Hair pins

Copper alloy and silver

Bliss categorised the metal hair pins according to the typology presented in Cool's 1983 thesis. That was published in a slightly revised form in 1991 and the discussion here and the identifications in the database have been revised to reflect the latter.

Group 1 – plain knobbed head.
There are two examples of this type (**2784-5**), one is complete. Both belong to Sub-group D which has a conical head with a tapering shaft. In the case of **2784** the head is biconical. They are both undecorated with circular-sectioned shanks, which in the case of **2784** is chamfered. The heads are hand cut.

Group 2 – pins with knob on cordon heads.
There are two examples of this group (**2786-7**), although one was only tentatively included as it might not fall within the range of variation. Both are undecorated. One, **2786**, consists of the head only – a flame-shaped head with a thick facetted collar below. The head has a comparatively large diameter (7mm). **2787** has a rounded rectangular knob head with two thick collars below. Unlike **2786** the head is of the same diameter as the shank, the latter being rectangular-sectioned. This pin is also placed in Sub-group C as it compares closely to one from Heybridge grouped there by Cool (1983, 520 no 4).

Group 3 – pins with curved units between cordon heads.
There are seven examples of this type (**2788-94**), two are complete. It is one of the best represented groups at Wroxeter. The pins essentially consist of a conical head surmounting a collar or series of collars with a central baluster moulding. In one case (**2790**) the conical finial is missing. There is a large amount of variation in the arrangement of the head components, especially in the number of collars. This varies from none (**2791**) to one above and one below the baluster (**2788, 2794**), to three above and eight below (**2789**). The collars of the last-mentioned example are cut to form a spiral rather than discrete horizontal grooves. The shapes of the heads vary from the true conical to mitre-shaped (**2791**), biconical (**2789**) and knob-shaped (**2794**), The forms of the baluster vary from a barrel-shape (**2793**), to an elongated oval shape (**2784**). **2793** is unusual and has two baluster mouldings. All but one show no further decoration to the heads. The exception, **2788**, is decorated with cross hatch around the lowest collar. All the shafts are circular-sectioned and taper evenly.

The group is sub-divided according to whether the decoration is cut-into the upper end of the shank resulting in the head being of the same diameter as the shank (Sub-group A), or whether the head is of a larger section (Sub-group B). There are five examples of Sub-group A (**2789-91**, **2793-4**) and two of Sub-group B (**2788, 2792**).

Group 5 – simple grooved heads.
There are four examples of this group (**2795-8**), one is complete and one may be re-sharpened. Two pins are of Sub-group A (**2796-7**), they have a small conical head with a spiral of grooves below. The grooves and the head are cut into the top of the shank. There is one example of Sub-group D (**2798**) decorated with a band of incised grooves in a cross-hatched pattern with a horizontal groove above and below. There is also one example of Sub-group C (**2795**) which consists of a domed head with a single groove below, All the shafts are circular-sectioned, taper and are chamfered. Pin **2795** has a blunt point which may be recut, it is only 38mm long.

Group 6 – knob and groove-headed pins.
There is one complete example (**2799**). The head is a button-knob shape with a series of collars below which form rounded beads rather than collars. The head is about three times as large as the shaft.

Group 15 – pins with facetted heads.
There are nine examples (**2801-9**) including one made of silver (**2805**), and another two may be either silvered or tinned. Two are complete. The heads are basically small cubes with corners chamfered to produce five diamond-shaped facets linked by eight triangular ones. The shafts are circular-sectioned and taper.

In contrast to bone and jet examples, the pins do not clearly show two shapes – a squat square one and a narrow rectangular one, though these shapes do exist within the range of the metal examples. The dimensions of the heads vary from 4 x 4.5 x 4mm (**2807**) to 6 x 5 x 6mm (**2808**). The pins are better made than both their jet and bone counterparts since they are probably cast rather than hand-cut. **2809** is an especially fine example and may be tinned.

Three pins have a slightly unusual head form. **2802** has only the upper corners chamfered so producing triangular facets on the cube sides and a diamond facet on the top face. The head is small (4.75 x 4 x 3.5mm). **2804** may be an unfinished example since the cube head is left without further treatment and the shaft is square-sectioned. The complete silver example **2805** has decorated facets with marginal grooves. The upper face has a central 'pit' which may have been produced during manufacture, It appears to have been made in one piece.

