

INHUMATION GRAVE FURNITURE

STONE LINING

Two graves incorporated re-used fragments of tufa armchair voussoirs that are likely to have come from the roof of a military bath-house. Burial 237 had three substantially complete and one incomplete, and Burial 13420 four substantially complete and two incomplete fragments (see Appendix 00). Two fragments of calcareous tufa voussoirs have previously been recovered from the Catterick By-pass site (Site 433; Blagg 2002, fig. 368, nos 30-1, unstratified; no. 30 appears to be part of a tapered cut-out). This is some distance from the cemetery but close to the known location of a bath-house, which could also be the source for these examples.

WOODEN COFFINS

There were 50 graves which probably contained a nailed coffin.

Construction

Roman coffins usually consisted of six sawn planks of wood, usually fastened together with iron nails. The nails tend to be more numerous towards the two ends where the sides are joined together. It appears that the lid, if present, was not always nailed down, perhaps because the lid was only put into position after the coffin had already been put in the grave (Barber and Bowsher 2000, 95). As far as it is possible to tell, all the coffins from Bainesse appear to be rectangular rather than tapered. Analysis of a selection of mineralised wood remains has identified oak in every case (see p000[wood rep]), which is the standard wood for most Roman coffins, and has been found in numerous cemeteries (Powell 2010, 324). The mineralised wood usually shows horizontal grain immediately under the head and vertical grain on the lower half of the shank. The thickness of the planks range from 12 mm to 35 mm, but 85% of the surviving samples are between 20 to 30 mm.

Table 000: The thickness of planks used in coffins (in millimetres)

<i>site</i>	<i>range</i>	<i>typical</i>	<i>reference</i>
Bainesse	12-35	20-30	
Mucking	6-50	15-30	Lucy and Evans 2016, 291
Lankhills 2000-5	20-75	20-40	Powell 2010, 324
Lankhills	10-56	20-40	Clarke 1979, 337
London Eastern	15-50	-	Barber and Bowsher 2000, 94
Colchester	34-64	44	Crummy <i>et al</i> /1993, 34, 120

Nails

Number used

At the Roman cemetery of Lankhills, Winchester, six different nailing patterns used 8, 10, 14, 16 or 18 nails for each coffin (Powell 2010, fig. 4.19). At the Eastern Cemetery in London they ranged from about nine to 24 (Barber and Bowsher 2000, 163, B260; 209, B547), and a preserved wooden coffin from the Western Cemetery used 12 nails (Goodburn 2003, fig. 86, b). Nails were used at the four corners of the coffins, and about a quarter of the coffins at Bainesse also have additional nails to attach the long side boards to the base board. This can be a single nail at the mid-point (egs Burial 64, Burial 229), two or three (Burials 71, 191), or multiple examples

up to c.10 (eg Burial 165). The size of the coffin does not seem to influence the presence of these side nails, which can be found on shorter coffins just as frequently as long coffins (eg Burial 215). There can also be variation in the number of nails used on different parts of the coffin, such as having more nails near the head end than the foot (eg. Burials 42 and 71) or having more nails on one long side (eg Burial 55 with three on one side and two on the other).

Fewer than eight nails

Four graves have fewer than eight nails (11, 160, 184, 217), but this is likely to be the result of poor preservation.

Coffins using 8 to 20 nails

These are the most basic common forms of coffin, and the most common (at least 23 examples). They were used for infants (Burial 222), young children (eg. Burial 205), juveniles (Burial 199) and adults (eg Burial 10). The short end boards are attached by sandwiching them between the two long side boards, with the nails hammered in from the side (eg. Burials 17 and 55). The long boards are sometimes nailed to the base board at the mid-point, even in small coffins (eg Burials 26, 215), while others can be nailed at up to three points (eg Burial 81).

Coffins using 24-34 nails

There are 14 examples of coffins in this category. The additional nails were used to attach the side boards at more points (Burials 165, 209) or to attach battens (Burials 140, 229).

Coffins using over 40 nails

There are only three examples, two of which have interesting features to them. Burials 44 and 194 are similar in having ends boards the full width of the coffin, attached by nails hammered in from the short ends of the coffin, and transverse battens. Burial 194 also has an unusual number of nails on the long side boards, especially at the head end, where there are about six (c.60mm long) to each side. In this case the lid seems to have been attached by nails at the midpoint of the short ends. Burial 186 had a minimum of 45 nails, many of them down the long sides. This coffin also had two staples, used for binding pieces of wood together, so perhaps this coffin was made from poor quality wood and the extra nails were to ensure it held together.

Length of nails

Traditionally nails are either three or two-and-a-half times the thickness of the wood being used. The most common length for the coffin nails at Bainesse was between 60-75mm, which is typical for Roman coffins (see Table 00). Although the range varied considerably, it appears from complete nails with surviving wood traces that the coffin-makers on the whole chose nails from between two-and-a-half and three times the thickness of the plank (eg a 75 mm long nail for a plank 30 mm thick), with the average working out at just under three times. >From nails with surviving mineralised wood it appears that longer nails were not always used on noticeably thicker planks.

