side knobs separate, slotted to edges of head and held by cross bar; knobs decorated with incised lines around base of dome and below waist, vertical incised lines and stamp rows define central panel, stamps semi-circular. Bow: between rectangular faceted panels and pairs incised lines; incised lines and groove down centre. Foot, tripartite: flat trapezoidal panel defined by incised lines, also faceted, between lappets in the form of rudimentary beaked heads; half-round grooved and ridged section; horse head terminal, head has raised eyes defined by curved lines and flat curved nostrils, double row semi-circular stamps down nose (see XRF analysis) (Fig.79, Pl.XVIII).
4. Bronze cruciform brooch; spring and remains of pin survive in mass of replaced textile; catch-plate broken; hollows in back of knobs, bow and foot. Head: central panel trapezoidal, defined by 'V'-shaped stamps; slightly splayed wings; half-round knobs, top cast in one with head, side knobs separate, slotted to edges of head, one now detached but present, incised lines around dome and base. Bow: convex, between rectangular faceted panels decorated with incised lines and rows circular stamps; three median lines. Foot: narrow stamped panel; faceted stamped panel; wide transverse groove between two grooved ridges; horse head terminal with raised hollow eyes, perhaps once containing settings, and scroll curved nostrils, incised lines around eyes and forming lozenge on nose (see XRF analysis) (Fig.78).
5. One amber and sixty-nine glass beads; strung together as found; all small annular or sub-globular in shape. Thirty-one are dark blue, translucent, annular, there are ten segments from purple translucent multiple beads and one small green translucent, the remainder are opaque. Strung in order as follows: one white; one purple; two yellow; three dark blue; one green; one red; one purple; one dark blue; one yellow, possibly with red stripe; three dark blue; one purple; one red with crossing yellow trails and green spots; one white; two yellow; one dark blue; one white with red spots; two blue; two white; one red with yellow spots; one blue; one decayed white or yellow; two red with blue stripes; one dark blue; one green; two purple; one pale blue; two purple; two pale blue; one purple; one white with green spots; three dark blue; one purple; four dark blue; one amber; one dark blue; one translucent green; one dark blue; two very small red; one red with yellow spots; one red with blue stripes; two dark blue; one decayed yellow, traces stripe; one red; three dark blue; one red with yellow spots; one dark blue; one decayed yellow; one dark blue; one purple; one dark blue. Also separate fragments, remains of two further beads (Fig.79).
6. Bronze cruciform brooch, pair to (4); most of iron pin missing, spring under mass replaced textile, also associated detached textile. Traces wood also possibly associated with brooches (3, 4, 6). Form and decoration as (4) (see XRF analysis) (Fig.78).
7. Crystal bead; hexagonal, faceted (Fig.78).
8. Bronze buckle; oval loop, iron tongue within piece replaced textile, perhaps remains of fabric belt (Fig.79).
9. Iron latch-lifters; collection of three narrow bars joined at one end where X-ray shows loop, each bent into angle at other end; covered in mass replaced textile, possibly wrapped in cloth; broken, probably in antiquity (Fig.78).
10. Iron knife; remains of leather sheath and of horn handle. Leather possibly bovine. (Fig.78).

Fill: (545) Struck flint: one broken blade, one flake. Potsherds: one possibly prehistoric, one Roman, eight Anglo-Saxon including one with an unrecognizable stamp, seven indeterminate (n.ill).

INHUMATION 23 (Figs.32, 80)

Description: Oriented WNW-to-ESE; irregular pit with extension to S. Body extended with crossed legs, burial deposit above excavated base of pit, either silting between digging of pit

Catalogue of Inhumations

INHUMATION 23 (cont.)

and burial or overcleaning during excavation. Pot (1) at higher level than other grave-goods, in middle of grave, knife (2) and buckle (3) near legs, pot (4) under leg bones (Fig.32).

Associations: Cut by cremation 1912.

Bones: a) Male, 22+ yrs.

Large piece skull with intact coronal suture; gives age of 22+ years; post-cranial fragments of femur.

b) Adult female.

Packed separately with same number and possibly from grave fill are cremated bone fragments: fragment of long bone and two teeth, incisor and molar: female adult.

Grave-goods:

1. Pot; complete except for piece of rim; plain. Previously labelled as cremation no. 1945 (Hills and Penn 1981, 44). Fabric: Group III. (Fig.80).

2. Iron knife; part of blade only, traces of horn (Fig.80).

3. Iron buckle; oval loop; traces leather strap still pierced by tongue (Fig.80).

4. Pot; sherd from large plain vessel. Fabric: Group IX. (Fig.80).

Fill: (542) Struck flint: one blade, ten flakes; potsherds: one possibly prehistoric, one Roman, twenty Anglo-Saxon including several with linear and stamped decoration, stamps 1a, ?IIIb, Vh, VIa, XVIII, twenty indeterminate (n.ill).

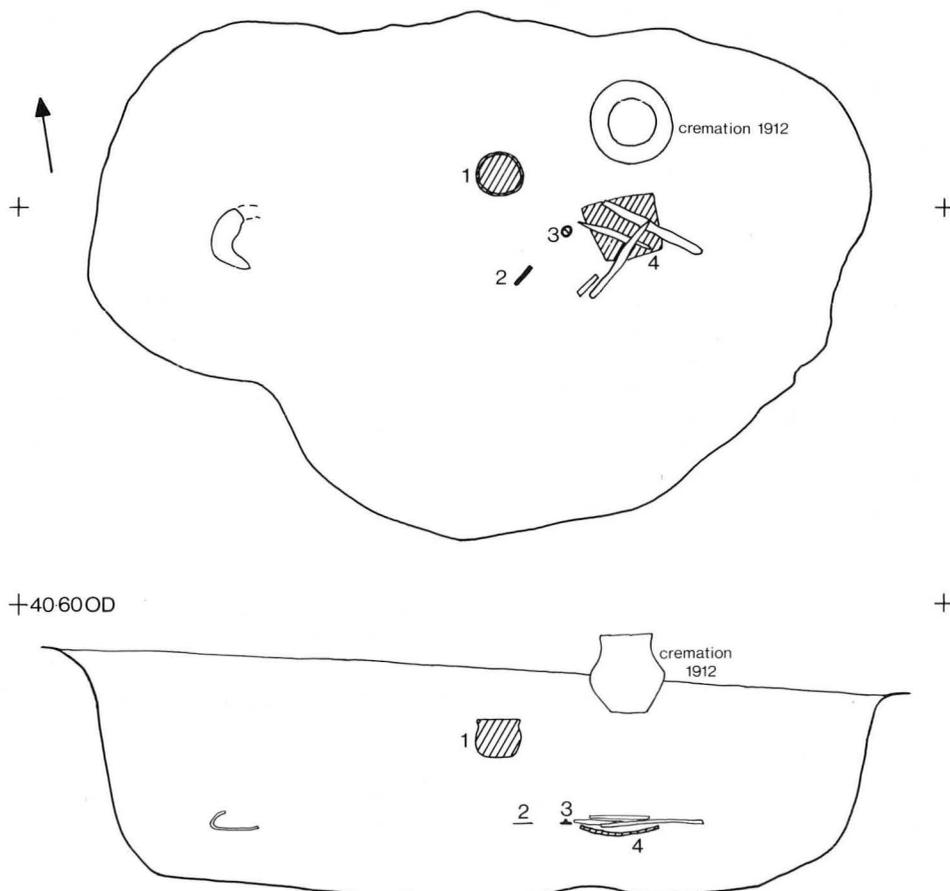


Fig.32. Inhumation 23. 1:20.

INHUMATION 24 (Figs.33, 80, 81, 82, 110, Plate XV, Frontispiece)

Description: Oriented W-to-E, no indication of body position. Brooches (5, 6, 7) together towards W end, knife (8) to S of brooches, beads (2) scattered over W half of deposit, some under bronze bowl (1) which lay above, and preserved, pieces of wood (oak) and leather; since only one layer of wood is preserved this is likely to have been base of coffin, with bowl inside; weaving batten (3) appears to have been on top of coffin, over E half of body; collection of objects (4) together in middle of N edge of deposit, also at level which might suggest they were on top of coffin. Section and level reconstructed from plan, photographs, and level of adjacent grid squares and description of grave. Leather traces suggest lining to coffin or wrapping around body (Fig.33).

Associations: Cut pit 591.

Bones: Age and sex unknown.

One fragment metacarpal and one unidentifiable fragment of long bone; both copper stained and preserved by copper.

Grave-goods:

1. Bronze bowl; complete after restoration; beaded rim, shallow straight sides, sloping outwards, flat base with scar of missing foot ring. Wood (oak) probably part of coffin, and leather, possibly sheep, goat, or calf, both under bowl (Figs.81 and 82).
2. Amber and glass beads; thirty-one amber, all small and irregular in shape apart from one biconical; eleven glass: two small yellow globular; one small segmented, colourless

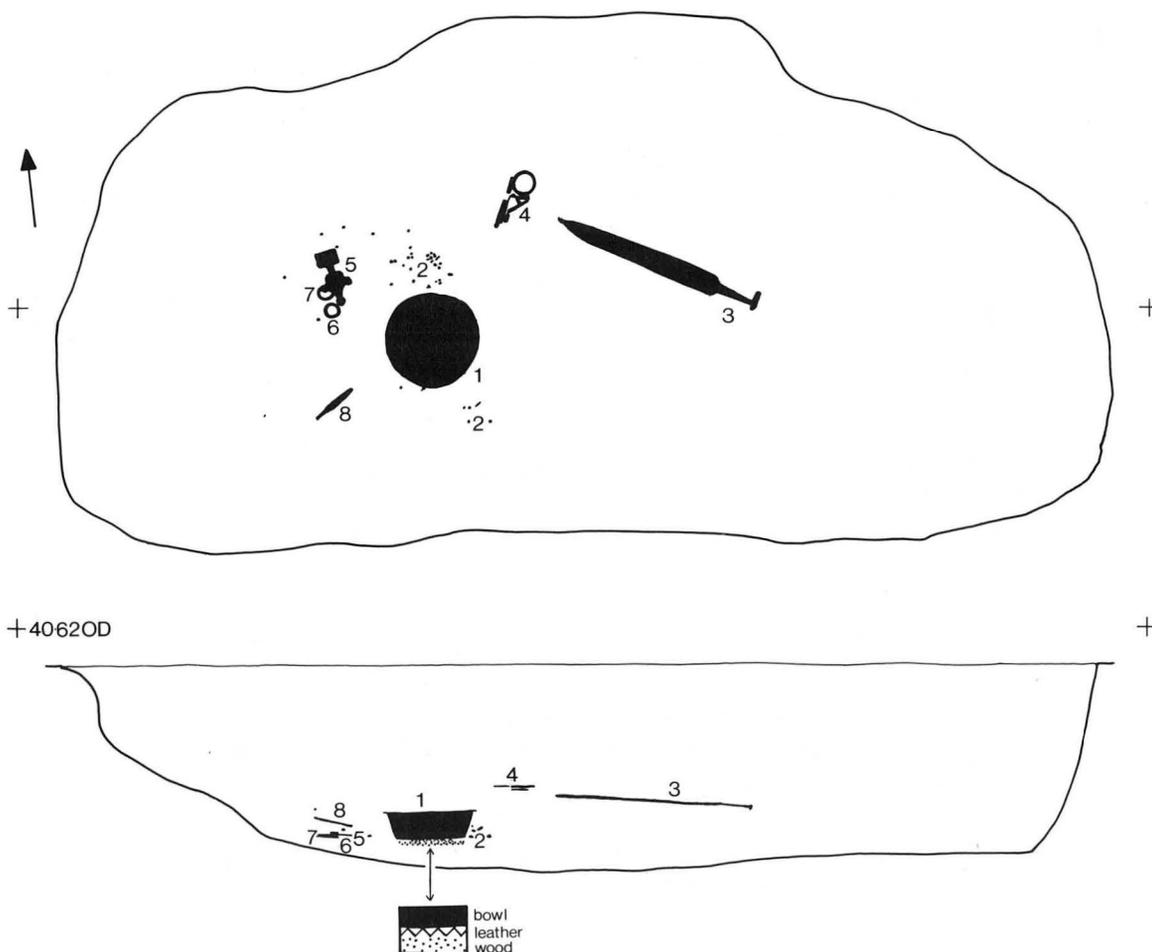


Fig.33. Inhumation 24. 1:20.

INHUMATION 24 (cont.)

translucent; eight blue translucent, narrow cylinders (Fig.80).

3. Iron weaving batten; iron blade with remains textile and leather, possibly sheath; small shallow iron pommel at end of tang (Fig.82, Pl.XV). See Appendix I and II.

4. Collection of objects found together:

a) Bronze girdle-hanger; in four pieces; suspension loop contains broken end of bronze cylinder formed from sheet wrapped around iron pin; upper section plano-convex, grooved and ridged on upper surface; lower part of shaft flat, with broken suspension loop which originally formed hinge with upper section, forked terminal and mass textile behind terminal; decorated with two groups transverse and crossed lines and rows 'V' stamps down shaft and defining terminal (see XRF analysis) (Fig.82).

b) Bronze girdle-hanger; broken in two pieces; pair to (4a); badly preserved, but decoration still visible as on (a) (see XRF analysis) (Fig.82).

c) Iron ring; incomplete, traces textile (Fig.81).

d) Iron lumps within mineralized textile and glassy corrosion products; X-rays show pieces of narrow bars; pins or latch-lifters; also a slightly wider piece and a triangular plate with a central hole (Fig.81).

e) Bronze strap-end; two narrow sections with rounded points at one end attached to each other by bronze rivet at straight end; lower piece is broken and undecorated, upper piece decorated with transverse and crossed incised lines (see XRF analysis) (Fig.80).

f) Bronze strap-end; two narrow sections with rounded points at one end, originally riveted together, now separate. One side undecorated, other side has three transverse incised lines near riveted end; rivet iron, corners broken (see XRF analysis) (Fig.80).

g) Iron knife; broken, with remains of leather sheath and horn handle (Fig.81).

h) Beads, not kept separate, included under (2).

5. a) Bronze gilt square-headed brooch; upper surface gilded except for lower corners of head and terminals of foot, all originally silvered, most silver now missing; traces of iron pin and spring remain on back of head under replaced textile. Head: near rectangular, slightly narrower at base than top; outer border divided at corners by beaded grooves, separate panels so formed defined by rows of semi-circular stamps; central panel defined by raised ridge, around border of chip-carved scrolls with small square panels at corners, around a central rectangular panel divided down centre by stamped panel, at either side of which is a bipartite setting for rectangular pieces of red glass. Bow: two lengthwise grooves are separated by a central flat, raised ridge with a narrower ridge along either side. Foot: lappets in the form of open-work downward-biting beasts' heads with back-curved jaws, eyes and necks decorated with stamps; main panel is lozenge-shaped, symmetrical to either side of a median ridge: each side has a stamped border outside a chip-carved scroll border, square and triangular panels at ends of scroll, around a triangular setting for a piece of red glass; six open loops extend from the edges, ten if jaws of lappet beasts are included; at each side is a round, silvered, disc terminal, edges defined by semi-circular stamps, and the main foot terminal is a third, larger silvered disc from which most of the silver has now gone (Fig.81, Frontispiece).

b) Two glass beads; both yellow, one globular, one annular, found amongst textile remains during conservation of (a) (Fig.80).

6. Bronze annular brooch; pair to (7) but larger; replaced textile over remains of iron pin, and associated detached lump of textile; plano-convex in section, underside flat, plain, upper surface ridged and grooved (see XRF analysis) (Fig.80).

7. Bronze annular brooch; pair to (6); pin missing but small lump of replaced textile at attachment point confirms it was iron (see XRF analysis) (Fig.80).

8. Iron knife; traces leather sheath and horn handle (Fig.81).

Fill: (540) Struck flint: one core with flake scars, three blades, ten flakes, one scraper, one flake from a polished implement; potsherds: five later Neolithic Grooved Ware, two Roman, seventeen Anglo-Saxon, some decorated with lines, dots and stamps, (IIIa recognizable), four indeterminate (n.ill). Also approximately twenty-five heat-shattered pebbles, discarded (n.ill).

INHUMATION 25 (Fig.34)

Description: Oriented NW-to-SE or reverse. Irregular pit with neither bones nor grave-

INHUMATION 25 (cont.)

goods to support identification as inhumation, but shape, position, orientation (and lack of finds in fill to suggest alternative function) allow interpretation as possibly a child's grave. Cut Roman ditch so Anglo-Saxon date possible (Fig.34).

Associations: Cut ditch 197.

Bones: None.

Grave-goods: None.

Fill: (546) No finds.

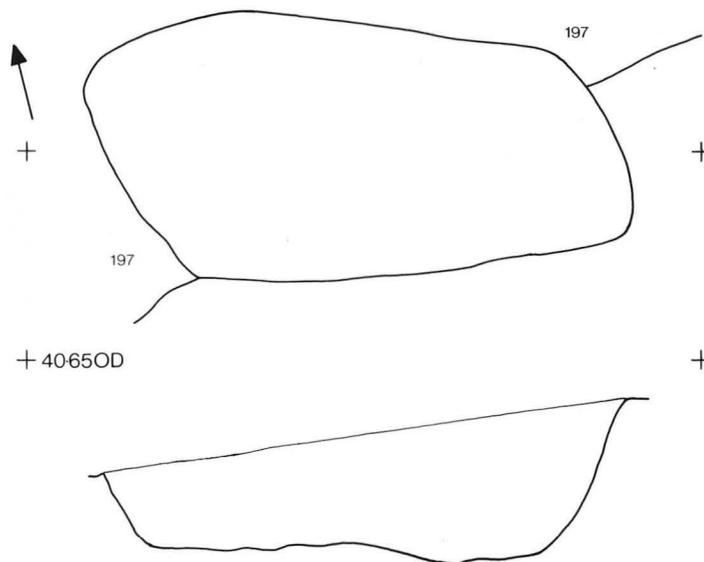


Fig.34. Inhumation 25. 1:20.

INHUMATION 26 (Figs.35, 68, 83, Plate XIII)

Description: Oriented approximately W-to-E; tapered slightly at E end. Pot (2) at E end, above level of other objects; knife and bead (4) in middle, towards N edge; majority of beads (1) scattered over probable shoulder area (not all planned) near brooches (5, 6) and fragment (3); indeterminate organic residue near metal objects; tin beads (7) not planned, originally thought to be teeth (Fig.35).

Associations: Cut by cremation 1941.

Bones: Adult female.

One fragment of radius.

Animal bone: fragments sheep teeth.

Grave-goods:

1. Seventy-two glass beads; forty-seven dark blue translucent annular (selection only drawn); one blue translucent, broken multiple; four black globular; three purple translucent annular; two green-blue translucent, globular; three green; one annular and two barrel-shaped; one yellow, barrel-shaped; two red with traces stripes, barrel-shaped; one red, fluted; two white, barrel-shaped; one white fluted; one white cylinder; one white with blue crossing trails and spots, barrel-shaped; one white with green crossing trails and spots, barrel-shaped; one yellow and green with red stripe, barrel-shaped; two red, yellow and green, cylinders; thirty-seven segments of very small gilded translucent multiples and four pieces with more than one segment; one white with blue crossing trails, globular, decayed (Fig.83).

2. Pot; complete; horizontal line around neck and pair of lines just above carination define zone occupied by two-line chevrons, stamps in panels. Horizontal line below carination de-

INHUMATION 26 (cont.)

finest second decorative zone, occupied by band of seven crossed lines with a single stamp impression. Stamps: IIc, VIIc. Fabric: Group I. (Figs.68, 83).

3. Bronze sheet fragment; apparently tinning and solder on both surfaces (J. Jones); part of small rectangular slot cut in piece which otherwise has no clear finished edge; possibly circular and if so could be base-plate of applied brooch but this is not at all clear (see XRF analysis) (Fig.83).

4. a) Iron knife; leather and textile adhere to tip, traces of horn handle (Fig.83).

b) Chalk bead; oval (Fig.83).

Also packed with (4a): burnt glass bead, pale and dark blue, probably residual in fill from cremation (n.ill).

5. a) Bronze cruciform brooch; presence of silver (J. Jones); iron pin missing, textile on spring. Head: trapezoidal central panel, winged, small full-round top and side knobs, the latter cast separately and fastened through central holes to iron cross bar at back; incised lines around bases of knobs, tops faceted. Bow: convex, between flat faceted and grooved rectangular panels. Foot: flat faceted rectangular panel above longitudinally faceted panel; raised band with faint grooves; horse head terminal (see XRF analysis) (Fig.83).

b) Glass; five tiny purple beads, two of them attached to cross bar of (5a) (Fig.83).

6. Bronze gilt disc brooch; Romano-British. For full description and discussion of this brooch see report on p.36. (Fig.83, Pl.XIII).

7. Tin beads; originally identified as teeth and fragments of glass beads. Probably originally spherical and 20 to 30% smaller in diameter than the corroded fragments which now survive. Total number not certain because of present condition of beads, approximately six (see XRF analysis) (n.ill).

Fill: Potsherds. Three Late Neolithic Grooved Ware; seven Roman; three Anglo-Saxon; eight indeterminate (n.ill).

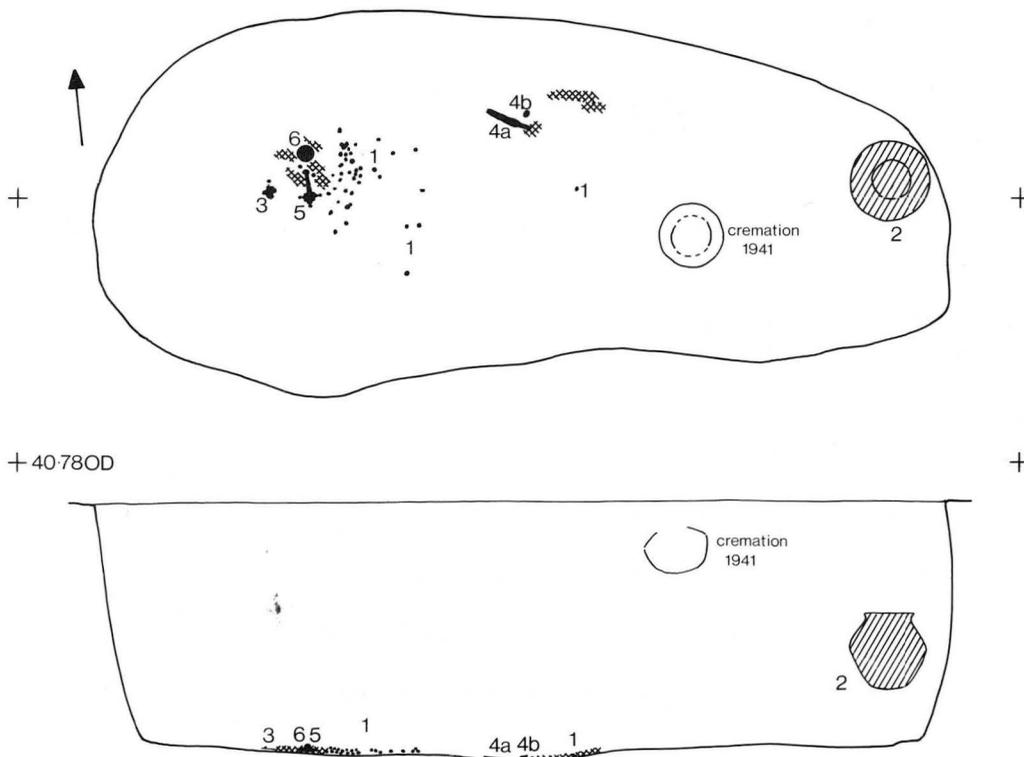


Fig.35. Inhumation 26. 1:20.

INHUMATION 27 (Figs.36, 68, 84, Plate XIX)

Description: Oriented approximately W-to-E, coffin outline clear, line from spearhead more likely to be coffin edge than spear shaft. Burial deposit above base of pit: probably overcleaning during excavation. Pot (1) apparently outside coffin, to N; spearhead (2) in SW corner, ferrule (3) in SE corner, shield boss (4), buckle (5) and purse-mount, buckle and pin (7) in middle, partly obscured by organic material which also concealed knife (8) and tweezers, recorded as 'at waist' (6), neither planned. Upper edges of pit not detected when excavating ditch 197, planned at level of burial deposit (Fig.36).

Associations: Cut ditch 197.

Bones: None.

Grave-goods:

1. Pot; near complete. Four horizontal lines around neck, two at shoulder define stamp row, further line below shoulder defines band of diagonally crossed lines alternating with groups of vertical lines. Stamps: VIe. Fabric: Group IV. (Figs.68, 84, Pl.XIX).
2. Iron spearhead; narrow angular blade, sides possibly slightly concave (Fig.84).
3. Iron spear ferrule (Fig.84).
4. Iron shield boss; fragmentary, crushed when found; convex dome with small disc-headed spike, concave waist, sloping flange with five disc-headed iron rivets. Iron grip; fragmentary, iron strip bound to wood with leather strips. Remains of wood with leather between wood and iron boss (Fig.84).
5. Bronze buckle-plate; narrow rectangular strip bent in half around remains of iron loop, also base of iron pin; two ends of plate fastened to each other by bronze rivet (Fig.84).

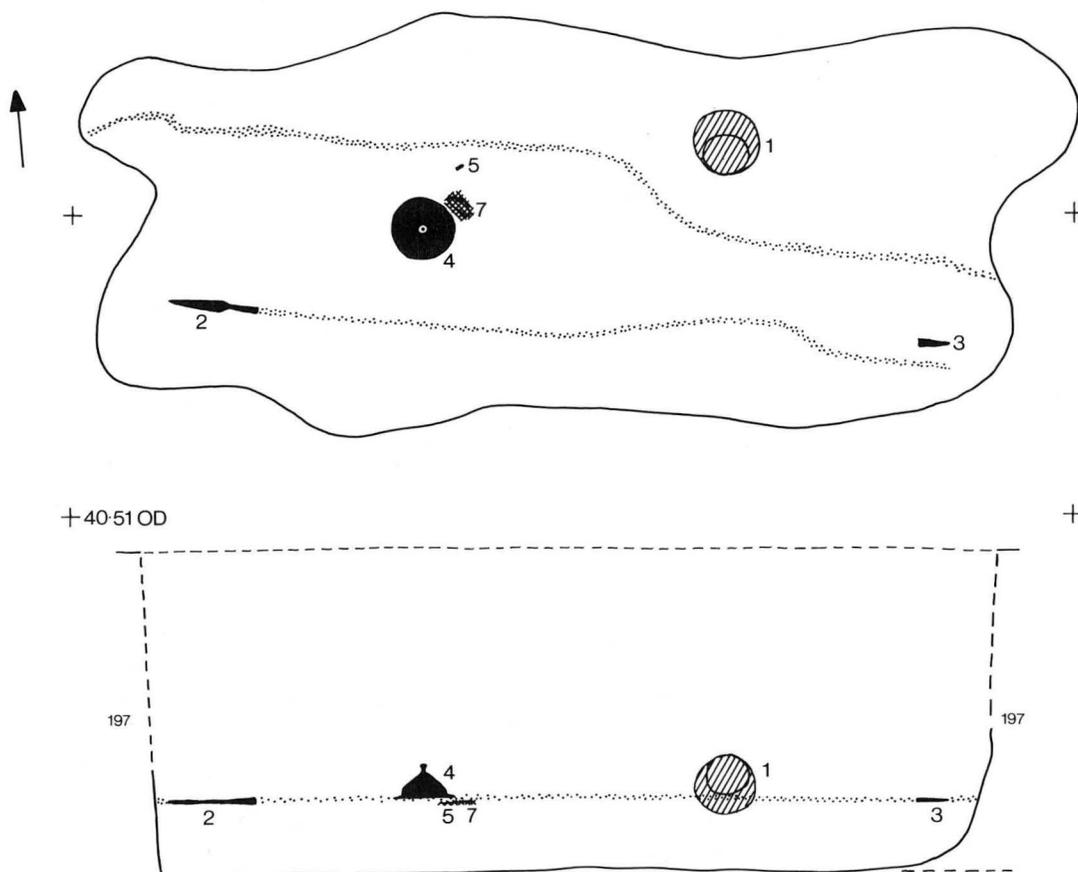


Fig.36. Inhumation 27. 1:20.

INHUMATION 27 (cont.)

6. Bronze tweezers; broken; faceted and grooved across neck (Fig.84).
7. a) Iron purse-mount; traces textile and bone or leather; shallow triangular plate with looped terminals at corners, small buckle at apex, obscured by corrosion but visible in X-ray which also shows inlay, at least one line around lower edge, traces further unclear detail (Fig.84).
 b) Iron buckle; small oval loop, drawn from X-ray (Fig.84).
 c) Iron pin or awl; with remains of bone or antler handle (Fig.84).
8. Iron knife; remains leather sheath and horn handle (Fig.84).

Fill: (549) Struck flint: one saw (n.ill).

INHUMATION 28 (Figs.37, 68, 85)

Description: Oriented W-to-E, probably extended; large flint at W end of grave, pot (1) on side and spearhead (2) in NW corner, knife (3) and buckle (4) in middle (Fig.37).

Associations: Cut by cremations 1883 and 1884 at E end.

Bones: Age and sex unknown.

Leg bones recorded on plan; small amount disintegrated and unidentifiable bone survives.

Grave-goods:

1. Pot; broken, approximately half; two undefined stamp rows around neck, third row on shoulder alternating with small, round bosses. Stamps: Ih, two versions. Fabric: Group V. (Figs.68, 85).
2. Iron spearhead; short angular blade, split socket (Fig.85).
3. Iron knife; narrow blade, tapered tang (Fig.85).
4. Iron buckle; oval loop, wrapped in replaced textile, traces leather (Fig.85).

Fill: Small Find No.262: iron object (n.ill); struck flint: one flake, ten heat-shattered flints, discarded; potsherds: four, one possibly Roman, two Anglo-Saxon, one indeterminate (n.ill).

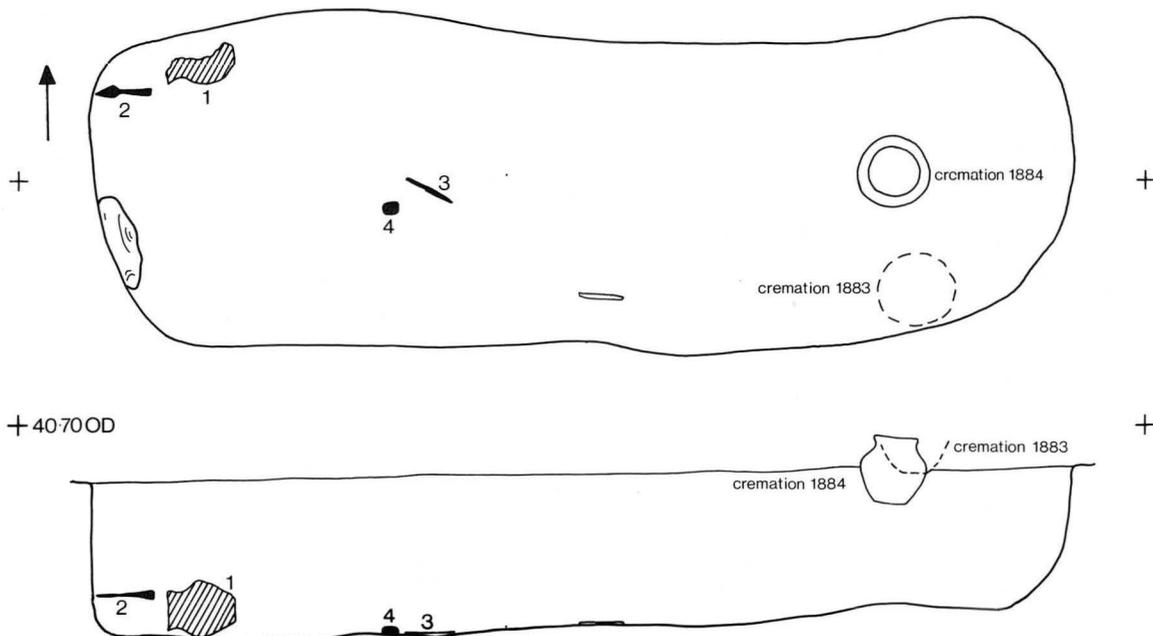


Fig.37. Inhumation 28. 1:20.

INHUMATION 29 (Figs.38, 85, Plate XI)

Description: Oriented W-to-E, body probably extended; brooches (1, 2) near skull, clasps (3, 4, 5) and iron (6) further to E, bead (7) separate to N of middle; clasps planned as at first seen, second half each pair lay under the section planned and only the separated hook mend of (5) was planned. Iron ring (8) not planned, possibly attached to (6) (Fig.38).

Associations: Cremation 1879 excavated at higher level, before inhumation grave pit visible, but cremation is clearly later than inhumation.

Bones: Adult female.

Small fragments skull including inion and one mastoid process; ribs, piece of radius and clavicle with copper staining.

Grave-goods:

1. Bronze annular brooch; pin missing; textile associated. Slightly wedge-shaped in section, underside plain; upper surface decorated with four groups of transverse lines at either side of faceted panel, except for one group at indentation for pin attachment; triangular stamps around inner and outer edges (see XRF analysis) (Fig.85).
2. Bronze annular brooch; pair to (1); textile associated (see XRF analysis) (Fig.85).
3. Bronze wrist-clasp pair; cast; two narrow rectangles, each with three attachment loops, hook and eye respectively in middle of other long sides; main sections divided into five panels, three square alternating with two decorated with incised lines; repair loop soldered to back of eye; nematode worms on backs of clasps (see XRF analysis) (Fig.85, Pl.XI).
4. Bronze wrist-clasp; eye section only; cast; not same design as (3) or (5); rectangular with three attachment loops extending from one long side, narrow rectangular loop on other; divided into five panels, three raised squares alternating with two faceted; nematode worms on back (see XRF analysis) (Fig.85, Pl.XI).
5. Bronze wrist-clasp; hook section, used as pair to (4) but not same design; cast; mended with three separate pieces of sheet; two backing strips and a hook; main design as (3) but grooves in place of lines; nematode worms on back (Fig.85, Pl.XI).
6. Iron strip; rivet at one end, textile on one side (Fig.85).

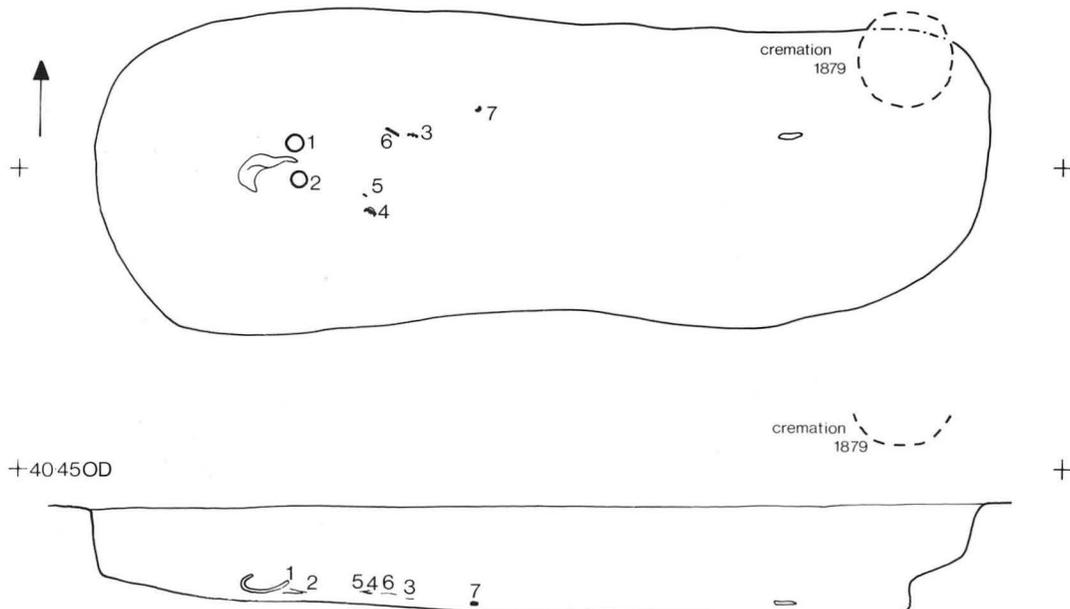


Fig.38. Inhumation 29. 1:20.

Catalogue of Inhumations

INHUMATION 29 (cont.)

7. Jet bead; broken; cylinder, probably lathe-turned, slightly rounded at edges (Fig.85).

8. Iron ring; in two pieces (Fig.85).

Fill: No finds.

INHUMATION 30 (Figs.39, 68, 88, Plate XVII)

Description: Oriented W-to-E. No section or profile drawn although recorded as 'fairly deep' and this confirmed by photographs. Pot (1) at E end, recorded as a grave-good, but its probable depth (about halfway down grave pit) and contents of cremated bone (see below) suggest that this is a cremation urn. Knife (2) in middle, to S. Purse-mount (3) was not planned or recorded in original records of this grave, but box labelled '30/3' returned from conservation containing this object and it appears on X-rays with 30/2. No other inhumation has a missing purse-mount and it may have been concealed by corrosion products around the knife. Some doubt must remain as to its attribution to this grave (Fig.39).

Associations: Cut by cremations 1819, 1820, cutting pit 552.

Bones: Male, 25-35 yrs.

Pieces skull, very broken: maxilla, all molars present; mandible, three molars. Wear indicates 25-35 years. Odontoid process present, very large and male. Teeth have no disease or hypoplasia.

Cremation: Within pot grave-good 1. Infant. Fragments long bone including diaphysis of femur; one unerupted molar cap. ?Two years.

Grave-goods:

1. Pot; complete except for part of rim; pairs of lines at rim, at angle and in middle of neck define two decorative zones, upper occupied by groups of stamps; lower by two-line zig-zag. Stamps: Ia, IIIb. Fabric: Group VIII. (Figs.68, 88).

2. Iron knife (Fig.88).

3. Iron purse-mount; small buckle at apex of shallow triangular mount, upward-looped terminals at each end; X-ray shows inlay, narrow line defining main shape, pale metal probably silver; rectangular attachment fastens buckle to mount, either iron or mineralized leather; traces leather case or purse (Fig.88, Pl.XVII).

Fill: Struck flint: one flake, one scraper; potsherds: one Iron Age, one Roman, one Anglo-Saxon with organic residue (n.ill); ten heat-shattered pebbles, discarded (n.ill).

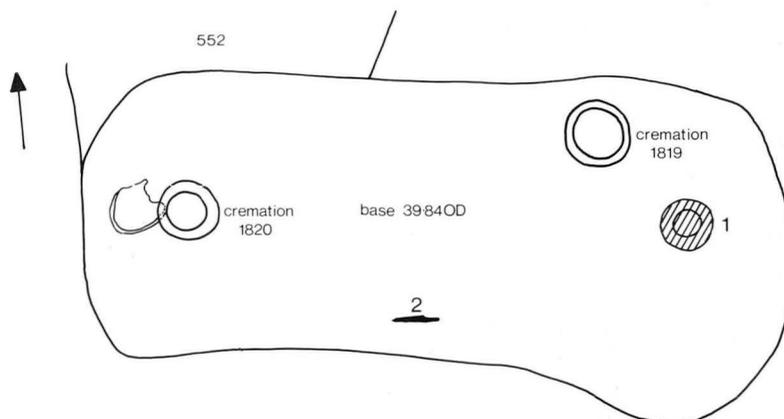


Fig.39. Inhumation 30. 1:20.

INHUMATION 31 (Figs. 5, 6, 8, 40, 86, 87, Plates VI, XV, XVIII)

This grave was published separately soon after excavation (Hills 1977a). Since then, some further objects have been conserved and identified (Nos. 8a-e, 9), and all the grave-goods, the plan and the sections have been redrawn in conformity with the other inhumations. All the records have been reconsidered and there are some changes in detail: this description therefore supersedes that published in 1977.

Description: Oriented NW-to-SE. Timber chamber within large irregular rectangular pit. Arrangement of grave-goods suggests body lay along N side of chamber, but only disturbed bones, both human and animal, were found. Originally seen and excavated as oblong pit containing disturbed sandy loam with grey-brown and black patches (586, 587). This may have been robber pit: fill was disturbed (unlike clean fill above turf in pit of inhumation 40); most of turf or wooden lid for chamber seems to have been missing, surviving only along S and E edges as a thick layer of dark humified wood or turf (588, 590); no substantial grave-goods were found inside the chamber as both the spear and shield were outside, except for the spear ferrule - and they were also outside the 'robbing-pit'. Only disturbed bones were found and at least one of the surviving objects (6) is a fragment of something larger (Figs. 40, 86).

The chamber consisted of a floor of lengthwise planks and sides of upright planks, which must have been pegged, jointed, or simply wedged into position, as there were no metal fittings. Several large flints between planks and sides of pit may have been used as packing.

The spearhead (1) lay above 588, in the SW corner, outside the chamber, while its ferrule (2) was inside the SE corner of the chamber: the spear may have been broken at burial. The shield boss (3) with appliqué (4, 5) was outside the SW corner of the chamber, leaning against its W end. The bronze fragment (6) was near the iron objects (8, 9), near the middle of the N side of the chamber (6 is approximately planned), and the iron object (7) was further to the W, near the N edge of the chamber. The animal teeth came from the SE part of the pit, from an unrecorded depth. Samples of unidentifiable wood and indeterminate organic residues were taken from the chamber and its contents (Fig. 40, Pl. VI, see also pp. 32-33, Fig. 8).

Associations: Next to inhumation 32, both within ring-ditch 579/834, which cut ring-ditch 835. For relationships with other inhumations see discussion on p. 11-12.

Bones: Very mixed. One human molar, large, male c. 40 yrs. One head of humerus detached from epiphysis, child, c. 12 yrs. Three red deer teeth.