Group 16 – glass-headed pins.
There is one unusual example of this group which has an iron shank (**9141**). The colour of the head is not stated. The head of a second was also recognised (**9140**), but no shank appears to have survived.

Group 17 – projecting ring-headed pins.
There is one complete and very fine example of this group (**2810**). The head is an open, oval-shaped ring, the upper part incised with short transverse grooves on the inner surface only, and the lower part slightly widens and is decorated with a zig-zag incised line. The shank is circular-sectioned and possibly slightly swollen. At its top it bends through 90^0 before the head, and so the head appears as a projection in front of the shank but is not parallel to the shank.

Group 18 – pins with figurative heads.
There are two axe-headed pins which fall into the miscellaneous Sub-group C of this group. Depictions of axes are the head types most commonly encountered in this sub-group. One example (**2812**) is silver, is a single-sided axe and is decorated with punched dots on both sides, but in different patterns. The axe has a flat section and is larger than the shank. **2811** of copper alloy may represent an axe head but is of pelta form and is set in the same plane as the shaft, rather than at right angles.

Group 24 – simple pins.
Bliss discussed three examples of this form but there are four noted as belonging to it in the database (**2813-6**). Two consist of slightly pointed, undifferentiated heads, One has a flat head with a groove below. The shafts taper and are circular-sectioned with the exception of **2814** which is square-sectioned. This may either be unfinished or a very crude example. The function of pins of this sort is uncertain.

Group 25 – pins with miscellaneous grooved heads
One pin, **2819**, is included in this group since it does not easily fit into other groups containing radially incised pins. The head is divided into three units consisting of two discs and a flat-topped cone. The central unit is the largest in diameter. The discs have deep, diagonally grooved edges, The upper knob is grooved radially with narrow ridges between deep 'V' notches. The head is much larger than the shaft which is circular-sectioned and tapers.

Group 26 – miscellaneous pins.
The six pins which cannot be assigned to the groups already discussed are placed here but Bliss only described five.

2821 – This is a complete pin with a small square head and a thin tapering shaft. The head is cut with four deep and wide 'V' notches which form an 'X' in relief on the upper surface.

2817 – This is a complete pin and has a cubed head which is not facetted but perforated on each side. The head is hollow. At the base an incised line gives a collared effect, and near to each corner of the upper surface, a notch gives a 'pinched' effect[1].

2818 - This is complete and has a pine cone-shaped head decorated with a trellis pattern. The shaft is swollen. Similarly shaped pins in both metal and bone are known but the heads are either plain or only decorated with diagonal lines. The pin is cast. It has purple oxidisation which suggests that contains a silver element, or it may be brass.

2822 – This only consisted of a head decorated with tiny notches at one edge. There are two collars below.

2823 - This is a very large example of a swan's neck pin with a distinctive double bend. It is a stick pin with a head of 5mm diameter with a disc and snout. Below are two units of horizontal grooves separated by a single unit of oblique grooves. The decoration is 40mm long. It is flat-backed. It forms an example of Fowler's Type E pins (Fowler 1963, 100 fig. 2 Appendix 8).

Group 27 – military standard head.
There is one example of this group (**2800**) which is broken at both the head and the shaft. Complete examples consist of a thin rectangular-sectioned plate head , most commonly with three pairs of lobes with pelta-shaped perforations and with a finial of some form above. Below the lobes there is a smaller pair of lobes with circular perforations. The Wroxeter pin consists of only the latter with part of a pelta perforation just visible. There is no decoration.

The numerous wound-wire headed pins are discussed in Section 12 (Late Saxon and later items).

Bone

A total of 482 pins were recovered that could be assigned to type, together with a further 40 broken pins consisting of shank fragments with varying amounts of the head preserved. These could not be assigned to type with certainty and are described in the database as 'broken pin' with the possible type noted.