Table 00: The most common length of nails at selected Roman cemeteries

<i>site</i>	<i>L (mm)</i>	<i>Reference</i>
Mucking	40-80	Mould 2016, 290
Lankhills	50-80	Powell 2010, fig. 4.16
Gloucester	50-80	Powell 2008, 115

A few coffins were unusual in using shorter nails. This does not correspond with smaller coffins; a child's coffin c.0.80m long in Burial 205 used nails 65-75mm long and a coffin less than 0.60m long for a child aged 1-12 months (Burial 222) used at least 19 nails from 55 to 80mm in length. Another child's grave (Burial 221) probably of similar size, used at least seven 60-75mm long nails as well as 15 shorter nails (30-50mm). Instead the use of shorter nails tends to correspond with graves producing large numbers of nails, such as the coffin in Burial 193, which produced at least 23 nails even though it has been truncated, most of which are 55-60mm in length. Adult coffins using smaller nails include Burial 140, which produced at least 28 nails, of which eight were likely to be above 60mm long but the majority (14) were likely to be 30-50mm in length. The unusual coffin in Burial 44 had mainly 35-45mm nails for battens across its base (see below).

Nails longer than 80mm (up to 120mm) were used for a number of the coffins, but not often in large numbers. The coffins in Burials 71, 99 and 202 are unusual in that probably all the nails used were between 70-105mm in length. In contrast the coffin in Burial 165 had typical-sized nails at the head and feet ends, with a group of five longer nails (70-110mm) spaced at intervals of about 150mm down the central section of the long sides. Burial 240 also had a mix of long and short nails, with at least six over 100mm and at least eleven 40-50mm in length; unfortunately their position in the grave does not produce a clear picture of their original arrangement. It is possible that some of these long nails were used to attach decorative elements to the coffins. A sarcophagus found near Kertch, Crimea had three strips of wood, each decorated with a different design of moulding, attached to the top of the side planks with a long headless iron pin that passed diagonally through all four pieces of wood, with more mouldings on the base (Ulrich 2007, fig. 4.1).

It is also possible that in a few cases the long nails were not actually used in the construction of the coffin, but had been added as grave-goods. Nails 100-150mm long have been noted in inhumations elsewhere in the Empire, and in at least one case one seems to have been hammered into a bit of wood that was then laid on the corpse (Alfayé Villa 2010, 428, 449). The inclusions of such nails may have been intended as amulets to protect either the living or the dead (see p000[Cataract nails in cremation section] for discussion).

Battens

Roman plank coffins were usually made from six individual planks, one for each face. There are three coffins which appear to have battens across the base, perhaps because the baseboards had to be made up of narrow pieces of wood or there was some need to reinforce the coffin, such as a particularly heavy corpse or the need to transport the coffin some distance. It is also possible the carpenters were following the practice used on some large domestic chests of adding runners to raise the box slightly off the ground (cf Herculaneum: Mols 1999, pl. 171).

The coffin in Burial 44 had six battens across the base, five of which probably had five or six nails and one with perhaps double that number; the nails were 40-60mm long. The sides of the coffin were fastened with larger nails, 75-100mm. The long sides were nailed to the baseboard about a third of the way from the head end, at the point of the batten with a large number of nails, and possibly also at other points.

The coffin in Burial 194 has a single batten across the mid-point, using the typical-sized nails, although there is a high proportion of bent examples. The coffin in Burial 140 appears to have a line of nails across the coffin just below the shoulders, but as the nails vary in height within the grave cut, it is possible this batten was across the lid. The mineralised wood from a number of nails from this coffin suggest plank thicknesses of 15 to 20mm, towards the lower end of what is typical for coffins, and the batten may have been added for strength. If it was attached to the lid there is always the possibility it was decorated and was purely ornamental.

Clamps

A small anchor-headed T-clamp was found on the line of the right-hand side of the coffin, near the head, in Burial 209. Traces of wood with horizontal grain survived on the lower part of the shank; the upper 20mm had none. Similar shaped T-clamps with curved arms were used to attach one shaped bit of wood to another, but as only one was found in Burial 209 it is possible it came from a re-used bit of timber, or perhaps had a similar role to the loops used elsewhere on coffins.

Staples

The use of staples, which are used to hold two separate pieces of wood together, may represent points where poorly dried wood has split, or where more than six planks had to be used due to a lack of wood of the right size. Although six planks were no doubt preferred, the coffin-makers may have had to use whatever was available at the time; a line of nails along the baseboard of a coffin at Lankhills is thought to represent two planks joined by a third (Powell 2010, 324; 328).

At least six staples are known from the site. Burial 17 produced two staples (RF11870, RF13607). One, RF11870, came from the left-hand side of the coffin, very near the head end; the position of the other is uncertain. They are similar in size and shape, and had the ends of their arms hammered over, indicating that they were used on wood about 32mm thick. Burial 186 produced two staples. RF10321, located close to the feet, had the tips of its arms hammered inwards and was used on wood c.40mm thick. One arm of RF10353, located next to the left knee, is straight, but the other appears to have had the tip hammered over; mineralised wood remains suggest it was used on wood at least 52mm thick. Both these measurements are much thicker than that suggested by the mineralised wood on the coffin nails, which indicate plank thickness of 25mm and 30mm.