Grave-goods:

1. Iron spearhead; narrow leaf-shaped blade, split socket with surviving wood (Fig. 86; Hills 1977a, fig. 64, 1).
2. Iron spear ferrule; traces wood (Fig. 86, Hills 1977a, fig. 64, 2).
3. Iron shield boss and grip; Boss: low irregular slightly convex dome, rising to disc-topped spike, concave waist, sloping flange with five disc-topped rivets. Wood on underside of flange, grain all in one direction. Grip: iron strip, splayed slightly at ends, bent up at sides in middle around piece of wood, leather binding strips around iron and wood. Traces wood of shield board at ends, grain at right angles to grip (Figs. 86, 87, Pl. XV; Hills 1977a, fig. 64, 3).
4. Bronze shield appliqué; in shape of fish, gilded on upper surface; two bronze rivets extend from back. Body, fins, head and mouth defined by faint incised lines, small punched dots also around body and back of head, larger round dots define tail and single stamp forms eye (Fig. 87, Pl. XVIII; Hills 1977a, fig. 64, 4).
5. Bronze shield appliqué; in form of fish, pair to (4); slightly damaged, rivets broken, traces wood around stumps. Shape mirror image of (4), decoration identical (Fig. 87, Pl. XVIII; Hills 1977a, fig. 64, 5).
6. Bronze strip; three fragments, silvered on upper surface; small round stamps along edges (Fig. 86; Hills 1977a, fig. 64, 6).
7. Small iron object; bent strip with traces of wood (Fig. 87).
8. a) Iron object(s); wrapped in textile, with decayed whitish-brown substance; iron blade with tang on ring in front of strip of iron or leather, narrow ribbed bar at opposite end to tang, possibly part of second object (Fig. 87).
b) Triangular piece of iron within leather sheath or binding, also traces of textile (Fig. 87). Possibly knife.
c) Iron buckle; small D-shaped loop with part of leather strap still in position through

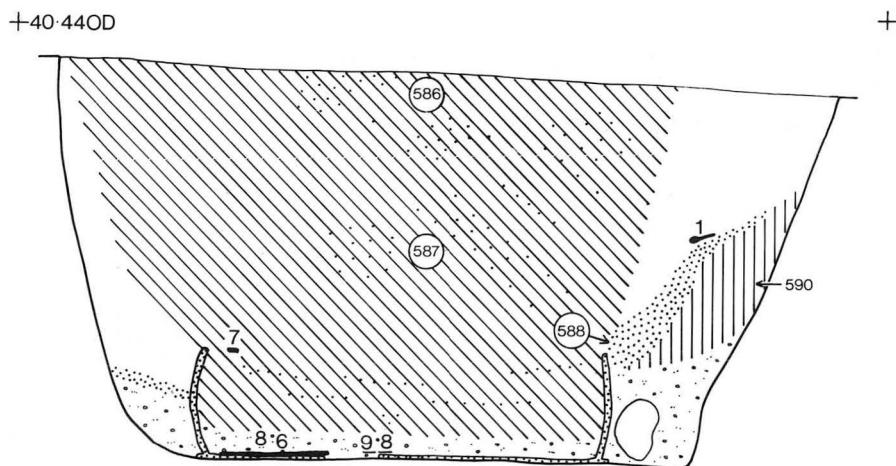
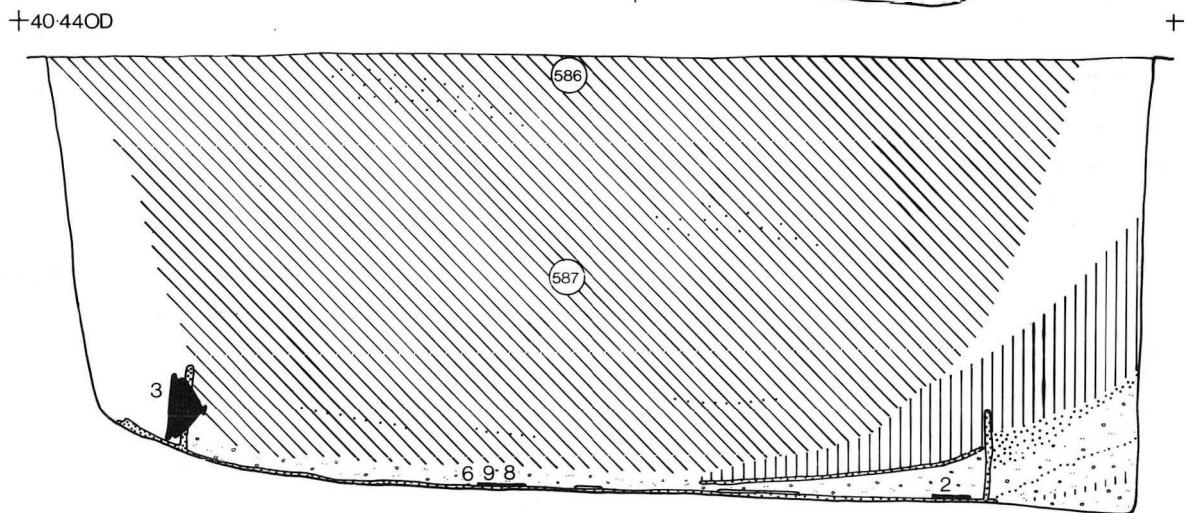
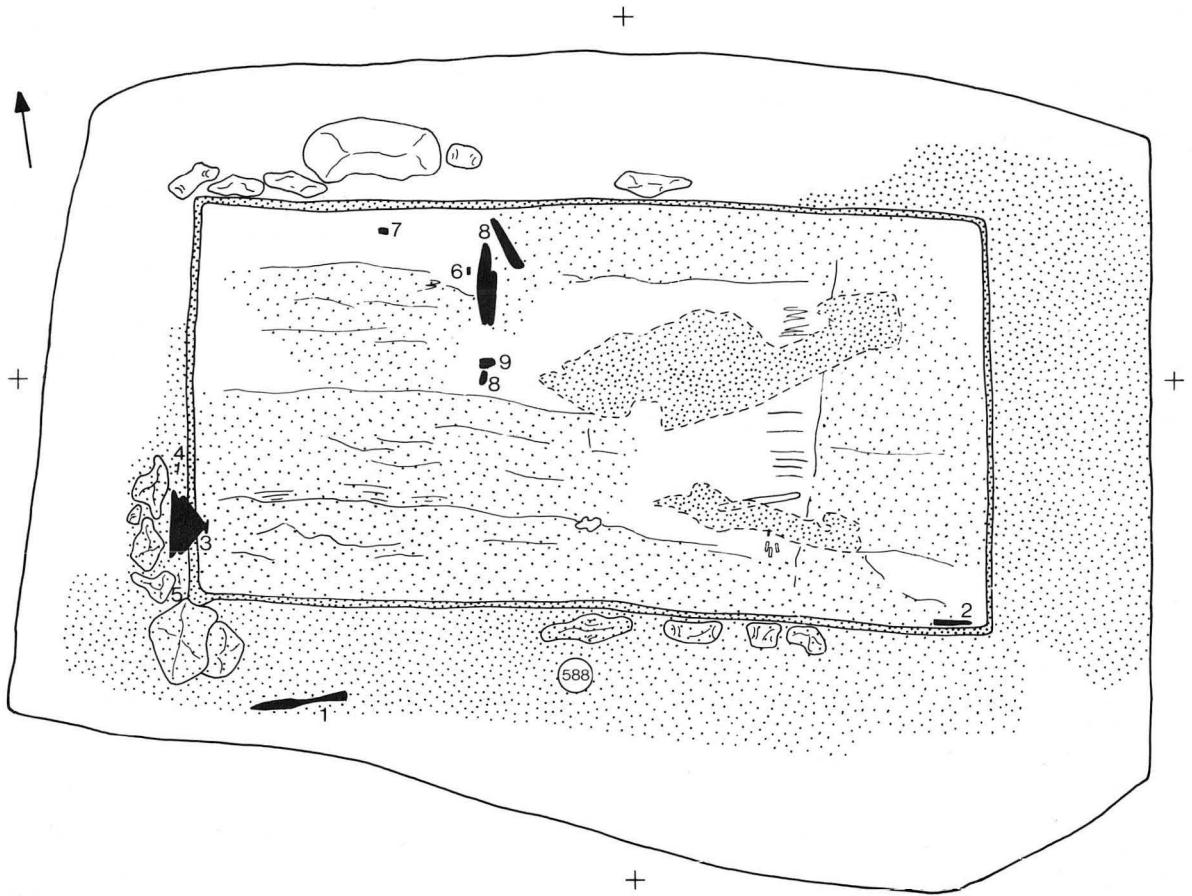


Fig.40. Inhumation 31. 1:20.

INHUMATION 31 (cont.)

loop (Fig.87).

d) Iron knife; blade in part of leather sheath, impression of grooved handle; textile associated (Fig.86).

9. Iron buckle; oval loop with rectangular iron plate, bent double over loop; most of pin missing; possible traces silver inlay visible on X-ray (Fig.87).

Fill: (586, 587, 588, 589, 590, 594).

586: Potsherd; Roman, carinated, first-early second century (n.ill).

587: Small Find No.1455, glass, probably Roman (n.ill); struck flint: one flake, one hammerstone fragment; potsherds: one possibly Neolithic/Early Bronze Age leached shell-tempered, three possibly Iron Age or early Roman, thirteen Roman including two leached shell-tempered sherds and nine early Roman, including two rouletted sherds, one an imitation Drag.29; one piece fired clay (n.ill).

588: Small Find No.322, bronze Roman coin, House of Constantine, emperor illegible, Gloria Exercitus (one standard), Trier mint A.D. 335-341 (n.ill); Small Find No.1454, tap slag (n.ill); struck flint: one utilized flake; potsherds: twelve Roman including one rouletted body sherd from the Nene valley, one leached shell-tempered sherd from the South Midlands, and one samian sherd, South Gaulish, first to early second century (Small Find No.1823); one large and four small pieces of fired clay (n.ill).

589: Struck flint: one broken blade; potsherds: one faceted-angled Anglo-Saxon sherd, two indeterminate (n.ill).

590: One piece of chalk; potsherds: one Roman flagon handle, two indeterminate; one lump of fired clay (n.ill).

594: Potsherd: Roman, with notched cordon (n.ill).

'Fill of 31': piece of chalk (n.ill).

Ring-ditch (579, 834).

579: (W half): Potsherds: twenty-nine Roman including a strainer base, four leached shell-tempered, one of these a late rim, also two Anglo-Saxon and ten indeterminate; one tegula fragment and two other tile fragments (n.ill); Small Find No.1757, iron object (n.ill).

834: (E half): Potsherds: nine Iron Age from two pots, nineteen Roman including three amphorae, one a Spanish globular, one reeded flanged mortarium, two leached shell-tempered, one Anglo-Saxon with IIIb stamp and eight indeterminate; four tile fragments (n.ill).

INHUMATION 32 (Figs.5, 6, 41, 88)

Description: Oriented W-to-E, rectangular coffin stain at bottom of pit with dense rectangular stain at W end, probably humified wood; spearhead (1) near NW corner, above coffin, buckle (2), strap-end (3) and knife (4) in middle on bottom of pit (Fig.41).

Associations: Next to inhumation 31 within ring-ditch 579/834.

Bones: None.

Grave-goods:

1. Iron spearhead; slightly concave blade, traces of wood in split socket (Fig.88).
2. Iron buckle; rectangular loop with flat underside and, on the upper side, inwards and upwards sloping edges; replaced textile adhering to underside (Fig.88).
3. Bronze strip; narrow tapering plate, not decorated; trace of rivet-hole at one end; possibly strap-end (Fig.88).
4. Iron knife; traces leather on tip of blade (Fig.88).

Fill: (592) Potsherds: four Roman, including fourth-century leached shell-tempered from the South Midlands and a grog-tempered combed body sherd, two indeterminate (n.ill).

INHUMATION 33 (Figs.42, 88)

Description: Oriented WNW-to-ESE; pot (1) and beads (2) at W end, bronze object (3) not planned, near beads. Slight dark stain at W end (Fig.42).

Associations: Cut 596. Cut by cremation 2108.

Bones: None.

Grave-goods:

1. Pot; incomplete, large hole in base, plain. Fabric: Group III. (Fig.88).
2. Amber and glass beads; one amber, small, irregular; two glass, both green, barrel-

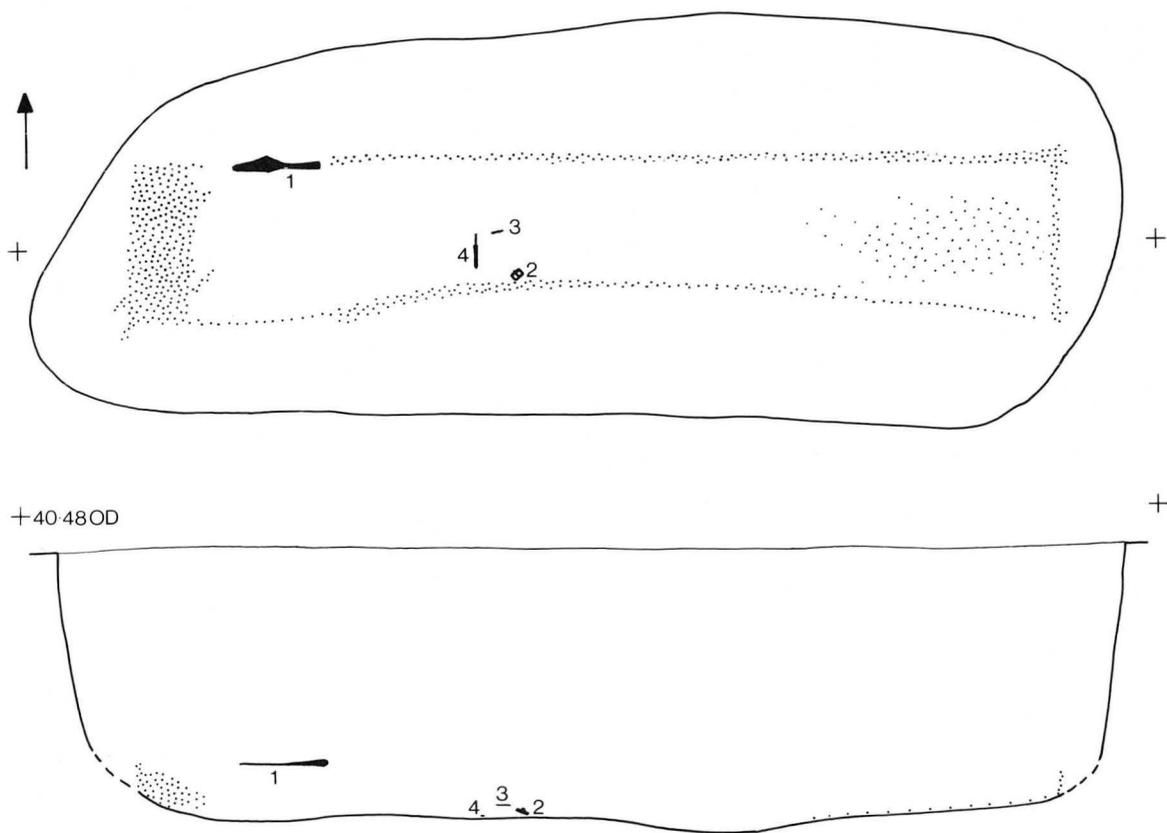


Fig.41. Inhumation 32. 1:20.

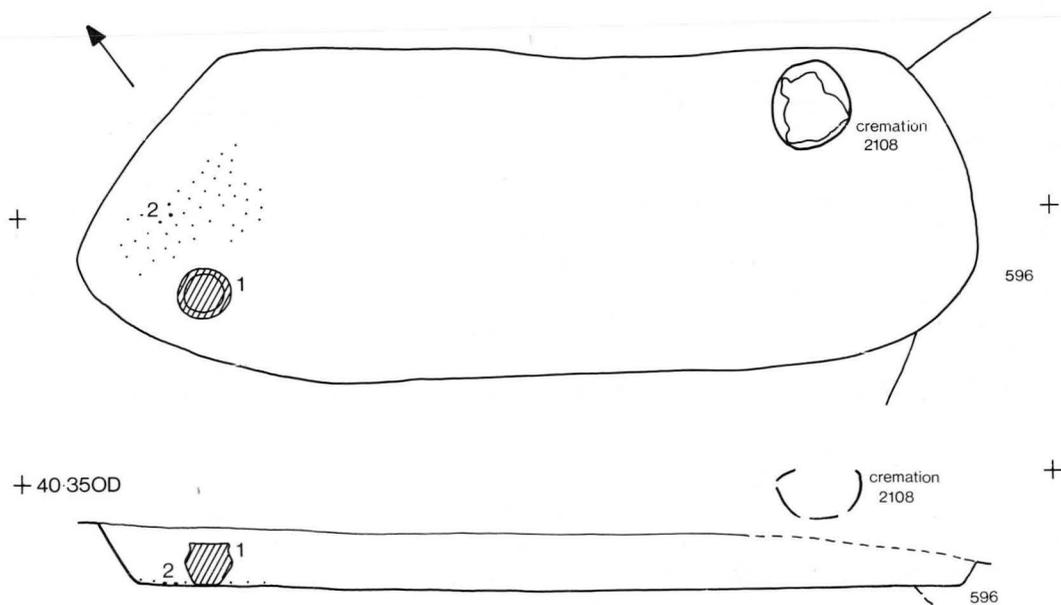


Fig.42. Inhumation 33. 1:20.

INHUMATION 33 (cont.)

shaped (Fig.88).

3. Bronze object; thin flat fragment pierced by five holes, traces of four further holes on broken edge; one original edge in form obtuse angle, traces opposite sides survive to allow reconstruction as diamond (see XRF analysis) (Fig.88).

Fill: Struck flint: one blade, one flake; potsherds: two indeterminate (n.ill).

INHUMATION 34 (Figs.43, 90)

Description: Oriented W-to-E or reverse; no indication of body position but dark stain along middle of pit was probably remains of coffin. Repair strip (1a) was near middle, to S, positions of (1a, b) were not recorded (Fig.43).

Associations: Cut ditch 570, cut by ditch 579. Relationship with ditches 581, 947, and with pit 710 not clear, both ditches were Anglo-Saxon and much shallower than the inhumation pit; the grave-pit was not apparent when the ditch sections were laid out.

Bones: None.

Grave-goods:

1. Bronze, three repair strips from rims of wooden bowl(s). (Small Find No.325).

a) Triangular, end truncated, bent double and held by bronze rivets, some wood preserved. Curvature indicates diameter of c. 25 cm (Fig.90).

b) Triangular, also double, wood held by single rivet at point (Fig.90).

c) Rectangular, two rivets at corners (Fig.90).

Fill: (703) Small Find No.1822, lava quern fragments, 0.075 kg; one heat-shattered pebble; potsherds: three Roman, two Anglo-Saxon, three indeterminate (n.ill).

INHUMATION 35 (Fig.44)

Description: Oriented WNW-to-ESE or reverse, no bones or grave-goods to indicate direction. Faint soil stain on base of pit possibly from coffin (Fig.44).

Associations: None.

Bones: None.

Grave-goods: None.

Fill: Fragment of cremated skull and charcoal, presumably residual in fill from disturbed cremation; one potsherd, indeterminate (n.ill).

INHUMATION 36 (Figs.45, 68, 89)

Description: Oriented WSW-to-ESE, body extended, coffin stain and grave-goods on bottom of pit. Shield boss (1) in middle of grave, surrounded by small spots of iron staining which may be remains of rivets or just natural iron spots; pot (2) in SW corner, spear (3) to N of pot with possible traces of shaft to E, down middle of grave; pin (5) not planned, possibly from foot of grave (Fig.45).

Associations: Cut ditches 569, 570. Cut by cremation 2114.

Bones: Adult. Sex unknown. Much shattered bone; long bones and pelvis; two molars, adult.

Grave-goods:

1. Iron shield boss and grip. Boss: dome nearly straight, traces of one rib, wedge-shaped spike, concave waist and sloping flange, with four disc-headed rivets in position and fifth detached; traces of wood and leather on underside of flange, grain in one direction, and adhering to outer side of cone. Grip: strip of iron, splayed at each end and bent up at sides in middle; rivet at one end; wood inside, part of leather binding around iron and traces textile on both surfaces (Fig.89).

2. Pot; complete; stamp row defined by single lines around neck, two-line chevron on shoulder, groups of stamps in panels. Stamps: IIc. Fabric: Group VI. (Figs.68, 89).

3. Iron spearhead; broad concave angular blade, corrugated in section; wood in split socket, textile around one edge (Fig.89).

4. Iron knife; traces leather sheath (Fig.89).

5. Iron pin; in three pieces (Fig.89).

Fill: Struck flint: one broken blade; one flake; potsherds: two Roman, two probably Anglo-Saxon (n.ill).

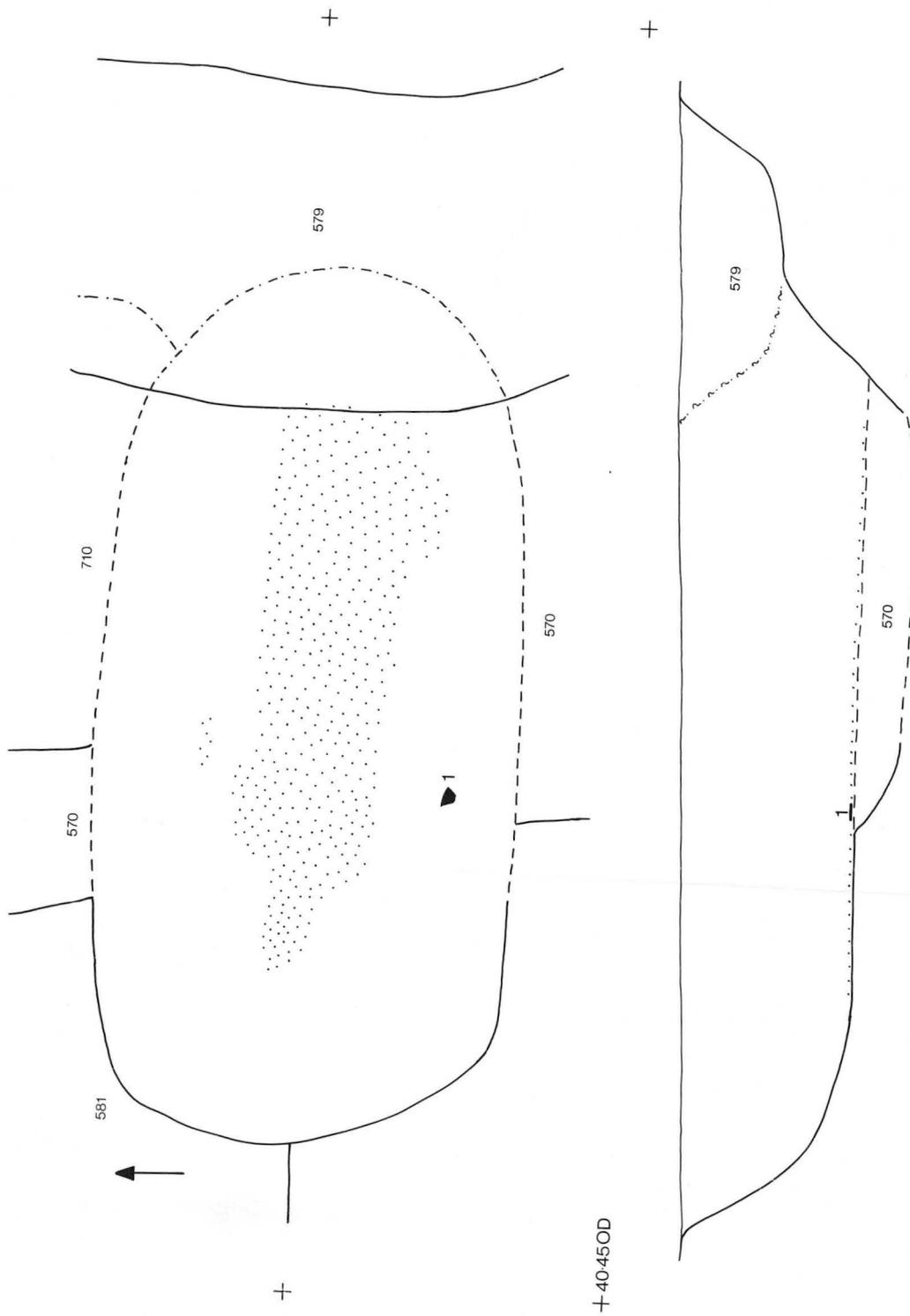


Fig.43. Inhumation 34. 1:20.

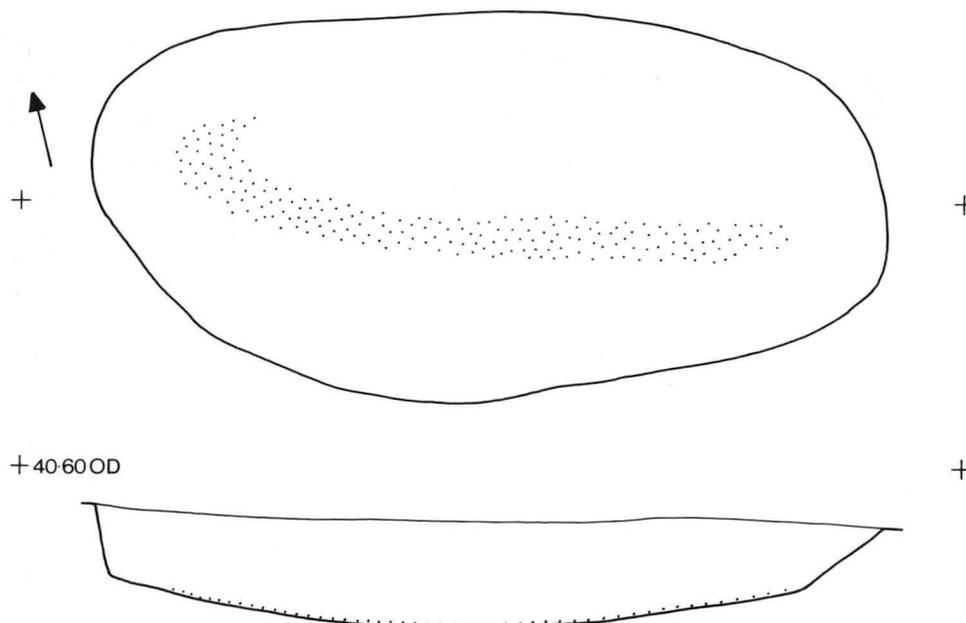


Fig.44. Inhumation 35. 1:20.

INHUMATION 37 (Figs.46, 90, Plates XI, XII)

Description: Oriented W-to-E, edges very unclear as inhumation discovered only after ditches 570, 581, 947 excavated. Grave-goods on bottom of pit, towards W end: brooches (3, 4), beads (6) and bronze sheet (7) together, pot (5) further to E and clasps (1, 2) towards middle; eye section only of (1) planned (Fig.46).

Associations: Cut ditch 570, cut by cremation 2131, relationship with ditches 581, 947 not known.

Bones: Female, 17-25 yrs. Skull fragment, teeth: two copper stained molars indicating 17-25 yrs and one incisor with no wear; no tooth disease.

Grave-goods:

1. Bronze sheet wrist-clasp pair; two rectangles with narrow slot at edge of eye, hook at side of other piece; end of eye section damaged; each section pierced by two round holes for attachment and decorated with row of large repoussé dots down middle, row of small semi-circular stamps along outer edges (see XRF analysis) (Fig.90, Pl.XI).
2. Bronze wrist-clasp pair; edge of hook section damaged, large piece of eye section missing; shape, size and decoration as (1) (see XRF analysis) (Fig.90).
3. Bronze annular brooch; complete; bronze pin, slightly waisted at tip, loop grooved; pin attached through oblong hole in one side; nearly flat, underside plain, upper surface decorated with small stamps around inner and outer edges (see XRF analysis) (Fig.90, Pl.XII).
4. Bronze annular brooch; pair to (3); traces of silver (J. Jones) (see XRF analysis) (Fig.90, Pl.XII).
5. Pot; about half of plain vessel, with organic residue. Fabric: Group VIII. (Fig.90).
6. Amber and glass beads; seven amber: two small biconical; four medium sized, flattened; one larger, broken. Glass: sixteen dark blue translucent annular; one dark blue translucent segmented; one dark blue fluted; two green, near globular; one green translucent annular; one yellow fluted; one red with yellow and green stripe, cylindrical; one green with red crossing trails and yellow spots, cylindrical; one purple with turquoise trail and yellow spots, barrel; three dark blue barrels, probably parts of segmented beads; two white annular (Fig.90).
7. a) Pieces bronze sheet; double triangular object with rivet-hole at apex; probably

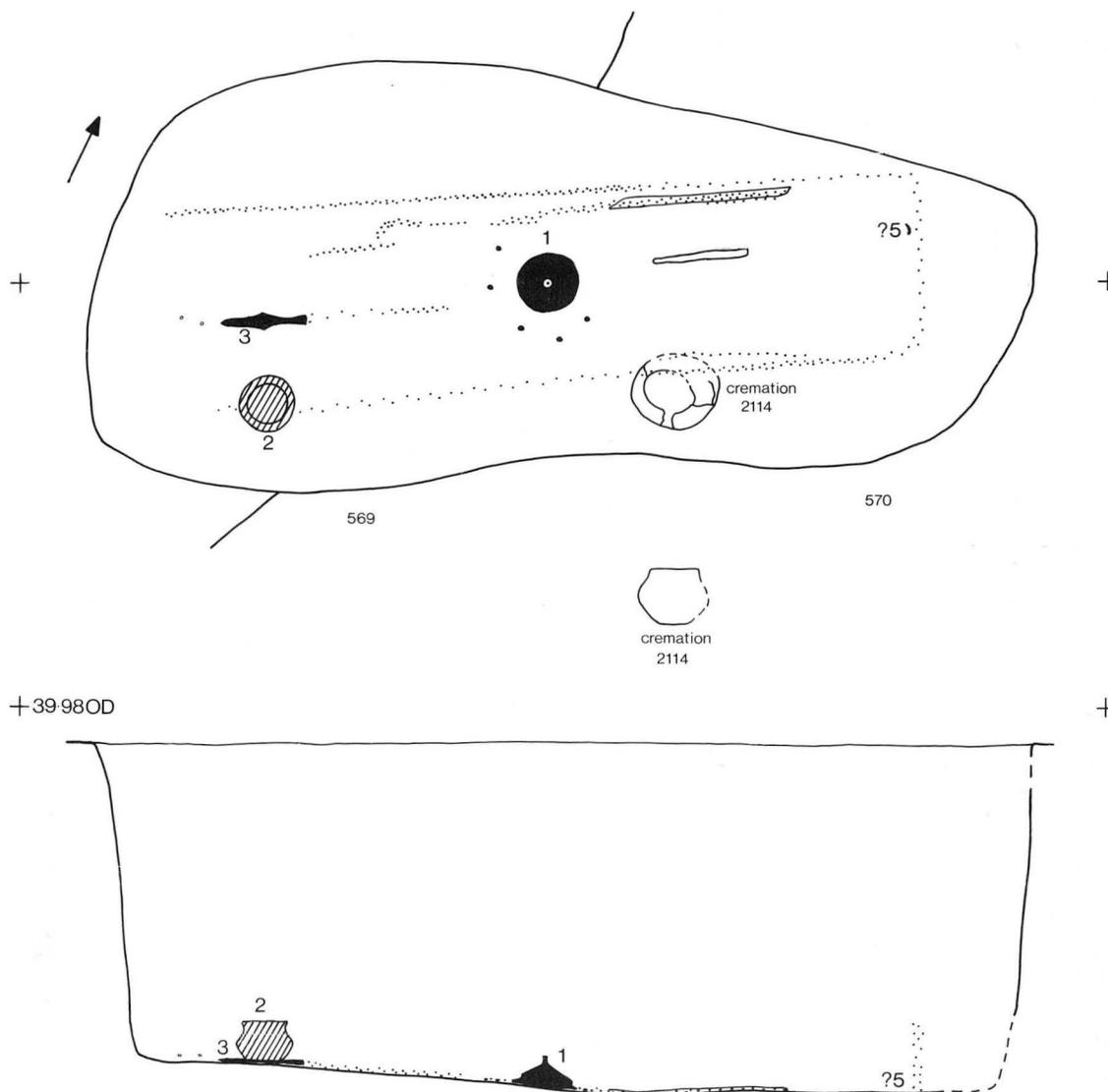


Fig.45. Inhumation 36. 1:20.

INHUMATION 37 (cont.)

spangle; possibly originally attached to pin (b) (see XRF analysis) (Fig.90).

b) Iron pin within mass of replaced textile. Outline drawn from X-ray. (Fig.90).

Fill: (704) No finds.

INHUMATION 38 (Figs.47, 91, 92, Plate XIII)

Description: Oriented W-to-E; no co-ordinates on detailed grave-goods plan, which shows relationship of objects within grave, but not their exact location in the pit. On the plan this is, therefore, approximate, reconstructed from photographs and description; the section is also reconstructed. Grave-goods all on bottom of pit, along S edge of probable coffin area. From W: beads (10), only twenty planned, brooches (7, 8, 9) more beads (10), wrist-clasps (11), silver ring (12) and pots (5, 6), more beads to S of pot (6); together further to E: girdle-hangers (1), knife (2), bronze rings (3) and bronze and iron objects (4); one of girdle-hangers (1) found in SE corner of pit (Fig.47).

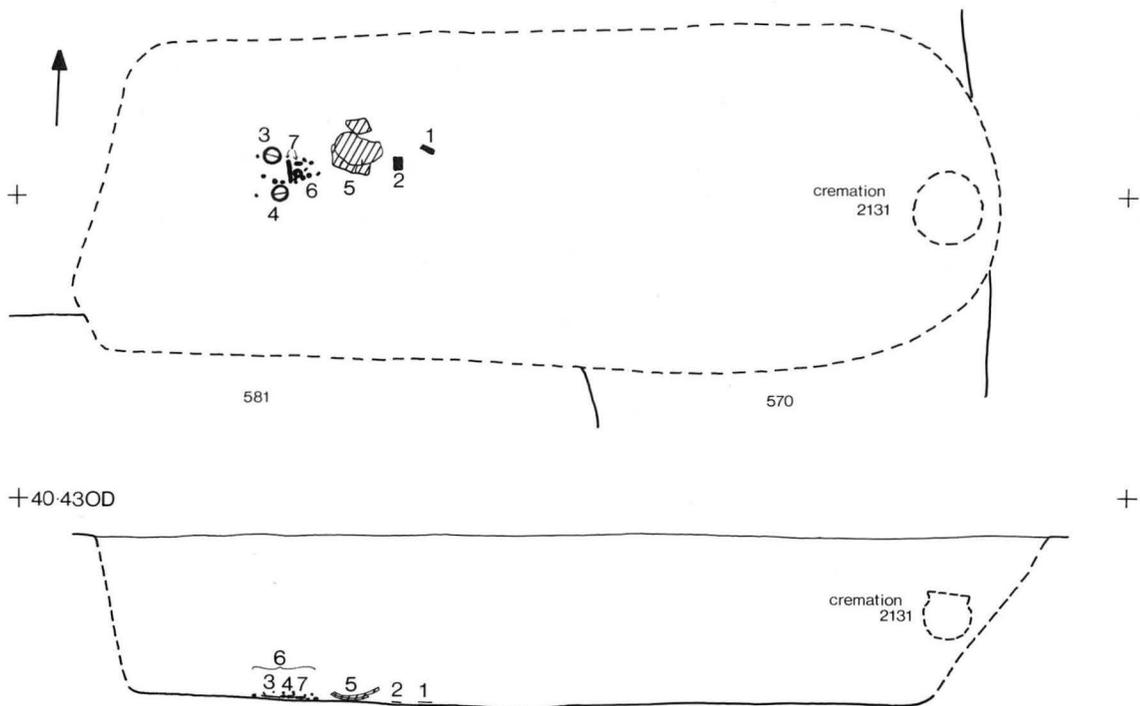


Fig.46. Inhumation 37. 1:20.

INHUMATION 38 (cont.)

Associations: Cut by ditch 581.

Bones: Female, 17-25 yrs.

Teeth only: four molars, two premolars, one incisor. Preserved by copper. No dental disease.

Grave-goods:

1. a) Bronze girdle-hanger; broken in two pieces and part of one forked terminal missing; suspension hole contains remains of iron pin from loop. Short rounded section of shaft below flat section with hole, decorated with transverse and crossed incised lines above short faceted panel; main shaft is flat with longitudinal incised lines along edges; outward-curved forked terminals are decorated with round stamps (see XRF analysis) (Fig.91).

b) Bronze girdle-hanger; broken in two; pair to (a) except for slight variations in linear decoration (see XRF analysis) (Fig.91).

c)i) Bronze buckle; small round loop and rectangular plate, strip bent around loop and fastened by single rivet; replaced textile and leather inside loop (Fig.92).

ii) Iron buckle; broken, part loop and pin only; narrow D-shaped loop, traces of transverse grooves on loop and at neck of pin (Fig.92).

d) Bronze, small cylinder; strip wrapped around iron pin; part of girdle-hanger (1b) and drawn as such (Fig.91).

2. Iron knife; in remains of sheath, fabric inside leather, horn handle (Fig.92).

3. Bronze rings; one broken, single loop, other twisted around in spiral, both thin wire, round in section; could be pieces of single spiral ring (Fig.92).

4. a)i) Bronze fragment; curved tapering strip with iron rivets at each end; part of suspension loop of girdle-hanger (1a or 1b) (Fig.91).

ii) Bronze sheet; two narrow broken pieces held together at one end by bronze rivet; possibly strap-end or spangle (Fig.92).

iii) Bronze, two sheet fragments (Fig.92).

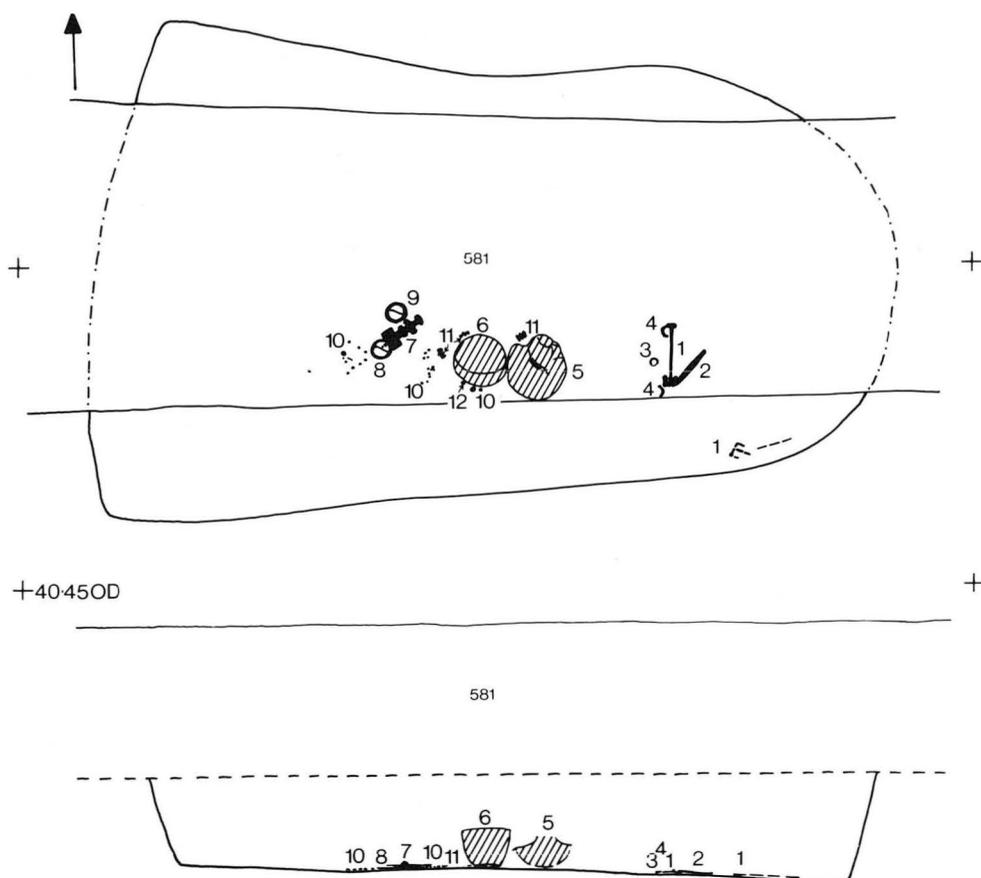


Fig.47. Inhumation 38. 1:20.

INHUMATION 38 (cont.)

4. b)i) Iron ring; broken; textile adhering (Fig.92).
ii) Iron bar; bent at one end, looped over small broken iron ring at other end (Fig.92).
5. Pot; incomplete; plain. Fabric: Group III. (Fig.92).
6. Pot; complete except for piece of rim; plain. Fabric: Group I. (Fig.92).
7. a) Bronze square-headed brooch; mass of replaced textile around iron pin and spring on back of head, also replaced coarse threads wrapped around bow, over lappets and across foot, probably necklace string. Surface worn. Presence of silver (J. Jones). Head: rectangular with slightly raised central panel defined by incised lines and traces of faint row of semi-circular stamps. Bow: faceted rectangular panel at each end. Foot: rectangular panel below bow with traces V-shaped stamps along outer edges, from which extend plain sub-rectangular lappets; pair of raised transverse ridges; cruciform panel with wedge-shaped side extensions and a spatulate terminal defined at the neck by transverse grooves; traces of small semi-circular stamps around foot edges (see XRF analysis) (Fig.91, Pl.XIII).
b) Glass beads; one blue, translucent, cylindrical; one ?black, segment of multiple; found with brooch (7a) (Fig.92).
8. a) Bronze annular brooch; complete bronze tubular pin within mass of replaced textile; flattened wedge in section, underside plain; upper surface decorated with small round stamps around inner and outer edges (see XRF analysis) (Fig.91).
b) Amber and glass beads; two amber, both barrel-shaped, one larger than other; one glass, part of small segmented bead, possibly gilded (Fig.92).
9. Bronze annular brooch; pair to (8a); complete, presence of silver (J. Jones); associated detached textile (see XRF analysis) (Fig.91).

INHUMATION 38 (cont.)

10. a) Crystal, jet, amber and glass beads; one smooth oval crystal bead; one jet bead, possibly lathe-turned; nineteen complete and further fragments of amber beads, including five or six biconical, the remainder flattened or globular; thirty-five glass beads: nine yellow, sub-globular; ten pieces of segmented gilded beads; two green fluted; two white, annular; two pieces black segmented beads; one white with blue crossing trails, annular; two purple translucent segments of multiples; one blue, narrow cylinder; two green-blue translucent barrel-shaped; three turquoise, barrels; one translucent pale green, globular (Fig. 92).

b) Bronze; irregular cylindrical bead (Fig.92).

11. Bronze wrist-clasps, two pairs; cast; one hook section broken, separate sheet hook mend added in antiquity, now detached; each section consists of a narrow rectangle divided into five panels, three plain squares alternating with two grooved panels; the broken hook section also has a concentric circle on each square panel; each section has three attachment loops extending from one long side and a hook or an eye on the other; the two eye sections appear very similar but the hook sections are neither identical to each other nor exactly similar to the eye sections (see XRF analysis) (Fig.91).

12. Silver ring; flat band, grooved along each edge; several broken pieces from a spiral ring, not a closed band, with one surviving pointed end (Fig.92).

13. Bronze sheet; two small pieces, one with bronze rivet at one end; similar to (4a ii); found in fill, not planned (Fig.92).

Fill: Potsherds: three possible prehistoric, one Anglo-Saxon with linear decoration, one indeterminate (n, ill).

INHUMATION 39 (Figs.48, 93, 94, Plates XII, XIV, XV)

Description: Oriented WNW-to-ESE, E end obscured by pit 710 and ditch 581. No co-ordinates for detailed grave plan, located approximately from photographs. Grave-goods in cluster in W end of pit: brooches (1, 2, 7), beads (5) and buckle (6); most of beads planned; pot (3) in NW corner, strap-end (4) in middle towards N (Fig.48).

Bones: Adult female. Fragments long bone and one short piece of radius; teeth: one molar, one premolar.

Associations: Cut by cremation 2133 (not on section as level not recorded), also cut by ditch 581, but relationship to pit 710 not clear.

Grave-goods:

1. a) Bronze cruciform brooch; complete except for iron pin, mostly missing; unworn surface; mass of replaced textile on back of head around spring. Head: slightly trapezoidal with splayed wings, raised rim along each side edge, but otherwise undecorated; half-round knobs, cast in one, hollowed at back, grooved around base. Bow: faceted at each end, median groove between incised lines. Foot: flat undecorated panel between plain stepped lappets; pair of double-grooved ridges; horse head terminal. Horse has raised, round eyes defined by crossed incised lines, sharp central angle down nose and wide flattened nostrils on either side of flat sub-triangular extension with small loop in middle of bottom edge. Tool marks across back of bow, along catch-plate and elsewhere (see XRF analysis) (Fig.93, Pl.XIV).

b) Two amber beads; one biconical, one square; found near (1a) (Fig.93).

c) Lead bead; recorded, now missing (n, ill).

2. a) Bronze annular brooch; disintegrated iron pin originally attached through hole on one side; slightly convex; underside plain, upper surface decorated with small punched dots around inner edge, S-shaped stamps around outer; tool marks on both surfaces; associated detached textile (see XRF analysis) (Fig.93, Pl.XII, XV).

b) Three amber beads; all biconical, found near (2a) (Fig.93).

3. Pot; about half plain wide-mouthed vessel. Fabric: Group II. (Fig.93).

4. Bronze strap-end; two narrow plates with rounded points, rivet-holes at straight ends; one section undecorated, incomplete, other near complete, pairs of transverse lines at either side of rivet hole (Fig.93).