The pins were typologised according to the system developed by Greep (1983) in his doctoral thesis. That system divides pins into two types. Type A pins have straight tapering shanks with a round or oval section and with head of a similar diameter to the shaft top, though there are exceptions to this in the case of A9 and A10. Type B have a swollen shafts generally with the swelling in mid length. Each of these is divided according to the head form, and in turn this is sub-divided according to the decorative motifs.

Type A1.1: wide undifferentiated flat heads sometimes sawn flat and some with a slight point remaining.

[1] See now Booth *et al* 2010, 92 no. 545.1, 303. The types continues extremely rare. HEMC.

There are 36 examples included in this group. At least six are complete and two show evidence of re-pointing. Section shapes vary from circular **572** to oval/elliptical **566**, to sub-rectangular 574. The head can be sawn flat (**567, 568**), or is slightly rounded with a slight point/cone (**572, 570, 581**). No. **576** has a prismatically cut conical top. The shafts vary from smooth and polished (**566, 572**) to facetted (**583**).

The diameters vary from stout examples measuring 7mm (**570, 571**) to 5mm. The shaft lengths vary from 128mm to 81mm.

The relevant numbers in the database are **566-75, 578-84, 1003, 1004-9, 1028-9, 1031-3, 2138-41.**

A1.2: Decorated with trellis work in a band around the head between two incised lines.
There are two examples (**585, 586.**), both are incomplete and have head diameters of 6-7mm.

A2.1 Pins with pointed heads: plain and undifferentiated.
There are 19 examples with one additional example tentatively included owing to its very small size (**1019**). Only one pin is complete and this may represent a re-sharpened example. The diameters range from 5mm to 1.75mm which compares to 6mm to 2mm at Colchester (Crummy 1983, 22). All the pins have pointed conical heads. Two have very long and finely shaped heads. Other pins are rather uncharacteristic of the type; **1019** is particularly slender although Crummy notes a similar pin from Colchester (1983, 22). No. **592** has two crudely incised lines cut possibly to differentiate the head, but which do not form a collar as in the A2.2 pins. No. 598 is very roughly carved and may be an unfinished pin. The majority of the pins are very well made which may be as a result of their very simple form.

The relevant numbers in the database are **587-602, 1010, 1019, 2128.**

A2.2: pins with pointed heads with grooves forming collars cut below the head.
With 121 examples this is the second most numerous type of pin at Wroxeter following Type B1.1. Twenty pins are complete and nine may show evidence of re-sharpening.

The type includes a large variety of head forms which show enough consistency to allow further sub-division according to the number of grooves cut to produce collars below the conical head. At Wroxeter, pins with one groove to four collars are represented:-

A2.2a	Single groove	23 examples.
A2.2b	Single collar formed by 2 grooves	67 examples.
A2.2c	Double collar formed by 3 grooves	21 examples.
A2.2d	Triple collar formed by 4 grooves	1 examples.
A2.2e	Four collars formed by 5 grooves	3 examples.

As can be seen the most common variant is the single collared pin. The definition of the grooves varies. Pins with two or more collars rarely show collars of even widths. The grooves may be like incised lines in some cases such as **278**, and some collars are hardly discernible as in the cases of **636** and **681**. Some of the grooves are incomplete and are not cut for the entire diameter of the pin, or are very irregular cut in their widths and depths (**622** and **647**). Some of the pins are very well made, for example **609** with four narrow collars. Others are crudely formed, e.g. **656.**

The pins also show a variety of head forms. Greep does not formally include these in his typology. Although they are most commonly pointed on a national scale, more domed or rounded heads are represented at Wroxeter. Other head shapes seen which can be described as mitre with straight sides and a pointed top; flame-shaped; biconical (Crummy's pomegranate); knob; flat or pointed; and rounded or oval.

The finish of the pins varies. Most have facetted heads with smoothed shafts, probably through use. On some pins both parts are smooth. Bliss suggested that it was possible that the faceting of the head was a result of its re-cutting after it had become worn and misshapen. This would explain the large number of pins with small and short heads and the small number with tall and pointed cones which are seen at Shakenoak (Brodribb *et al* 1971, fig. 53). Four pins appear to be green-stained and **634** has a curved shaft which might have been deliberate or may reflect the type of bone used.