The coffin in Burial 42 had at least one staple, and two small iron strips. The strips, placed either side of the coffin near its mid-point, lack any means of attachment and may be the remains of very poorly preserved staples missing their arms. It is also possible they are part of staple RF10479, shattered when the coffin collapsed, and their apparent positioning in the grave is purely accidental. The staple RF10479 was used on wood c.20mm thick. Fragments of another staple (RF13602) was recovered from cleaning.

Fittings

Only four of the 50 wooden coffins had additional metal fittings, none of which were very elaborate. While the wood used for coffins could be re-used, as shown from the baseboard of a preserved coffin from London (Goodburn 2003, 60), and old nails or other metal fittings might occasionally have been left in the old wood, there is growing evidence for the deliberate use of fittings.

Double-spiked loops

Double-spiked loops were found in two graves. That in Burial 10 (RF11858) was well-made and fastened through wood *c.*25mm thick, with the ends of the spikes hammered back into the wood. It came from the lid of the coffin, about one third of the way down from the head end. That from Burial 202 (RF10406) came from approximately half-way down the left-hand side of the coffin. The loop is bent over almost at right-angles to the spikes, and mineralised wood with horizontal grain covers at least half of it, suggesting it had been bent flat against the side of the coffin. If this was from re-used wood it may have been bent up as it was not required, but loops have been found in a similar position on other coffins and the damage may have occurred when the coffin collapsed.

Eight possible double-spiked loops were found in six burials at the late Roman cemetery at Poundbury (Mills 1993, 177; fig. 18, Burial 470; fig. 81). In five of the burials the loops seem to have come from the side or ends of the coffins: in one burial the loop was found beside the upper femur, in two burials a pair of loops were found side by side beside the upper femur, while in two cases the loops were found at the head or foot of the coffin. In one case a bent strip of iron said to be a formed into a loop was thought to have been attached to a wooden board that covered the uncoffined burial; it was positioned centrally, over the upper femur/pelvis (*ibid.*, fig. 52, Burial 243). Examples are also known from a grave at Mucking (Mould 2016, 292: coffin with 57 nails, position of loop not stated) and from two coffins in the Eastern Cemetery of London. One of these coffins was made with a 'large number' of nails and two double-spiked loops in the centre of one side, although unfortunately the other side did not survive (Barber and Bowsher 2000, 94). It was suggested that in the double-spiked loops and other forms of loop may have been used as decoration, for attaching ropes for moving the coffin, or as handles (*ibid.*).

Loop

Burial 13586 produced a loop from the area of the left-hand wall of the coffin, about two-thirds of the way down towards the feet (RF12000). Two loops of a similar size were found on one side of a late Roman coffin at Poundbury (Mills 1993, 117; fig. 90, grave 781); like double-spiked loops they may have been used as decoration or handles.

Strips

Burial 44 produced an iron strip (RF 11130) found on the right-hand side of the coffin near the head end. There is still a nail *in situ* in the hole at one end, bent at the end, indicating a plank thickness of 20-5mm. However at the other end there is a nail bent in a hook shape, with the head on the opposite side to the first nail. If this combination is not the result of the collapse of the coffin perhaps it was some

bodged method of attaching the plate to the corner of the coffin; a similar plate was found in this position on a coffin from Lankhills (Powell 2010, fig. 4.22). The Lankhills coffin probably had three such plates, which were thought to be decorative. A possible fragment of a pierced strip in Burial 17 (RF11934) might also be a coffin fitting.

GRAVE-GOODS FROM INHUMATIONS

PERSONAL ADORNMENT

Copper alloy bracelets

Plain penannular

The corpse in Burial 119 wore an oval bracelet with tapering ends decorated with approximately six incised grooves on her right forearm (RF10312). Unusually the opening of this bracelet is on the narrow side of the bracelet rather than the wide side; the small gap between the terminals suggests the bracelet was bent further round the wrist after being put on, in order to stop it slipping off. This type of bracelet is more common on the Continent, in particular Pannonia, Raetia and Germania (Swift 2000, 127, figs 153-4).

Two bracelets were found in the region of the arms in Burial 149, but only one survived in good condition. This was an oval bracelet (RF704), heavier than RF10312, with blunt terminals each decorated with two groups of three mouldings, worn on both the interior and exterior faces, which may represent some debased form of snake's head. The bracelet on the other arm had a plain, D-shaped cross section (RF699). Different forms of penannular brooches were used through-out the Roman period.

Plain wire with hook and eye fastening

The young juvenile in Burial 235 wore two bracelets of single strand wire, with wrapped wire terminals forming hook and eye fasteners. The one worn on the right arm is distinctly oval in shape (RF11888), the one on the left less so (RF11889). This type of fastening was in use by the second century and continued to the fourth century.

Iron bracelets and rings

Iron bracelets rarely survive as well as copper alloy examples, but they were generally annular and circular, without any form of adjustable fastening, similar to fourth-century copper alloy light bangles, and indeed some have the narrow rectangular cross-section and even the decoration typical of the bangles (eg Lankhills: Booth *et al* 2010, 109, nos 685.2 and 685.3). Other bracelets appear to be more robust, with a sub-rectangular or circular cross-section (Crummy 1983, fig. 48, no. 1737). In graves they have been found associated with copper alloy, jet/shale, bone and silver bracelets, and are not just a cheap version of bracelets in more expensive materials. Some may have been kept polished for a silver appearance, but it is likely most were given a black finish to stop rust developing. Bracelets with such a finish, especially the thicker examples, would have appeared very similar to jet bracelets.