5. Crystal, amber and glass beads; five crystal: two faceted, elongated biconical; fifty-seven amber: twenty-four small biconical; five relatively large, irregular; remainder smaller, flattened or globular; twenty-two glass: eight translucent with slight green tinge,

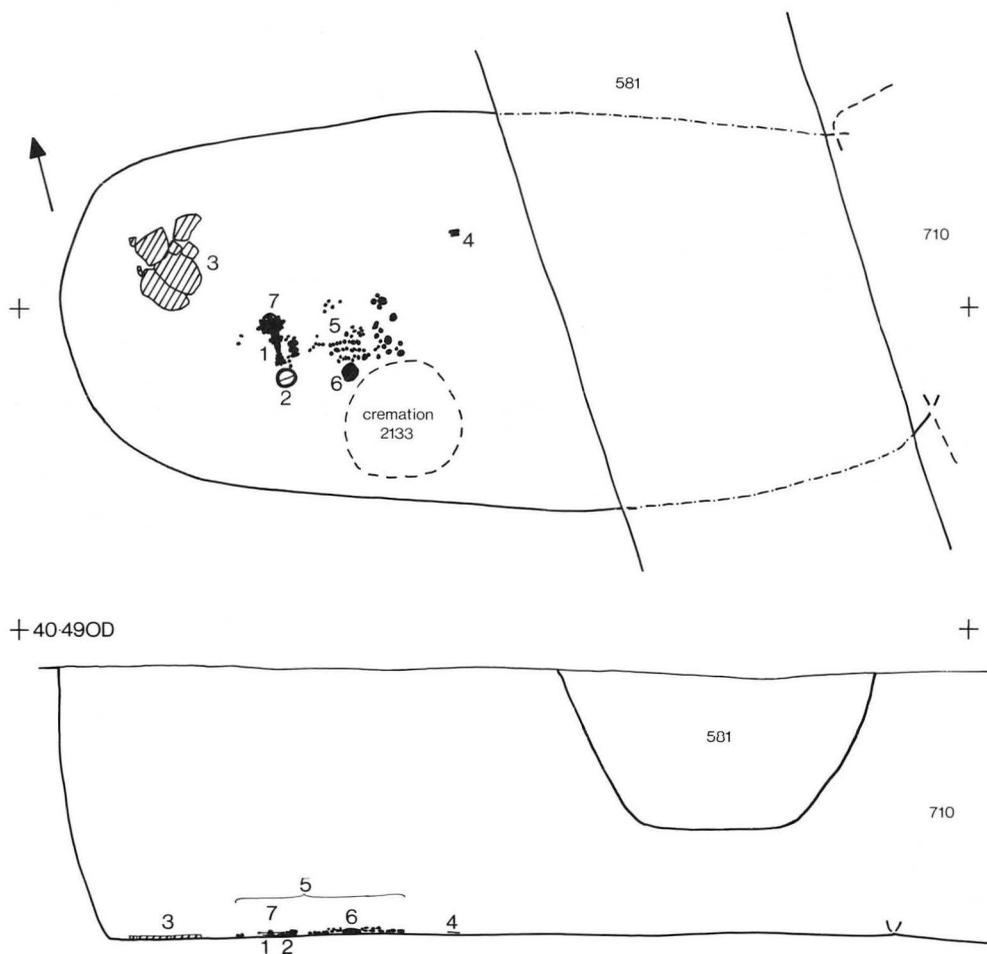


Fig.48. Inhumation 39. 1:20.

INHUMATION 39 (cont.)

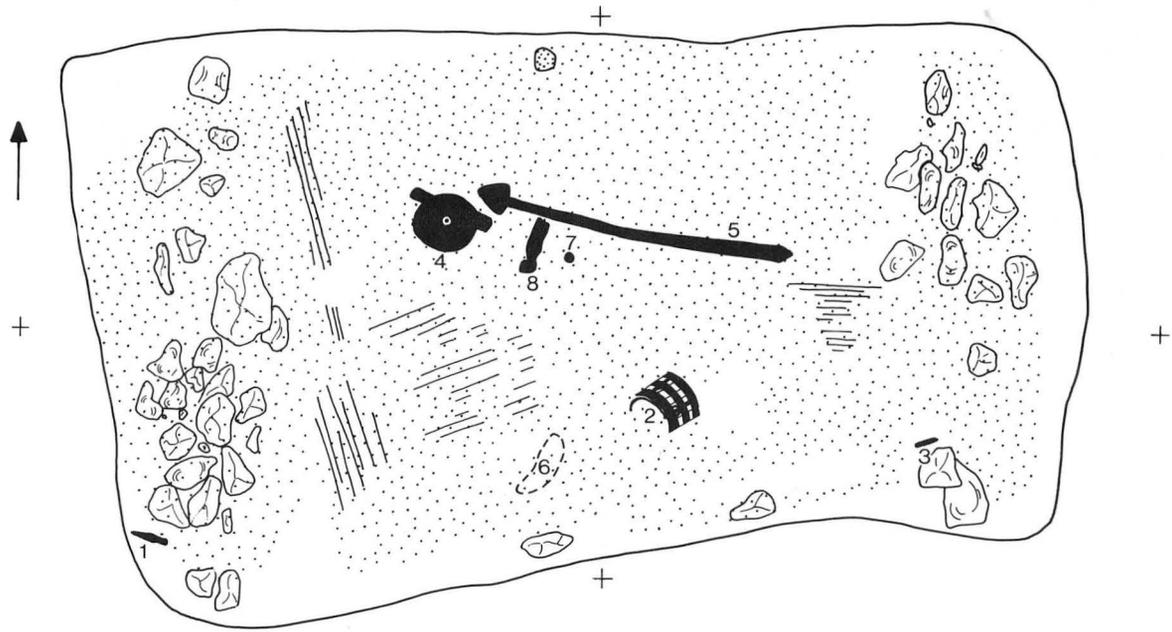
annular; two pale green translucent cylinders; one segment of pale green translucent multiple; four green fluted; one segment of black multiple; one purple, square; two red with yellow and green stripes, barrel; one yellow with green trails, globular; one green with red crossing trails, globular; one dark blue with red and white spots, globular. One large amber bead has small bronze cylinder in central hole (Fig.94).

6. a) Bronze buckle plate; folded strip with remains iron tongue and leather strap (Fig.93).
b) Iron buckle loop; oval, with remains of leather strap and textile (Fig.93).
c) Iron plate; rectangular (Fig.93), drawn from X-ray.
7. Bronze annular brooch; pair to (2a); iron pin broken and covered in mass of replaced textile. Traces of tooling on both surfaces (see XRF analysis) (Fig.93).

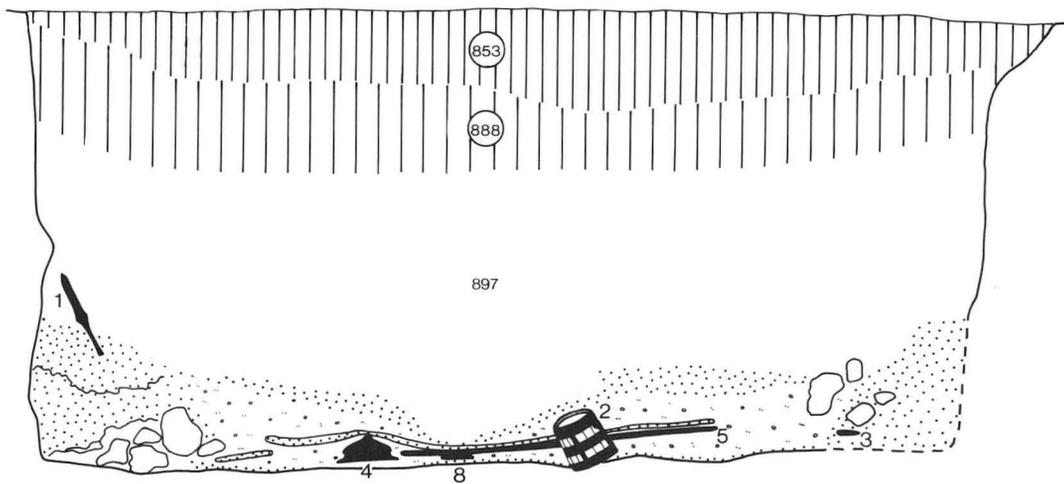
Fill: No finds.

INHUMATION 40 (Figs.5, 6, 8, 49, 95, 96, 110, Plates I, V, VII, XV, XVIII)

Description: Oriented WSW-to-ENE; no indication of body position, except that grave-goods (4-8) suggest it lay in N half of pit, possibly extended. Large rectangular pit with heaps of flint at bottom at each end, covered with heaps of turf in turn covered by turf layer which extended over whole of pit. This layer had subsided in middle but was intact, showing grave had never been robbed or re-opened. Above turf was main fill of grave (897), sand with some gravel, a mixed layer of sand and loam with gravel (888) and a layer of hard-packed brown loam/sand with small and medium stones which was simply topsoil that had subsided into the



+ 40:570D



+ 40:570D

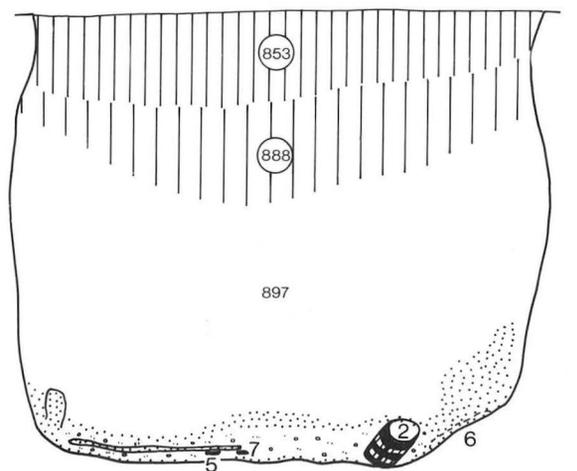


Fig.49. Inhumation 40. 1:20.

INHUMATION 40 (cont.)

top of the grave. If there had ever been a barrow it must have been completely removed as this layer (853) appeared continuous with modern ploughsoil. Beneath turf, traces of wood with lengthwise grain show planks on floor of chamber, transverse grain probably indicates caved-in end of chamber; wood lying on top of sword (5) and shield boss (4) probably part of lid, either wooden lid under turf or wooden framework supporting turves. There was no evidence for a separate coffin within timber and turf structure. Grave deposit was on floor of pit, under turf except for spearhead (1) in SW corner, sticking upright out of turf; ferrule (3) was in SE corner, under turf, so original position of spear is not clear and it is more likely that it was deliberately broken at burial than that the ferrule fell through rotting wood/collapsing turves at later stage. Bucket (2) was in middle of S side of pit, partly showing through collapsed turf, but set on floor of pit; bronze repair from wooden bowl (6) was to W of (2); shield boss (4) lay in N half of pit, to immediate W of sword (5), bead (7) and iron (8) to immediate S of sword (Fig.49, Pls. I, V, VII, see also pp.34-36, Fig.8).

Associations: Within ring-ditch 835 which was cut by ring-ditch 579/834. For relationship with other inhumations see discussion on p. 12.

Bones: None.

Grave-goods:

1. Iron spearhead; slightly concave blade with trace of central angle; hollow socket with traces wooden shaft (Fig.96).
2. Bronze-bound wooden bucket with bronze handle; now largely disintegrated, drawn from photographs taken in situ (Plate VII); upright wooden staves of buckthorn held in position by three horizontal bronze binding strips and by four upright strips, binding held together and to wood by small dome-headed bronze rivets. Handle: narrow bronze strip, tapering towards each end; small circular stamps along centre of each end and edges of middle. Rim: plain bronze strip bent lengthwise around top of staves. Upper binding strip: bronze, decorated with two rows of repoussé dots below middle. Middle strip: bronze, probably undecorated. Lower strip: bronze, undecorated; wider than middle strip, narrower than upper. Upright strips: repoussé dots along edges; pair of curved strips with repoussé dots extend from middle to upper strip from strip attached to handle. Half of bucket disintegrated and missing, but probably symmetrical with side drawn. Wood of staves identified as buckthorn (*Rhamnus catharticus*) (Fig.96, Pl.VII).
3. Iron spear ferrule; traces wood in socket (Fig.96).
4. Iron shield boss and grip. Boss: incomplete; convex dome, spike missing; concave waist, sloping flange, number of rivets not clear from surviving pieces; wood on top of dome and under flange. Grip: part of iron strip, bent up at sides, traces of wood inside, grain at right angles to iron; leather binding strips on outside, textile adhering to leather. Several iron fragments from shield (Fig.95, Pl.XV).
5. Iron sword blade in remains of scabbard; broken; part of tang within remains of horn handle and lumps of iron and whitish-brown substance from presumed position of pommel (size exaggerated on plan by corrosion); X-ray shows some detail of blade structure. Scabbard: traces of leather on blade; wood also on blade probably from chamber. Mouth: bronze gilt strip with chip-carved decoration, double row of scrolls within border of two grooves and three ridges. Tiny fragments of detached bronze and wood packed with sword. (Fig.95, Pl.XVIII). See Appendix I and II.
6. Bronze and wood, three fragments of repair strip(s) from wooden bowl (Fig.96).
7. Amber bead; truncated cone, flat underside (Fig.95).
8. Iron and decayed whitish-brown concretions; probably parts of shield but not definitely identifiable. Before conservation 40/8 recorded as 'iron surrounded by decayed white substance'. (Fig.95).
9. Bronze buckle-plate; small fragment, around piece of iron loop (Fig.96).

Fill: (853, 888, 897)

853: Potsherds: one possibly prehistoric, four Roman including one third- to fourth-century beaded and flanged rim, one indeterminate (n.ill).

888: Potsherds: two Roman (n.ill).

897: No finds.

Ring-ditch (835): Small Find No.589, 0.035 kg lava quern fragment (n.ill).

Struck flint: one broken blade; potsherds: twenty-seven Roman including two colour-coated, from same pot, possibly from Colchester, two leached shell-tempered, one early Roman

INHUMATION 40 (cont.)

cordoned, one rouletted, two early Roman body sherds, one bowl rim, nine indeterminate (n.ill); one fired clay fragment (n.ill).

INHUMATION 41 (Figs. 5, 6, 50, 97, 98, Plate II)

Description: Oriented WNW-to-ESE; surrounded by shallow ring-ditch (836). Rectangular coffin stain, denser at W end, sample identifiable as wood but species not determinable. Spear (1) above main deposit, in SW corner, ferrule (2) in NE corner, also above main deposit, spear laid diagonally across grave above coffin; traces wood with grain at same level, with one of iron objects (7-10); shield boss (5), knife (11), ring (3), and iron fragments (7-10) in W half of grave; bronze fragment (6) in middle, ring (4) in E half, to N of coffin stain. Iron (7-10) all numbered as (7) on plan because they were not separately numbered on original plan (Fig. 50, Pl.II).

Associations: Surrounded by ring-ditch (836) which is presumably contemporary and probably defined small barrow over grave. Shallow pits or post-holes (854, 855) within ring-ditch; post-hole or pit (858) intersects with ring-ditch (836), but there was no clear relationship and these features may not have been contemporary with burial. Cremation 2138 (Hills and Penn 1981, 56) buried in middle of inhumation grave pit.

Bones: None.

Grave-goods:

1. Iron spearhead; slightly concave blade, split socket with traces of wooden shaft (Fig. 97).
2. Iron spear ferrule; traces of wood in socket (Fig.97).
3. Bronze ring; piece of thick wire bent around (Fig.97).
4. Iron ring; very small, broken (Fig.97).
5. Iron shield boss and grip. Boss: shallow concave cone with flattened wedge-shaped spike, concave waist and sloping flange still carrying five disc-headed bronze rivets, possi-

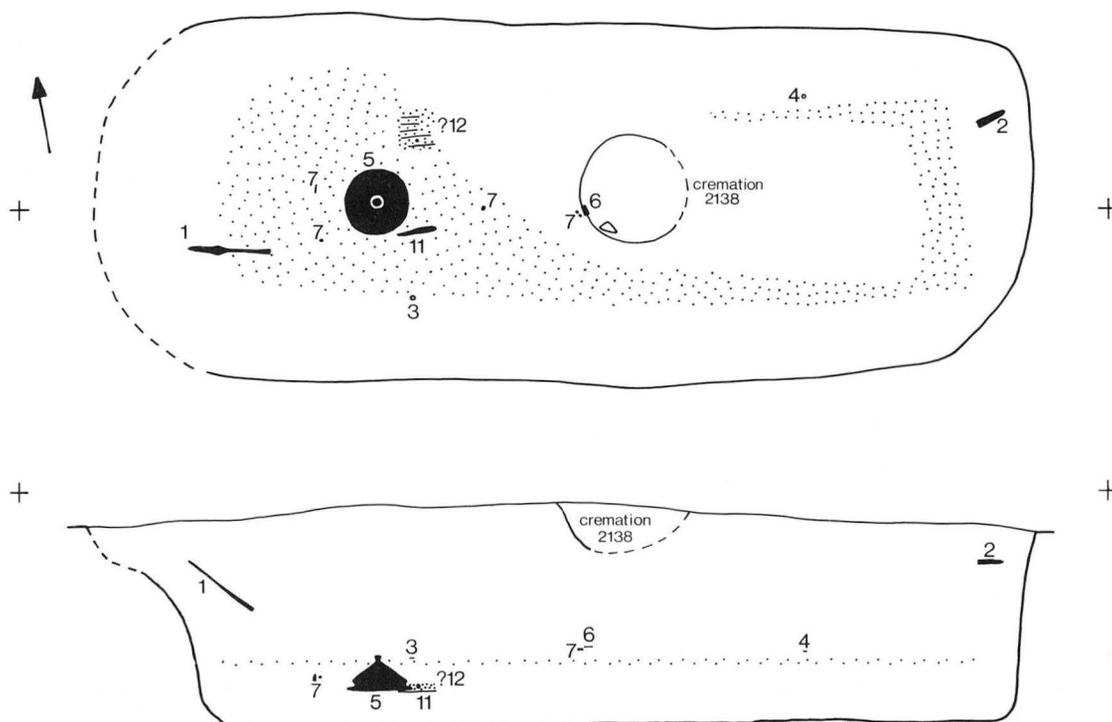


Fig. 50. Inhumation 41. 1:20.

INHUMATION 41 (cont.)

bly originally tinned. Surviving wood on underside of flange shows grain at right angles to grip, wood 7-9 mm thick, slightly dished, separated from iron boss by layer of leather with flesh side next to wood. Grip: narrow strip slightly splayed at ends, traces wood on inside bent-up sides, remains of leather binding strip and textile traces visible on outside. Rivet at each end (Figs.97 and 98).

6. Bronze fitting; rectangular plate, decorated with incised lines around edges; two rivet holes, one still containing remains of iron rivet (see XRF analysis) (Fig.97).

7. Iron fragments; very small (n.ill).

8. Iron fragment; very small, possibly flake from larger object (n.ill).

9. Iron fragment; very small, possibly flake (n.ill).

10. Iron fragment; very small, possibly flake (n.ill).

From their position around the shield boss iron fragments (7-10) might be thought to be parts of the shield, but the pieces are so very small it is not clear what function they could have had.

11. Iron knife; traces of horn on tang (Fig.97).

12. a) Bronze sheet fragments (n.ill).

b) Iron fragment with textile traces (Fig.97).

c) Iron fragment with textile traces (n.ill).

d) Buckle; iron loop and tongue, bronze plate; traces of wood and leather (Fig.97).

These objects (12a-d) were found embedded in a wood sample, probably from the W end of the grave, possibly the shield area. Small fragments of textile were associated with them.

Fill: (852) Potsherds: one Iron Age, eight Roman including two early Roman, one with combed decoration, and six grey ware, one of which has a graffito scratched after firing. (This sherd joins Small Finds Nos. 447 (Inh.57) and 448 and is itself Small Find No.1824) also two miscellaneous leached shell-tempered sherds, two joining Anglo-Saxon sherds with organic residue. Fabric: Group I (Fig.98), and two indeterminate (n.ill).

Ring-ditch: (836) Struck flint: two flakes, one scraper; potsherds: one possibly prehistoric, thirteen Roman including a third-to-fourth-century coarse colour-coated neck sherd from the Nene valley, three leached shell-tempered sherds from the South Midlands, and two indeterminate (n.ill).

INHUMATION 42 (Figs.5, 8, 51, 68, 98, Plates XI, XIX)

Description: Oriented WSW-to-ENE. At top of pit was layer of brown sandy soil with some pebbles (847), above main pit fill of orange-yellow sandy soil, similar to natural, with lenses of grey-brown sandy loam and traces of worm action (861). Layer of grey sandy greasy loam, probably decayed timber or turf (873), represented lid of coffin, and similar layer on bottom of pit (883), coffin floor. Clean orange-yellow sand, like 861, lay within coffin (882). Pot (1) broken in SW corner of pit, outside coffin, pot (2) also outside coffin, in middle of W end, other grave-goods within coffin: brooches (5, 6) and beads (3) together near W end, clasps (4) all together in middle of grave. Brooches were found upside-down. As only teeth survive body position cannot be securely reconstructed but grave-goods suggest body may have been crouched, with arms, therefore, together and brooches falling from shoulders. Another, less likely, possibility is that the body was buried prone, with hands tied (Fig.51, see also pp.34-36, Fig.8).

Associations: Intersected with ring-ditch 835. Ditch too shallow for sequence to be clear; see p.12 for further discussion of sequence.

Bones: Adult female, 25-35 yrs.

Teeth: six molars; two premolars; one incisor. All copper-stained. Molars indicate 25-35 yrs.

Grave-goods:

1. Pot; half plain vessel, with organic residue. Fabric: Group I. (Fig.98).

2. Pot; complete; window urn, small piece clear glass, rim with self-coloured trail, set in base; two stamp rows around neck, defined by single lines, above single-line chevron, stamps singly in chevron panels. Stamps Vd, Vid. Motifs like Stamp Group 7, stamps not actually identical. Fabric: Group VI. (Figs.68, 98, Pl.XIX).

3. Amber and glass beads; eleven amber, one broken: two relatively large, flat, remainder smaller, irregular. Twelve glass: two red, cylindrical; two green, cylindrical; one yellow globular; one yellow-green annular; one white, decayed, annular; one yellow, fluted;

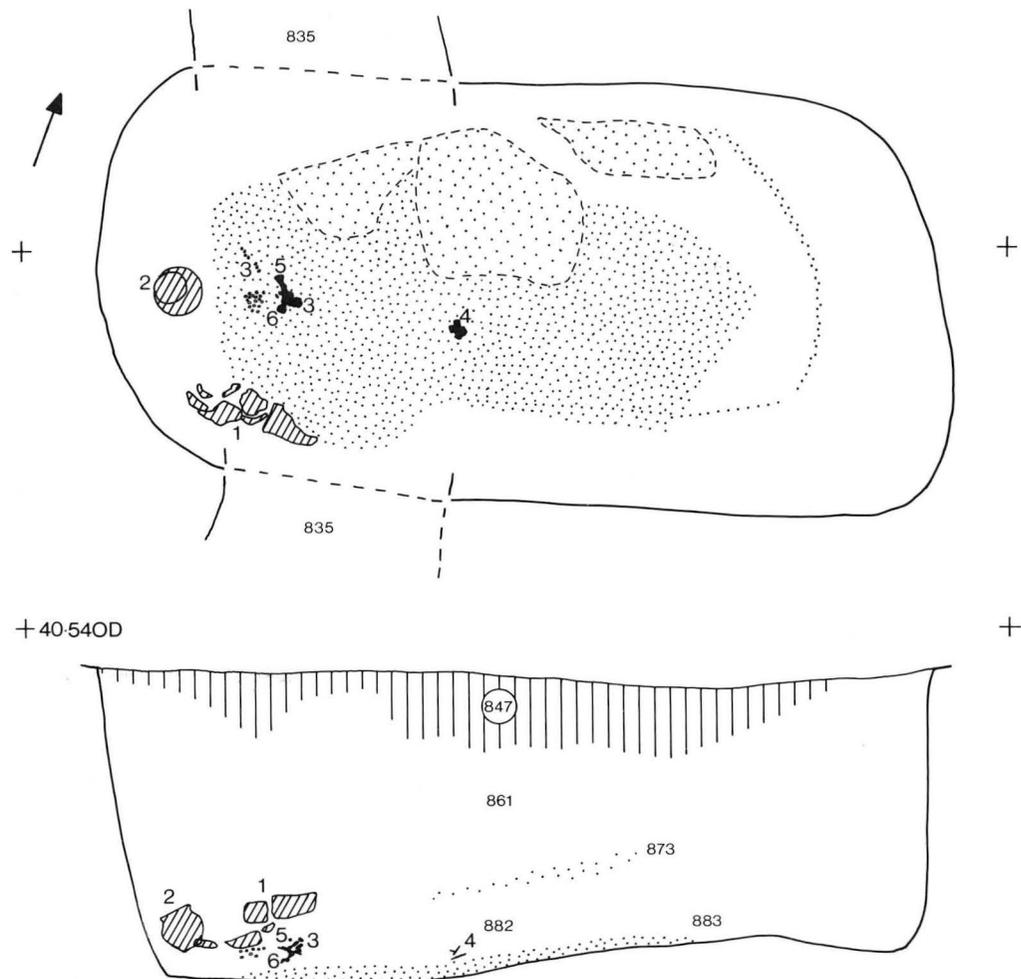


Fig.51. Inhumation 42. 1:20.

INHUMATION 42 (cont.)

one white with blue crossing trails, annular; one yellow with red trails, truncated cone; one white with green crossing trails and yellow spots; one red with white crossing trails and yellow spots (Fig.98).

4. Bronze wrist-clasps; parts of three sections, two hooks with one broken eye; traces of gilding on upper surfaces; cast; each section rectangular, internal edges consist of narrow panel with transverse grooves within plain borders, attached to row of four flat round panels connected by attachment loops; hooks extend from underneath inner edges of two sections, eye in side of third; one of hooks missing, separate piece of curved bronze appears to be this hook; replaced textile associated (see XRF analysis) (Fig.98, Pl.XI).

5. Bronze small-long brooch; incomplete, most of foot missing; traces of iron pin and spring behind head. Head: trapezoidal, possibly traces of line around edge, otherwise undecorated. Bow: transverse raised band across middle. Foot: flat panel with rudimentary lappets below bow, above raised grooved panel, at which point foot is broken off and missing; catch-plate behind remaining part of foot (see XRF analysis). (Fig.98).

6. Bronze small-long brooch; pair to (5); incomplete, edges of head and foot missing. As (5) with more remaining of spatulate foot terminal. Unidentifiable wood, also replaced textile, enclosing remains of iron pin, associated with (5) and (6) (see XRF analysis) (Fig.98). Fill: (847, 861, 873, 882, 883) 847: Potsherds: two possibly Iron Age, including a rim, one indeterminate (n.ill). 861: Potsherds: two Roman, four indeterminate (n.ill). 873: Pot-

INHUMATION 42 (cont.)

sherds: one Roman, two possibly Anglo-Saxon (n.ill). 882: Potsherds: one Roman, one indeterminate with finger-nail decoration (n.ill). 883: Potsherds: two indeterminate (n.ill).

INHUMATION 43 (Figs.5, 52, 99)

Description: Oriented NW-to-SE or reverse. Potsherds (1) found in middle of grave, slightly above bottom of pit (Fig.99).

Associations: Intersected with ring-ditch 835, ditch too shallow for sequence to be apparent. Grave aligned on ditch (p.12).

Bones: None.

Grave-goods:

1. Pot; few plain sherds including part of base, with possible traces of organic residue. Fabric: Group IV. (Fig.99).

Fill: (875) Potsherds: three Roman, two indeterminate (n.ill). (877) Potsherds: three, all Roman (n.ill).

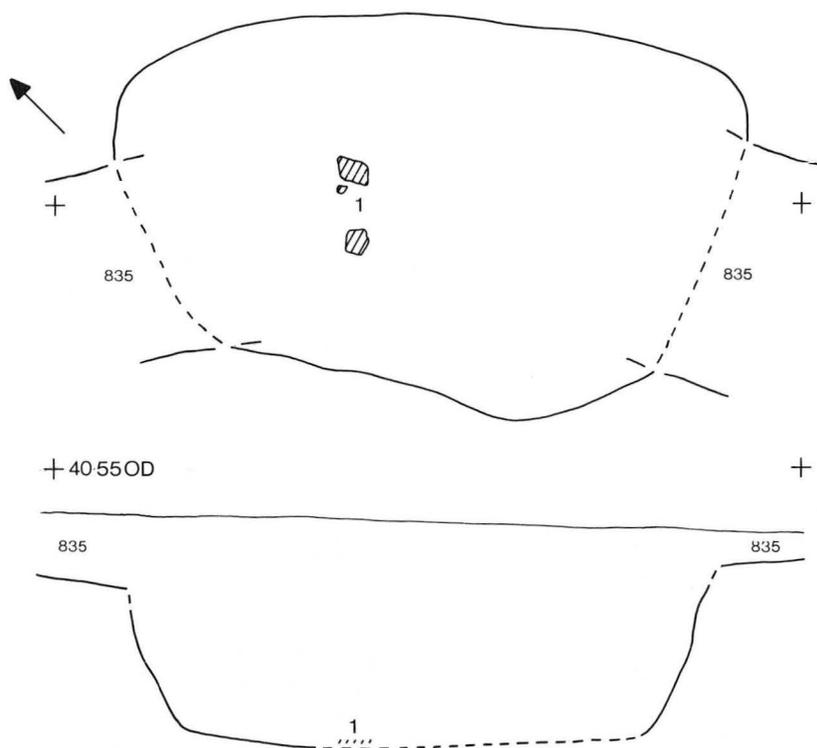


Fig.52. Inhumation 43. 1:20.

INHUMATION 44 (Figs.5, 53, 99, Plates VIII, XII)

Description: Oriented ESE-to-WNW; crouched burial, facing N with head to E, reverse to normal alignment. Pot (1) beside head, brooches (3, 4) and beads (7) near or on shoulders, ring (2), ring (5) and knife (6) together in SW part of grave; objects (8) found inside skull (Fig.53, Pl. VIII).

Associations: Intersected with ring-ditch 835, on which it was aligned. Ditch too shallow for sequence to be apparent (p.12).

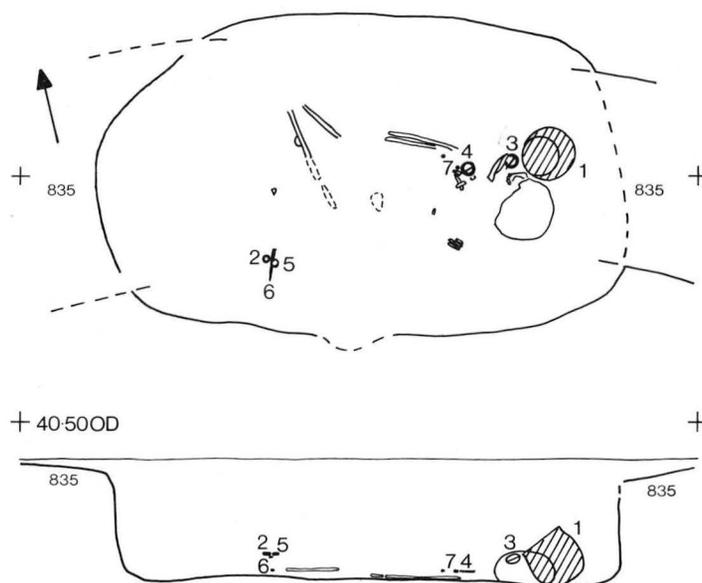


Fig.53. Inhumation 44. 1:20.

INHUMATION 44 (cont.)

Bones: Adult, female.

Skull well preserved. Of usual Romano-British shape as defined by Macalister 'Coffin-shaped' (Macalister unpub.). Not sufficiently complete to measure for metrical comparison. Internal suture closure gives measurement of age as 30+. Teeth: mandible: all teeth present; molars: wear minimal, ?25 yrs; incisors: much wear to pulp cavity. One fragment of radius. No disease of teeth or bone.

Grave-goods:

1. Pot; complete, plain. Fabric: Group I. (Fig.99).
- 2., 5. Two iron rings; one broken, thin, other complete, biconical in section. Packed together and not now clear which is which (Fig.99).
3. Bronze annular brooch; pair to (4); complete; overlapping sections of loop pierced by round holes: since both brooches have this feature and on both the overlap is in same relationship to pin, it appears to be deliberate, not a mend, and may have been to strengthen the brooches for suspension of necklace string. Bronze tubular pin attached through another hole; underside plain, upper surface decorated with widely spaced round stamps around inner and outer edges (see XRF analysis) (Fig.99, Pl.XII).
4. Bronze annular brooch; pair to (3); complete (see XRF analysis) (Fig.99, Pl.XII).
5. See (2).
6. Iron knife; tip of blade missing, traces of horn on tang, remains of handle (Fig.99).
7. Amber and glass beads; four small amber; three glass: one blue translucent, narrow cylinder; one yellow-green, broken; one red with blue stripes, barrel-shaped (Fig.99).
8. a) Iron ring; round loop and part of pin; possibly ring-headed pin or small buckle (Fig.99).
b) Iron loop, broken; traces of textile (Fig.99).

Fill: (878) One potsherd: early Roman rim (n.ill).

INHUMATION 45 (Figs. 5, 54, 99, 100, Plate IX)

Description: Oriented W-to-E; grave-goods on bottom of pit, brooches (1, 2, 8) and beads (3, 4) together, except for scattered beads, at W end, partly under decayed wood; repair to wooden bowl (7) to S of brooches, pair of bronze rings (6) one at either side of jewellery, third ring (5) with knife (9) in E half of grave, towards N edge, pot (10) near middle on S edge.

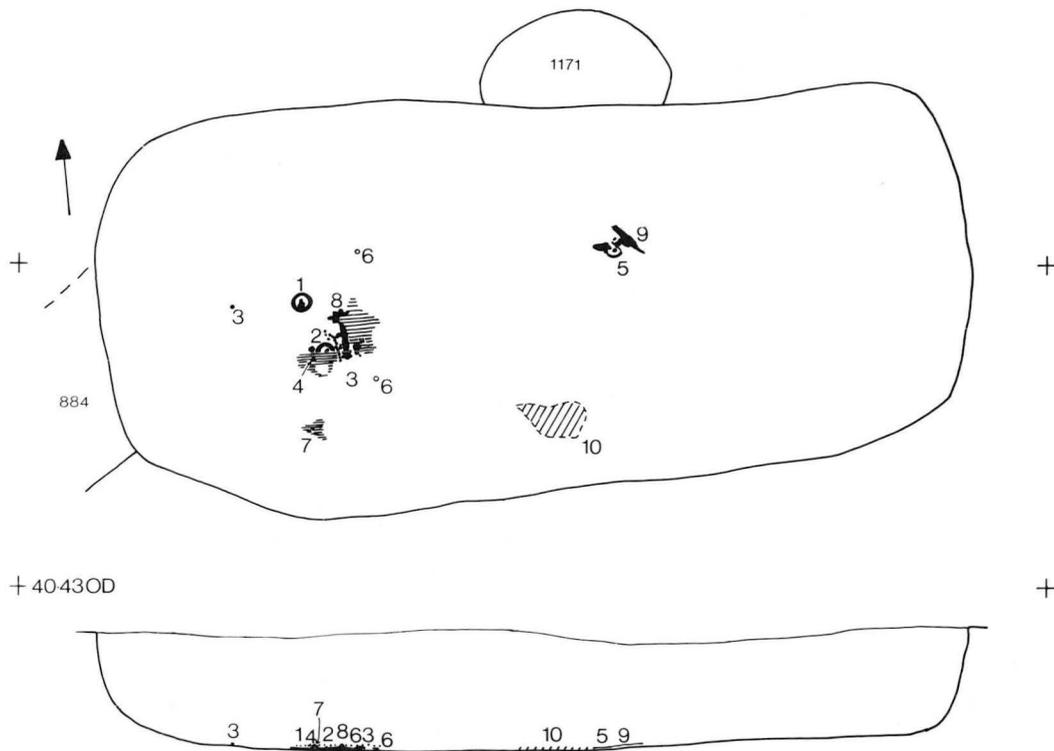


Fig.54. Inhumation 45. 1:20.

INHUMATION 45 (cont.)

Iron objects (11) probably near (5) (Fig.54, Pl.IX).

Associations: Intersected with and probably cut gully 884, arc of ring-ditch around inhumation 46. Cut 1171. (see p.12).

Bones: Age and sex unknown.

Small fragment tibia and second molar, both copper-stained. Not ageable or sexable.

Grave-goods:

1. Bronze annular brooch; pair to (2); part of iron pin surviving in mass of replaced textile; slightly convex, underside plain, upper surface decorated with circular stamps around inner and outer edges. Textile from under brooch (see XRF analysis) (Fig.100).
2. Bronze annular brooch; pair to (1) pin missing except for slight iron traces near attachment hole (see XRF analysis) (Fig.100).
- 3, 4. Crystal, amber and glass beads; one smooth, flattened biconical crystal bead; seventeen small amber beads and three slightly larger, all irregular in shape; six glass beads: two white with blue trails, decayed; one large white with blue trails, disc; two yellow with red trails, cylindrical; one yellow with green stripes, cylindrical (Fig.99).
5. Bronze ring; undecorated; solid, penannular with small gap between plain flat terminals (Fig.100). Wood associated.
6. Bronze rings; two small plain loops, squarish in section (Fig.99).
7. Bronze repair strip; from rim of wooden bowl, some wood attached, bronze rivet joins two pieces bronze sheet (Fig.100).
8. a) Bronze cruciform brooch; iron pin missing but spring and half cross bar surviving on back of head. Head: rectangular, only slightly raised above splayed wings; top knob cast in one, side knobs separate, attached by cross bar and by wedge-shaped front extensions, one broken off; two grooves around each knob; vertical stamp rows on central panel, also faint traces of circular stamps along edges wings. Bow: narrow panels at each end, trace of circular stamps along edges. Foot: tripartite, flat stamped panel, faceted along lower

INHUMATION 45 (cont.)

part of sides, extending to curled lappets from upper sides, one broken and mended during conservation; raised grooved panel; horse head terminal with raised round eyes, smooth nose between plain flat round nostrils and a lobed spatulate terminal decorated with circular stamps and a band of incised lines. Faint stamps probably visible down nose. Associated with textile, wood and metal-replaced fly puparia (see XRF analysis) (Fig.100).

b) Four small amber beads attached to pin of (8a) (Fig.99).

9. Iron knife; tip of blade missing (Fig.100).

10. Pot; few plain sherds. Fabric: Group II. (Fig.100).

11. Iron, two bars; one bent in right-angle at end, possibly latch-lifter. Also iron figure-of-eight loop, possibly part of same object (Fig.99).

Fill: (879) No finds.

INHUMATION 46 (Figs.5, 6, 55, 101, 102, Plates X, XIII)

Description: Oriented W-to-E; substantial coffin stain, rectangular, including outline, base and lid. Grave-goods under lid, near bottom of pit: brooches (1, 2, 3), silver ring and beads (4) together in W half, buckle (9) and fragments (5) to E of jewellery; clasps (7) near middle, ring (6) and knife (8) together near N edge. Various pieces of unidentifiable wood survive (Fig.55, Pl.X).

Associations: Surrounded by arc of ring-ditch 884 to S (see p. 12). Cut by cremation 2136; cremation 2139 scattered in fill at E end (Hills and Penn 1981, 56).

Bones: Age and sex unknown.

Five very small fragments, unidentifiable.

Grave-goods:

1. Bronze equal-armed brooch; corners damaged, pin missing; wood and textile associated with (1) and (2); two flat trapezoidal sections joined by simple arched bow; behind slightly larger 'head' are traces of iron pin and spring under small lump of replaced textile; on upper surface, around edges, are traces semi-circular stamps (see XRF analysis) (Fig. 101, Pl.XIII).

2. Bronze equal-armed brooch; pair to (1), details as (1) (see XRF analysis) (Fig.101, Pl.XIII).

3. Bronze cruciform brooch; most of pin missing, spring preserved under mass of replaced textile; catch-plate broken; associated wood and indeterminate organic residue. Head: rectangular raised central panel with slightly splayed wings, top and one side knob half-round, other side knob full round; top knob cast in one, side separate, now detached, held originally by cross bar and by slots in bases; incised lines around base and dome of each knob, traces triangular stamps along edges inner head panel. Bow: flat panels each end, median groove. Foot: tripartite: faceted and incised panel; half-round grooved panel; horse head terminal, raised round eyes and nose with central angle, traces of stamps down middle, round terminal. Surface damaged and no stamps clearly visible (see XRF analysis) (Fig.101).

4. a) Silver ring; wire bent in loop, twisted loops at ends interlocking with each other; found in line with beads, apparently part of necklace (Fig.101).

b) Amber, crystal and glass beads; most strung as found, also some loose. String: (glass unless otherwise stated) seven dark blue annular; one yellow with green trails and red spots, angular cylinder; one amber; one dark blue annular; one yellow with green trails and red spots; three dark blue translucent, one annular, two barrels; one amber; one blue with criss-cross white trails and red spots, large barrel; one amber; two blue translucent, annular; one white with blue trails and red and yellow spots, angular cylinder; one blue, translucent, annular; one amber; one red with green and yellow stripes, barrel; one blue translucent annular; one amber. Loose: one smooth oval crystal; four amber, one larger than other three, all irregular; four glass, blue translucent annular. Altogether twenty-four glass beads, including nineteen blue annular (Fig.102).

5. Bronze wrist-clasps; associated with wood; four small sheet fragments and three pieces cylinder, decorated transverse lines (see XRF analysis) (Fig.101).

6. Bronze ring; complete plain cast loop, round in section (Fig.101).

7. Bronze sheet wrist-clasp pair; damaged. Each section is flat rectangle with two attachment holes, hook on one section, eye slot cut through other; outer edges both sections cut

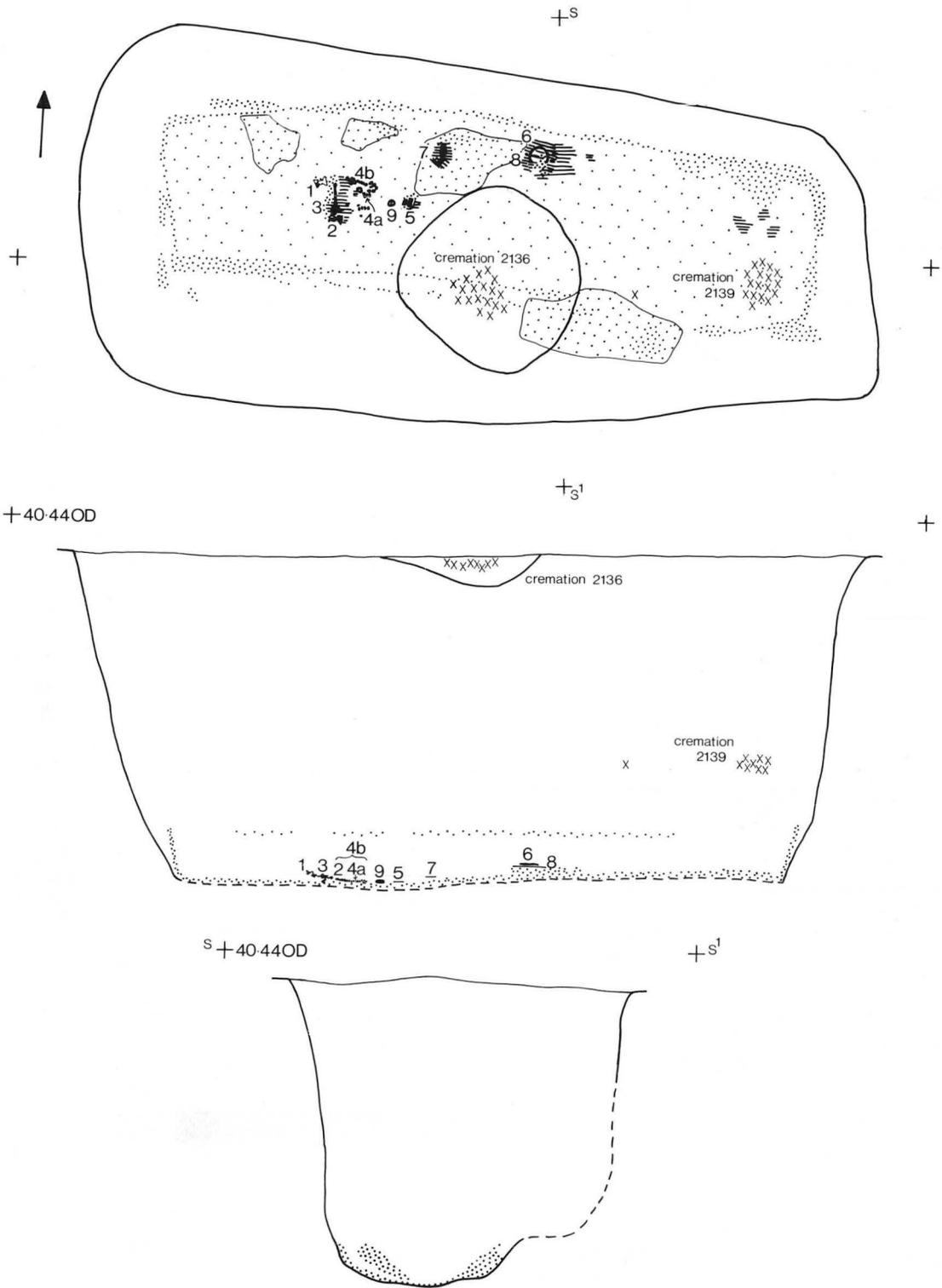


Fig.55. Inhumation 46. 1:20.

into points; upper surfaces decorated with small circular stamps, traces of scar and detached fragment of decorative cylinder (see XRF analysis) (Fig.101).