The size of the pins also varies considerably. The diameter of the heads ranges from 1.75mm (**610**) to 6mm (**657, 646**). The dimensions of the pins gives rise to the recognition of groups with the pins from Wroxeter. One group consists of particularly stout pin. Although they vary in their forms, the head is commonly knob or biconical shape. The pins are quite well carved. Another group consists of unusually slender pins with short knob heads. Both groups are difficult to parallel. A further group may have elongated mitre heads which can be paralleled by a pin from Gestingthorpe (Draper 1985, fig. 32 no. 365).

The relevant numbers in the database are **604-708, 739, 1000, 1001, 1002, 1011-2, 2094, 2097, 2100, 2102, 2104, 2122, 2130, 2132, 2142, 2143.**

A2.3: Pointed conical heads with a band of acute lines with grooves and collars below.
Bliss noted three examples in this group (**709-11**). All were incomplete and all were very different from one another. One has three vertical grooves on the conical head, which is rarely seen, the majority being undecorated. The database print-out includes one additional example (**2095**).

A2.6 – Other A2 forms with trellis.
The database identifies **2144** as one of this variant but Bliss made no mention of it.

The database-printout also includes four examples assigned to A2 without further sub-divisions – **2096, 2098-9, 2125.**

Type A3: Conical or flat heads surmounting a collar or series of collars with central baluster moulding.

A3.1 – Plain mouldings
Thirty-three pins are included in this type which shows a large amount of variation. This is recognised by Greep who sub-divides the type. All of the pins probably had a conical head (type i), although this is missing in **727** and **732** leaving pins with heads that look flat (type ii). The number of collars below and above a central baluster moulding varies but is consistent enough to be typed. The ones present at Wroxeter are as follows

A3.1e	One upper and one lower collar	23 examples.
A3.1f	One upper and two lower collars	7 examples.
A3.1g	Two upper and one lower collars	1 example (**732**).
A3.1h	Two upper and two lower collars	1 example (**742**).

The relevant numbers in the database for A3.1e are **712, 714, 716-723, 727-729, 731, 733, 734, 736-738, 740, 1013, 1014, 2146.**

The relevant numbers in the database for A3.1f are **715, 724, 725, 726, 730, 735, 741.**

A further pin (**2113**) can only be assigned to A3.1 since the head is partially broken. One pin (**738**) has a rather debased form of the type and is poorly executed. The conical heads represented at Wroxeter can be more finely described as small knob, biconical, tiny knob on large dish collar (**713**), tall knob, cone. The baluster is carefully shaped in most cases and does not degenerate into a long oval as is seen on some sites. The shape of the collar also varies. On the whole they are well-defined by deep, broad grooves but in the case of at least one pin, the lower collars are only marked by incised

lines and so are equal to the diameter of the shank. The collars are normally of a similar size, although on **1024** there is a nested pattern.

The skill of the carving varies Some are crudely made. Others are finely made (**725, 722, 733**). The finish varies. Most display faceting of the head although **736** is highly polished. Unusually one pin appears green-stained. One pin shows further treatment with vertical notches cut along the edge of the upper collar (**731**).

A3.2 – as A3.1 but with decorated mouldings
Two examples are included here. **1035** has a broken baluster above which is a wide collar decorated with trellis with a series of collars above this. It should be noted that in the database this broken pin was assigned to A4.1. No. **743** is the most elaborately carved head at Wroxeter and is 25mm in length.

A4.1 – Other plain pins decorated with grooves and/or collars.
Six pins are included in this rather miscellaneous group. Five are reminiscent of A3.1 pins but at the poles of the continuum, i.e. very debased forms and a very elaborate and well-made form. The latter, **1024**, consists of two modified balusters which are more like the spool of Crummy's type 2 metal pins (1983, 29) with a series of collars below and one in between. No. **1020** is included here owing to its similarity to pins from Dorchester and York included here by Greep (1983, fig. 245 nos. 199-200). It consists of a rather rounded baluster with a collar below and compares quite closely with the debased form **738** which is included as Type A3.1, **744** is similar. No. **1023** consist of a flat head surmounting a rather squashed baluster. It compares quite closely with a type 6 pin from Colchester (Crummy 1983, no. 419) but without the lower collar. No. **746** is the most elaborate with a spiral of collars on top of a baluster and a collar below.