Three examples are now known from Bainesse; examples in Burials 194 and 198, and one from previous excavations ('centre of grave', late second- to late third-

century: Mould 2002, fig. 290, no. 76; also one from a non-grave context: *ibid.*, 123, no. 77). Two were small (internal diameters of 45 and 48mm), while that from Burial 198 was larger (int. diam: 58mm). All fit within the size range of iron bracelets found in graves, which range from 38mm for one from a grave of a seven-year-old to 62mm for one in the grave of 19-25 year old female (Colchester: Crummy *et al* 1993, table 2.52, no. 1735; London: Barber and Bowsher 2000, B291.2-3).

The bracelets in G194 and G198 may have been placed in the grave on top of the shrouded corpse, perhaps as gifts from a mourner rather than personal belongings of the deceased (although it should be noted they were of suitable size for the people interred). That in Burial 198 came from the region of the left shoulder (probable male, 26-35), and that in Burial 194 was found above the right left upper leg, near the knee, of an unsexed juvenile. Inside the bracelet (RF630) in Burial 194 was a smaller iron loop that was of a size that could be used as a finger-ring (RF642), although iron finger-rings usually have settings for intaglios. A single, used hobnail was also found within the bracelet; although individual hobnails are sometimes found deliberately placed in graves, a small quantity of hobnails were found in the region of the feet of this burial, so its position inside the loop may simply be coincidence. Bracelets, in this case of copper alloy, that were placed on the body have also been found in two fourth-century graves nearby at Scorton. One was found on top of an arm folded across the chest of a woman, and one over the skull of a man (Eckardt *et al* 2015, figs 8-9).

Copper alloy armlet

Plain wire with sliding knot and spiral

An oval wire armlet (RF11307) was found worn on the upper right arm of the skeleton in Burial 130 (unsexed adult), with a sliding knot fastening with additional spiral decoration. The armlet is distorted into a vaguely triangular shape. A gold example of this design is known from a first-century context in Colchester, while a copper alloy example from a well at Mucking is likely to be second-century in date (Crummy 2016, fig. 10; Appleby 2016, fig. 3.4, no. 343). It was positioned on the upper part of the arm bone, and suggests that the person was wearing a sleeveless tunic.

Copper alloy anklets

Single strand, plain circular section wire

Two anklets were worn by the individual in Burial 119 (adult female); that on the right ankle of the body in Burial 119 (RF10313) has a simple sliding knot. The anklet on the left leg was made of similar wire, but apparently no knot (RF10314); the two terminals taper slightly, and one is slightly bent inwards, so the ends may have been loosely wrapped over each other, as with the anklet from Burial 16 (RF11799; adult female). This was worn on the right leg and was made out of oval cross-section wire with a very simple sliding knot. One end is wrapped once the anklet and the other end forms a U-shape, with the end of the wire split to form a Y-shaped terminal.

Single strand, ribbon-twisted

The anklet in Burial 35 (unsexed adult) seems to have been worn on the right leg (RF715). It is made from a single strand ribbon-twisted wire, now very fragmentary, but with a few fragments of thin wire probably from a sliding knot fastening. The

largest surviving fragment has an internal diameter of approximately 95mm. Anklets of very similar design and size were found on the right leg of a possible male skeleton at Catterick Bridge (Mould 2002, fig. 292, no. 6; burial contained a late third-century coin), and on the right leg of a male skeleton at Bainesse (Mould 2002, fig. 282, no. 8; the body also wore bracelets and a necklace). This type of ribbon twist is more common in northern England than the south and may date principally to the fourth century (Cool 2010, 297). Another example is known from Carlisle (Howard-Davis 2009, fig. 384, no. 10).

Discussion

Bainesse has now produced five anklets and Catterick two. It is unclear how common anklets were in Roman Britain, since although they tend to be circular rather than oval and have a diameter between 82-95mm unless they are found worn in a grave the smaller examples could equally be armlets worn on the upper arm. Other than the examples from Catterick and Bainesse, Philpott (1991, table A30) lists five examples from graves (those said to come from a grave in York are in fact unworn jet bracelets: Allason-Jones 1996, 22, burial H.103), while more recent examples have been found at Mucking and bead anklet(s) have been found at London (see table 00).

The evidence suggests they could be worn by both men and women, although the possible male from London was also buried with two mirrors (Barber and Bowsher 2000, 155), associated with women in the Roman period as a symbol of vanity, and one of the males from Bainesse was buried with an elaborate jet bead necklace and two bracelets, again items usually associated with women. While their biological sex may have been male, the gender of anklet-wearing men may have been female.