8. Iron knife; blade broken, traces horn on tang; associated wood and indeterminate organic residue (Fig.101).

9. Iron buckle; oval loop and pin, traces textile on upper surface; drawn from X-ray (Fig.101).

Fill: (881) Struck flint: one blade, one flake, three retouched flakes, one of them struck from a polished implement; potsherds: four Neolithic to Early Bronze Age leached shell-tempered, six Roman including one leached shell-tempered, two indeterminate; one flue tile fragment.

Ring-ditch 884: Potsherds: one possibly late Neolithic to Early Bronze Age leached shell-tempered, nine Roman including one colour-coated, one mortarium flange of East Anglian fabric and five early Roman body sherds, five Anglo-Saxon, one indeterminate (n.ill).

INHUMATION 47 (Figs.5, 56, 102)

Description: Oriented WSW-to-ENE; large flints in upper fill, above burial. Position of surviving bone and possible body stain indicates crouched burial facing N. Large piece of pot (1) broken at E end. Position of flints in section reconstructed from photographs, with broken lines (Fig.56).

Associations: Intersected with ring-ditch 835, on which it was aligned. Ditch too shallow for sequence to be apparent (p. 12).

Bones: Female, 17-25 yrs.

Skull fragments; few fragments unidentifiable post-cranial long bones; teeth: two unerupted third molars; eight erupted molars; one premolar; one canine. Molars hardly worn, but incisors worn down to pulp cavity. No dental caries, but linear enamel hypoplasia indicating episodes of ill-health or starvation.

Grave-goods:

1. Pot; sherd from large plain vessel with organic residue. Fabric: Group I. (Fig.102).

Fill: Struck flint: one retouched flake; potsherds: two possibly prehistoric, one Roman (n.ill).

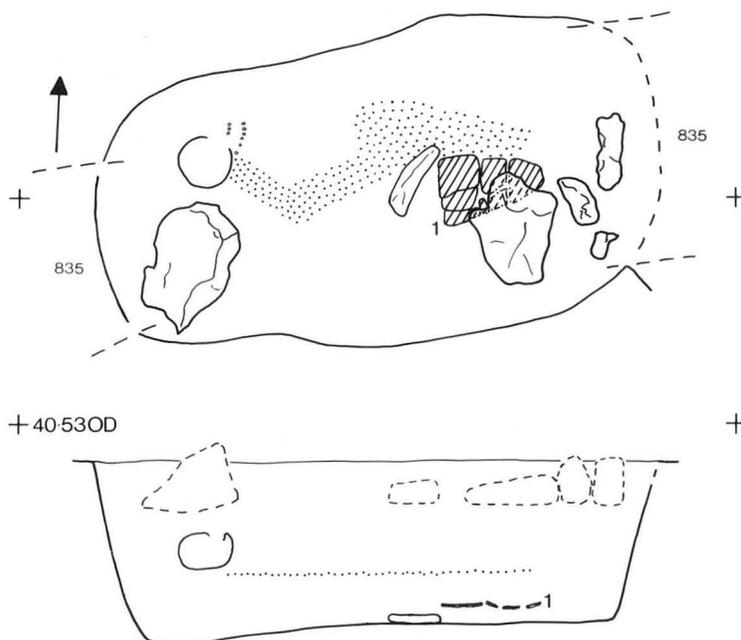


Fig.56. Inhumation 47. 1:20.

INHUMATION 48 (Figs. 5, 57, 102, Plate XI)

Description: Oriented W-to-E; profile reconstructed, with broken lines, from plan, N-S profile and levels. Upper layer of fill (904) excavated as part of ditch 570, probably exactly the same deposit as lower grave fill (907), both medium to dark grey-brown sandy loam, more pebbles, small to medium, in 904. Clean layer of sand (909) at side of inhumation appears to be primary ditch fill. Burial deposit, on or near bottom, of pit; wrist-clasps (1) at either side, near middle, position of northernmost recorded but not actually planned in situ; knife (2) in middle of grave, pot (3) in NE corner (Fig.57).

Associations: Cut ditch 570.

Bones: None.

Grave-goods:

1. Bronze wrist-clasp pair; sheet, two rectangular sections, each with four semi-circular extensions along outer edges, pierced by three attachment holes; traces of wear from thread between holes and edges; hook on one side, broken hole on other; traces solder on upper surface of each section where decorative cylinder or strip had been attached, now missing from both (see XRF analysis) (Fig.102, Pl.XI).
2. Iron knife; parts of leather sheath; small fragments iron, bronze and wood associated (Fig.102).
3. Pot; incomplete, plain, with organic residue. Fabric: Group II. (Fig.102).

Fill: (904, 907, 911) 904: Finds not kept separately from other finds from upper layer of ditch 570. 907/911: Potsherds: one Iron Age rim, seventy-eight Roman including one fourth-century leached shell-tempered S.Midlands rim, one third-to-fourth-century Nar valley white-slipped, one mortarium flange, one late fourth-century Nene valley coarse jar, one second-to-third-century colour-coated beaker body sherd, possibly Nene valley. All except last are of third-to-fourth-century date (n.ill). Animal bone: tooth of small deer, part of cow tooth, end of long bone of large mammalian (n.ill).

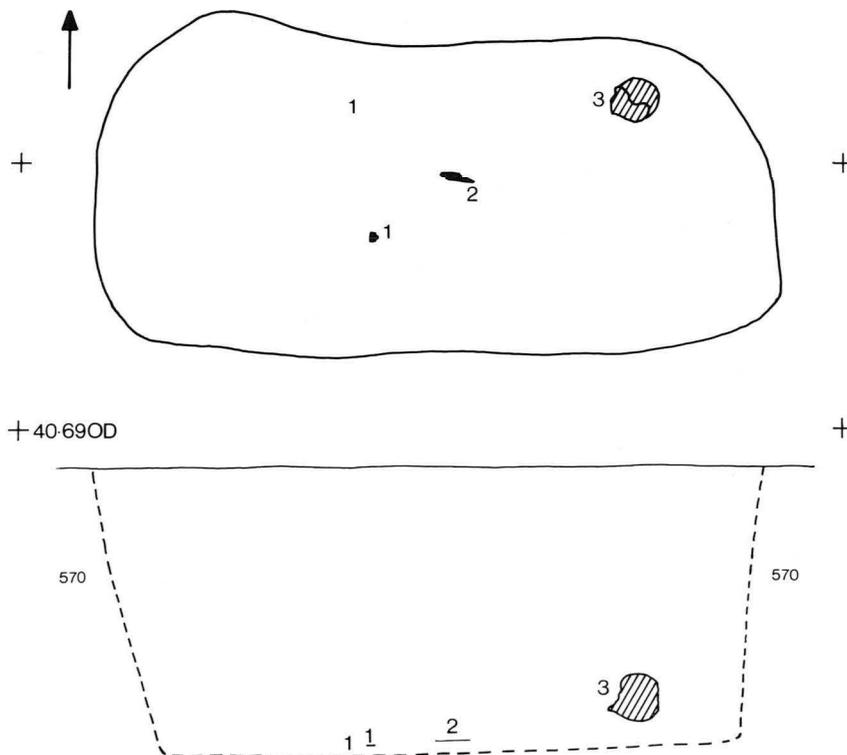


Fig.57. Inhumation 48. 1:20.

INHUMATION 49 (Figs.5, 58, 103)

Description: Oriented W-to-E. Grave-goods together in W half of grave, near bottom of pit. Shield boss (2a) in middle, iron objects (2b) to E and W of (2a), not clear which is which on plan; spearhead (3) to S of shield boss, knife (4) to N; patches soil stain near (2b) (Fig.58).

Associations: Cut pits 920, 2475 and gully 927.

Bones: None.

Grave-goods:

1. Number given erroneously to Iron Age potsherds from pit 2475 (n.ill).

2. a) Iron shield boss and grip. Boss: small convex cone rising to disc-topped spike, low concave waist, wide flat flange with five small disc-topped rivets. Traces wood on underside of flange, grain all one direction. Leather between wood and boss. Grip: two pieces: i) part of flat strip with remains leather binding and coarse textile over leather, wood inside, grain at right angles to grip; ii) iron rivet (Fig.103).

b) Iron buckle; drawn from X-ray. It is most likely that the rivet (2aii) is the object shown on the plan immediately to the W of the boss, the buckle (2b) lying further towards the middle of the grave; textile traces on buckle (Fig.103).

3. Iron spearhead; traces of coarse textile at tip of narrow angular blade, split socket (Fig.103).

4. Iron knife; traces of horn handle on tang (Fig.103).

Fill: Potsherds: two possibly prehistoric, three Roman, two Anglo-Saxon, one indeterminate; one lump fired clay (n.ill).

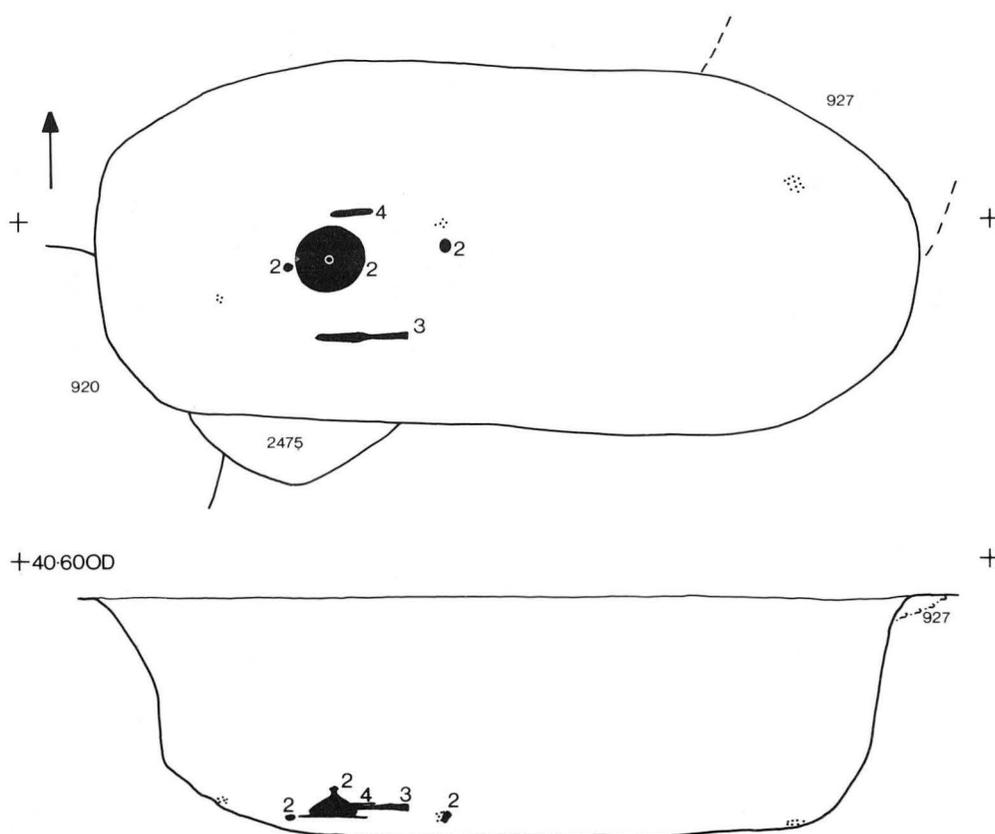


Fig.58. Inhumation 49. 1:20.

INHUMATION 50 (Figs.59, 104, Plate III)

Description: Oriented W-to-E; much of skeleton survived in shallow pit, buried lying on left side, facing N with legs flexed, one knee sticking up. Spearhead (1) above jaw, knife (2) to S of body (Fig. 59, Pl.III).

Associations: Cut by cremation 2140 (Hills and Penn 1981, 56).

Bones: Male, 35 yrs.

Skull; large fragment of right petrous temporal bone; very thick and male. Calvarium much deformed and abraded. Age determined by obliteration of endocranial sutures as 35 yrs. Maxilla and mandible: all teeth erupted; age 35 yrs from wear pattern. Post-cranial skeleton: fragments pelvis, femur and tibia, broken and abraded. Male.

Grave-goods:

1. Iron spearhead; very small angular blade with split socket still containing traces wooden shaft (Fig.104).

2. Iron knife (Fig.104).

Fill: Potsherds: one rim, probably Iron Age, one furrowed, Iron Age or early Roman, three Roman, two Anglo-Saxon, one with organic residue on inside (n.ill).

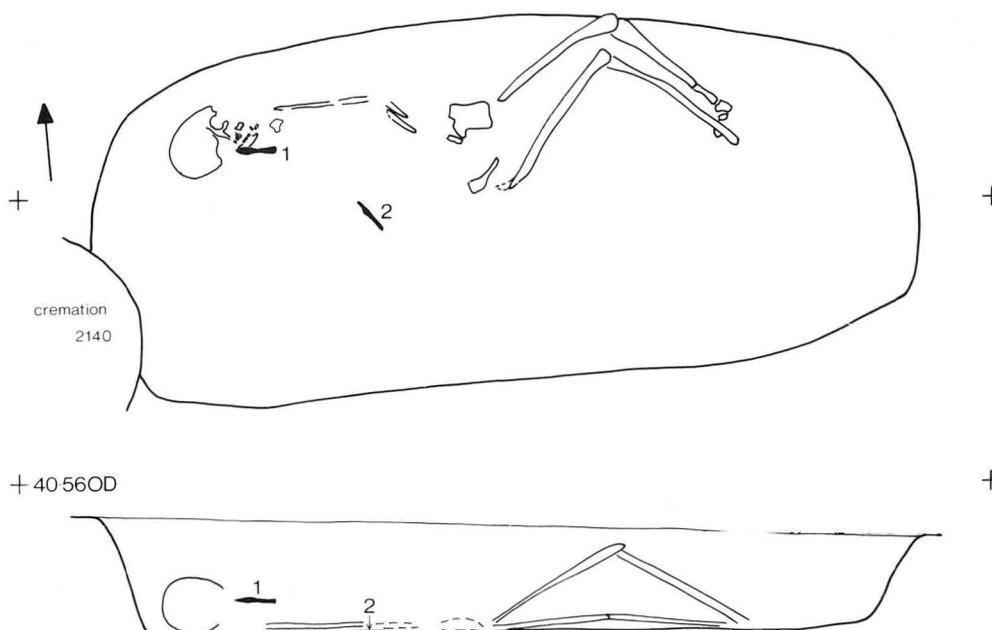


Fig.59. Inhumation 50. 1:20.

INHUMATION 51 (Figs.5, 6, 60, 104, 105)

Description: Oriented W-to-E, S edge of pit uncertain but clear coffin stain on bottom of pit; line of staining extending E from shield boss more probably caved-in side of coffin than spear shaft. Body apparently extended, shield boss (1) to immediate E of skull, spearhead (2) in SW corner at higher level than remainder of burial deposit, not in coffin; Ferrule (3) at lower depth in SE corner, pot (4) at E end, probably above coffin, knife (5) and buckle (6) in middle (Fig.60).

Associations: Cut ditch 570. Possibly surrounded by ring-ditch of which only arc to N survived (953).

Bones: Age and sex unknown.

Many minute fragments unidentifiable bone.

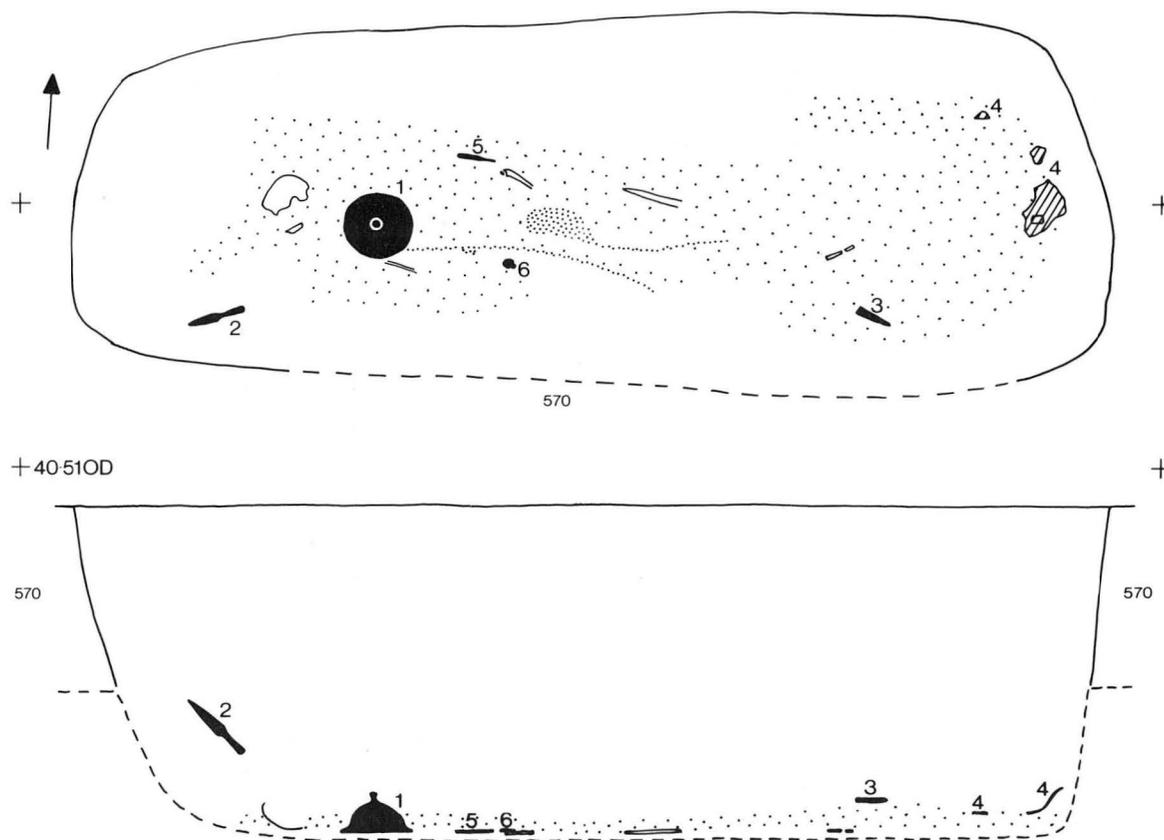


Fig.60. Inhumation 51. 1:20.

Grave-goods:

1. Iron shield boss and grip; slightly convex dome, flattened wedge-shaped spike; short concave waist, sloping flange with traces five disc-headed rivets. Wood on upper surface of dome and under flange, grain all in one direction under flange. Grip: iron strip splayed at each end, slightly bent up at sides; traces of wood inside, leather binding strips outside. Small iron fragment, ?rivet, packed with boss. (Fig.104).

2. Iron spearhead; short slightly concave blade, split socket retaining traces of wooden shaft (Fig.105).

3. Iron spear ferrule; (Fig.105).

4. Pot; approx. half, cut vertically; plain, with organic residue. Fabric: Group I. (Fig.104).

5. Iron knife; in remains of leather sheath, horn handle (Fig.105).

6. Iron buckle; oval loop, rectangular plate, traces of textile on both surfaces (Fig.105).

Fill: (952) Small Find No.345: part of Roman bronze hook-and-eye bracelet with very worn eye, decorated with group transverse lines below eye and single line along edge (n.ill).

Struck flint: two flakes, one scraper; potsherds: fifty-seven Roman including three rouletted, four joining sherds of fourth-century flanged bowl with internal burnished decoration, one indented beaker sherd with light furrowed decoration, one late third-to-fourth-century coarse colour coated flange, Nene valley, imitation Drag.38 (Small Find No.346), one colour coated, not Nene valley, three leached shell-tempered probably S.Midlands, one Anglo-Saxon with part of unrecognizable stamp and linear decoration, six indeterminate (n.ill).

Ring-ditch: (953) Potsherds: five Roman (n.ill).

INHUMATION 52 (Figs.5, 61, 105)

Description: Oriented NW-to-SE or reverse; small pit, probably child or infant. Pot (1) near W end. Lengthwise section reconstructed from plan and transverse section (Fig.61).

Associations: Cut by cremation 2142 (Hills and Penn 1981, 56).

Bones: None.

Grave-goods:

1. Pot; incomplete, part rim missing; plain. Fabric: Group IV. (Fig.105).

Fill: (970) One indeterminate potsherd (n.ill).

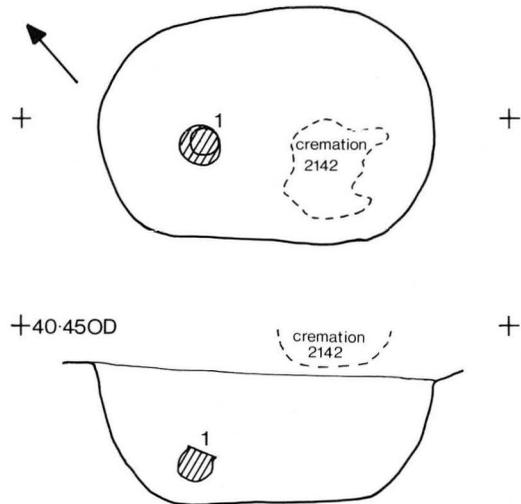


Fig.61. Inhumation 52. 1:20.

INHUMATION 53 (Figs.5, 62, 105)

Description: Oriented WNW-to-ESE or reverse; small pit, probably child or infant. Pot (1) near W end (Fig.62).

Associations: None.

Bones: None.

Grave-goods:

1. Pot; complete; plain except for linear cross on base. Fabric: Group I (Fig.105).

Fill: No finds.

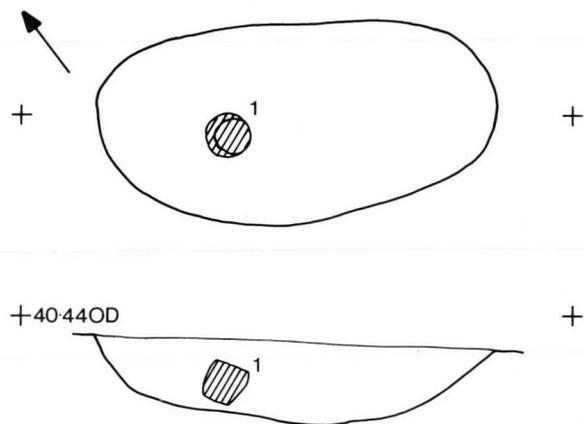


Fig.62. Inhumation 53. 1:20.

INHUMATION 54 (Figs.63, 105)

Description: Pit oriented W-to-E, N edge clear, cutting ditch 197. Skull at W end, leg bones in middle sloping SW-NE, indicating skeleton was flexed. Spearhead (2) to N of skull, buckle (1) in middle. Spear bent and broken in ground (Fig.63).

Associations: Cut ditch 197.

Bones: Age and sex unknown.

Three cranial fragments and slivers long bones, all unidentifiable.

Grave-goods:

1. Bronze buckle-plate; narrow rectangular strip bent in half with remains of iron pin and loop still in position, attached to organic residue; ends of plate pierced for iron rivets, edges indented (see XRF analysis) (Fig.105).

2. Iron spearhead; broken in two pieces; convex blade, split socket with traces wooden shaft. ?Broken in antiquity (Fig.105).

Fill: Struck flint: one blade, three flakes; potsherds: one finger-pinched rusticated, possibly late Neolithic/Early Bronze Age, three Iron Age, one possibly prehistoric, eight early Roman of which four are combed, four Roman, four indeterminate (n.ill).

INHUMATION 55 (Figs.64, 106)

Description: Oriented WNW-to-ESE with clear rectangular coffin stain and traces of skeleton on bottom of pit. Body extended. Knife (1) above coffin, near middle, pointing S; chisel (2) near NW corner, pot (3) outside coffin, in middle, to N. Potsherd planned but not numbered in SE corner may be part of (3); this not clear (Fig.64).

Associations: Cut ditch 570 and 982.

INHUMATION 55 (cont.)

Bones: Sex unknown, 25-47 yrs.

Skull: two small pieces, 42-47 yrs. Teeth: two molar crowns, 25-35 yrs. Post-cranial: small fragments humerus. Age determinants widely variable and no sex estimate possible.

Grave-goods:

1. Iron knife (Fig.106).
2. Iron chisel (Fig.106).
3. Pot; miniature, incomplete; linear decoration on base, irregular crossed lines.

Fabric: Group IV. (Fig.106).

Fill: (974) Potsherds: seven Roman including one late first-early second-century dish with inturned rim and one combed (n.ill).

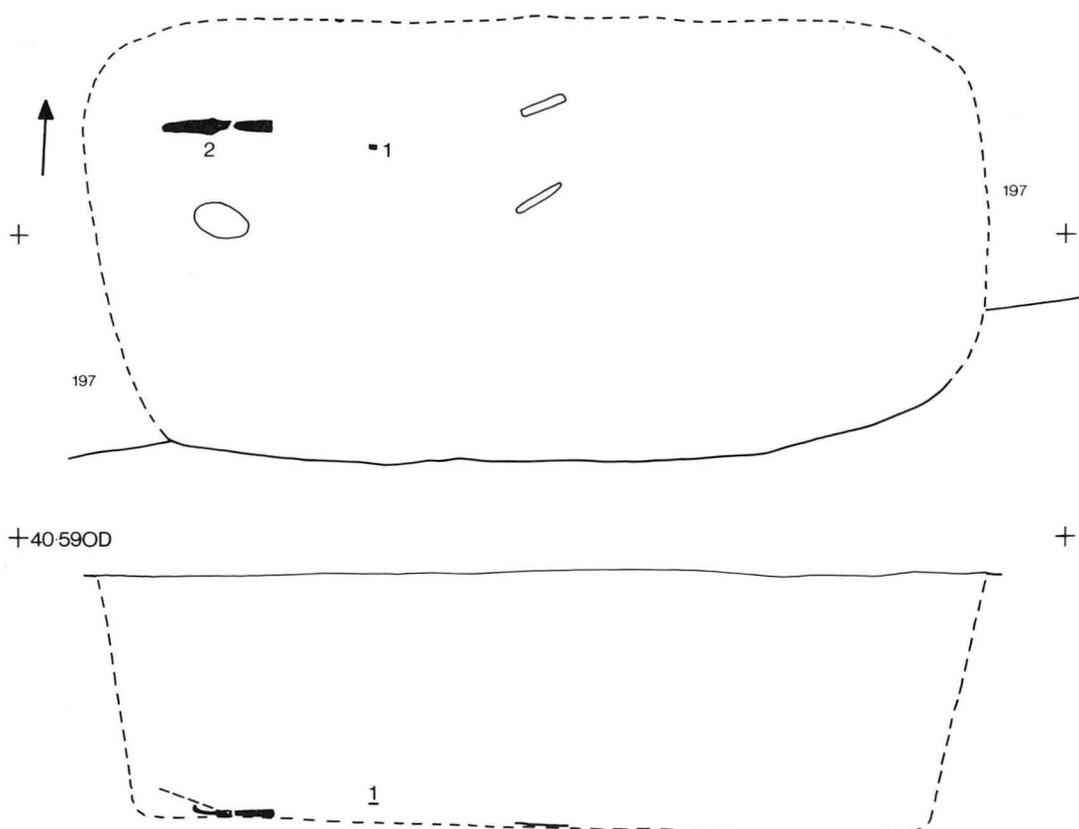


Fig.63. Inhumation 54. 1:20.

INHUMATION 56 (Figs.65, 106)

Description: Oriented WSW-to-ENE with part of coffin stain visible at bottom of pit. Pot (2) at W end, on side, above coffin; bronze sheet (1) brooches (5, 6), beads (3) and bronze object (4) in cluster in W half of grave. Wood preserved near brooches (Fig.65).

Associations: Cut ditch 197.

Bones: Adult female.

Fragment of clavicle; teeth, copper-stained: two molars - third not worn, second little worn, two incisors worn to pulp cavity. Tooth wear odd and anomalous: incisors worn before molars. Linear enamel hypoplasia present and severe, indicating ill-health or malnutrition.

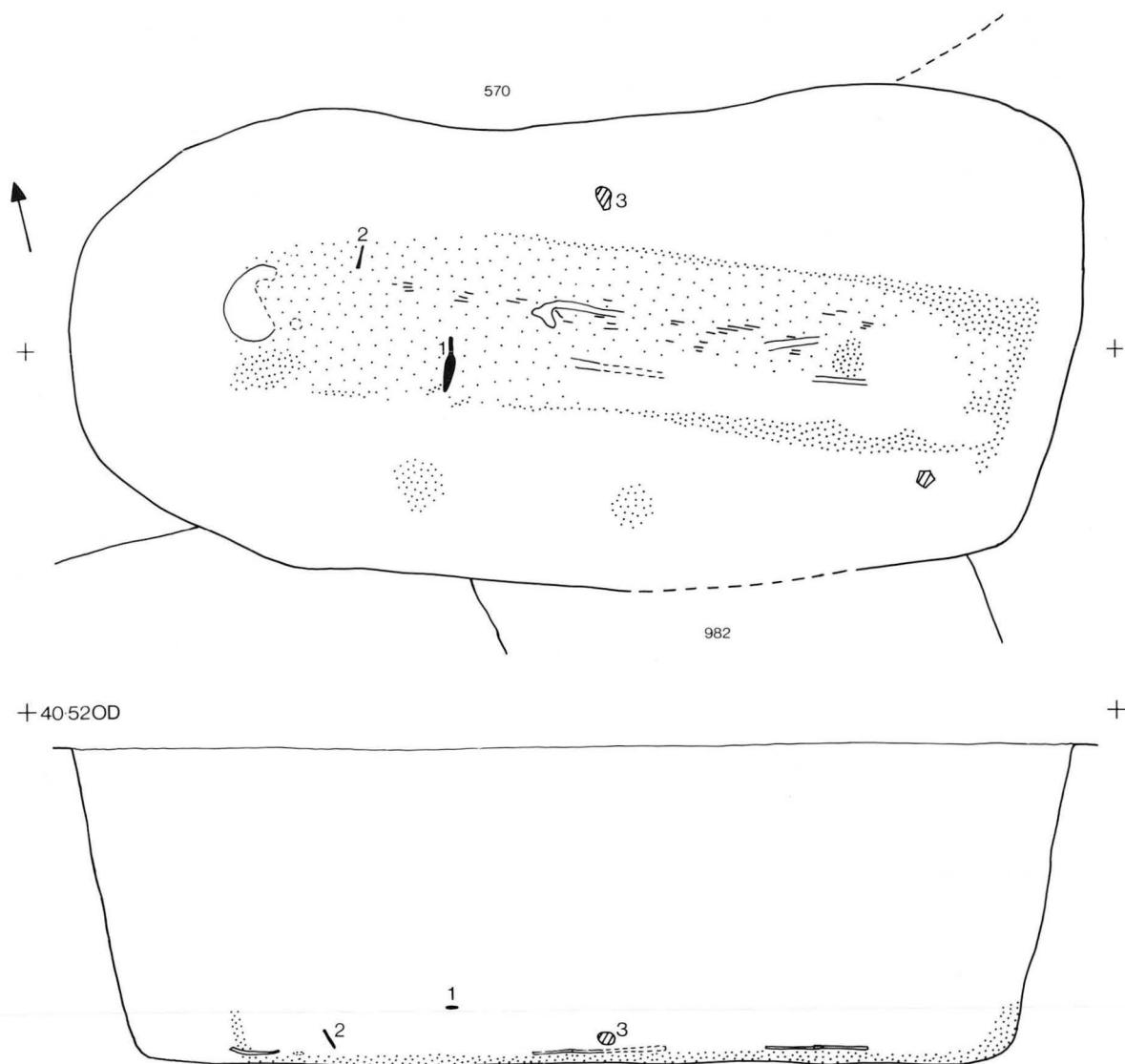


Fig.64. Inhumation 55. 1:20.

INHUMATION 56 (cont.)

Grave-goods:

1. Bronze, small sheet fragment; part of one straight edge, other sides broken (Fig.106).
2. Pot; incomplete, much rim missing; three horizontal lines around neck above groups vertical lines, with organic residue. Fabric: Group II. (Fig.106).
3. Amber and glass beads; amber: two irregular; glass: one red cylinder; three red with yellow and green stripes and panels, one globular, one cylindrical, one cuboid (Fig.106).
4. Bronze object; sheet cut to trapezoidal shape with round terminal at point, pierced for disc-headed bronze rivet (possibly silvered). Underside plain, upper surface decorated with row of crescent-shaped stamps around edge. Hole through one corner. (See XRF analysis). (Fig.106).
5. Bronze annular brooch; complete, bronze tubular pin; flat, underside plain, upper surface decorated with small circular stamps around inner and outer edges; wood and replaced textile associated (see XRF analysis). (Fig.106).
6. Bronze annular brooch; pair to (5); complete; wood associated (see XRF analysis). (Fig.106).

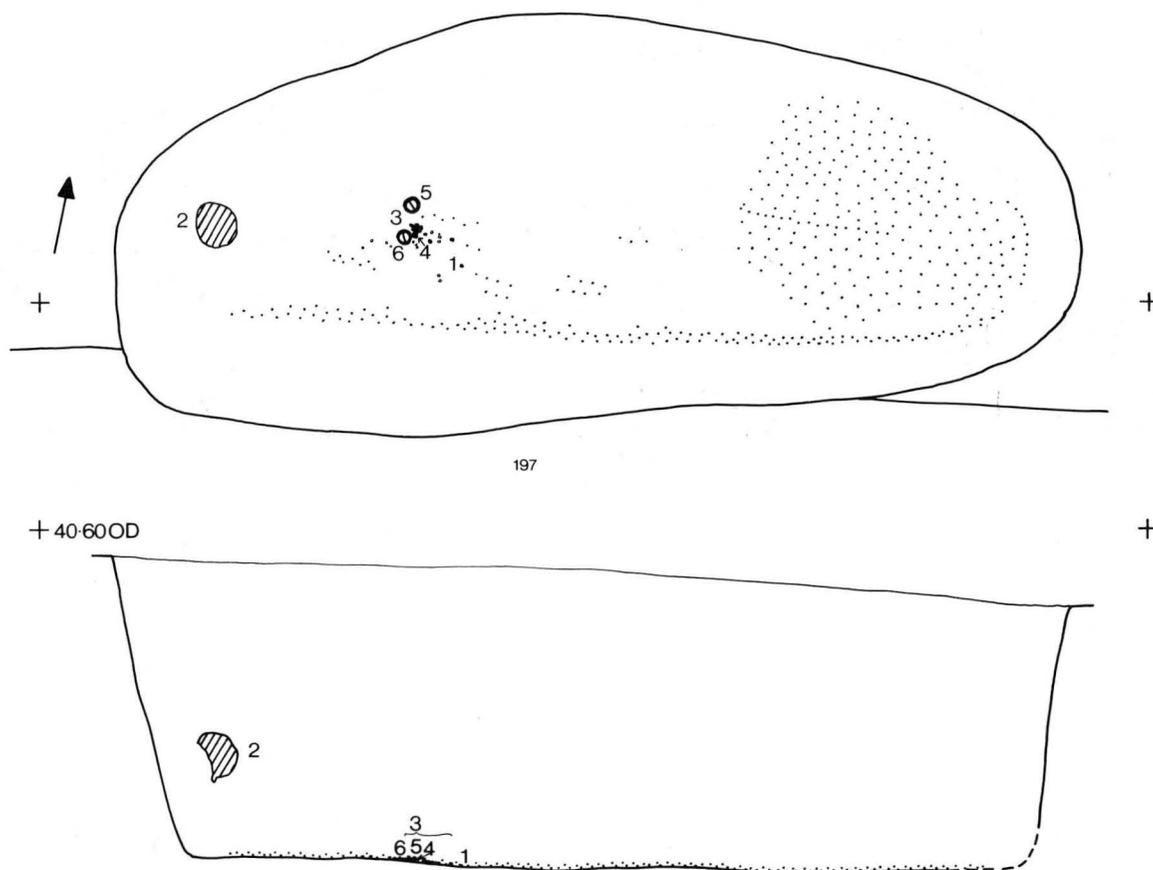


Fig.65. Inhumation 56. 1:20.

INHUMATION 56 (cont.)

Fill: Potsherds: three indeterminate (n,ill).

INHUMATION 57 (Figs.66, 107, 108, Plate XI)

Description: Oriented WNW-to-ESE; stain of outline of wide coffin on bottom of pit. Smashed pot (2) slightly above remainder of deposit, spread over NW corner, brooches (7, 8, 9) and beads (10) in W half, to S of pot (2). All beads not planned. Wrist-clasps (5, 6) in middle, knife and ring (4) together in middle of N side, pot (3) smashed in middle of pit. Wood preserved near (5) and (7), indeterminate organic residue near (7) (Fig.66).

Associations: None.

Bones: Female, 35-45 yrs.

Whole mandible preserved by copper from brooch. No tooth disease.

Grave-goods:

1. Number given to artefacts and heat-shattered pebbles found in fill.
2. Pot; near complete after reconstruction; plain. Fabric: Group IV. (Fig.108).
3. Pot; one quarter of large plain vessel. Fabric: Group IV. (Fig.108).
4. a) Iron knife; traces horn on tang, leather sheath on blade (Fig.107).
b) Iron ring; in three pieces; piece of wire, ends twisted around each other, traces of fibre. (Fig.107).
5. Bronze sheet wrist-clasp pair; damaged; each section is rectangular with two attachment holes, hook extending from side of one section, oblong, slot for eye in other; traces of two further holes in corners of eye section. Wood associated and traces of nematode

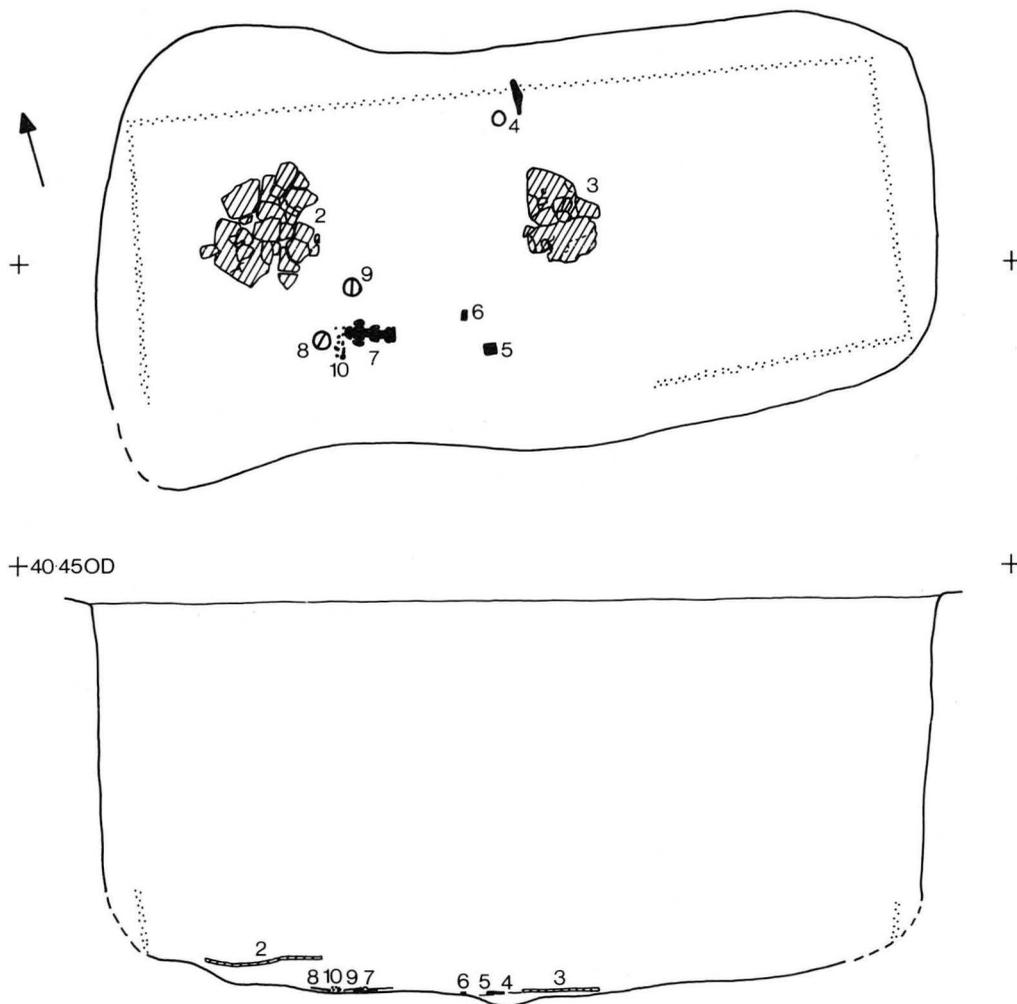


Fig.66. Inhumation 57. 1:20.

INHUMATION 57 (cont.)

worms observed during excavation; gilded. Undersides plain, upper decorated with round stamps; hook section still has narrow strip soldered to upper surface, decorated with transverse lines, and the scar of a similar strip and traces of solder can be seen on upper surface of eye section (see XRF analysis) (Fig.107, Pl.XI).

6. Bronze sheet wrist-clasps; not pair to each other, neither section identical to (5), damaged, especially around attachment holes; each piece rectangular, pair attachment holes in outer corners, hook extending from side of one section, oblong slot cut for eye in other. Undersides plain, upper surfaces decorated: eye section has row of round stamps along inner edge and semi-circle of stamps extending from outer edge; hook has faint repoussé pattern, interlace or plait design (see XRF analysis) (Fig.107, Pl.XI).

7. Bronze gilt florid cruciform brooch; complete, except for broken catch-plate and tip of iron pin; all of front gilded except for terminals which are silvered, gilding well-preserved but silvering damaged. Associated with wood, textile, leather and sarcophagus fly remains. Head: rectangular central panel, defined by round stamps, narrow rectangular wings, knobs flat, cast in one with head; each knob consists of full-face mask with moustaches that can also be viewed as a pair of downward-biting animal or birds' heads, and spatulate 'beard' terminals; round stamps around bases of knobs and along necks of beasts. Bow: raised central narrow panel carries small further rectangular panel, all edges defined by circular

INHUMATION 57 (cont.)

stamps. Foot: below bow is flat square panel defined by stamps, within lappets in the form of downward-biting beaked heads, stamps along backs of necks; two ridges define upper limit of foot proper, which consists of a mask with moustaches ending in downward-biting beaked heads, stamps along edges of necks, wide spatulate silvered terminal (Fig. 107).

8. Bronze annular brooch; broken, possibly in antiquity; no pin; associated detached textile; rounded lozenge in section, no decoration (see XRF analysis) (Fig.107).

9. Bronze annular brooch; complete with iron pin, partly under textile; sarcophagus fly larvae associated (see XRF analysis) (Fig.107).