No. **1017** is included here though its form is reminiscent of A2.2 pins. Bliss did not discuss **745** but it is included as an A4.1 in the database.

A4.2 – Other decorated pins with grooves and/or collars.
There is one pin included in this type (**1015**). It consists of a conical head with a baluster-type moulding and with three narrow collars and then a thick band decorated with acute lines and with another narrow collar below this. In all the head length is about 16mm.

A6 – Irregularly and crudely formed heads.
One example has an elongated knob head separated from a tapering shaft by a groove (**1022**). The head is very roughly formed and unsmoothed.

A7 – miscellaneous pins / 'Uncertain' type pins.
Although none are included in this type on the database, four pins are described as 'uncertain' or as A? since they seem to take characteristics from more than one recognised stock type. No. **1027** has a type A2.2 head with one collar but the shaft appears to expand rather than taper. No. **1021** is also reminiscent of A2.2 pins but is very poorly executed. This may be placed in type A6 and is described as A? in the database. Two pins (**1025** and **1026** belong to one pin) take an A1.1 form but have a small conical head surmounting the flat head and are decorated with a groove around the shaft and in the case of **1025/6** with additional notches around the top of the head which gives a frilled effect.

A8.1 – Gold-foil-headed pins, conical head with recessed section giving a groove.
There is one example (**747**) which has a long cylinder head surmounted by a cone and with a series of collars at the base where it abruptly widens to shaft. The gold foil is missing but would be wrapped around the grooves. The head is 41.5mm in length and 2.75mm in diameter whereas the shaft is 4mm in diameter.

B1.1 – with rounded heads
This is the most common type of pin at Wroxeter with 190 examples. Fifty-four are complete which includes nine pins which appear re-pointed, and a further two which are likely to have been so. The type includes an immense variety of head shape and has been divided into eight sub-types by Greep. The divisions are rather arbitrary and sub-types merge imperceptibly into one another. The sub-divisions present at Wroxeter are given below with the numbers given taken from the database print-out. This does not always coincide with Bliss's original numbers. Bliss recorded 175 examples for 1a, 5 examples for 1d. In addition there was one example (**2111**) given as type B1.1 without further sub-division

a – rounded/oval heads	169 examples.
c – rounded heads with flattened surfaces	3 examples, **788, 870, 925.**
d – oval / mushroom-shaped heads	5 examples.
e – oval heads with slightly pointed tops	2 examples, **803, 930.**
g – triangular-shaped heads	2 examples, **754, 819.**
h – flame-shaped heads	3 examples **886, 901, 924.**

The relevant database numbers for Type B1.1a pins are **748-50, 752-3, 755-82, 784-7, 789-91, 793-802, 804-9, 811-8, 820-9, 831-69, 871-85, 887-911, 913-9, 921-3, 926-7, 929, 931-2, 934-6.**

The relevant database numbers for Type B1.1d pins are **751, 783, 785, 792, 810, 830, 912, 920, 928, 933.**

The diameter of heads shows no standardisation and ranges from 10mm (**904, 921**) to 3mm (**756, 866**). The height of the heads ranges from 11.5mm (**893, 886**) to 3.5mm (**756, 781, 783**) to 3mm (**708**). The swelling of the shaft occurs at various points, midway and within the upper half are most commonly seen. The amount of swelling varies from 0.25 to 1.75mm with the modal figure being 0.5mm.

Some of the heads show circular striations as a result of turning the pin against the blade (**770**?). The majority display vertical facets where a knife has been used to fashion the head. At least one pin is lathe-turned (**901**), and has a regularly shaped head which is smooth and has a pit at the apex where the chuck was attached. The majority of the shafts are oval-sectioned. The heads and the shaft are normally continuous with one another but in a few cases, e.g. **769**, the head is set in from the shaft and there is a definite line / cut between the head and the shaft. This is also seen at Colchester (Crummy 1983, 22). The shafts also display longitudinal facets where they have been hand cut. A few are rounded and smoothed. The majority of the pins are roughly finished with a few polished heads and plain shafts, and still fewer with polished heads and shafts. All of the heads are plain except for one which has three incised lines around the head. This may have resulted from the manufacturing process where the pin was turned against the blade. One pin, **803**, is stained green.