Table 00: anklets from graves (all items copper alloy unless stated otherwise)

site	grave	type	sex	ref
Bainesse	35	ribbon twist with sliding knot	-	RF715
Catterick (site 240)	754	ribbon twist with sliding knot	M?	Thompson 2002, table 117, p389
Bainesse (site 46)	951	ribbon twist with sliding knot, worn with jet necklace and two jet bracelets	M	Thompson 2002, table 117, p386
Scurragh H	11808	ribbon twist with ?sliding knot	-	RF10101
Wroxton St Mary	-	twisted, worn with two bracelets	-	Grew 1981, 344
Bainesse	16	plain with sliding knot	F	RF11799
Bainesse	119	two, plain with sliding knot and loose knot	F	RF10313, 10314
Mucking	18	plain with sliding knot, worn with single bracelet	F	Lucy and Evans 2016, fig. 4.13, no.18.1

Dorchester	-	plain with sliding knot	-	St George Gray 1911, 94
Brampton	-	'simple', worn with finger-ring and jet necklace	F	Knowles 1977, 215
Great Chesterford	-	no details; double burial with bracelets, brooch and glass beads	-	VCH 3 Essex, 87
Chichester	326	no details, worn with two bracelets	F?	Down and Rule 1971, 122
London	197	glass beads (possibly 3 anklets)	M?	Barber and Bowsler 2000, B197.5

Burial 119 at Bainesse is unusual in that anklets were worn on both legs. For the anklets to be visible, tunics short enough to leave the ankles visible would have been necessary. While there was a brief fashion for richer women to wear short tunics in the second half of the third century (cf the expensive tombstone of Aurelia Aureliana from Carlisle: *CSIR* I.6, no. 493), lower status women wore shorter tunics throughout the Roman period. Anklets seem to have been most fashionable in the late third or fourth centuries, although the plain wire examples in Burials 16 and 119 show they were being worn by the early third century. The examples with ribbon twist are most likely to be fourth century in date (Cool 2002 28), while Grave 754 from Catterick shows they were worn until at least the late fourth century.

Copper alloy loops

A plain annular loop in Burial 150 was large enough to be used as a simple finger-ring by an adult (Diam: 22mm) but unfortunately bone preservation was non-existent in the grave and the size of the grave suggests a juvenile. The only other item in the grave, not particularly close to it, was a *bullae* amulet. A similar-sized annular loop was found in Burial 148 near a collection of amulets and may have been seen to have power of its own (see below). This had a small penannular loop attached to it, which could be a suspension loop for the larger loop, or alternatively the larger loop could be the method of suspension for some organic object attached to it by the smaller loop. A penannular wire loop in Burial 235 was positioned at or near the centre of a bead necklace, and may have been an attachment loop for an organic pendant or amulet.

Amulets

Bullae

In the Mediterranean region during the early Roman period, *bullae* were large (40-60mm in diameter), frequently made in gold, and were made with a separate attachment loop that became wider at the top. Literature indicates they were worn by male children (Ward-Perkins and Claridge 1976, no. 48). In the provinces there was a different tradition of *bullae* use that lasted from the second century into the late fourth or fifth century. These *bullae* were smaller (15-40mm), typically made of copper alloy and only rarely found in silver or gold. They were manufactured from a single sheet of metal consisting of two discs at either end of a narrow strip, which was beaten out and then folded over so that the connecting strip formed the attachment loop. There was usually had a flat flange round the edge so that the two

halves could be glued or soldered together, or have small metal tabs on one half that folded over the flange on the other half (Bolog and Bounegru 2012, 226; Hamat 2010, pls 2-3). Examples of these amulets have been found to contain a very varied range of items: a fruit kernel, snapdragon seeds, coriander seeds wrapped in a leaf, raisin, rose thorn, wood, cloth, glass bead, small phallic amulet, small statue wrapped in a leaf, an inscribed silver sheet with a coin, and sand (Szilágyi 2005, 17-8, table 3; Bolog and Bounegru 2012, 226, 228; Migotti 2007, 214). They are common in Pannonia, but are also found in Dacia and Moesia, as well as, less commonly, France, Germany and North Africa. In contrast to the Italian ones, grave evidence shows that most were worn by adult women, some by children, and only occasionally by adult men (Szilágyi 2005, 21-2).

A small number of *bullae* are known from Britain:

1. Colchester: Diam: 20mm. This is of similar size and design of the provincial types, but comes from a Claudian context, making it the earliest known example of this type. It is apparently made in the same way as the provincial form, but does not appear to have much of a flange (Crummy 2016, fig. 5, no. 4).
2. Caerleon baths: Diam: 16mm. Found in drain from the legionary baths, in a context dated c.160-230, with some later third-century material (Brewer 1986, fig. 58, no. 58).
- 3-4. York: two examples, one silver and one copper alloy (both Diam: 15mm), found in the burial of a rich woman with possible North African ancestry. The silver example has flattened, slightly dished faces, while the copper alloy one has a very narrow flange. Fourth-century in date, possibly from the second half of the century (Cool 2006, 155; 156, no. 107g).
5. South Shields: Diam: 21mm. It has folded tabs and contains something that rattles. From fort, *vicus* or cemetery, unknown dating (Allason-Jones and Milet 1984, 3.566).

The two Baines examples differ slightly in design. The example from Burial 150 (RF11364) was made in the same way as the Pannonian examples, but the flattened faces have multiple mouldings. It has small triangular notches round the edge of both faces, but they are purely decorative, and if the two sides were held together it must have been with some form of glue that has not survived. Likewise, if it originally had any contents, they must have been organic. It also has, unusually, a deliberate hole (Diam: 3mm) near the suspension loop.