10. Amber and glass beads; thirty-four amber, some broken, two medium-sized, remainder irregular, small; five glass beads: two blue, translucent, narrow cylinders; two yellow, globular; one multiple, gilded (Fig.108).

Fill: Struck flint: one broken blade, one ?retouched blade; one heat-shattered pebble; potsherds: seventeen Roman including two furrowed, one early Roman combed, one bowl rim, one Spanish globular amphora, one colour-coated with barbotine, not Nene valley, one leached shell-tempered, one greyware with graffito, Small Find No.447 (joins Small Finds Nos.448 and 1824 (Inh.41)), five Anglo-Saxon sherds (n.ill).

INHUMATION 58 (Figs.67, 109, Plate IV)

Description: Oriented W-to-E; diffuse stain on bottom of pit. Skull in NW corner of pit, bronze (2) stuck to skull, pot immediately to SW, brooch (3) to SE and brooch (6) to E, both brooches under decayed wood. Knife and ring (4) together at E end of grave, to N of long bone fragment (Fig.67, Pl.IV).

Associations: None.

Bones: Age and sex unknown.

Very badly fragmented skull.

Grave-goods:

1. Pot; three sherds; plain, with organic residue. Fabric: Group IV. (Fig.109).

2. Bronze repair clip to wooden bowl; T-shaped piece of sheet bent around piece of wood and attached by two bronze rivets. Associated indeterminate organic residue and sarcophagus fly larvae (Fig.109).

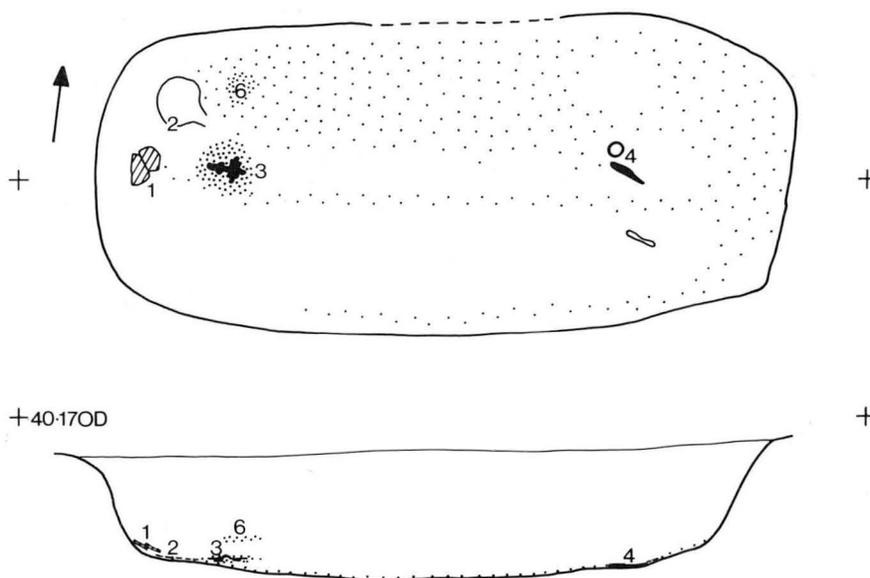


Fig.67. Inhumation 58. 1:20.

INHUMATION 58 (cont.)

3. a) Bronze cruciform brooch; foot broken in antiquity, terminal missing; mass replaced textile over spring, iron pin missing; hollows behind knobs, bow and foot; impressions of nematode worms, associated textile and sarcophagus fly larva. Head: rectangular central panel, wide splayed wings with semi-circular stamps along edges; knobs all half-round and cast in one with head, top knob ends in splayed terminal and side knobs in small extra knobs, traces of incised lines around domes. Bow: convex, between faceted and stamped sloping rectangular panels. Foot: rectangular panel below bow between lappets in the form of rudimentary beaked heads, stamped; faceted stamped section; raised grooved section; part only of horse head terminal, eyes and brow ridge, defined by curved lines. Traces grooved decoration on catch-plate. Broken edge smoothed by wear, surface whole brooch very worn, leaving traces only of stamps. Shadow textile impression on upper surface bow and head (see XRF analysis) (Fig.109).

b) Bronze sheet; small pieces with squared edges, one with rivet in position, another with broken rivet hole. Possibly second bowl repair (Fig.109).

4. a) Iron knife; broken in two pieces; traces of textile and horn handle; associated further indeterminate organic residue (Fig.109).

b) Iron ring; attached to remains of loop, iron or leather under textile; round in section (Fig.109).

5. Number given to sherds from fill (n.ill).

6. Bronze annular brooch; pin disintegrated, drawn from X-ray; recess for pin attachment at one side; plano-convex in section, plain underside, upper surface decorated with four groups transverse lines and grooves and row of circular stamps; sarcophagus fly larvae and textile associated (see XRF analysis) (Fig.109).

Fill: Potsherds: one Roman, two indeterminate (grave-good No.5); at least thirty heat-shattered pebbles (n.ill).

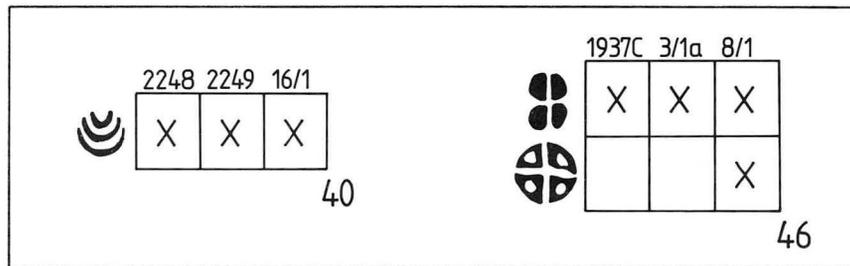
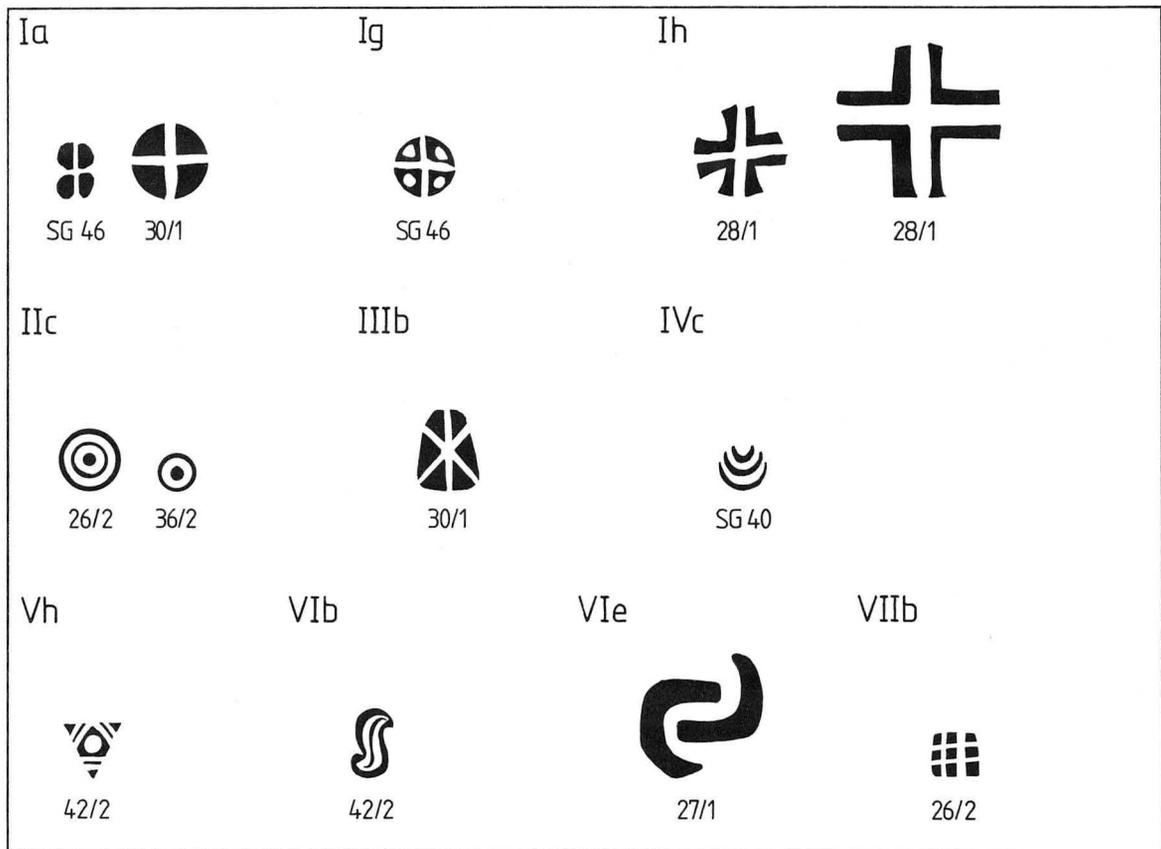


Fig.68. Pottery stamps and Stamp-linked Groups 40 and 46.

COLOUR KEY FOR GLASS BEADS

	DARK BLUE		TRANSLUCENT BLUE-GREEN
	PALE BLUE		WHITE
	GREEN		YELLOW-GREEN
	RED		TRANSLUCENT PALE GREEN
	YELLOW		PURPLE
	BLACK		GREY
	TURQUOISE		TRANSLUCENT PALE BLUE

Fig.69. Key to colour of glass beads.

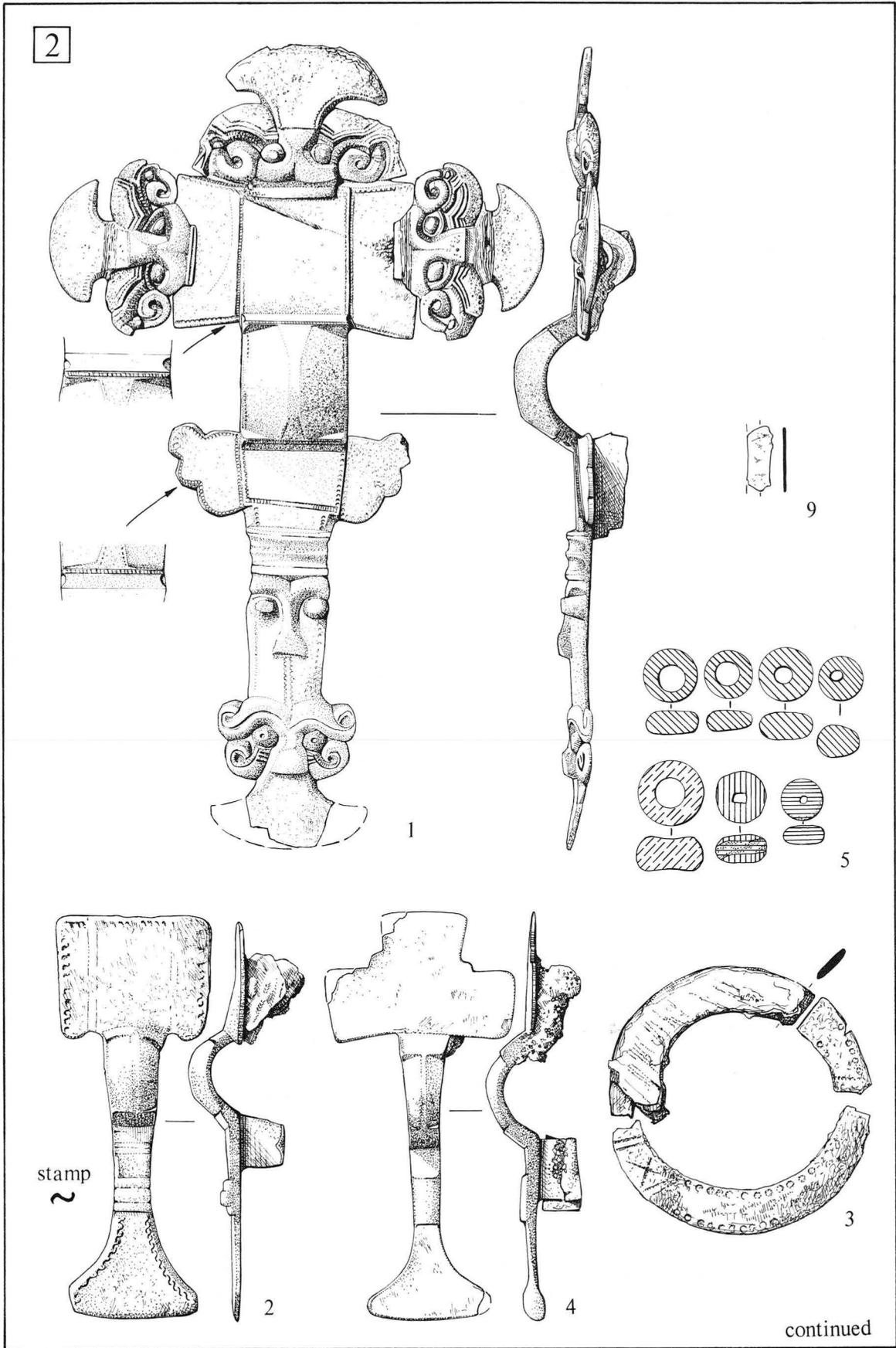


Fig.70. Grave-goods from inhumation 2.

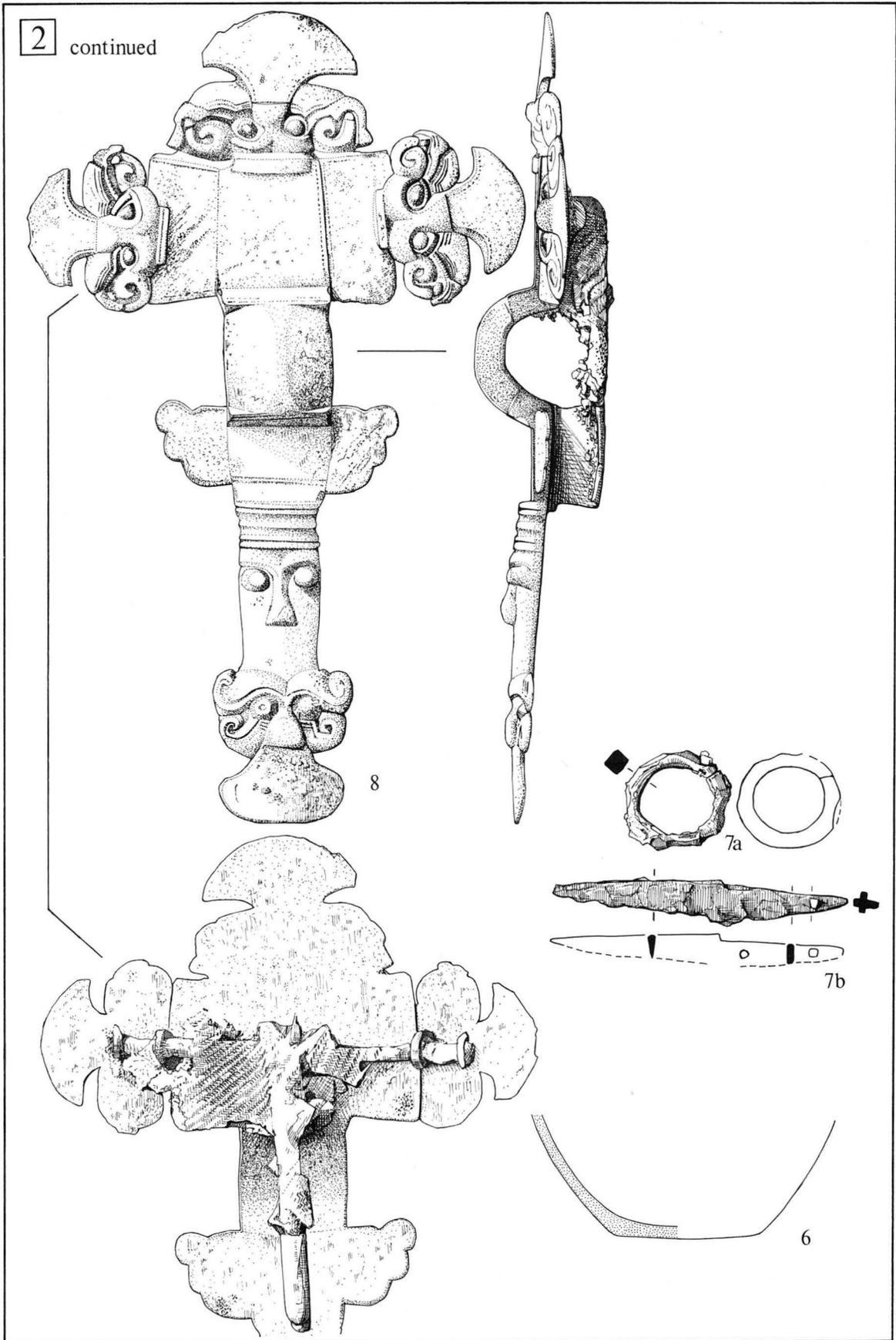


Fig.71. Grave-goods from inhumation 2.

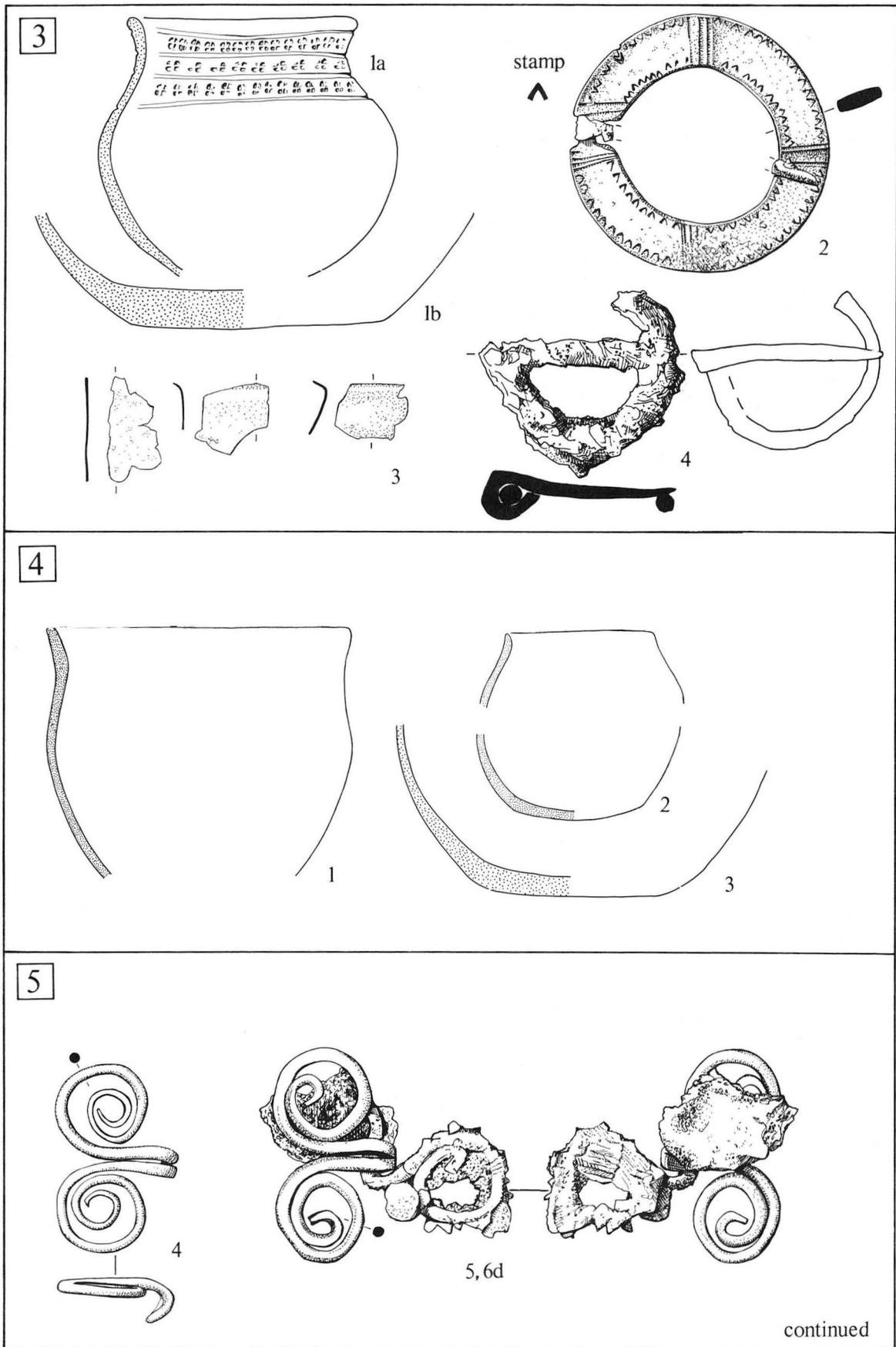


Fig. 72. Grave-goods from inhumations 3, 4 and 5.

5 continued

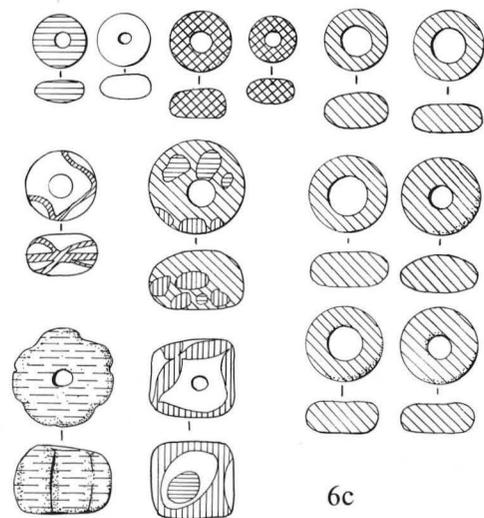
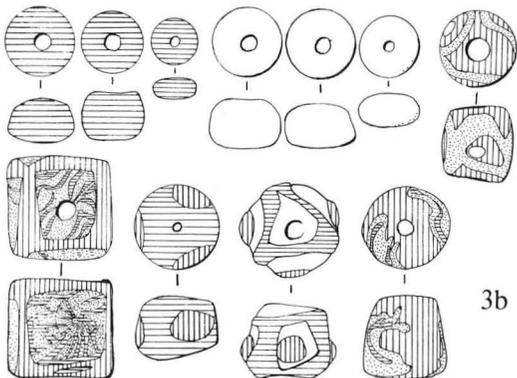
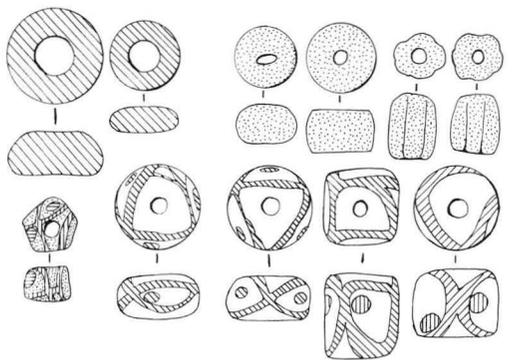
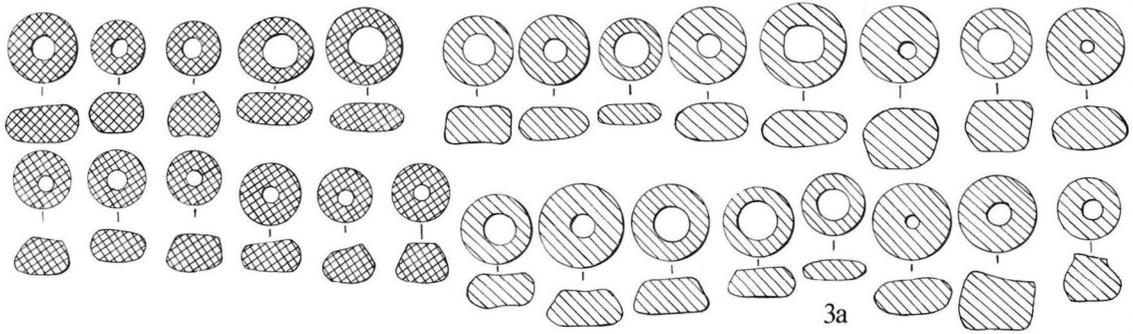
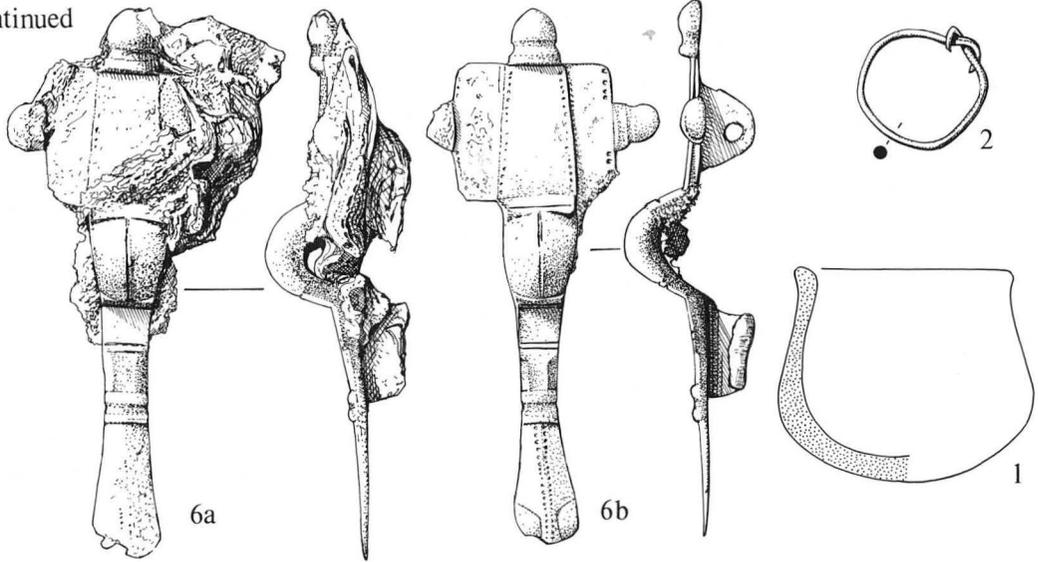


Fig.73. Grave-goods from inhumation 5.

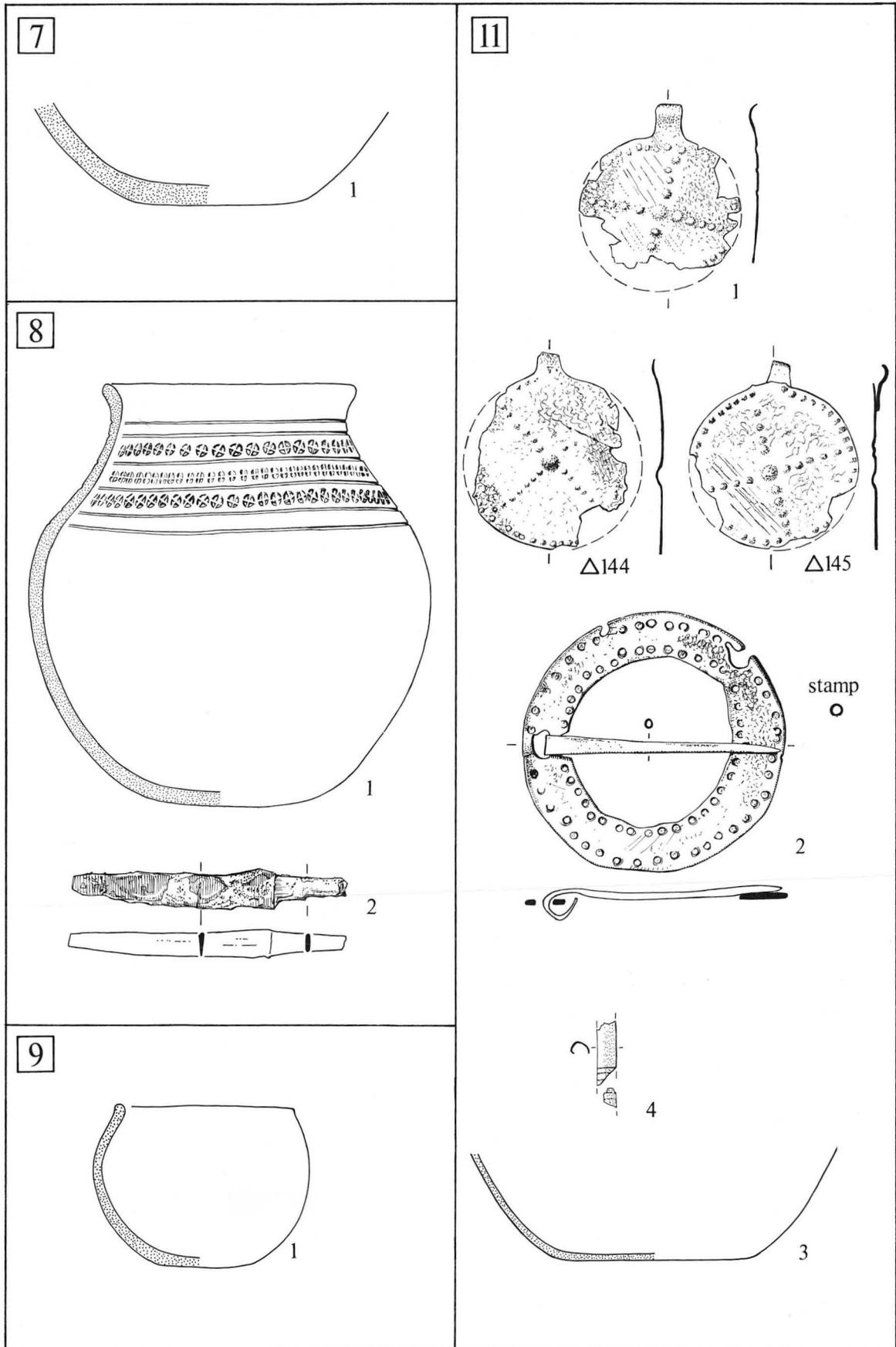


Fig.74. Grave-goods from inhumations 7, 8, 9 and 11.

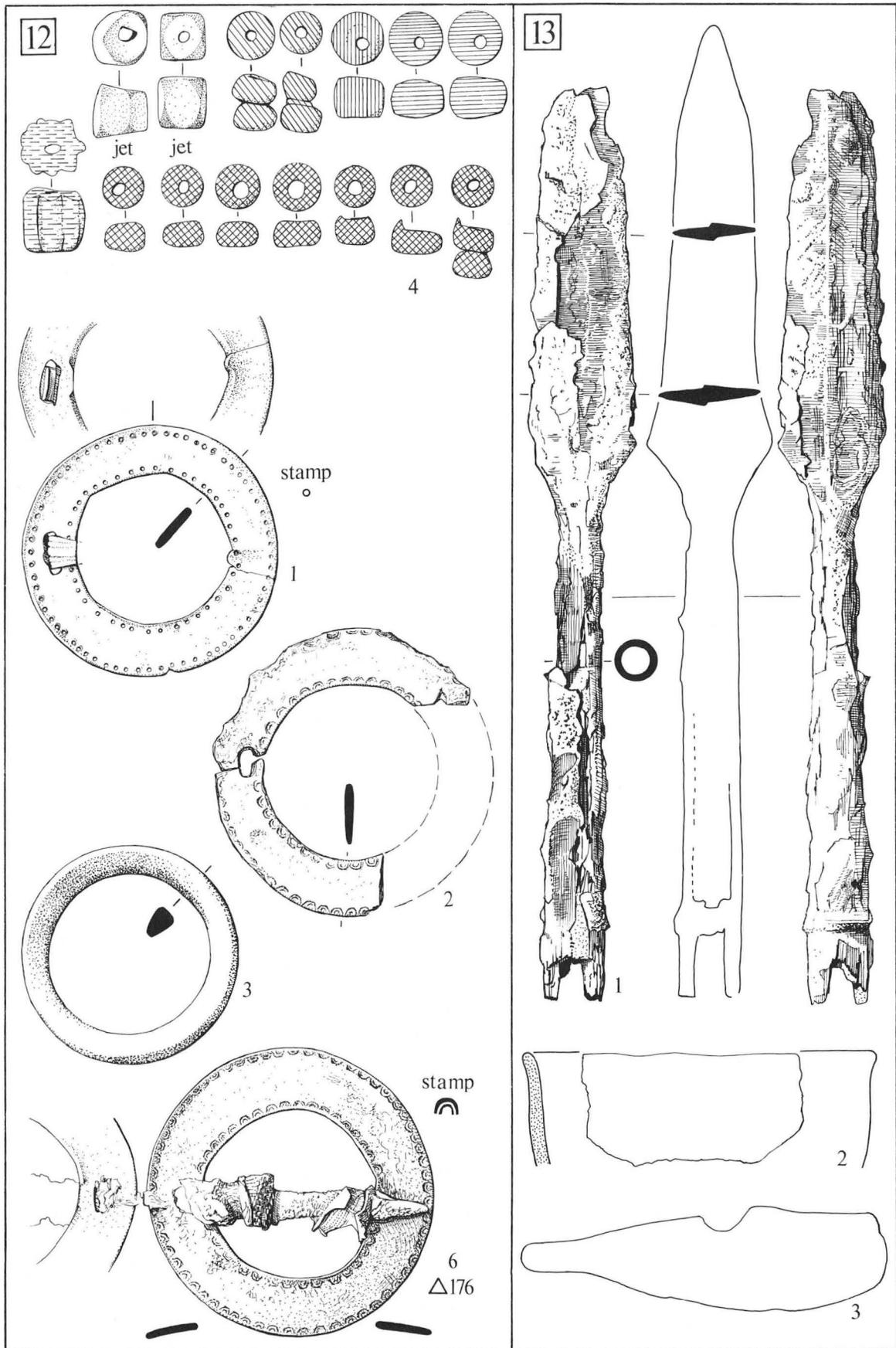


Fig. 75. Grave-goods from inhumations 12 and 13.

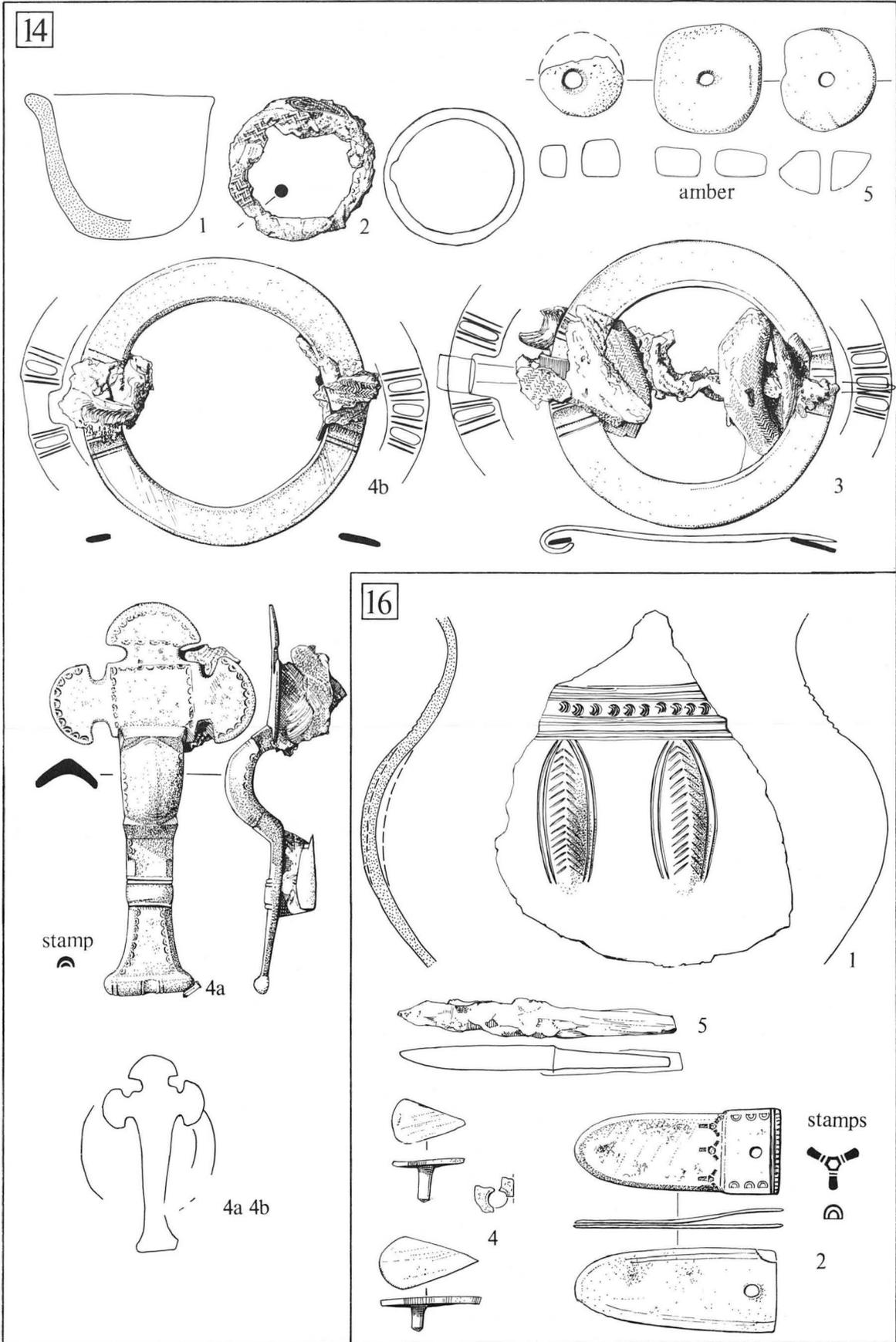


Fig. 76. Grave-goods from inhumations 14 and 16.

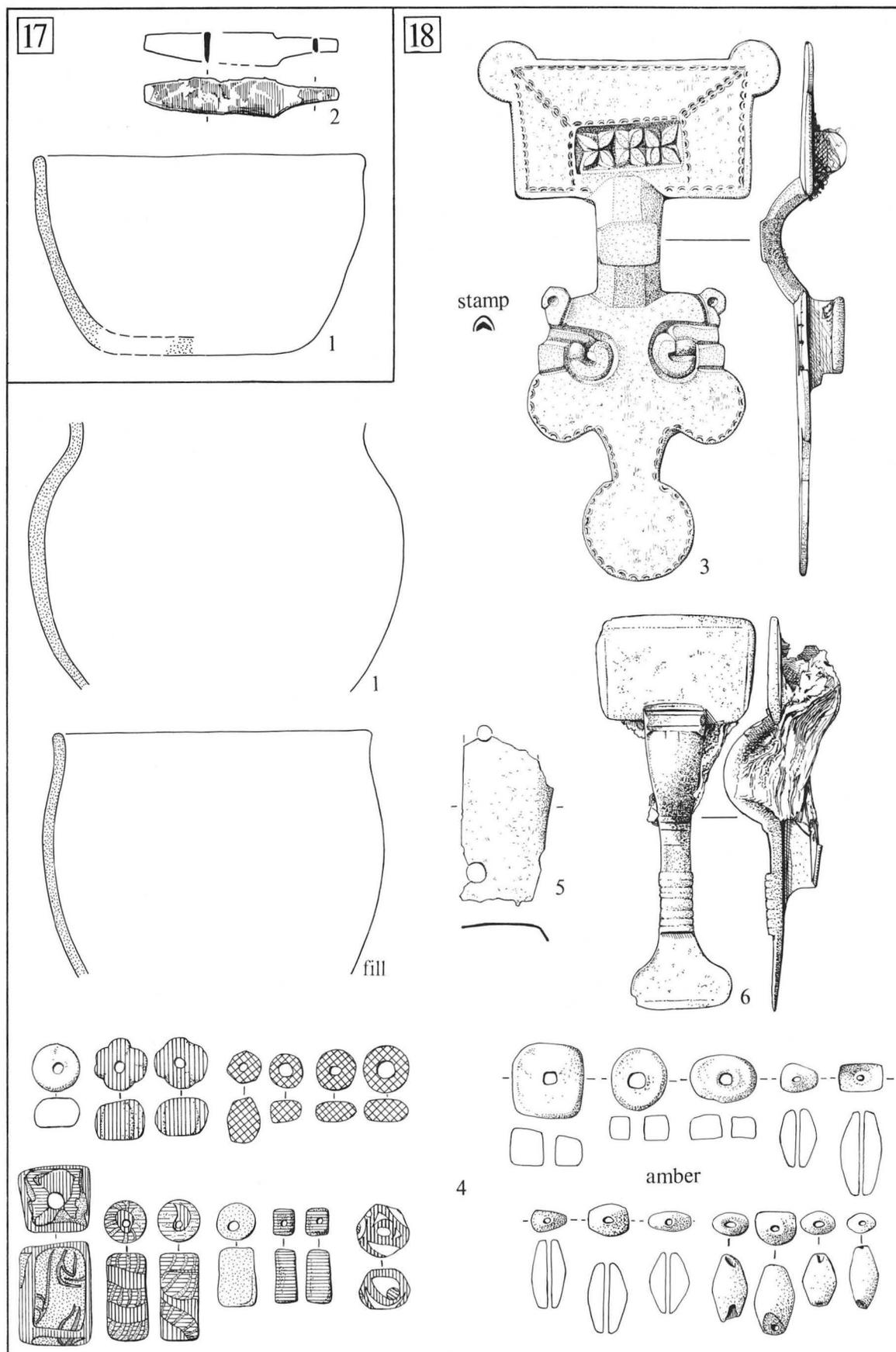


Fig. 77. Grave-goods from inhumations 17 and 18.

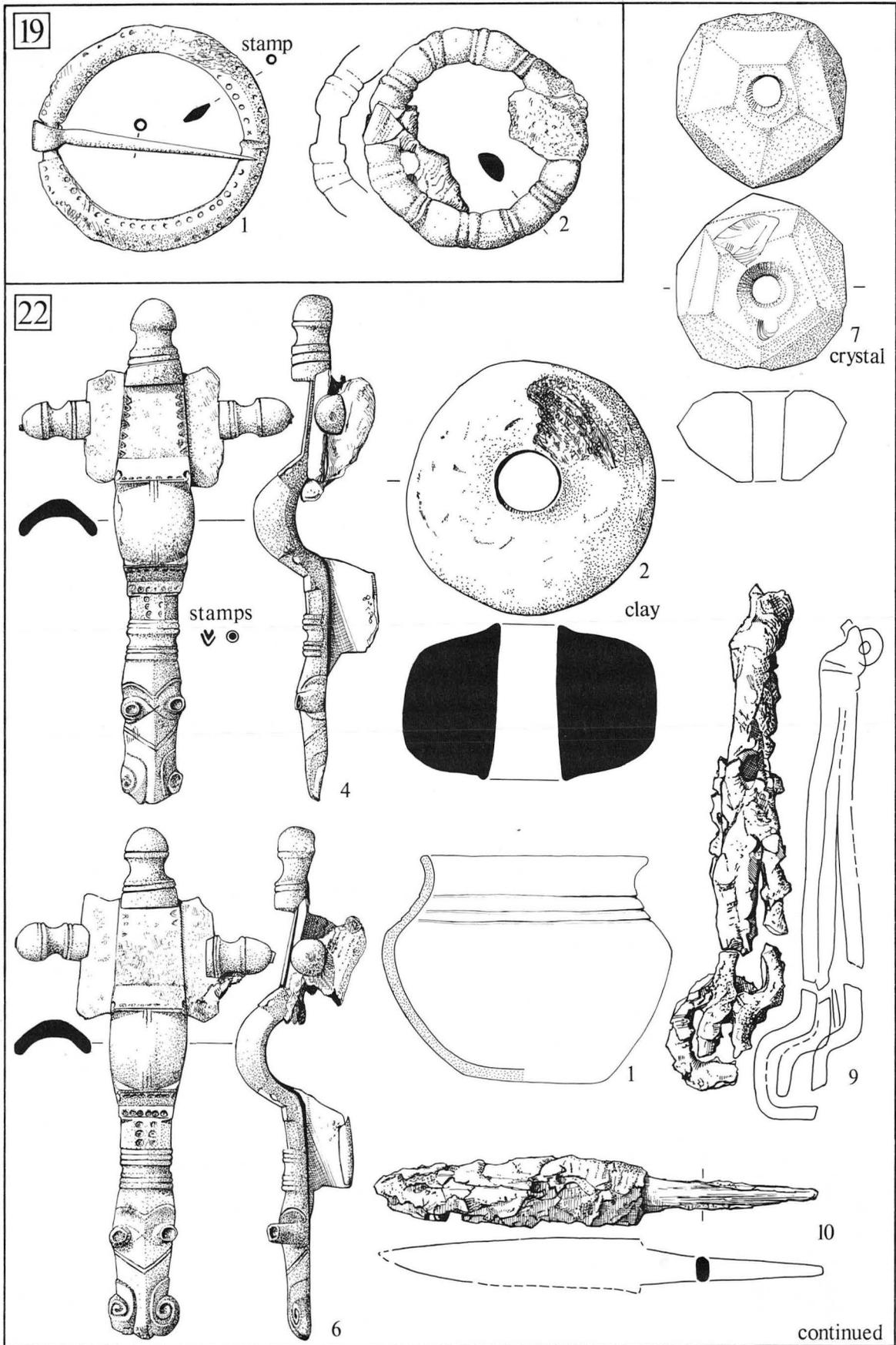


Fig. 78. Grave-goods from inhumations 19 and 22.