B2.1 – nail-headed pins.
There are five examples, none are complete. They have flat disc heads and are very similar in some cases to type B1.1b and d pins. No. **937** is well made with a polished and greasy shaft through little use. In contrast **938** is roughly made with a facetted head rather than a smooth disc. Pins **939** and **940** also have irregular disc heads.

B2.2 – as B2.1 but with small conical disc head.
There is one example which has three collars (**941**). It is not well made.

B2.4 flat heads above an inverted ball and collar.
There are two examples, neither is complete. One (**942**) is of sub-type B2.4a (flat head above a single inverted ball), and the other (**942**) of sub-type B2/4b (as B2.4a with a ball underneath). They are crudely made with faceted heads and are irregular.

B2.5 – flat heads above a ball and collar arrangement.
There are three examples of this rather uncommon form, none of which are complete (**944-6**). All are of Greep's variant b – a flat head above a single ball with a collar below. The ball is a more biconical shape. One pin is well made and is carefully carved although it is not entirely regular (**945**). It is not lathe-turned although this pin type is known to be made on a lathe in north-western England where they are most common.

B3.1 – well rounded conical or flame-shaped head surmounting a collar.
There are 18 examples (**947-64)**, thee are complete and range from 62mm to 54mm. They are relatively short and may represent re-sharpened examples.

The sample shows a variety of head shapes which can be described as mitre, conical, flame and globular/flame, with the majority being flame-shaped. The collars also show variety in this shape , from simple disc collars to inverted trapeziums to extremely narrow biconical (as in the type D3 pin – Kenyon 1948, fig. 90). The head and collar can be widely spaced or very closely spaced. In all cases the head cannot really be described as sitting on top of the collar. There is always a distinct groove and thus they do not really parallel Kenyon's type D2 although this is given as the equivalent by Greep.

Some pins are very crudely made with mitre heads and with the 'collar' being no more than cutting a groove from the pre-existing head without any subsequent shaping (**961**). The flame-shaped heads with neat disc collars are much more precisely carved (**952**). This has about one-sixth of its head removed for an unknown reason. Most of the pins have faceted shafts and also faceted heads to varying degrees. None are definitely green-stained although **953** shows patches of slight green which may be deliberate. It is a very worn and decayed example though.

B3.2 – as B3.1 but with two to seven collars and more angular heads.
Ten examples (**965-74**) have been included in this type, four are complete and vary in length from 90mm to 60mm. The diameters of the collars range from 8 x 6.75mm to 5mm whereas the bases of the cones vary from 4x3.5mm to 6.5mm.

There is neither as much variety in the shape of the head nor the standard of manufacture as is seen in the B3.1 pins. The major differences between the pins is the number of collars, i.e. two or three. The head is always a neat, well-shaped cone/flame shape and in most cases is significantly smaller in diameter than the collar as the dimensions given show. The collars vary from disc shapes (**968**) to sub-rectangular shapes or bevelled flanges (**965**). The majority display squared-off edges.

Crude examples of the type include **971**, whilst finer ones include **974**.

B4.1 – cuboid faceted heads.
There are 11 examples (**975-85**), one is complete and a second re-sharpened. The dimensions of the head varies from 6 x 4.5 x 6mm to a cube of 7.5mm.

The irregularity of the heads and the range of skill they display in their manufacture suggest that this type presented problems for the craftsman. The heads were sawn or carved into cuboids, and then each corner was planed off leaving five diamond-shaped faces and eight triangular facets at the corners. Only one head from Wroxeter is cuboid with a regularly-sized head and with clear evidence of sawn corners (**979**). The others are more irregular giving tall rectangular heads whist others show the greatest dimension horizontally. Some of the faces fail to show diamond-shaped facets and those which do, do not have neatly meeting apices. One pin is deodecohedral rather than a cube, and each faces consists of a central square surrounded by four hexagons (**983**). This is also seen in copper alloy at Wroxeter. It may represent a failed example of the type or an intentional variant.