The second example from Burial 103 (RF11257) is more fragmentary, but was made in a similar way and has rounded faces with an extremely small flange, which is again decorated with small triangular notches. While those on RF11364 created slight indentations, those on RF11257 were deeper and more frequent, created a zig-zag edge, but the difference would unlikely be noticed at any distance. The copper alloy example from York has a similar narrow flange, but it is undecorated (RCHM York, fig.58, H6.b).

Burial 103 also produced fragments from a domed fitting with a flat, circular suspension loop (RF12866), and a scrap of a sheet with concentric hollowcast mouldings as on the *bullae* from Burial 150 (RF11364). Although extremely fragmentary it is likely this is some form of pendant, perhaps like the hollow sphere hanging from a copper alloy torc worn by an adult woman in a grave dating to the late second to late third century in the Western Cemetery at London (Watson 2003, fig. 49). The only grave-goods in Burial 103 were the *bullae* and this pendant and

some beads, all found in close proximity with each other, and it is likely they come from a bracelet hung with charms.

Pierced coin

There were two examples of pierced coins. The coin from Burial 221 (Rf11659) was issued by Antoninus Pius but is very worn; the reverse, which shows a standing figure, is almost flat, and it was probably deposited well into the third century (see p000[coin report]). A second pierced coin from Burial 148 was equally worn (RF11144). The bust can be faintly seen on the obverse, and a possible seated figure on the reverse, but the large hole does not respect either. It is possible that in both cases it was the circular shape that was important, rather than the images on the coin. The coin in Burial 221 was found near some beads and is likely to have come from a bracelet, or possibly a necklace. That in Burial 148 was found with a collection of other circular objects that may have also been used as amulets.

Phallic

The phallic pendant in Burial 180 was found towards one end of the grave with a group of beads. This type of amulet faces forward when suspended, and has a triangular section with grooves to represent pubic hair above the downwards-pointing penis and testicles. A similar example was found in the area of the cemetery outside the fort at Newcastle upon Tyne, and there is a chance find from Ospringe, Kent (Croom forthcoming; P.A.S. KENT-E3D152).

Burial 203 also produced a pendant, in very poor condition, that might be another phallic pendant. If so, it would be a slightly unusual type, with a flat face and a rectangular cross-section suspension loop on the back towards one end rather than the more common position in the middle. However, a pendant from Malton is also flat, and one from Lackford, Suffolk has a similar suspension loop (Lloyd-Morgan 1997, fig. 50, no. 2; P.A.S. SF-660C05).

Phallic pendants are generally not common as grave-goods in Britain, although there seems to be a tradition round Baines and Catterick to include them; as well as these two examples, six fist-and-phallus pendants associated with an infant's grave were found nearby at Catterick (Parker 2015).

Lead medallion

A large lead medallion or token, apparently made of two thin discs set back to back, was found in Burial 148 (RF11146). The edge is slightly turned up on one side; this face has at least two concentric ridges round the edge and a central raised image that could possibly be an animal standing on a ground line; however there are unexplained rays projecting from its neck. The other side has three concentric ridges and a long-legged bird on a ground line; the head is unfortunately missing. The combination of animal and bird are known from a number of lead tokens, and examples from Rome have concentric circles, but these are much smaller in size and there are no known close parallels for this example (Rostovtzeff 1903, cat. 2806, tab. IX, no. 68; cat 1688, tab. VI, no. 53). Lead tokens had many different functions in the ancient world, but some had magical or religious significance, with examples found at religious sites, or folded in half (such as an example from Piercebridge: P.A.S. NCL-125BD7). The large size of the disc may mean this was originally intended as a decorative medallion such as a slightly larger silver example used in a

first-century silver armlet from Colchester (Crummy 2016, fig. 8). The association of the Bainesse example with other amulets suggests this was also being used as an amulet.

Discussion

Some of the amulets were part of larger groups of items and accompanied by beads and were clearly intended to be worn. The *bullae* and possible second pendant from Burial 103, the phallic pendant from Burial 180 and the possible phallic pendant from Burial 203 were all found with a group of beads and were part of bracelets, necklaces, or strings of charms to be sewn onto clothing, such as those on the swaddling clothes of a votive figure of an infant from Italy (Carroll 2012, fig. 3). Similar groups are known from other Romano-British cemeteries. A bracelet of one amber and four glass beads, a pierced coin of Nero and a pierced dog's tooth was found in a late second- or third-century cremation at Chichester (Down and Rule 1971, burial 228, fig. 5.17, 114-5), and at Colchester two late fourth-century graves of children or infants contained a possible bracelet of three amber and three glass beads and two pierced coins, and a bracelet or necklace of five amber, four glass and two jet beads, a silver lunate pendant and a pierced coin (Crummy *et al* 1993, graves 15 and 41, tables 2.52, 2.54).

The pierced coin RF11144 from Burial 148 was found with an animal tooth with possible traces of a copper alloy attachment, a lead medallion (with no obvious means of suspension) and a circular loop with its own pendant loop, perhaps for attaching something organic (RF12798). As some of these objects were designed for suspension it is possible some organic method was used to hang the lead medallion; otherwise these may have been kept in a pouch.