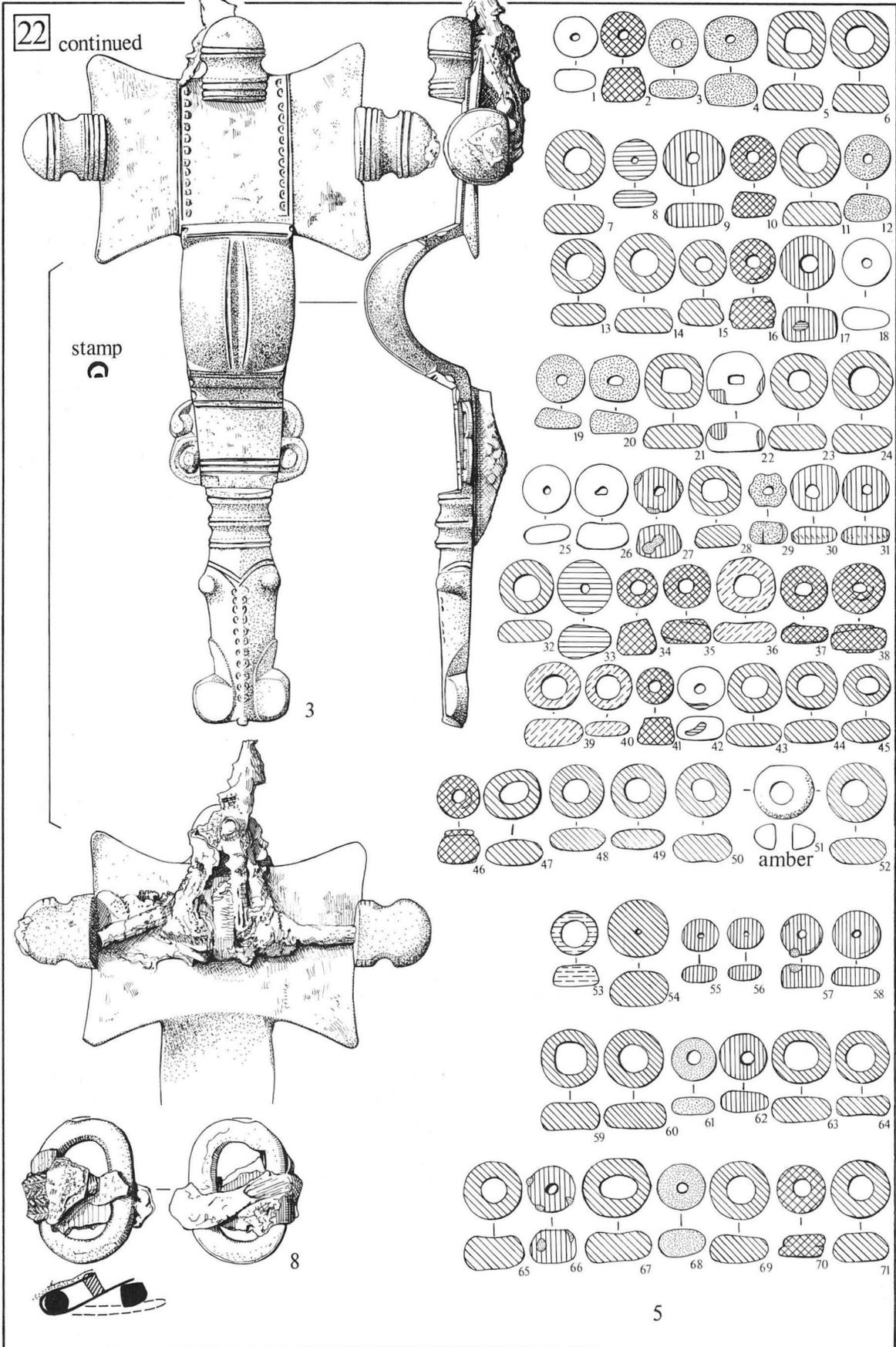


Fig. 79. Grave-goods from inhumation 22.

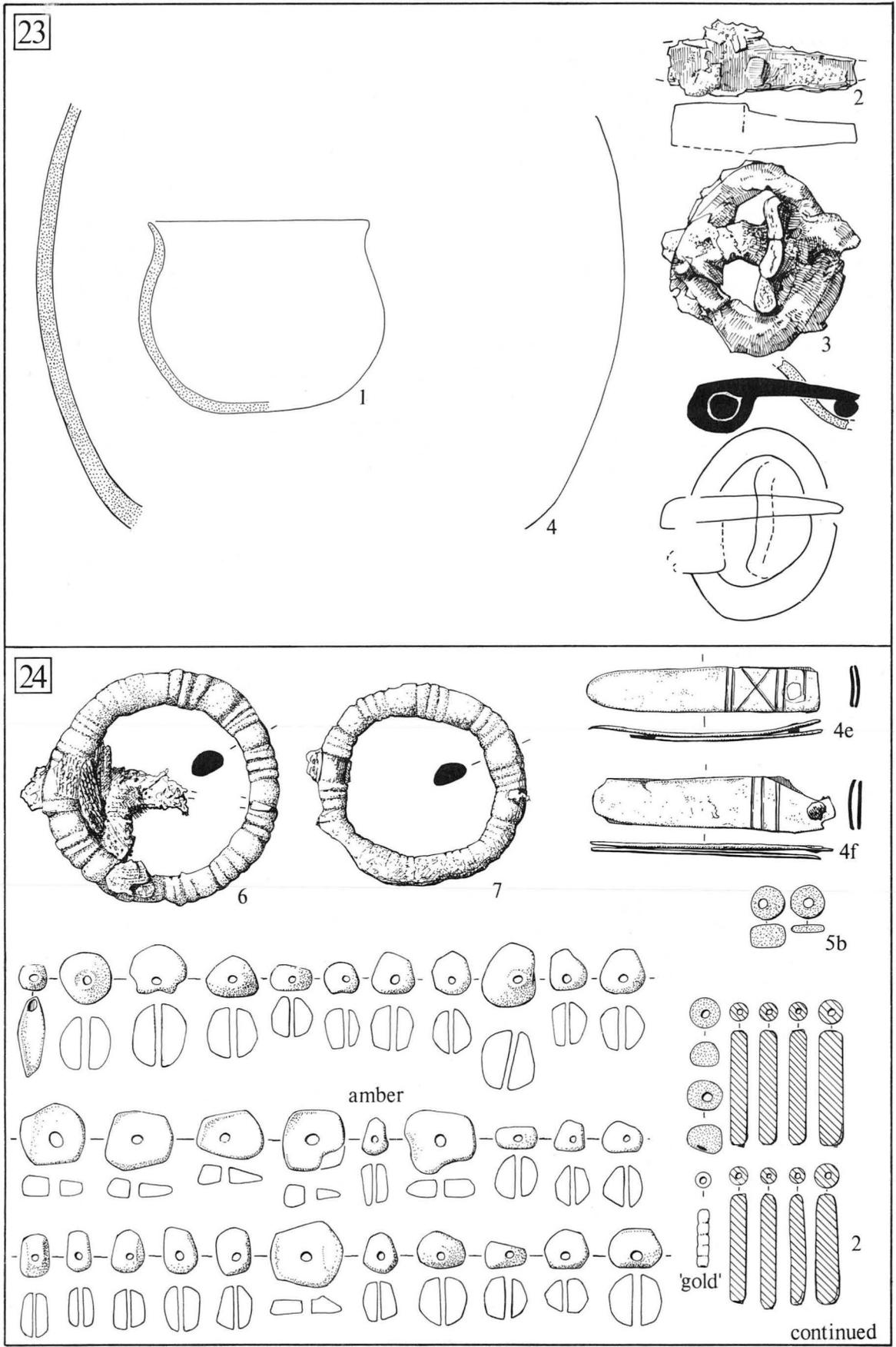


Fig.80. Grave-goods from inhumations 23 and 24.

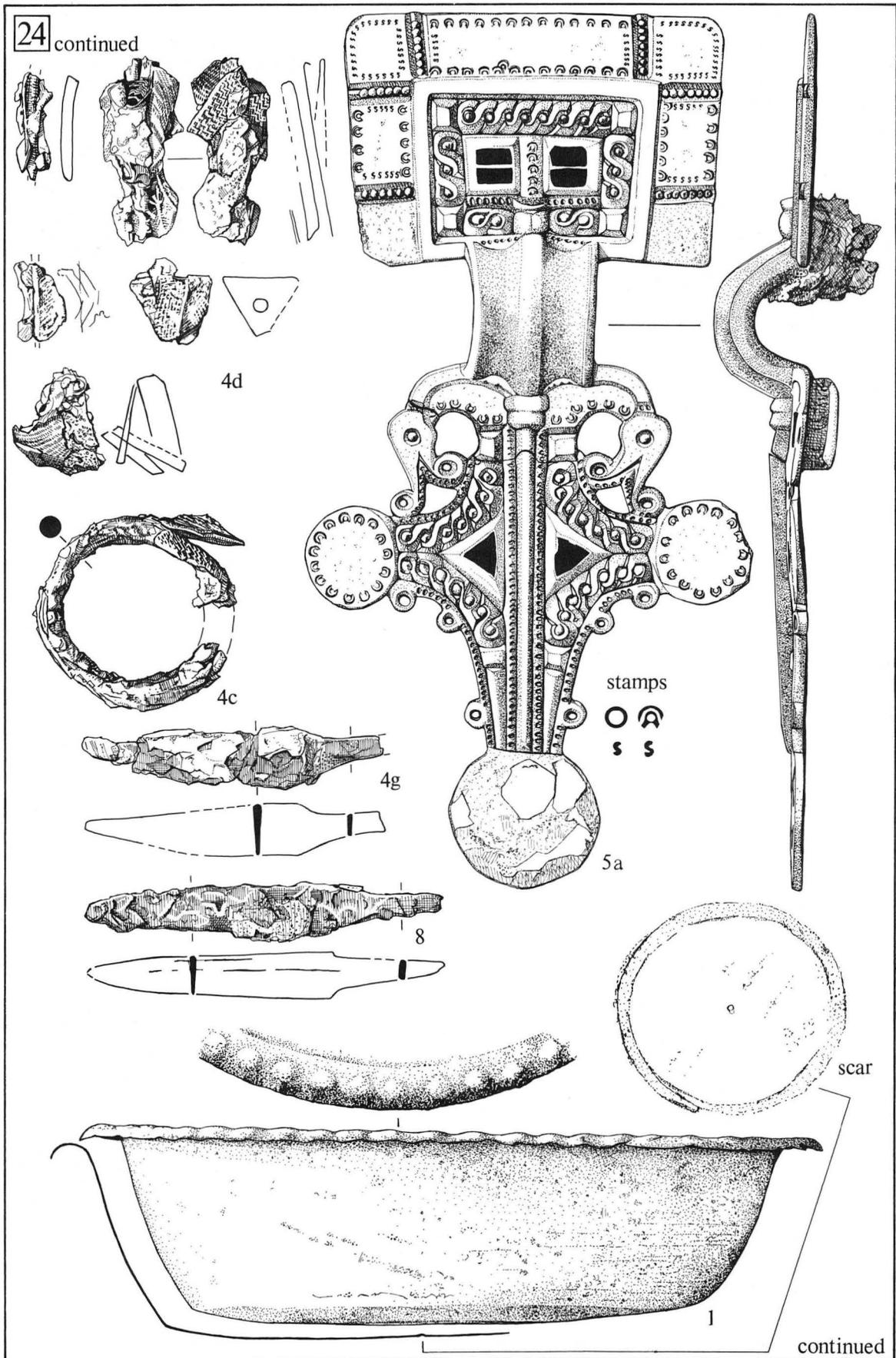


Fig.81. Grave-goods from inhumation 24.

24 continued

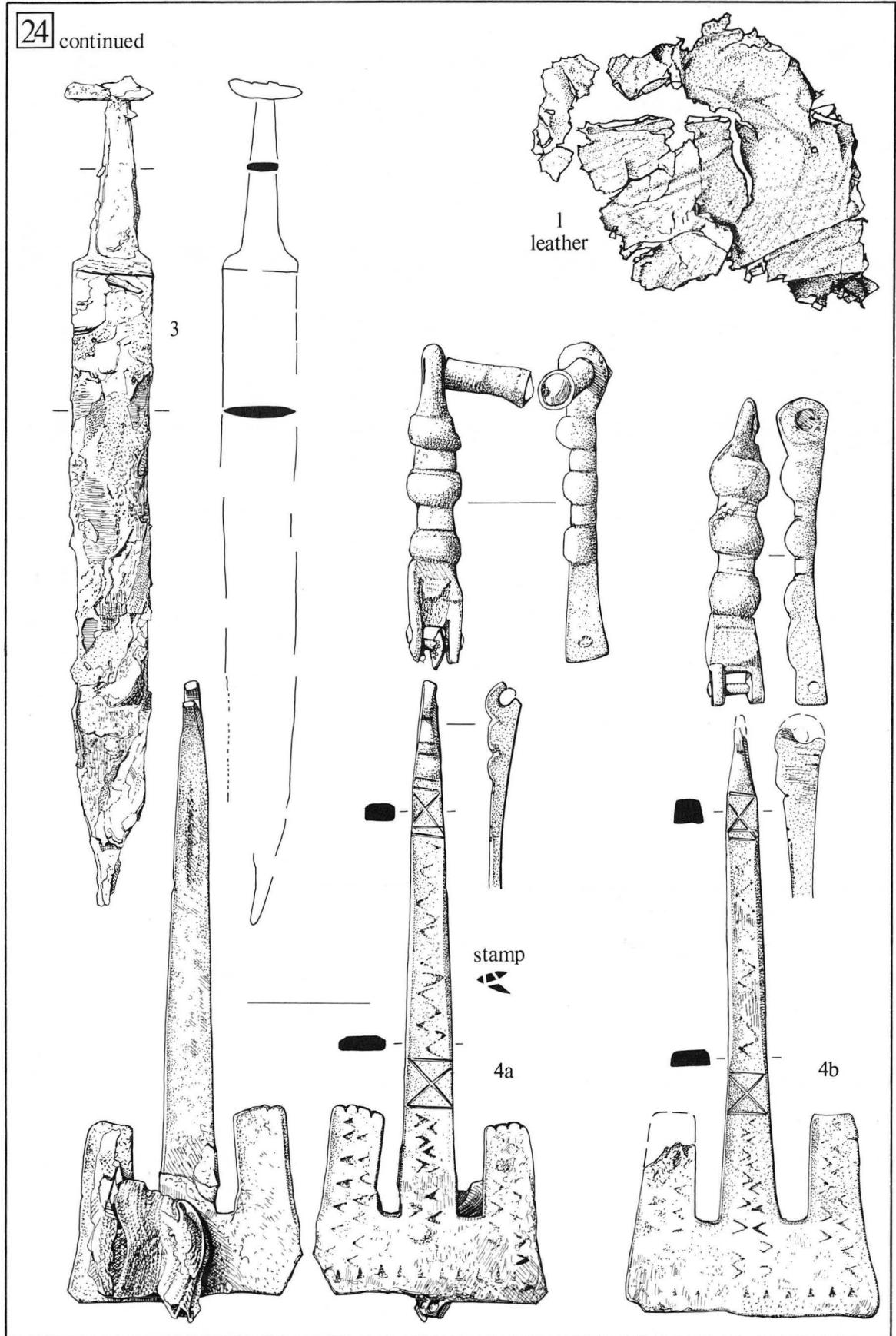


Fig.82. Grave-goods from inhumation 24.

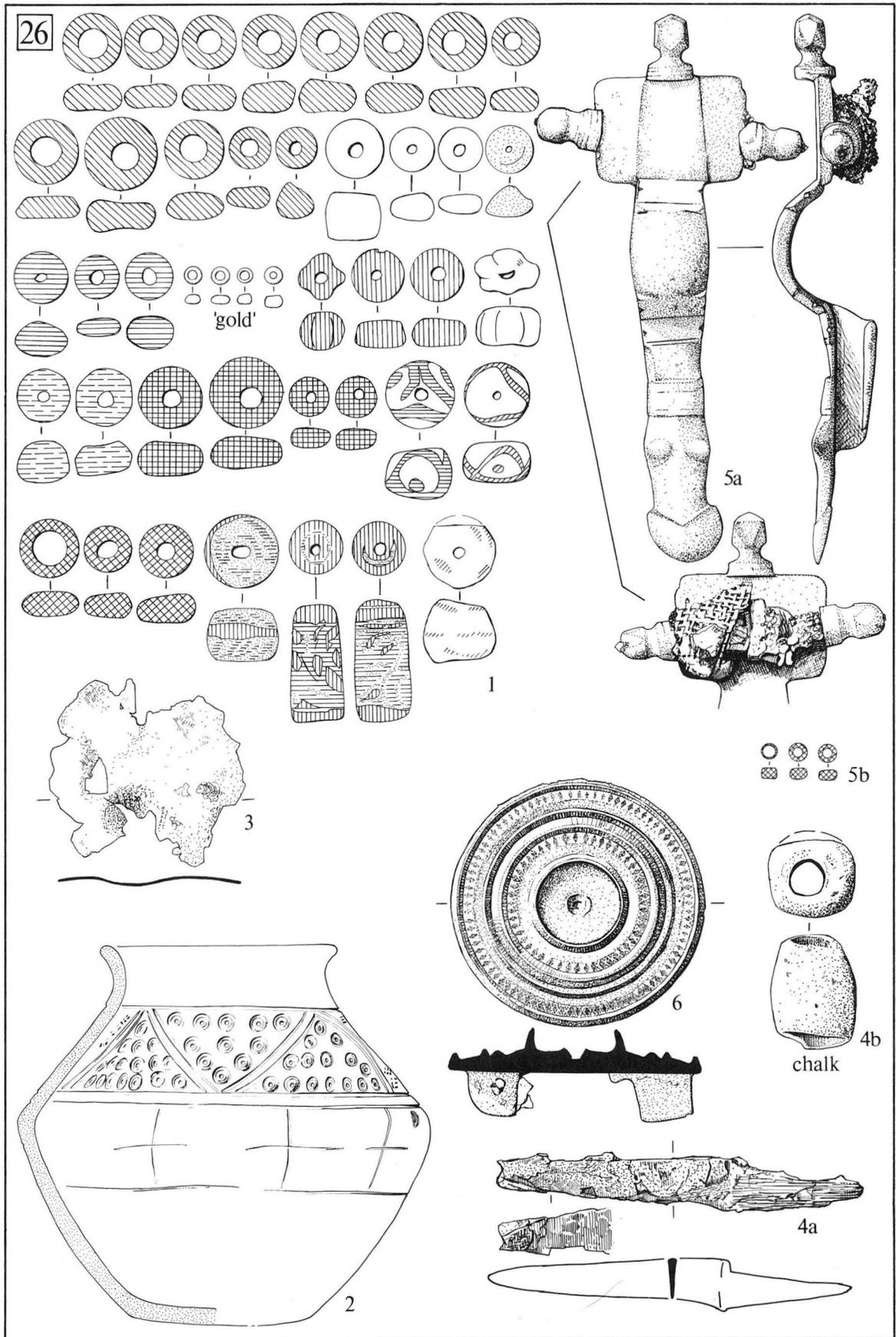


Fig.83. Grave-goods from inhumation 26.

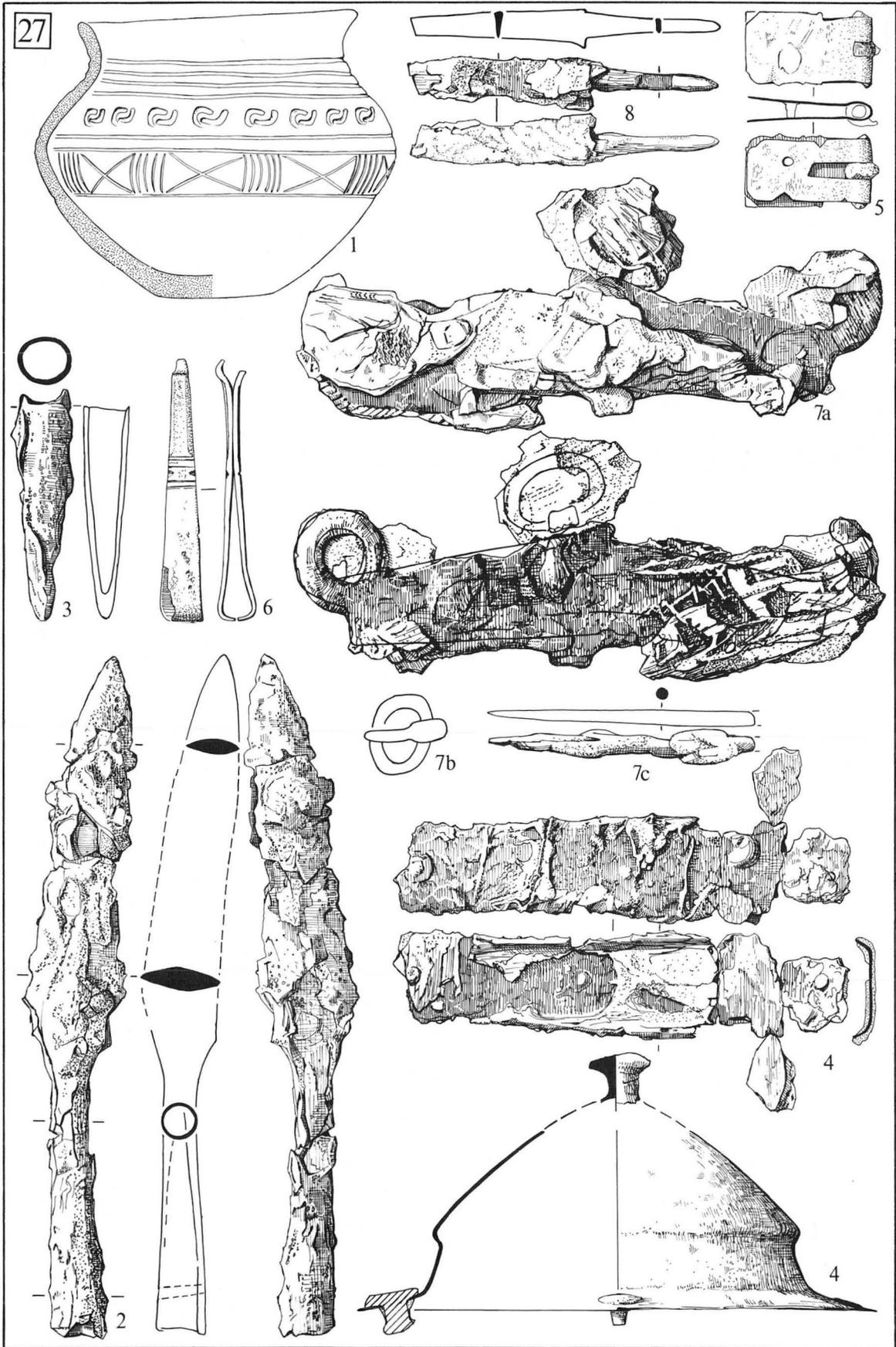


Fig.84. Grave-goods from inhumation 27.

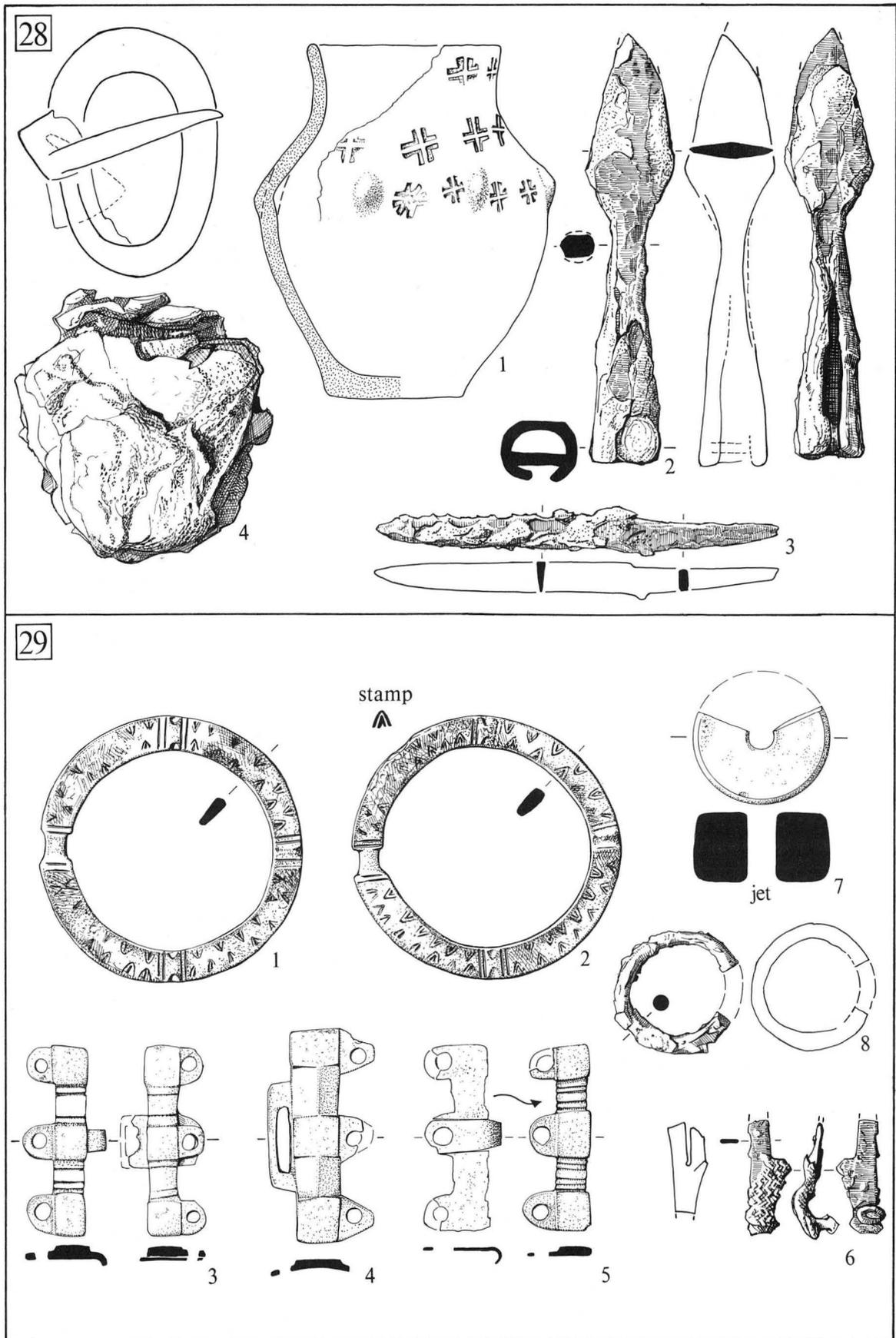


Fig.85. Grave-goods from inhumations 28 and 29.

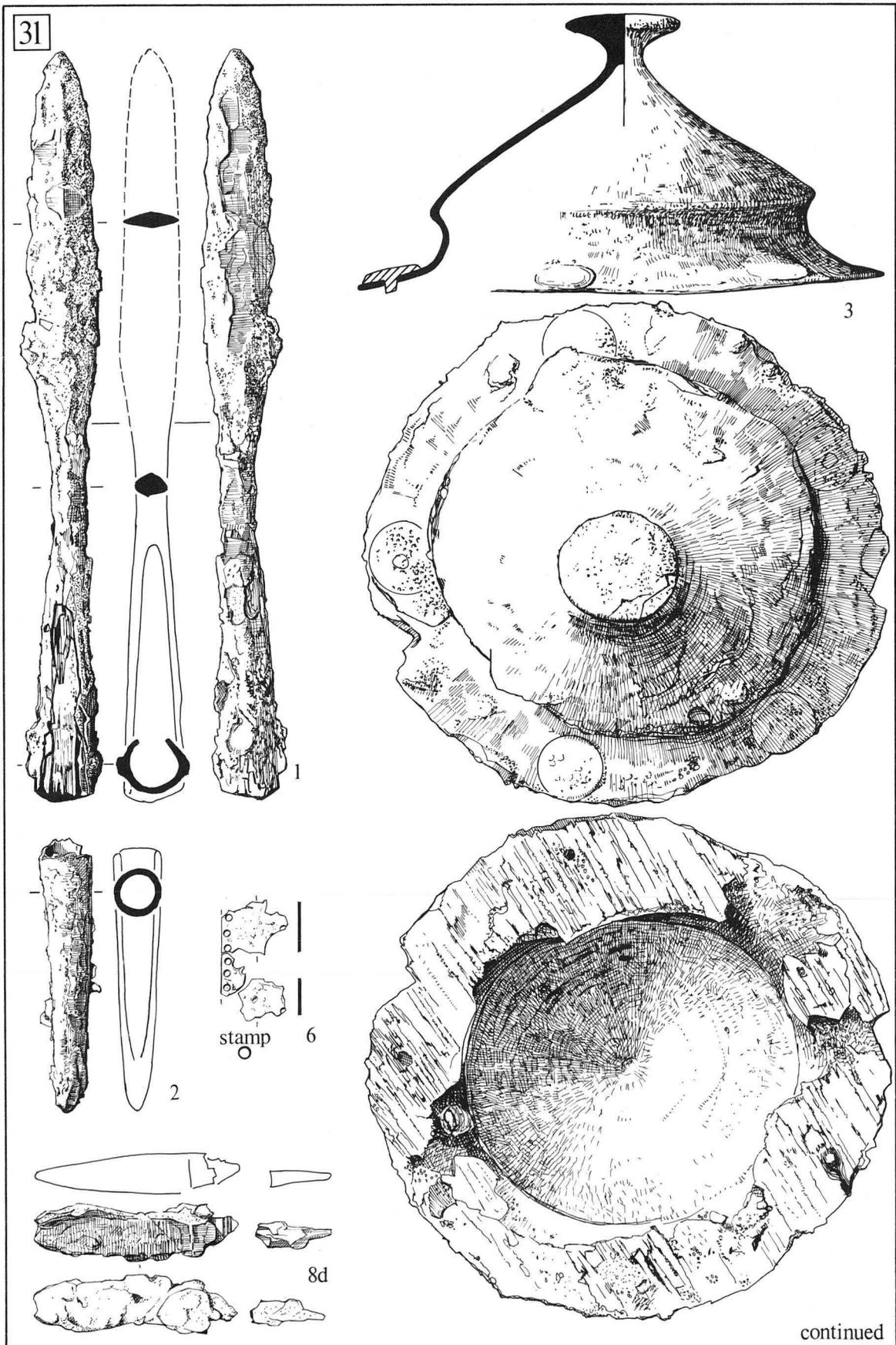


Fig.86. Grave-goods from inhumation 31.

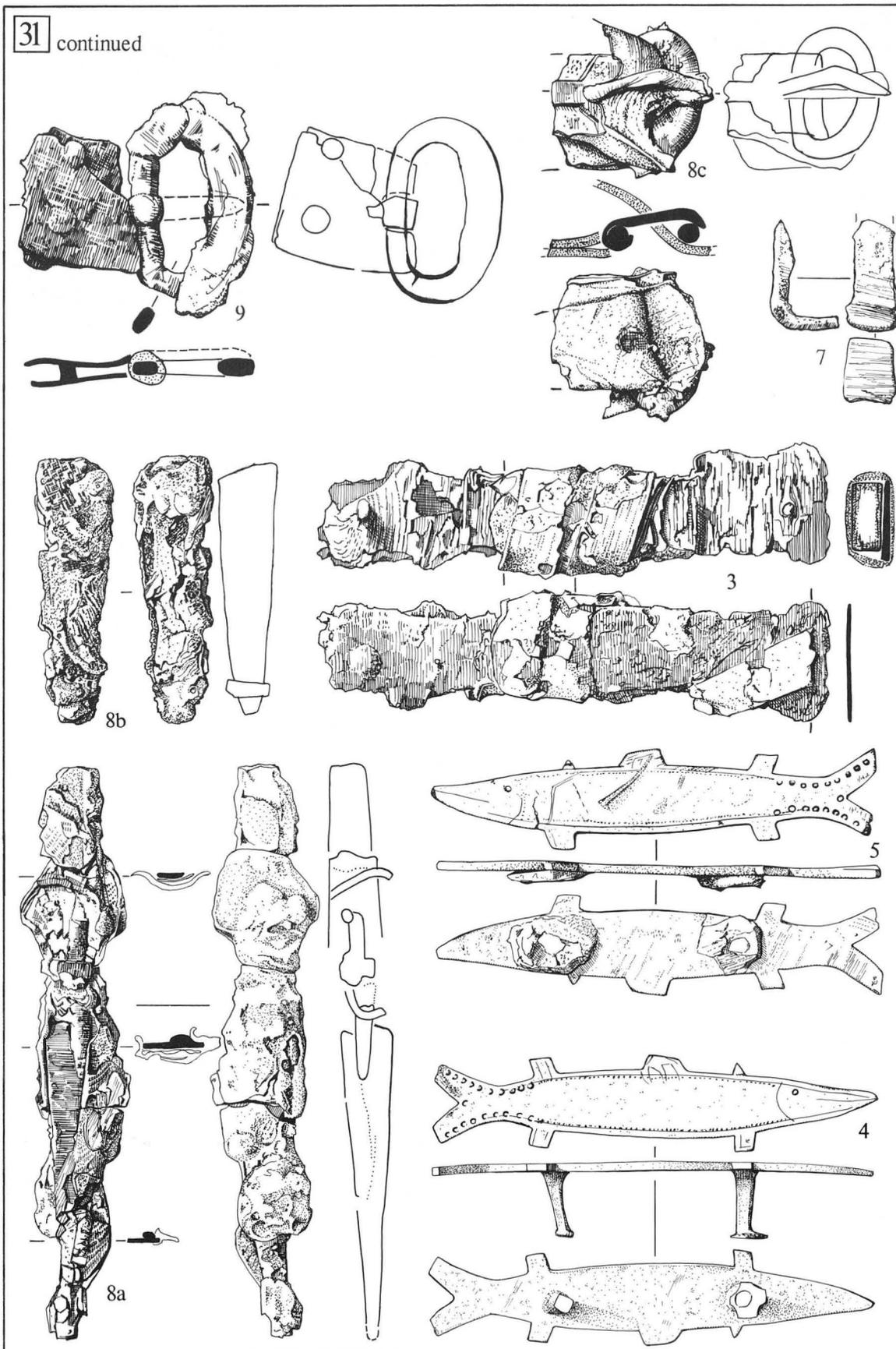


Fig.87. Grave-goods from inhumation 31.

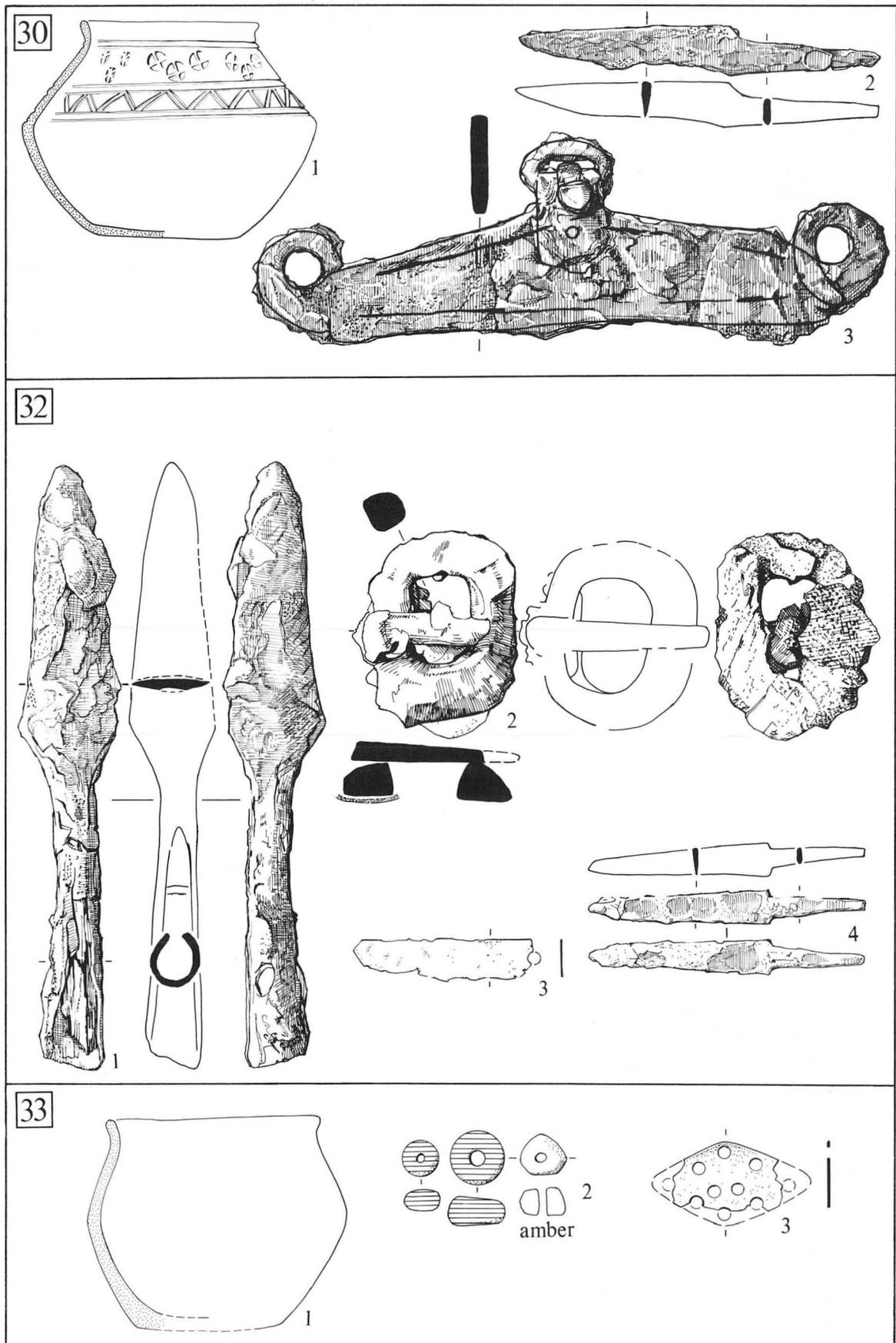


Fig.88. Grave-goods from inhumations 30, 32 and 33.

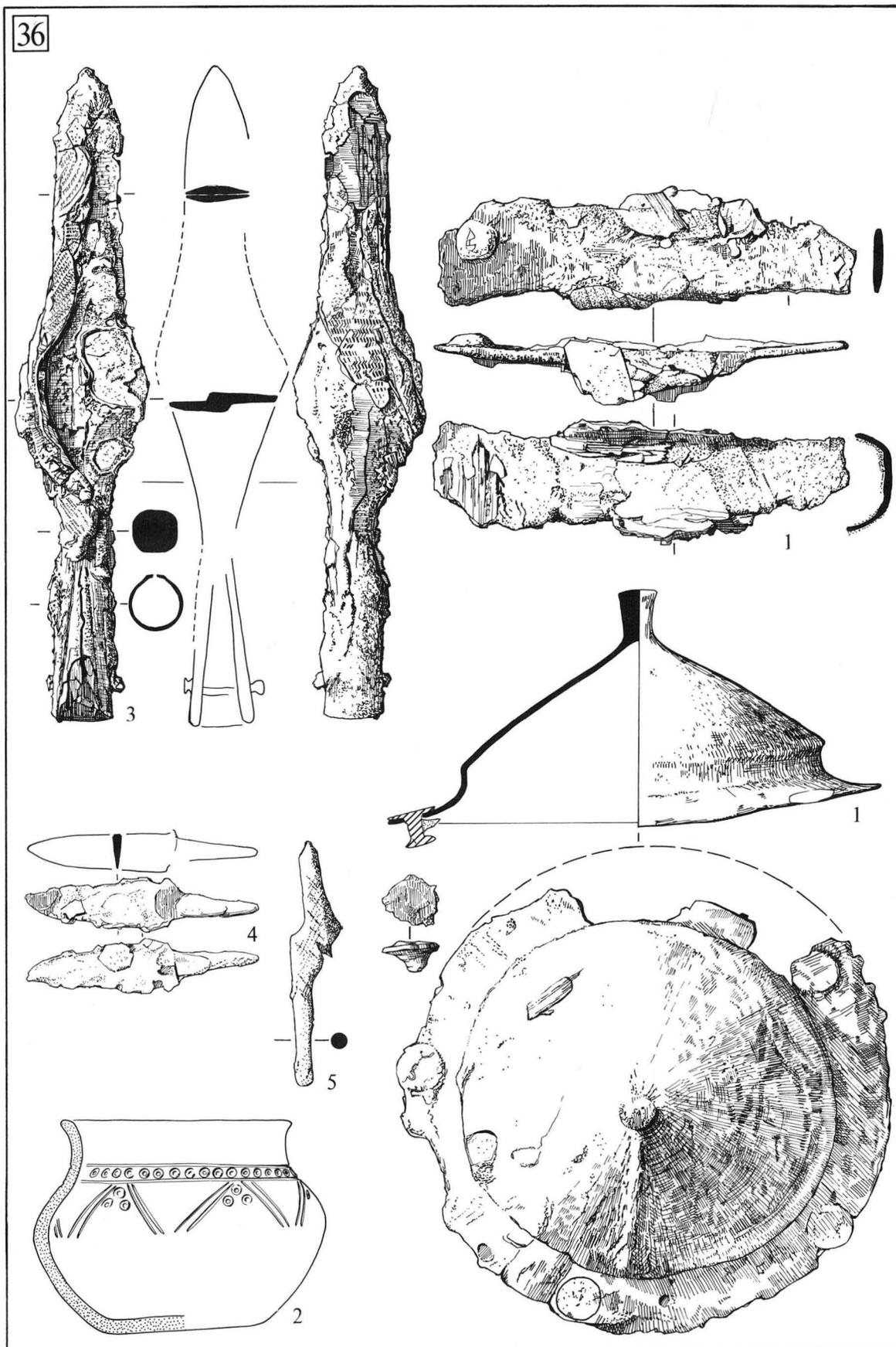
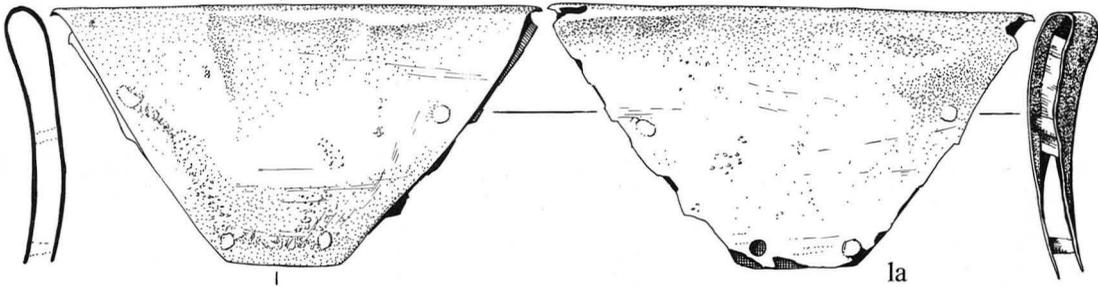
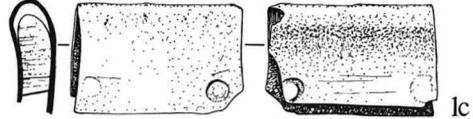
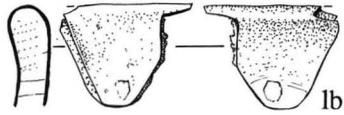
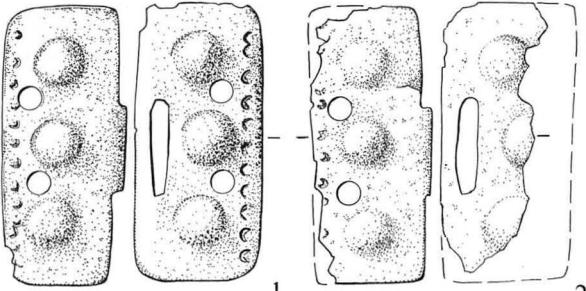
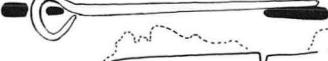
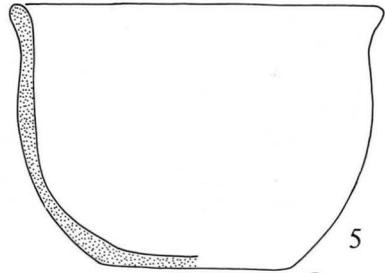
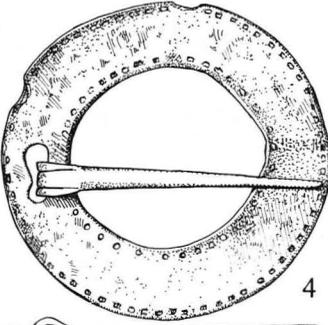
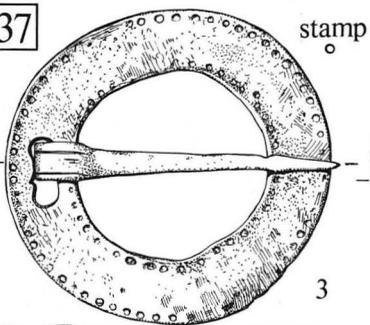


Fig.89. Grave-goods from inhumation 36.