B7 – Head a simple series of balls.
There are two examples of this uncommon form (**986, 1016**). The balls are better described as biconical discs and in the case of **1016** as two biconical knobs above a wide collar.

B8 – Miscellaneous types.

B8.1 – Oval-shaped heads whose flat tops have a series of cut notches.
There are two complete examples (**987, 988**). They appear as rather stylistic representations of the hands which are more naturalistically represented in type A9.1 pins. The pins are particularly well made. The shafts show both faceted and rounded parts and the heads are of cancellous bone.

B8.2 – Flat-sectioned oval head with ring and dot pattern.
Only the head of such a pin was recovered (**989**) and it measures 20mm in diameter.

B8.8 – Others
Five pins do not easily fit into other types and are discussed here (**990-994**). This sub-group particularly represents the local nature of pin manufacture, none has exact parallels. They are of a similar form and have decorated heads. They have a globular/mushroom-shaped head except for one which is a mitre form. This pin also has a decorated shaft in the form of two incised lines. The patterns of decoration are similar. The heads are zoned with acute grooves. In one case a zig-zag motif is used instead of a zonal arrangement and there is a ring and dot at the apex.

B10 – Composite pins.
Two examples exist at Wroxeter. Both are incomplete. One is headless but consists of a well-rounded shaft with the neck forming a spigot (**995**). The other holds a disc head which is irregularly shaped. Pin **996** shows a pit at the top of the cylinder neck which may suggest that it was lathe-turned. The shaft of the other pin protrudes above the disk, the head may have slipped down the shaft although most composite pins show heads flush with the shaft. The type of head for **996** is unknown, it may have been of bone or of jet.

Jet and shale[2]

These were grouped according to Crummy's (1983) typology developed for the Colchester material.

Type 1 – spherical/ovoid heads
There was one example in jet with an irregular head (**6782**).

Type 2 – cuboid facetted head
This was the commonest type present with 14 examples in jet and six in shale (**7284-9**). A variety of head proportions were noted amongst the jet examples. **6770, 679, 6797-8** and **6801-2** were of the tall rectangular shape. **6776, 6786** and **6794-5** were cuboid, whilst **6788-9**, **6796** and **6805** were a more squat cuboid. Amongst the shale ones **7288-9** were noted as being of a tall rectangular shape and **7285** as a squat shape. The other three (**7284, 7286-7**) were not separately described.

Shank fragments
There were also 27 shank fragments and points described as jet (**6769, 6771-5, 3777-81, 6783-5, 6787, 6790-2, 6799-800, 6803, 6804, 6806-10**), and 16 of shale (**7290-305**).

[2] The identifications as jet and shale were made on appearance, the colour, the lustre and the texture.

Bracelets

Copper alloy

A total of 172 fragments of copper alloy bracelets were recovered during the excavations. Three measurements were made where sufficient remained to allow accurate measurements. – the internal diameter, the width and the thickness. The latter two were measured with the hoop orientated as if worn on the wrist. The rectangular-sectioned hoops can be divided into two groups by width, narrow and wide. The former are worn with the shortest side of the section to the wrist, and the latter with the longest side to the wrist.

The bracelets were classified using the system developed by Cool (1983) in her survey of the personal ornaments from southern Britain. The type of decoration was used to define the majority of the groups, although types of terminals and the shape of the cross-section was also used. Since only 51 of the Wroxeter bracelets have extant terminal(s), decoration was a useful criterion. Bliss noted that the fragmentary nature of the Wroxeter bracelets made identifying the multiple unit Groups XXX and XXXI difficult.

Group 1: Cable twist bracelets of 2-5 strands with oval or circular cross-sections.
There are 38 examples of this group including two complete ones (**2958-95**). Half of the hoops are made by twisting two stands of wire and half by three stands. Equal numbers twist to the left as to the right. The cross sections vary from oval- to circular-shapes, though some have had their sections altered to a more rectangular or D-shape by flattening one of more sides (**2958, 2961, 2974**, **2977, 2981, 2985-6**). This also gives the hoop a more solid appearance.