EQUIPMENT FROM INHUMATIONS

Pin?

An iron object found near the skull in Burial 92 (unsexed adult) has a square cross-sectioned shank like a nail, but with an unusual flattened and expanded head (RF665). While it is possible this is an example of the type of nail that could be hammered into wood to leave no head visible, this seems unlikely given that there are no other nails present in the grave. Two similar pieces came from a mid fourth-century grave of a man at Scorton, where they were found near the head end of the grave but possibly placed outside the coffin (Eckardt *et al* 2015, fig. 5, nos 528AX and 528AW). A third local example, with a circular cross-sectioned shank, comes from another grave at Bainesse, of an adult female (Mould 2002, fig. 290, no. 60, position in grave unknown). Although they share characteristics with *styli*, the square cross-section of the shank means this identification is unlikely; it also seems unlikely that all possible examples of *styli* from these graves should be very short and plain when the local sites produce numerous examples of much finer, decorated *styli* (cf Mould 2002, fig. 290, nos 59, 66-9; no. 60 is the example from a grave). In the early medieval period iron pins, even with rectangular cross-sections, were used for fastening cloth (eg Sherlock and Welsh 1992, fig. 47, no. 49.3, and cf fig. 34, no. 7.9; Green *et al* 1987, fig. 427, M), and they may have had a similar function in the Roman period; as nail-like, iron objects they may have been deliberately included in the graves for ritual reasons (see p.000 [Cat/crem/nails]).

Whetstones and polishers

A broken whetstone in a very fine-grained micaceous sandstone came from the fill of Burial 195 (RF11306). The rough face of the broken side still has evidence of polishing on the highest points, while the other short end and one long side have very smooth surfaces. Whetstones are not often found as grave-goods; Philpott (1991) lists five, including one in a collection of workman's tools from Burbage, Wiltshire, and two accompanying knives at Lankhills (Clarke 1979, fig. 70, G55, no. 59; fig. 83, G283, no. 477). The two found in 1866 at Norton, North Yorkshire seem unlikely to be whetstones since they are also described as rubbers or pounders (Philpott 1991, 186). The whetstone might just be an accidental inclusion in Burial 195, as with a triangular-shaped stone with evidence of smoothing on the side faces and end possibly used as a whetstone or polisher, which was found in the upper backfill of Burial 208 (RF11397).

Unclear function

Other inclusions in graves may also be unintentional, such as a single, small decorative copper alloy stud found outside the stone packing in Burial 209 (RF11378), and a fragment of iron in Burial 22 (RF11848). The triangular cross-section indicates it could be a piece of a knife blade with the cutting edge slightly turned.

FOOTWEAR

Hobnails

Hobnails were used on shoes, boots and sandals; the term 'shoe' is used here for all categories for the sake of simplicity since the lack of the leather uppers means the type of footwear represented cannot be identified. They were used on outdoor footwear used by men, women and children, although it is likely shoes worn purely indoors did not have hobnails as they have no grip on hard surfaces, can damage soft surfaces and can be uncomfortable to wear. Some of the graves are likely to have included non-nailed shoes that do not appear archaeologically.

The hobnails have conical heads that can range in diameter from 8mm to 15mm, although there generally appear to group round either 8-10mm in diameter or 10-13mm in diameter, with only occasional larger examples. The larger nails, with heads c.16mm in diameter, tend to have bent shanks rather than the hooked shanks of the smaller nails, and may perhaps be replacement nails. The heads are gradually ground down through use and become flattened, although the examination of boots worn by re-enactors shows that hardly-worn hobnails can survive next to badly worn examples, particularly in the area of the insole where less pressure is exerted. Worn or lost hobnails can also be replaced by new hobnails, again resulting in hobnails with both new conical and worn rounded heads in the same sole. Despite this the proportion of new and ground-down hobnails can sometimes provide information about the condition of the shoe when deposited in the grave.

Hobnails were hammered through several layers of leather onto a hard surface, which bent the very tip of the shank in order to attach it. There were usually a number of layers of leather, including sole, inner sole, well-fillers and the margins of the uppers. The length of the shank from under the head to the bent tip will give an idea of the thickness of the sole of the shoe, although the tip will not reach the upper surface of the inner sole (to make the footwear comfortable to wear). This

measurement is only approximate, but it can give an idea of how sturdy the shoe might have been.

The number of hobnails on each pair of shoes will also vary according to their size, and the nailing pattern used. However, the hobnails round the edge of the sole that attach it to the rest of the shoe are usually close-set to stop the leather gapping (especially when wet), and the larger the sole area to be filled with additional lines or patterns the more hobnails are required, so generally the more hobnails the larger the shoe. At Lankhills the average number of hobnails in male or probable male graves was 123, and 81 hobnails in female or probable female graves (Powell 2010, table 4.35). At Bainesse the evidence suggests graves producing over 100 hobnails will usually be male, as with Burials 7, 17, 22 and 86.