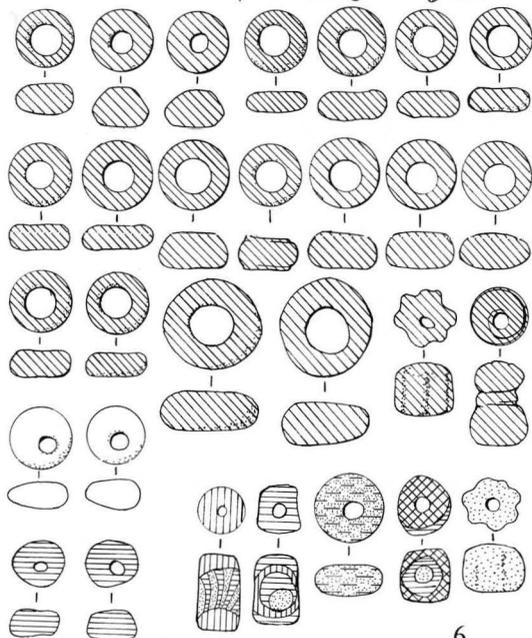
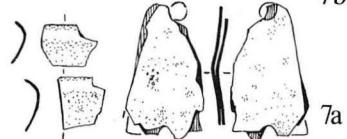
34



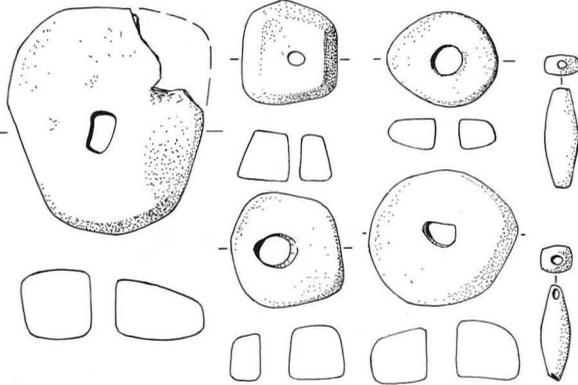
37



stamp



amber



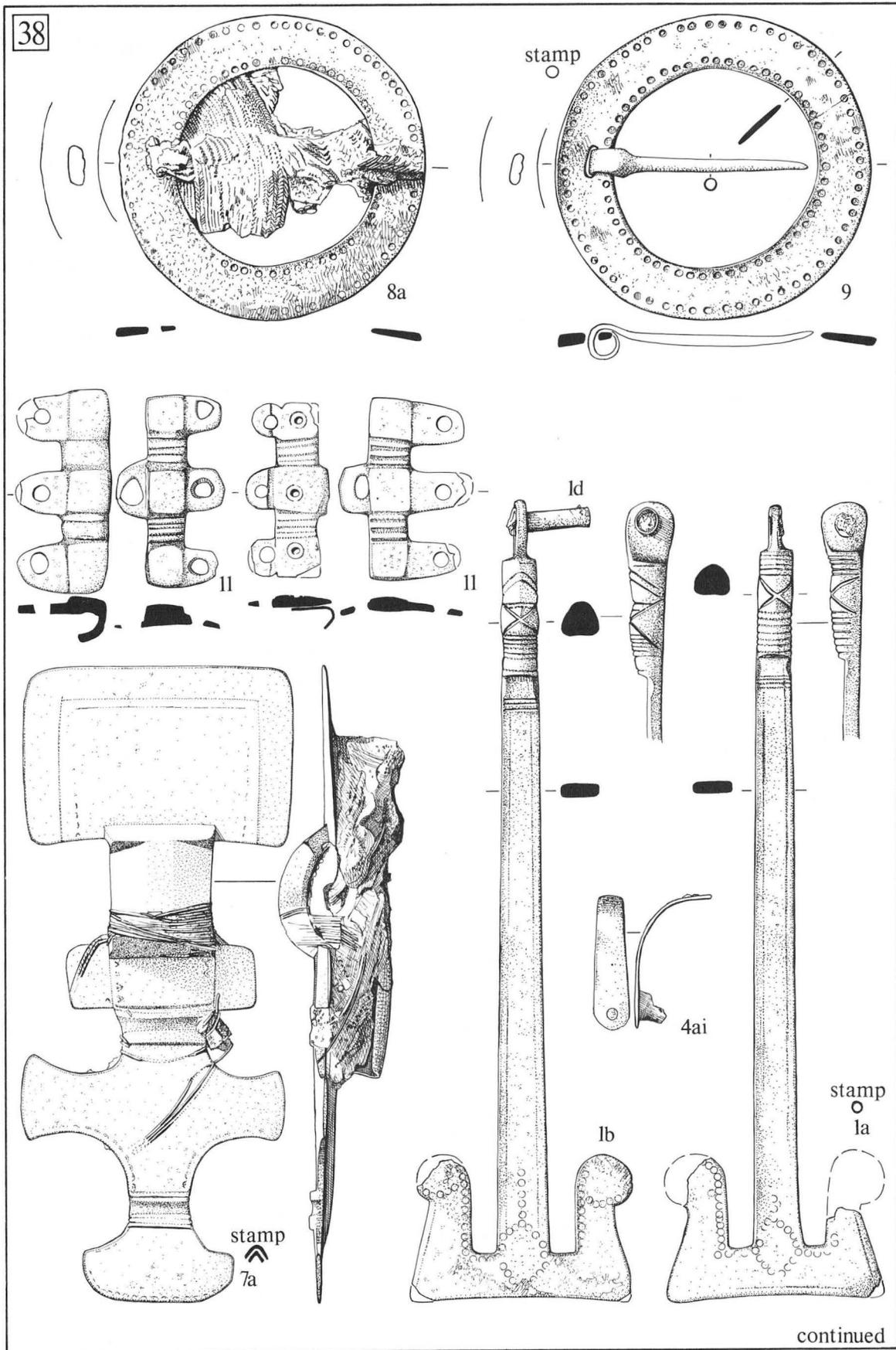


Fig.91. Grave-goods from inhumation 38.

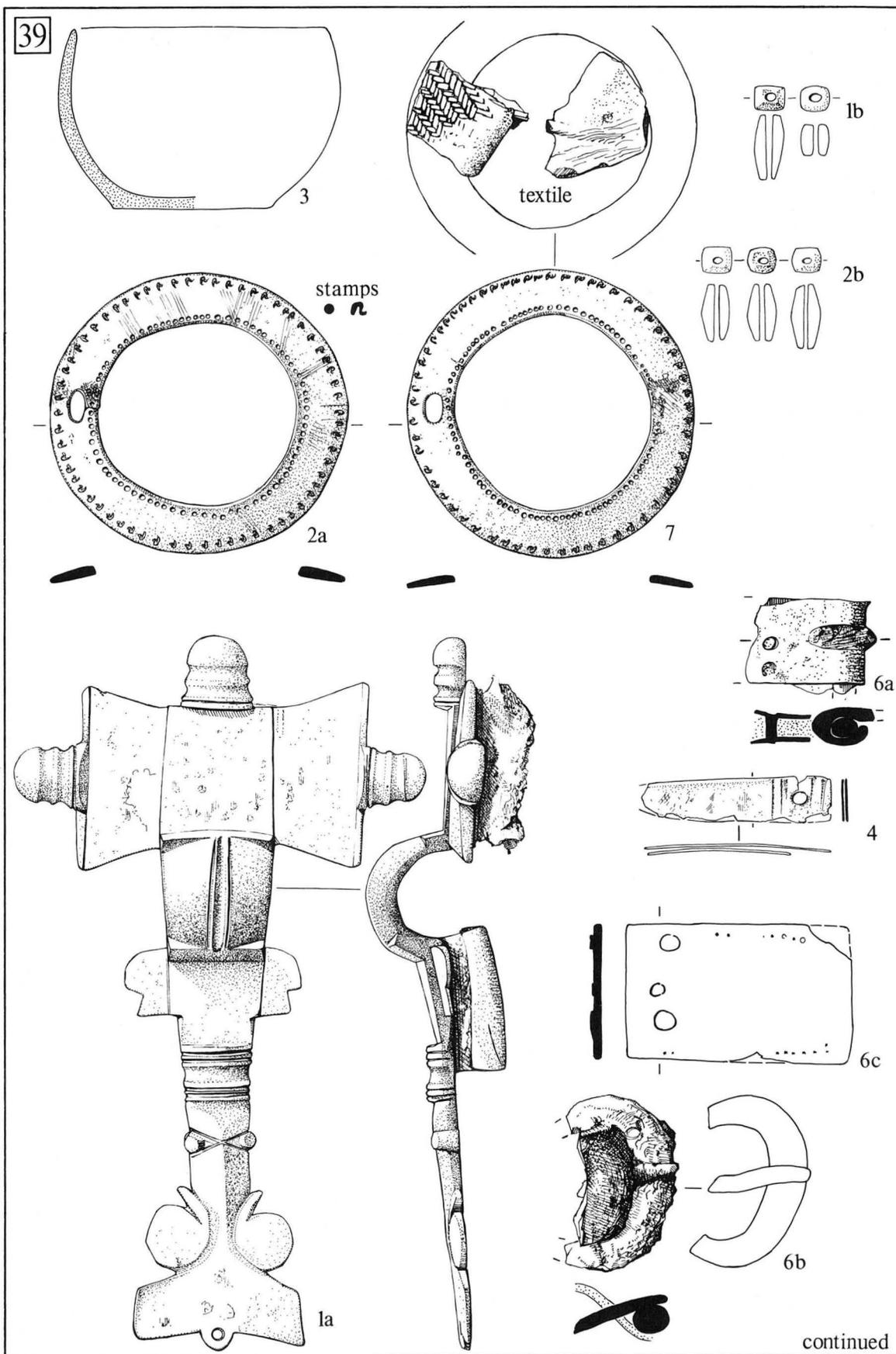


Fig.93. Grave-goods from inhumation 39.

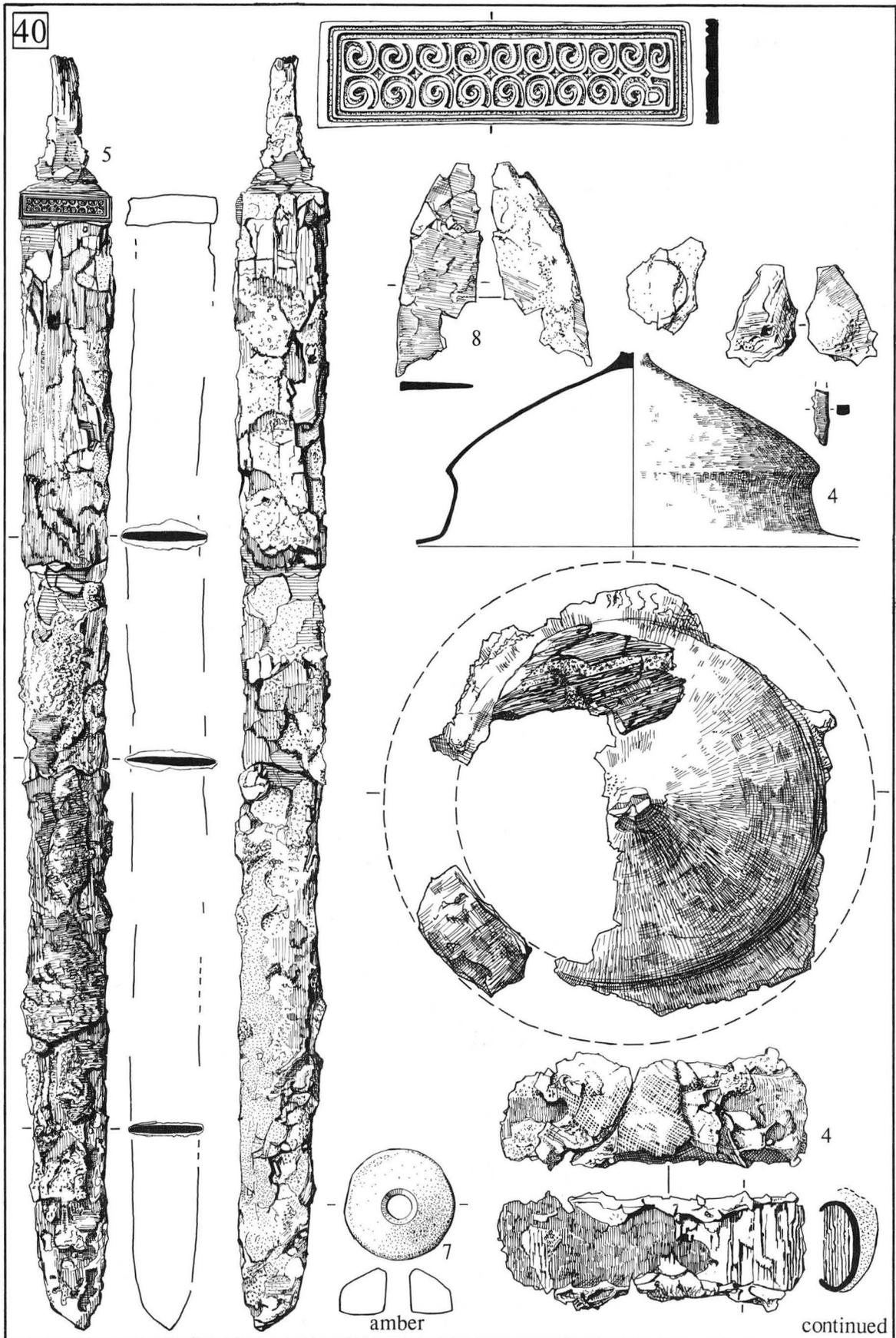


Fig.95. Grave-goods from inhumation 40.

40 continued

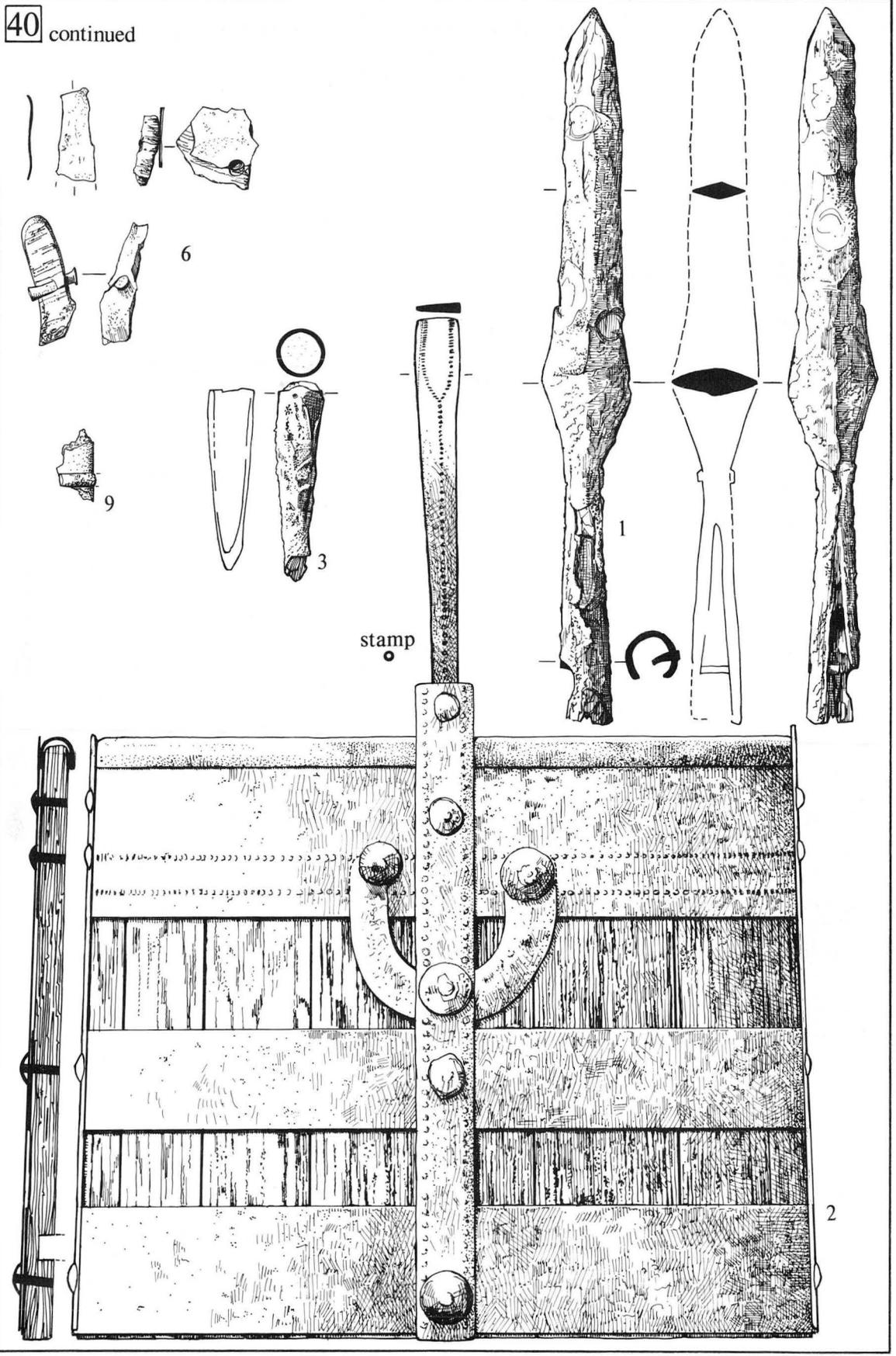
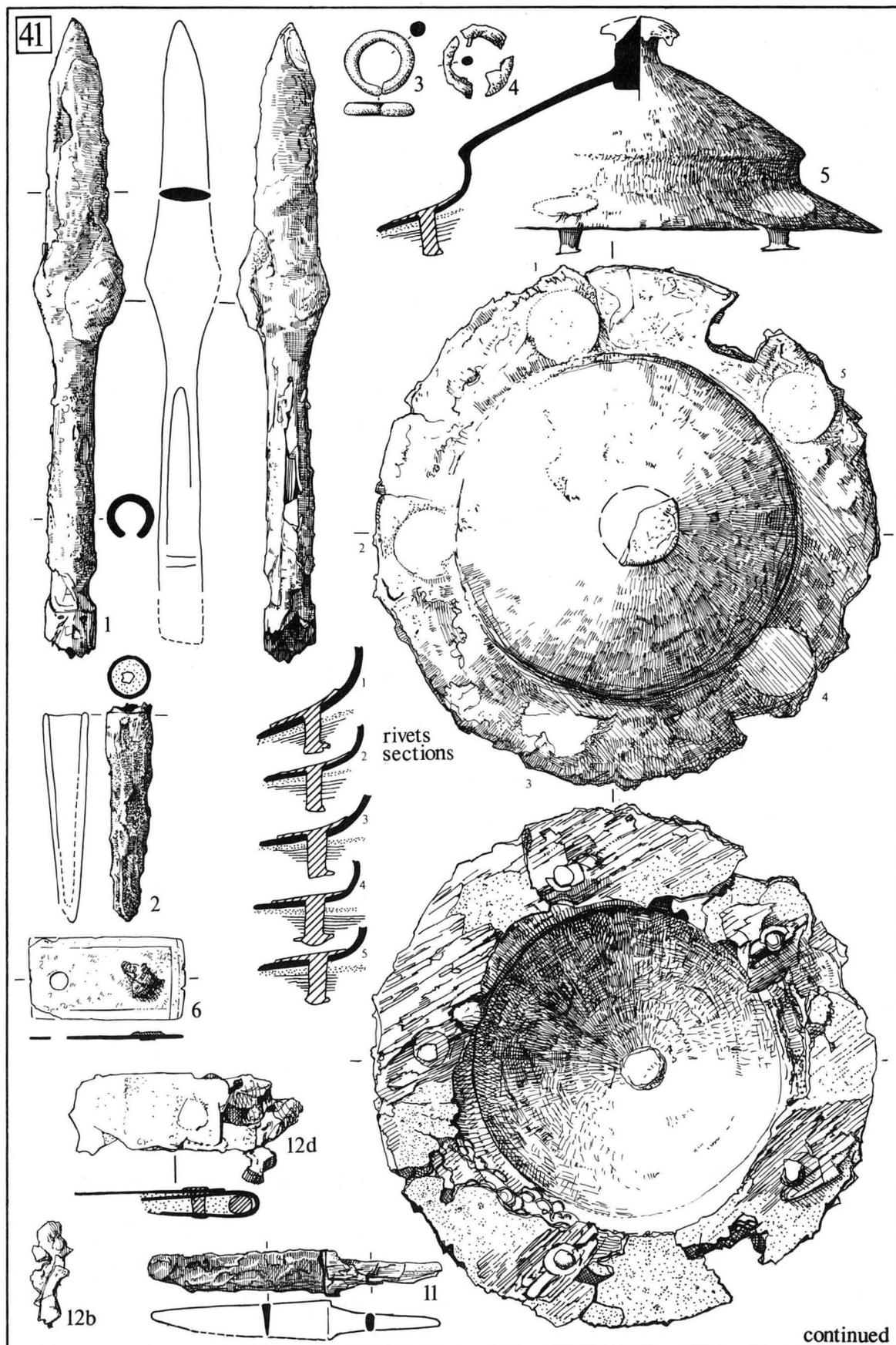


Fig.96. Grave-goods from inhumation 40.



continued

Fig.97. Grave-goods from inhumation 41.

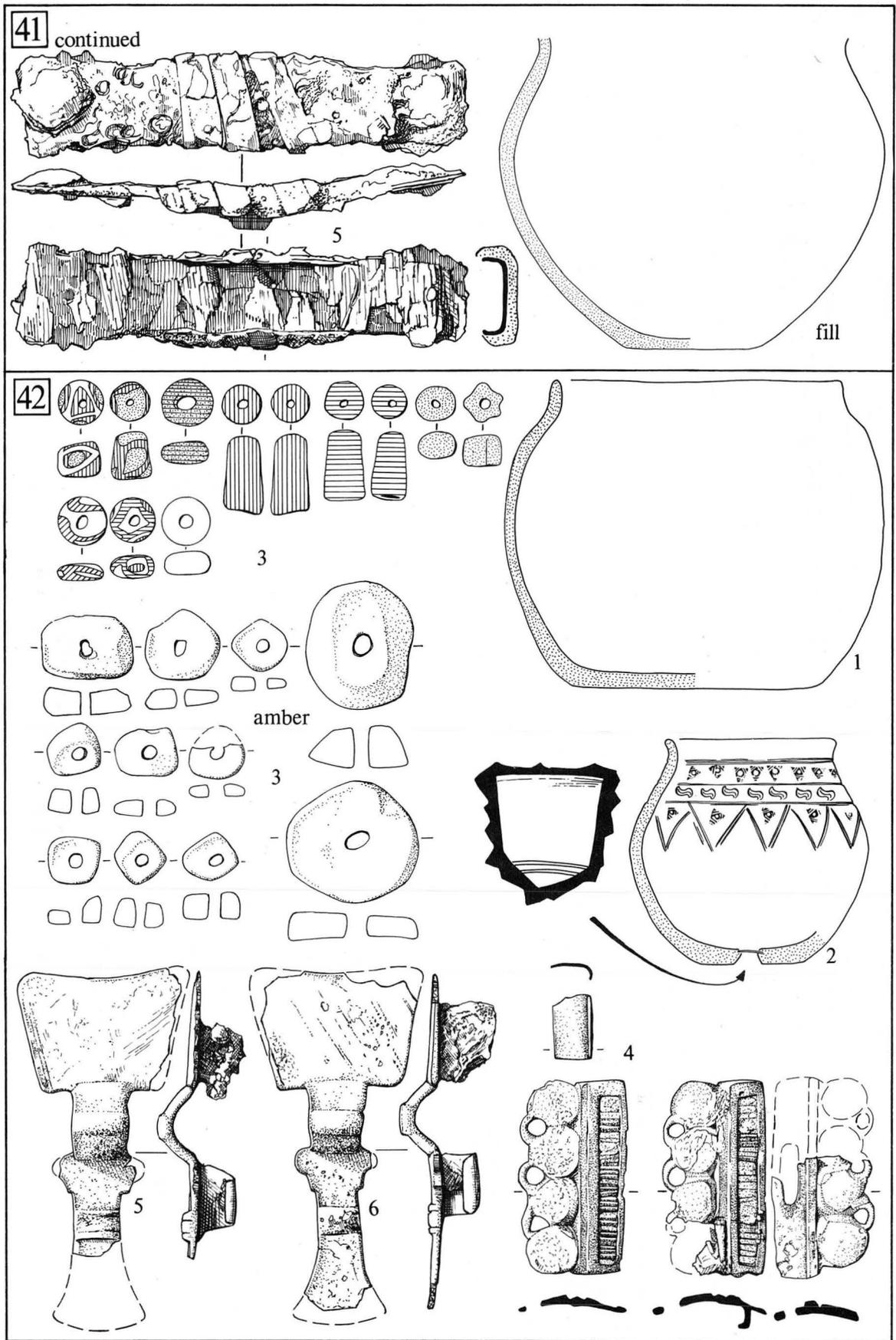


Fig.98. Grave-goods from inhumations 41 and 42.

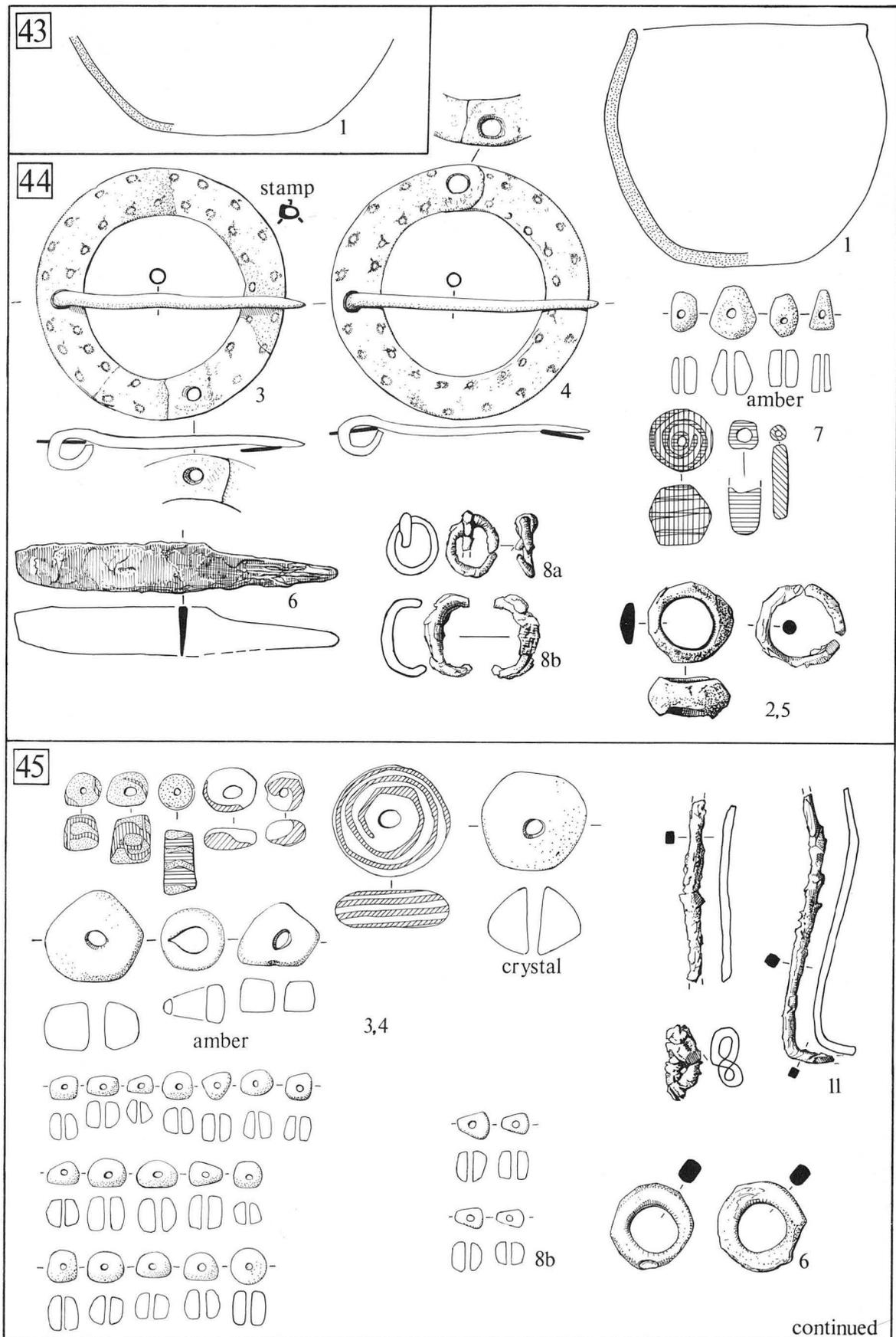


Fig.99. Grave-goods from inhumations 43, 44 and 45.

45 continued

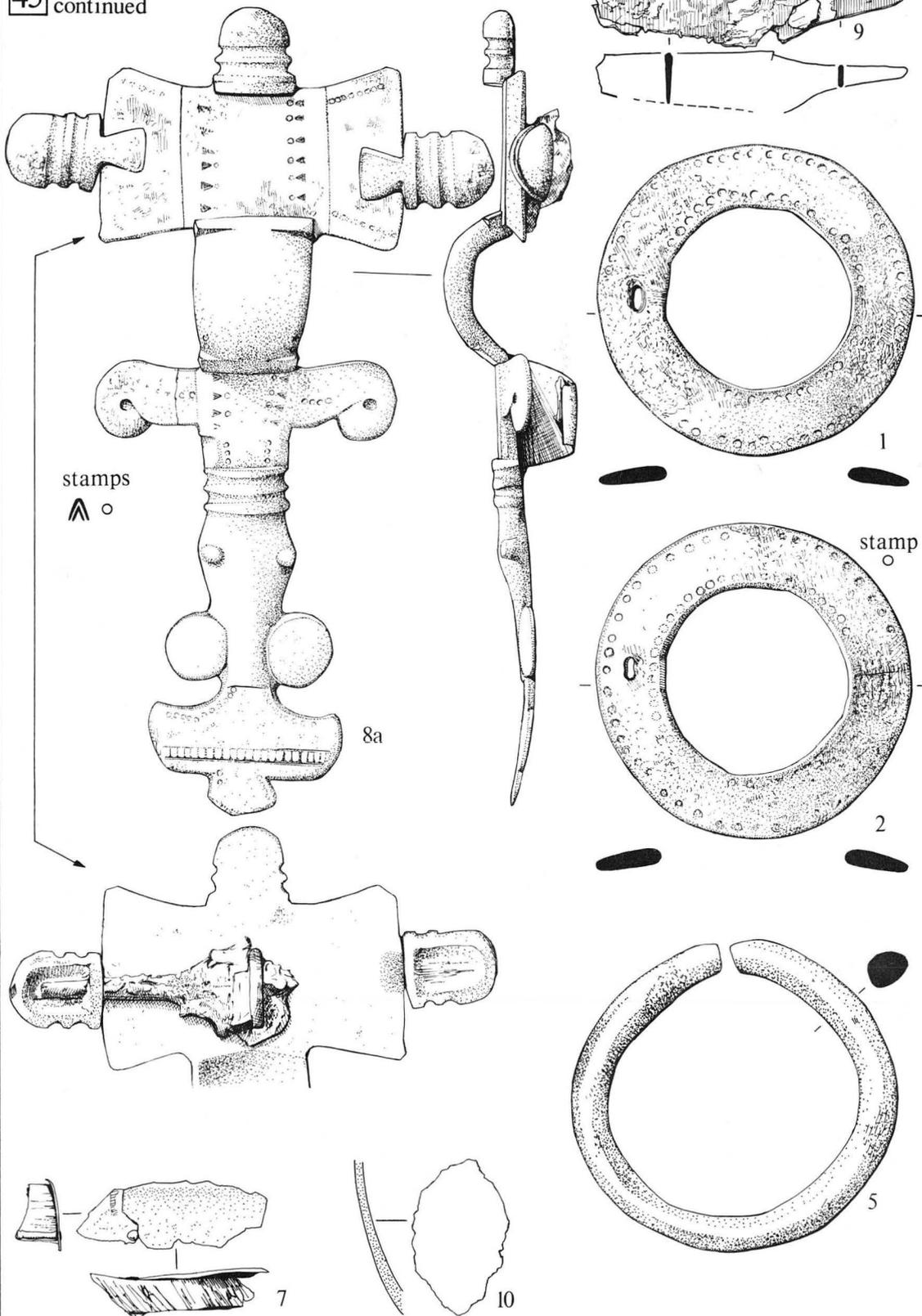


Fig.100. Grave-goods from inhumation 45.

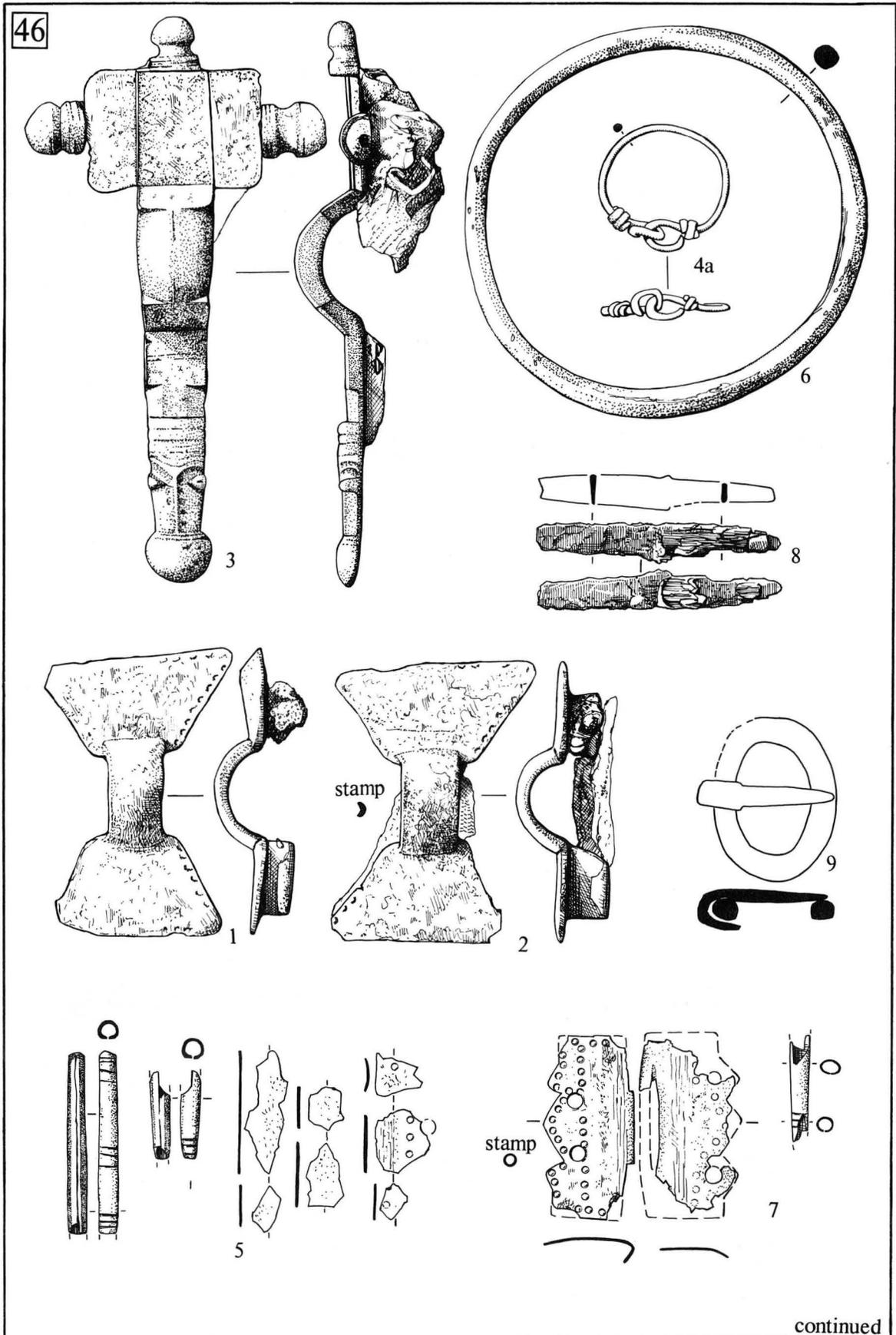


Fig.101. Grave-goods from inhumation 46.

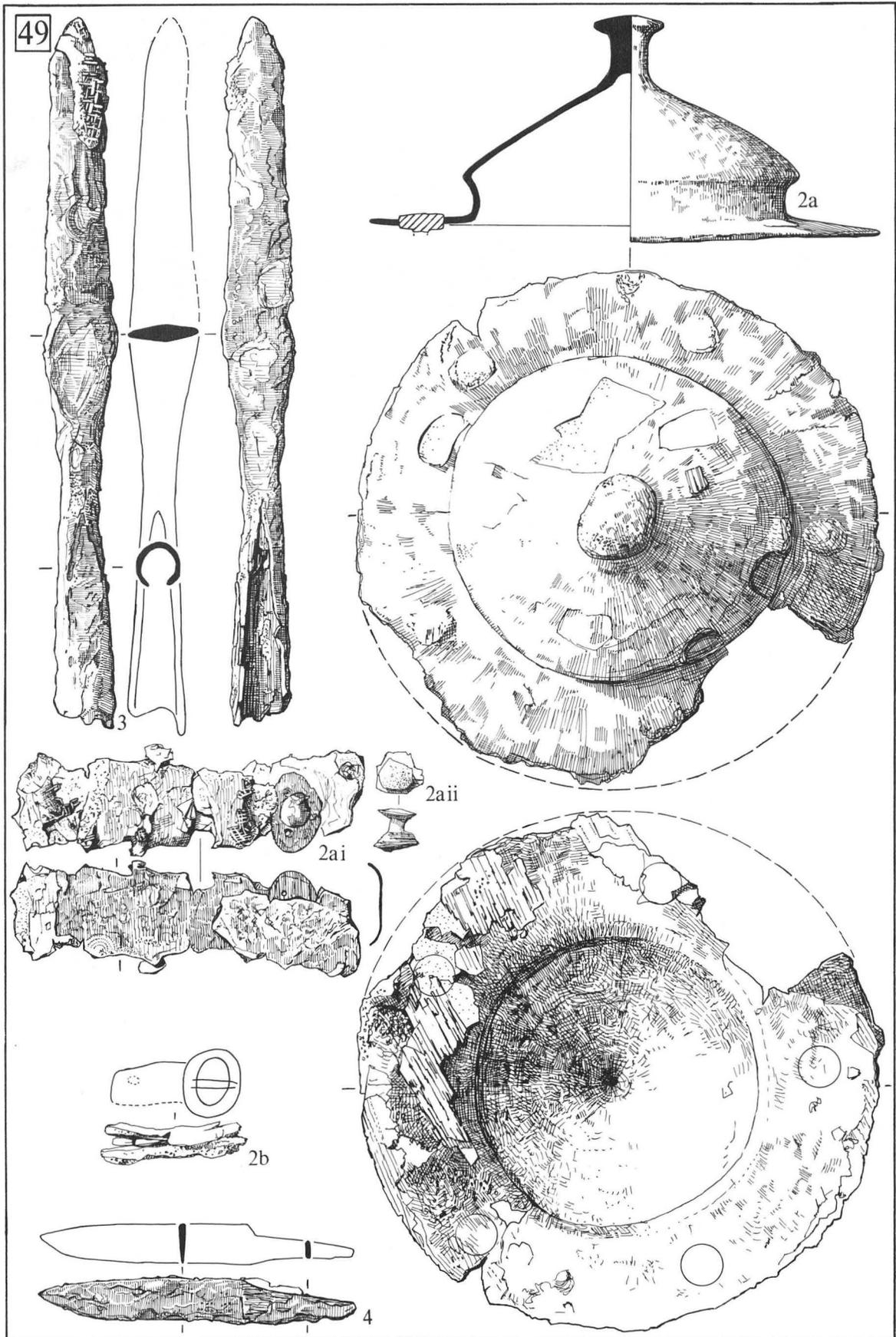


Fig.103. Grave-goods from inhumation 49.

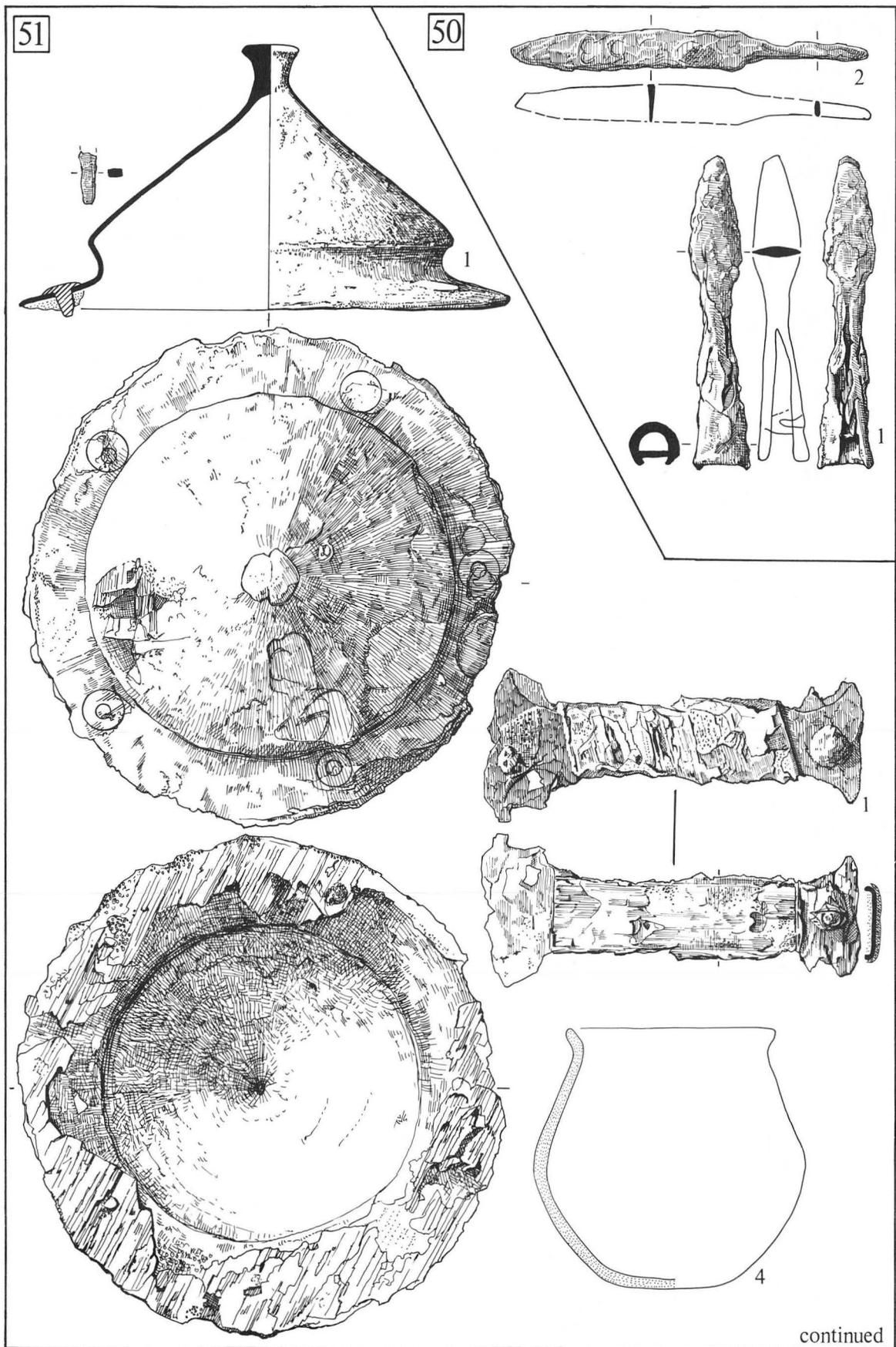


Fig.104. Grave-goods from inhumations 50 and 51.

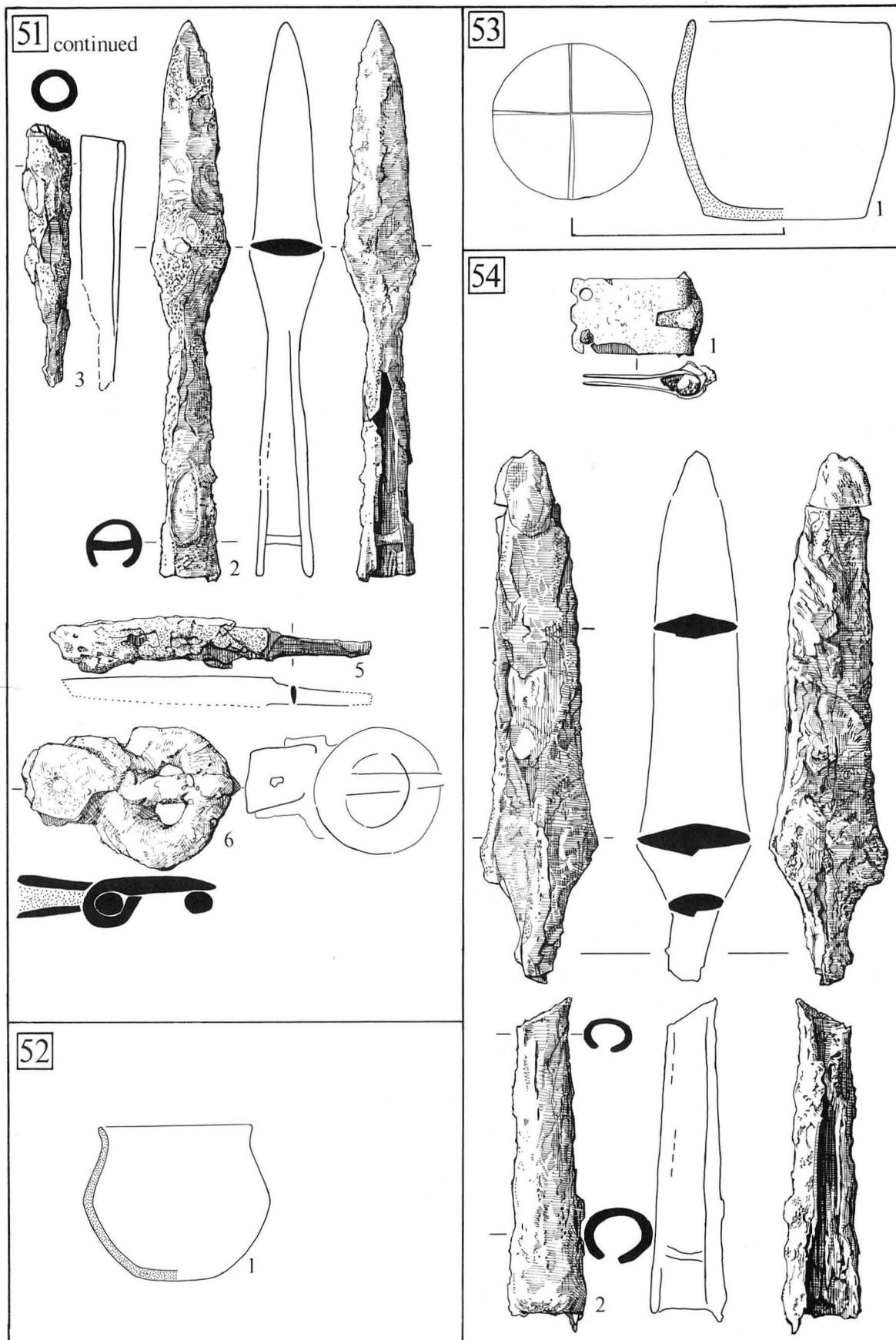
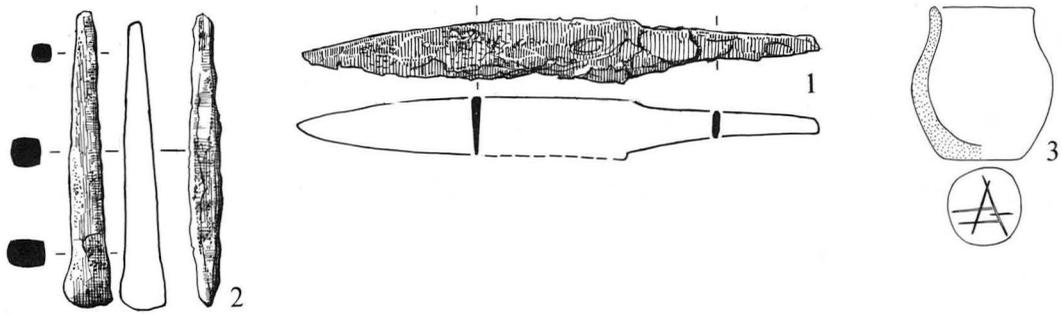


Fig. 105. Grave-goods from inhumations 51, 52, 53 and 54.

55



56

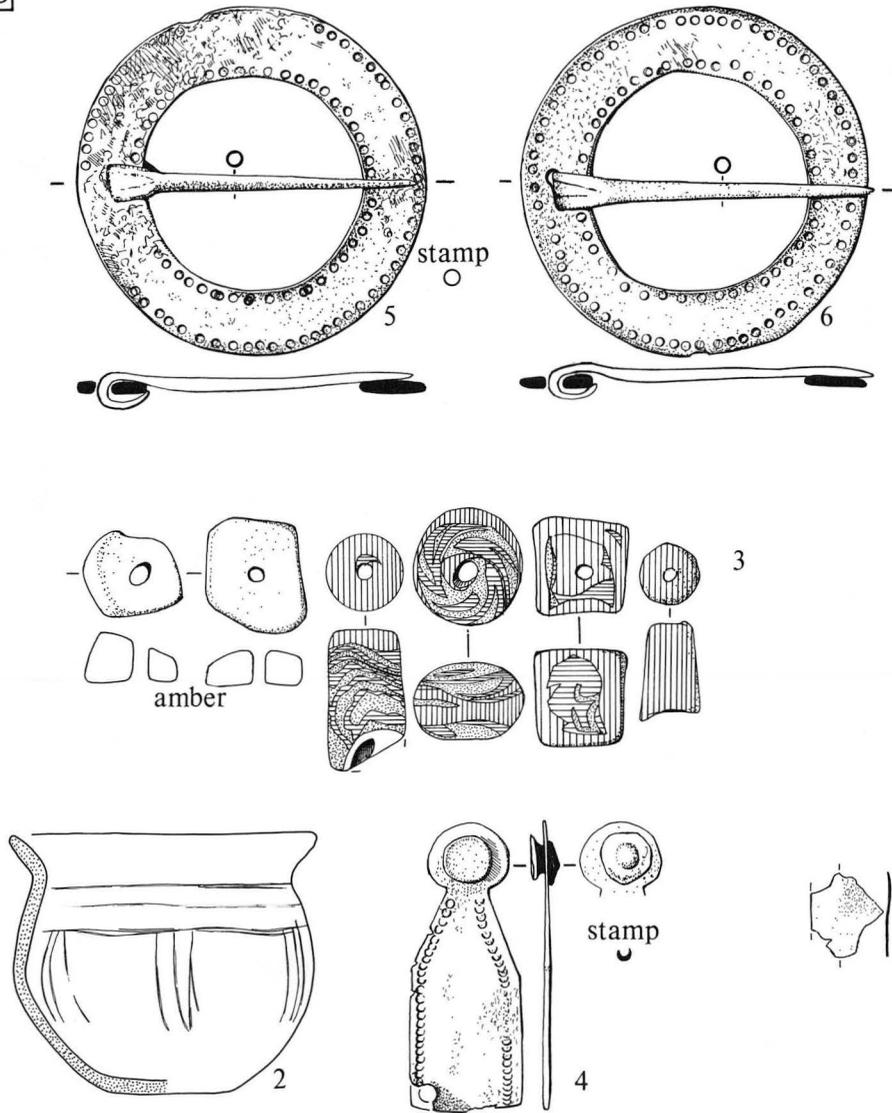


Fig.106. Grave-goods from inhumations 55 and 56.

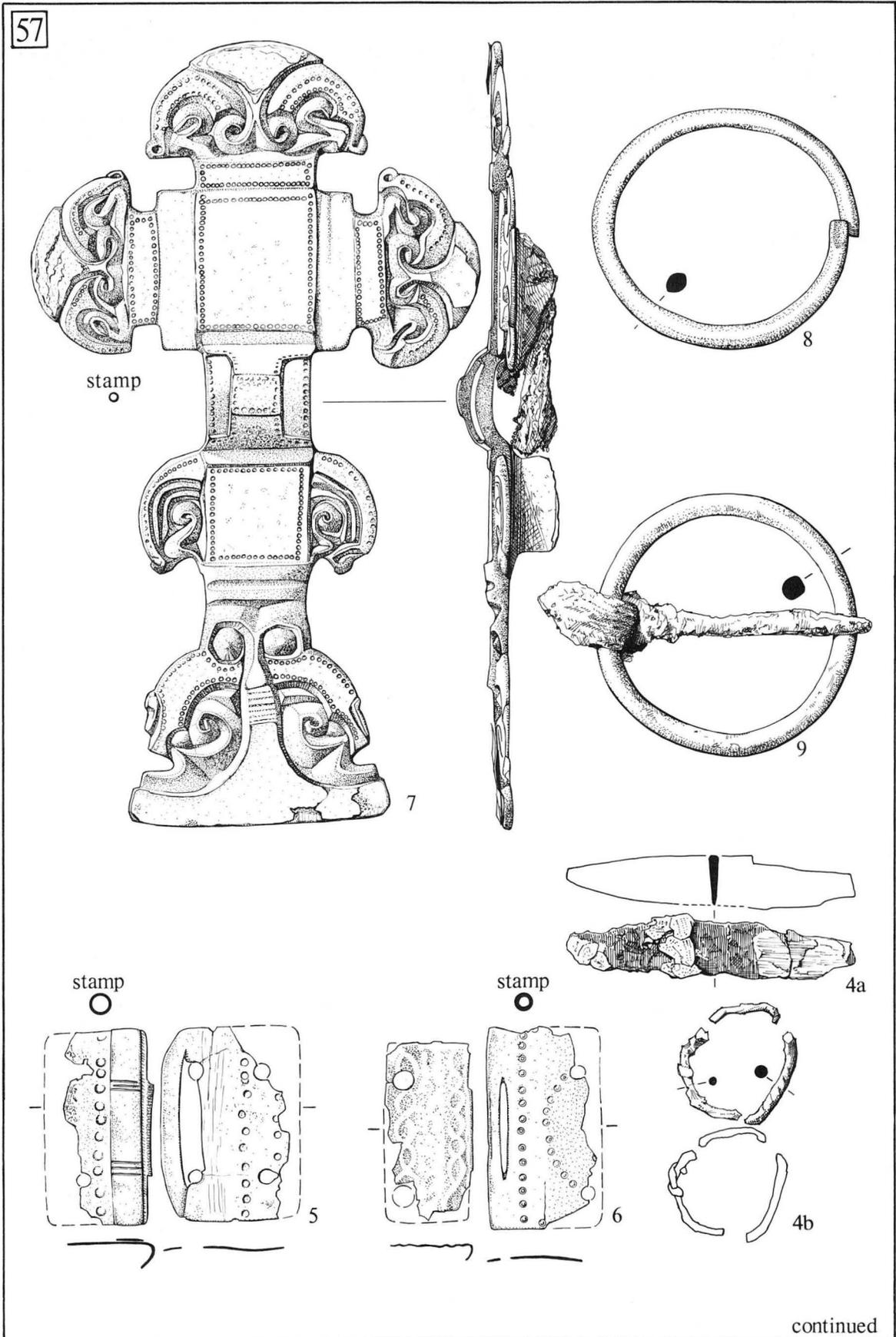


Fig. 107. Grave-goods from inhumation 57.

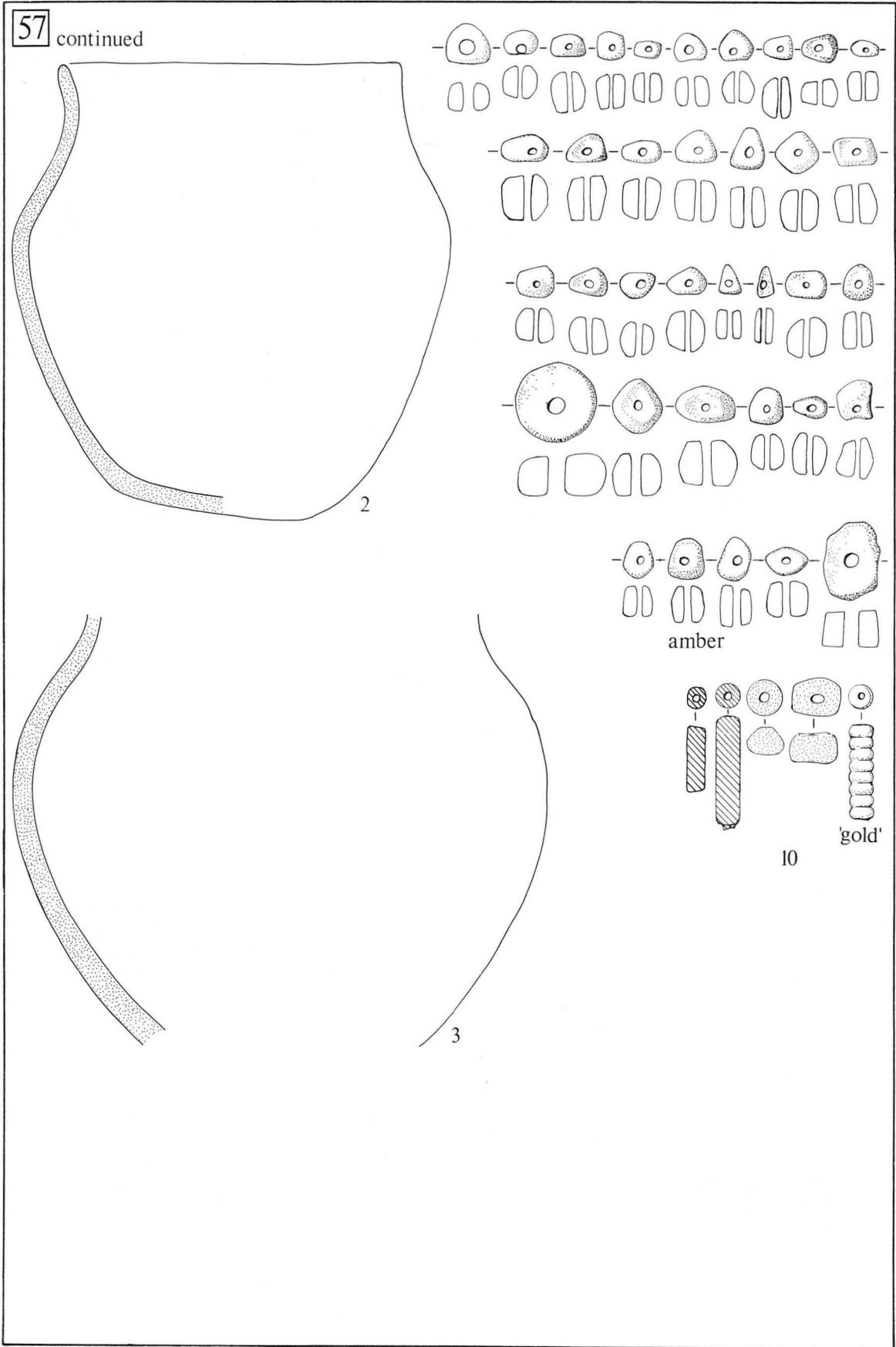


Fig.108. Grave-goods from inhumation 57.

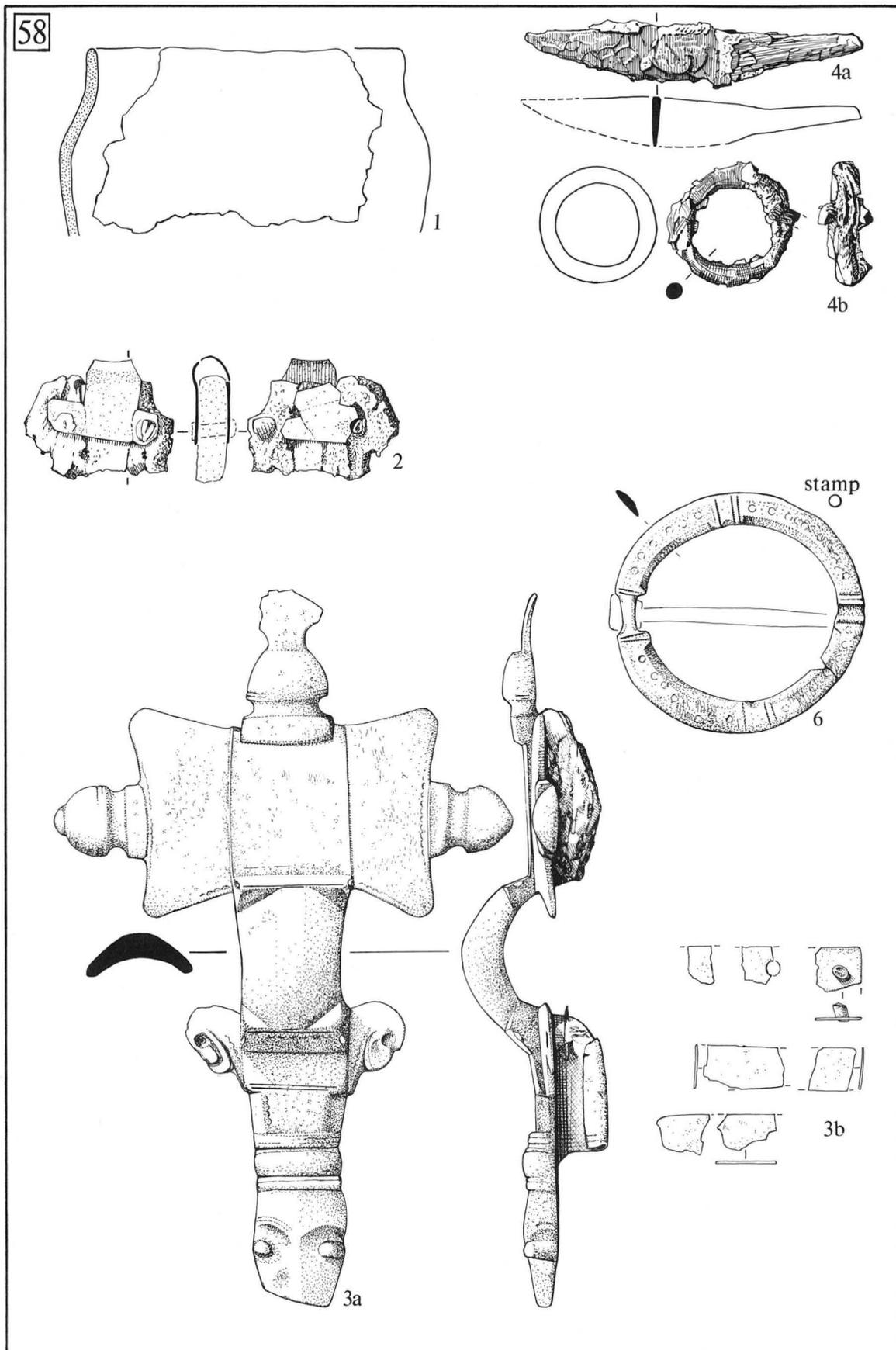


Fig.109. Grave-goods from inhumation 58.

APPENDIX I

ORGANIC MATERIAL ASSOCIATED WITH METAL OBJECTS

COMMENT

by Catherine Hills

After the foregoing report was prepared, Miss Jacqui Watson of the Ancient Monuments Laboratory, Department of the Environment, kindly identified organic material.

It is interesting that these identifications confirm, to some extent, the expectation that spear shafts would be of ash, although there are some exceptions to this: seven examples of ash against four of other woods (and one which could not be identified). On the other hand, the 'linden board' suggested by literary sources for shields is not so clearly confirmed: only two grips or boards were made of lime, the five others of poplar or willow. Three of four bowls were made of maple, a wood often used for this purpose.

Perhaps the most notable point is that many knife handles which had been thought to have been made from wood are now identified as horn, a finding recently confirmed by Jacqui Watson for many Anglo-Saxon sites.

SUMMARY

Knives, handles; horn 21, possibly horn 1, wood 1 (four had no identifiable remains).

Knives (13/3, 31/8a); wrappings, possibly sheaths, 2.

Spears, shafts; ash, 7, maple or lime 1, possibly hazel 1, willow or poplar 1, fruit tree (Pomoideae family) 1.

Shields, grips; lime, 1.

Shields, board and grip; poplar or willow 5, lime 1.

Wooden bowls (known from repairs); maple 3, alder 1.

Iron pin or awl (27/7); handle, bone or antler.

Latch lifters (22/9); associated with bone and textile.

Weaving batten (24/3); hilt: horn beneath pommel; grip, horn, overlying wood (willow or poplar); guard, probably horn.

Sword (40/5); hilt: horn; scabbard: willow or poplar.

CATALOGUE OF IDENTIFIED ORGANIC MATERIAL

by Jacqui Watson

- Inhumation 2/7b. Iron knife: organic material on tang; unidentifiable.
- Inhumation 8/2. Mineral-preserved organic material on knife tang: horn, probably cattle.
- Inhumation 13/1. Mineral-preserved wood in spearhead socket: Fraxinus.sp (Ash).
- Inhumation 13/3. Knife blade wrapped in leather and textile.
- Inhumation 16/5. Mineral-preserved wood on knife tang: possibly Fraxinus.sp.
- Inhumation 17/2. Iron knife: organic material on tang too small to identify.
- Inhumation 22/9. Latchlifter with bone and textile preserved on it.
- Inhumation 22/10. Mineral-preserved organic material on knife tang: horn, probably cattle.
- Inhumation 23/2. Mineral-preserved organic material on knife tang: horn, probably sheep or goat.
- Inhumation 24/3. Hilt of weaving batten: organic material beneath pommel: horn, grip: horn, possibly cattle; overlying wood, probably Salix.sp. (Willow) or Populus.sp. (Poplar), which may have packed the space between tang and horn, guard: probably horn.
- Inhumation 24/4g. Mineral-preserved organic material on knife tang: horn, possibly sheep or goat.
- Inhumation 24/8. Mineral-preserved organic material on knife tang: horn.
- Inhumation 26/4a. Mineral-preserved organic material on knife tang: horn, possibly sheep or goat.
- Inhumation 27/2. Mineral-preserved wood in spearhead socket: Fraxinus.sp.
- Inhumation 27/4. Mineral-preserved wood from shield grip: possibly Tilia.sp. (Lime).
- Inhumation 27/7. Iron pin with bone or antler handle.
- Inhumation 27/8. Mineral-preserved organic material on knife tang: horn, cattle.
- Inhumation 28/2. Wood in spearhead socket: covered in wax, unable to be examined.
- Inhumation 28/3. Iron knife: no identifiable material on tang.
- Inhumation 30/2. Mineral-preserved organic material on knife tang: horn.
- Inhumation 31/1 & 2. Mineral-preserved wood in spearhead and ferrule sockets: both Fraxinus.sp from mature timber.
- Inhumation 31/3. Mineral-preserved wood from both the shield grip and shield board: Salix.sp or Populus.sp.
- Inhumation 31/8a. Knife group covered in textile and possibly leather.
- Inhumation 31/8d. Mineral-preserved organic material on knife tang: horn, probably sheep or goat.
- Inhumation 32/1. Mineral-preserved wood in spearhead socket: Fraxinus.sp.
- Inhumation 32/4. Mineral-preserved organic material on knife tang: possibly horn.
- Inhumation 34/1. Wood from copper alloy bowl repair: probably Acer.sp (Maple).
- Inhumation 36/1. Mineral-preserved wood from shield board: probably Tilia.sp. Mineral-preserved wood from shield grip: Tilia.sp.
- Inhumation 36/3. Mineral-preserved wood from spearhead socket: probably Acer.sp or Tilia.sp.
- Inhumation 36/4. Mineral-preserved organic material on knife tang: horn.
- Inhumation 38/2. Mineral-preserved organic material on knife tang: horn, possibly cattle.
- Inhumation 40/1 & 3. Mineral-preserved wood in spearhead and ferrule sockets: possibly one of the Pomoideae family. The wood in the ferrule socket obviously comes from coppiced or branch wood.
- Inhumation 40/4. Mineral-preserved wood from shield grip: Salix.sp or Populus.sp.
- Inhumation 40/5. Organic material associated with sword:
hilt: horn, sheep or goat.
scabbard: Salix.sp or Populus.sp.
- Inhumation 40/6. Wood from copper alloy bowl repair: Acer.sp.
- Inhumation 40/8. Mineral-preserved wood from shield board: Salix.sp or Populus.sp.
- Inhumation 41/1. Mineral-preserved wood from spearhead socket: probably Salix.sp or Populus.sp, from coppiced or branch wood.
- Inhumation 41/5. Mineral-preserved wood on shield boss and grip: probably Salix.sp or Populus.sp.
- Inhumation 41/11. Mineral-preserved organic material on knife tang: horn.
- Inhumation 44/6. Mineral-preserved organic material on knife tang: horn,

- probably cattle.
- Inhumation 45/7. Wood from copper alloy bowl repair: possibly Alnus.sp (Alder).
- Inhumation 45/9. Mineral-preserved organic material on knife tang: horn, possibly cattle.
- Inhumation 46/8. Mineral-preserved organic material on knife tang: horn, possibly sheep or goat.
- Inhumation 48/2. Mineral-preserved organic material on knife tang: horn, cattle.
- Inhumation 49/2. Mineral-preserved wood from shield board and grip: Salix.sp or Populus.sp.
- Inhumation 49/3. Mineral-preserved wood from spearhead socket: possibly Fraxinus.sp.
- Inhumation 49/4. Mineral-preserved organic material on knife tang: horn.
- Inhumation 50/1. Mineral-preserved wood from small spearhead socket: possibly Corylus.sp (Hazel).
- Inhumation 50/2. Iron knife: organic material not identifiable.
- Inhumation 51/1. Mineral-preserved wood from shield board and grip: Salix.sp or Populus.sp.
- Inhumation 51/2 & 3. Mineral-preserved wood in spearhead and ferrule sockets: both are Fraxinus.sp from mature timber.
- Inhumation 51/5. Mineral-preserved organic material on knife tang: horn.
- Inhumation 54/2. Mineral-preserved wood in spearhead socket: probably Fraxinus.sp.
- Inhumation 55/1. Mineral-preserved organic material on knife tang: horn.
- Inhumation 57/4a. Mineral-preserved organic material on knife tang: horn, sheep or goat.
- Inhumation 58/2. Wood from copper alloy bowl repair: Acer.sp.
- Inhumation 58/4a. Mineral-preserved organic material on knife tang: horn, probably sheep or goat.

APPENDIX II

X-RADIOGRAPHS OF TWO OBJECTS: THE WEAVING BATTEN (24/3) AND THE SWORD (40/5) (Fig.110) by Brian Gilmour

X-radiographs of the two objects were kindly provided by the Ancient Monuments Laboratory, Department of the Environment (weaving batten AML B.3423, sword AML B.3423). The X-radiographs generally were very fuzzy and unclear, probably the combined result of very heavy surface incrustation (including the corroded remains of the sword scabbard) and poor metallic survival. However, some structural details were apparent, with the X-radiograph of the weaving batten producing clearer results than that of the sword.

It is often difficult to be certain of the actual surface effects when dealing with radiographs (even when good structural details can be seen) because one is observing a double image. These images are not easy to interpret and only represent the structure of a blade in one plane. This means that the structure is somewhat more complex than is first apparent.

A. Weaving batten (24/3)

The visible structural details showed that this object had a composite pattern - welded central zone running down the centre of the blade. This composite core (a little wider and more complex than that of the sword blade) could be seen continuing into the tang, where it soon became unrecognisable.

The blade appeared to have welded-on 'cutting edges' (a term not wholly appropriate for a weaving batten), which (like the core) continued up into the tang, indicating that the various elements of the blade had been assembled before the tang was forged and any other final forging done. No structural details could be seen in the cutting edges.

A side-by-side double chevron pattern was visible on the radiograph in places along the centre of the blade, but there was very little sign of criss-crossing (as on the sword). The double chevron pattern shows that four composite bars of alternating right- and left-hand twists had been welded together side-by-side. The absence of any criss-crossing indicates that there were almost certainly two similar sets of four bars forming the surface on either side of the core. These two sets may have been welded back-to-back to form the core of the blade, but there are very slight indications on the radiograph that a straight-grained element may have been present in the core, in which case a possible plain central core piece had each of the quadruple sets of composite strips welded on to form a sandwich (Fig.110). In either case, the surface effect would have been the same; the chevron pattern would have pointed upwards towards the hilt (viewed from either side). However, the chevron pattern was not continuous; in two places on the radiograph it alternated with straight-grained or non-twisted design elements. Close to the hilt, the design was clearly straight-grained on either side of the blade for approximately 5 cm, after which the chevron design continued. Near the lower end, each of the outer two twisted bands was interrupted by an approximately 5 cm stretch of straight-graining. The change from twisted to straight-grained parts was fairly clear, although whether this interruption of the design occurred on both sides of the blade near the lower end was not clear.

The straight-grained interruptions in the twisted or chevron design and the faint indications of straight-graining, which suggest a possible core, should not be confused; the latter were much more extensive and seemed unrelated to the pattern-welded design.

When the radiograph of the concave tapered end was carefully examined an interesting and important impression was gained; very faint parts of the twisted elements of the pattern-welded design were seen to continue right to the end, suggesting that the blade had been ground down from a longer blade.

The tang was large (12 cm long) and had the remains of an iron cross-piece still in place. The size and shape of the tang, the quite sharply sloping shoulders, terminating almost at a right angle with the blade, and the width of the blade are all far more typical of Anglo-Saxon swords of the sixth century.

These features are less typical of the objects normally identified as weaving battens; these are mostly narrower, with long sloping shoulders and smaller tangs. It is also interesting that when buried, a horn cross guard was still in place at the upper end of the blade (Appendix I), a pointer to its use as a sword.

The most likely conclusion from these observations is that this object was a weaving batten converted from a sword which had become broken or cracked.

B. Sword (40/5)

A central pattern-welded zone was faintly visible running down the centre of the blade. This could be seen most clearly next to a break in the blade where it is presumed that surface incrustation was missing on at least one side. Except for the top c. 10 cm of the blade, nearest the tang, the pattern-welded central zone appeared to show up as an adjoining pair of twisted composite rods running down the centre of the blade, giving a criss-cross effect where it could be seen. The central part of the top of the blade appeared to show straight-graining only. This area must have been formed from the same composite rods as the twisted portions seen further down, but the point where the twisting started was not visible on the radiograph.

A chevron surface effect is most probable, with the chevrons pointing upwards on one side and downwards on the reverse, on both sides giving way to a straight 'grained' pattern near the hilt (Fig. 110).

The criss-cross effect could mean, either that the central part of the sword consisted of two composite rods twisted in opposite directions and welded together to give the chevron effect, or (probably more likely) to have consisted of four composite rods either welded back-to-back in pairs, or to a central plain core strip. The radiograph does not indicate which is the case, but the width of the composite strips makes a core strip a little more likely, so one is shown in Fig. 110.

The cutting edges were just visible as separate welded-on pieces, but showed no other structural detail on the radiograph.

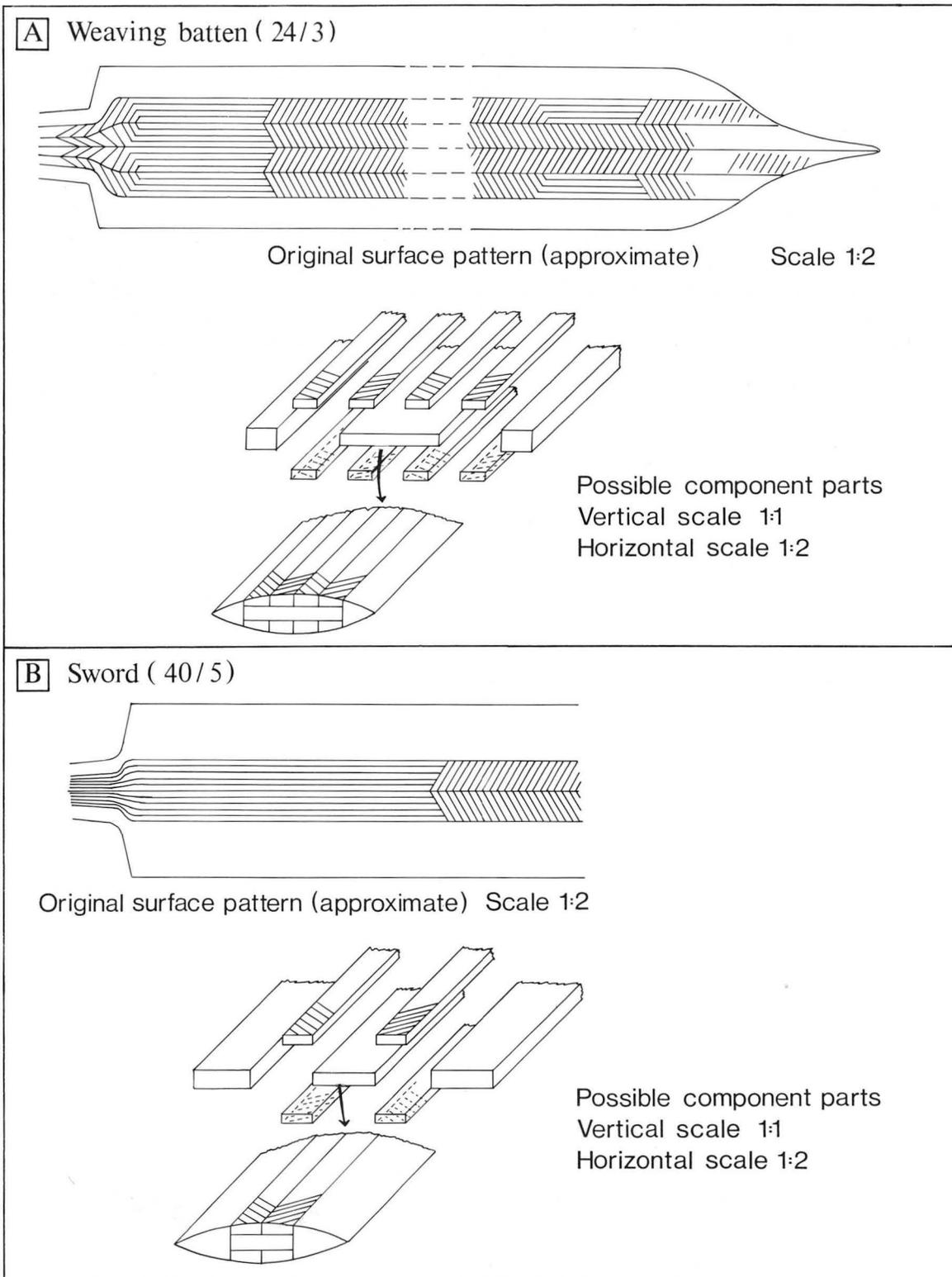


Fig.110. A. Weaving batten (24/3); B. Sword (40/5). Simplified conjectural diagrams to demonstrate construction, based on X-radiographs. (Drawn by K.J. Penn, after B.Gilmour).

A note on Fig.110.

These schematic views show the original surface design of the blades where it is apparent. The X-radiographs were difficult to interpret and the views are only approximately correct.

The reconstruction diagrams show how the main components of the two blades may have been assembled, assuming that both had central core pieces (for which the only evidence is some faint hints on the X-radiograph of the weaving batten). The diagrams are approximate guides; the actual thickness of the different elements and the presence of central core pieces could not be conclusively determined without metallographic examination of transverse sections of the blade. Examination might also determine the structure of the 'cutting' edges for which nothing could be determined from the X-radiographs.



SPONG HILL 1972-81

Fig.111. Plan of cemetery.

(Insert for wallet with Spong Hill Part III)

INDEX FOR PAGES 1-45

- Amber, 8, 10.
- Barrington (C), 18.
- Bergh Apton (N), 16, 18, 19.
- Bones, human, 1, 2, 8, 15-7, 41.
- Brandon (S), 16.
- Broomfield Barrow (E), 18.
- Burial chambers, 6, 7, 8, 10, 41.
- Burial rituals, 1-2, 7, 8, 10, 12, 16, 41.
- Coffins, 2, 6, 8, 32-3, 34.
- Costume, 19.
- Crystal, 10.
- Flint packing, 1, 6, 8, 41.
- Glass, 10.
- Grave-goods, 1, 2, 6, 8, 10, 16, 34, 36, 38-40, 41;
 Beads, 2, 6-7, 8, 10.
 Bone combs, 11.
 Bowls, 7, 8, 10, 15.
 Brooches, 6, 7, 10, 11, 12, 14-5, 17, 18, 19, 22, 23, 24, 25, 26, 27, 28, 36-7, 41.
 Buckets, 7, 15.
 Buckles, 8, 10, 22, 25, 26, 27.
 Girdle-hangers, 24.
 Knives, 7, 8, 17, 23, 24, 25, 28.
 Latch-lifters, 23, 24.
 Purse-mounts, 25.
 Rings, 10, 11, 23, 24, 25, 28.
 Shield appliquéés, 10.
 Shields, 7-8, 10, 14, 15, 25, 26, 27, 37-8 (Fig.9).
 Spears, 7, 8, 10, 12, 14, 15, 23, 25, 27.
 Swords, 10, 12, 14, 15, 41.
 Weaving battens, 10, 17, 18, 19, 23.
 Wrist-clasps, 6, 7, 10, 19, 22, 26, 29, 40.
 See also Pottery.
- Haslingfield (C), 18.
- Health, 16-7.
- Insects, 29.
- Iron Age features, 11.
- Jet, 10.
- Kenninghall (N), 14.
- Leather, 6, 29, 38.
- Metalwork, 6, 7, 10, 12, 41; Bronze, 6, 7, 11, 15, 29, 37, 38-40; Gilt, 10, 36-7, 38, 40; Iron, 6, 7, 10, 11, 29, 36, 37, 38; Silver, 10, 36-7, 38, 40; Tin, 36, 38, 40.
- Morningthorpe (N), 1, 16.
- Mucking (E), 19, 32-3, 34, 36.
- Nazeingbury (E), 17.
- Nematode worms, fossils, 29.
- Organic samples, 29.
- Pottery, 2, 7, 8, 11, 15, 41; Fabrics, 29-32; Stamps, 15.
- Ring-ditches, 1, 2, 6, 10, 11, 12, 13 (Figs. 5-6).
- Rivets, 38.
- Shells, 32.
- Soil analyses, 32-6 (Fig.8)
- Spinning, 17, 19, 22-8.
- Swaffham (N), 16.
- Textiles, 17-28 (Fig.7), 29.
- Thetford (N), 17.
- Urns, 29, 31, 32, 41.
- Weaving, 17-9, 20-8 (Fig.7).
- Woodwork, 2, 6, 7, 29, 32, 33, 34, 37-8 (Fig.9).

Entries for grave-goods in the catalogue can be located by referring to Table 4 (p.114).

Compiled by Susan Yaxley

EAST ANGLIAN ARCHAEOLOGY

is a serial publication sponsored by The Scole Archaeological Committee Ltd. The Norfolk, Suffolk and Essex Units and the Norwich Survey will all be contributing volumes to the series. It will be the main vehicle for publishing final reports on archaeological excavations and surveys in the region.

Copies and information about the contents of all volumes can be obtained from:

Centre of East Anglian Studies,
University of East Anglia,
Earlham Hall,
Norwich, NR4 7TJ

or directly from the Archaeological Unit publishing a particular volume.

Reports available so far

- Report No.1, 1975 Suffolk: various papers
- Report No.2, 1976 Norfolk: various papers
- Report No.3, 1977 Suffolk: various papers
- Report No.4, 1976 Norfolk: Late Saxon town of Thetford
- Report No.5, 1977 Norfolk: various papers on Roman sites
- Report No.6, 1977 Norfolk: Spong Hill Anglo-Saxon cemetery: Part I
- Report No.7, 1978 Norfolk: Bergh Apton Anglo-Saxon cemetery
- Report No.8, 1978 Norfolk: various papers
- Report No.9, 1980 Norfolk: North Elmham Park
- Report No.10, 1980 Norfolk: Villages in Launditch Hundred
- Report No.11, 1981 Norfolk: Spong Hill Anglo-Saxon cemetery: Part II
- Report No.12, 1981 The Barrows of East Anglia
- Report No.13, 1981 Norwich: Eighteen centuries of pottery from Norwich
- Report No.14, 1982 Norfolk: various papers
- Report No.15, 1982 Norwich: Excavations in Norwich 1971-8, Part I
- Report No.16, 1982 Norfolk: Beaker Domestic Sites
- Report No.17, 1982 Norfolk: Waterfront excavation and Thetford-type ware production, Norwich
- Report No.18, 1983 Norfolk: The Archaeology of Witton
- Report No.19, 1983 Norfolk: Two Post-Medieval Earthenware Pottery Groups from Fulmodeston
- Report No.20, 1983 Norfolk: Burgh Castle: Excavations by Charles Green, 1958-61
- Report No.21, 1984 Norfolk: Spong Hill Anglo-Saxon cemetery: Part III

Contents

SPONG HILL : PART III : CATALOGUE OF INHUMATIONS