Shoe plates

Shoe plates (or cleats) were occasionally used on Roman shoes, but they were not a standard element and may have been used only by those people whose gait meant that there was noticeable differential wear on their soles. There are two examples from the site. The best example comes from Burial 77 (unsexed, 14-16 years), which is a thin rectangular strip curving at one end, presumably following the curve of the heel (RF11367). It has a projecting shank like that of a hobnail at one end, and nothing on the other (heel) end; both ends taper. The strip was added to the sole after the hobnails, as its projecting shank lies over the top of the shank of a nearby hobnail; there are hobnails on either side of the bar, so it was set in slightly from the edge of the sole, on the inner side of the shoe. The companion piece from the other foot (RF11366) was made in the same way, but in this case the shank for attachment is at the curved 'heel' end. The plates may have been added to prevent excessive wear on the inside edge of the soles due to the feet pronating excessively (ankle turns inwards when walking).

Two curved bars (RF11721) were found with the hobnails in Burial 239 (female, 36-45), with a small upright projection on the end of one and tapered terminals on both. Their exact function is unclear; they were found in the location of the right foot, towards the toes, of the skeleton, but the two bars were laid out in a straight line, and might represent plates from the heels of two shoes laid out side by side rather than being worn at the time of burial.

Nailed footwear in the graves

Nailed shoes were found in 33 graves, and were worn by men, women and juveniles. Another 18 graves contained only small numbers of nails (less than 20), the low number probably the result of disturbance, poor preservation or accidental inclusion. Due to the poor bone preservation it was not always possible to tell if the shoes were being worn, but from the surviving examples it was more common to wear them than not, or at least have shoes placed over or under the feet.

There were at least five instances where shoes were not worn. In Burial 16 (female, 46+) the hobnails were placed in the north-east corner of the grave, with the legs angled to one side as if to make room for them (and possibly other organic grave-goods). In Burial 229 (unsexed juvenile) the shoes were placed side by side in the corner of the coffin beside the ankles. In Burial 61 (unsexed adult) were placed over or under the right leg, which does not survive.

In the other two instances there were two pairs of shoes in the graves. In both Burial 81 (?adult) and Burial 219 (juvenile) both pairs were placed towards one end of the coffin, but both graves had extremely poor bone preservation so it is unclear if one pair was being worn. A further two graves with probably unworn footwear are Burials 106 and 216 (both unsexed adults, poor bone preservation).

The shoes in Burial 22 (male, 26-35) were sturdy items, with over 110 hobnails on each foot, including a number of larger hobnails, and a sole thickness of c.12mm. The shoes from Burial 17 (male, 26-35) had a high proportion of very flat heads and were clearly well-worn at the time of burial; it is noticeable that these also had a thin material thickness for the soles (8-10mm). In contrast the high number of conical heads on the hobnails in Burial 8 (unsexed adult) suggests a relatively little worn pair of shoes.

Over 85 hobnails were recovered from Burial 217 (male, aged 26-35) and 69 from Burial 216 (unsexed adult), dated 426-566 and 421-570 respectively. Hobnails are much less common in fourth-century graves on the site, so these two are unusual. If the dating is correct, these must come from early in the sequence, when Roman-style shoes with hobnails were still in use. The shoes may well have been acquired from a military or urban site which still had a large enough market to support blacksmiths producing hobnails as well as cobblers with the knowledge make nailed rather than sewn footwear.

GRAVE FURNITURE FROM CREMATIONS

NAILS

The nails found in the cremations tend to be between 30-50mm in length, much shorter than those used for coffins in inhumations. The cremations also contain small tacks (less than 25mm in length) that are not found in the inhumations. They were found in seven of the 17 cremations, and in penannular gully 12353, ranging in number from one to nine. For a discussion of nails in cremations see p000 [Cataractonium/cremations/nails].

PERSONAL ADORNMENT

The remains of any clothing or pyre-goods were not often included with the bones collected for burial, with the remains of footwear being the most common item recovered.

Brooch

Burial 272 produced a continental P-shaped brooch (RF11374/12865), dating to the third century, and probably principally the first half (Mackreth 2011, 198). There is a close parallel from Silchester (*ibid.*, pl. 135, no. 10251). By this period most brooches were being used by the military, so if it belonged to the deceased, this is likely to be a soldier's grave; unfortunately it was impossible to sex the surviving remains.

Amulet

A pierced coin was included with the cremation in Burial 269 (RF582), found propped up against the cremation urn, and seems to have been attached to the vessel as a gift from a mourner rather than a personal possession of the deceased. The coin is now in poor condition, but the bust would have been clear when used. As with the

coin found in Burial 148 the coin is pierced behind the neck of the bust, so that when the coin was suspended, the bust would be facing downwards rather to the side. The reverse is too corroded to see if that image was the one preferred, but this seems unlikely as the hole was drilled from the obverse.

FOOTWEAR

Hobnails were recovered from seven cremations. Three had over 20 hobnails (all adults), while the remaining four had under eight, including one adult and one non-adult.

OTHER PYRE GOODS

Items possibly from pyre goods include a small fragment of silver (RF595, Burial 263) and a small iron loop (RF13589, Burial 267).

EARLY MEDIEVAL

INHUMATION

The Anglo-Scandinavian burial (Burial 175) contained an adult over 36 years, probably female. Over her skull was a narrow strip of iron with the ends turned down (RF11727). Its use is uncertain; grave goods are rare at this period and the arms are too short for this to have served as a wood staple.