Nine of the hoops have terminals. Two are eyes from a hook and eye type of joint. Both are flattened and are decorated with ring and dots (**2970, 2987**). Both represent a variant of the two-strand, cable-twist hoop where the hoop is made from only one strand of wire that is bent double and twisted, with the loop at the end forming the eye. The hook, now missing, is normally made by one stand with the other coiled around to form a cuff. The remaining terminals are from smaller and finer hoops and are of a single strand with the spare strands treated in different ways. Cool divided hook and eye terminals into three types and all are present at Wroxeter. The terminal of **2971** is broken but is possibly of Sub-type iii where the spare strand is hammered into the side and covered with a sheet forming a neat cuff. The hook of **2988** is of type ii where the second strand is hammered into the side of the terminal without further treatment. The hooks of **2967** and **2984**, and the loops of **2958** and **2976** are of type i where the spare strands are coiled around the terminal to form a cuff.

Only two hoops are decorated further. **2995** and **2983** may have had a white metal coating.

The dimensions of the hoops vary considerably. Some are very massive, for example **2982** and **2989** which have sections of 6.5 x 5.75 and 5.5 x 4.75mm respectively. Others are much finer, for example **2985** has a section of 3 x 2.5mm. The majority of the hoops are too fragmentary or distorted to measure their internal diameters, but vey approximate diameters can be given to **2970** at 104mm, **2982** at 40mm and **2971** at 49mm**.**

Group II – ribbon twist hoops.
There are two examples of this group ***(*2996-7**), neither of which is complete. They are made by grouping together three and five circular-sectioned wire strands so that their long sides are parallel and touching, and by twisting the band around a central core of wire of larger diameter. The core is present in only one case. One hoop is twisted to the left and the other to the right. Hoop **2997** may have been subsequently flattened on all sides to give its oval section. No terminals remain on any of the fragments. The hoops are of very different dimensions. One measures 7 x 4.5mm and the other is 3.5mm.

Group III – expanding bracelets.
There is one plain example of sub-group A (**3172**) which has a broken joint and is made from tapering wire. The ends are overlapped and wrapped around each other with two turns.

Group IV – torc-twisted bracelets.
There are four examples (**2998-3001**) with one bent into a small ring (**3001** – 10 x 11mm diameter). They consist of a single strand twisted so that the angles form spiralling diagonal ridges. Equal numbers twist to the left and the right. They are undecorated. The cross-sections are rectangular or square in shape and range from 3mm (**2999**) to 2mm (**3000**) in size. Two have extant terminals and are Sub-group A – hook and eye or double hooked terminals. **3000** has a hook and **2999** has a flattened, perforated terminal with two shallow grooves to give a collar.

Group V – plain penannular bracelets.
There are six examples (**3002-4, 3101, 3173-4**). Two are complete but too distorted to measure the internal diameter, though **3003** may have been a child's size. The widths vary from 7mm (**3003**) to 3mm.

Group VIII – penannular hoops with decorated terminals.
There is one example of this miscellaneous group (**3005**). The terminal consists of a collar formed by transverse grooves and an oval 'bead'. It is possible that a plate was used to fasten the butt ends together.

Group XIII – battlement light bangle.
There are nine examples (**3006-14**), most of which have tall, thin, rectangular sections. Some have a thicker rectangular square section. One, **3012**, has a tall D-section. The dimensions of the sections range from 5 x 1.5mm (**3009**) to 2.25 x 1.5mm (**3008**). Four internal diameters can be measured. **3010** is c. 52mm, **3008** is c. 65mm, **3014** is c. 70mm, and **3011** is c. 40mm. Five have one terminal present, two have an overlap joint, and three a perforated end.

Group XV – plain battlement light bangle.
Bliss observed that there were six examples of this type but only five (**3015-9**) are listed in the database print-out. The battlements are not all of a regular rectangular shape and vary from shallow, rectangular (**3017**) to tall and rounded crenellations with 'U'-shaped grooves (**3016**). Only one still retains its terminal for an overlap joint (**3018**).

Group XVI – alternate plain and ribbed decorated light bangle.
There are three examples (**3020-22**) all belonging to Sub-group A, i.e. wide invariable section. Two have thin rectangular sections and one has a more elliptical one. None have extant terminals.

Group XVII – ribbed light bangles with sheet band decoration.
There are four examples (**3023-6**) all belonging to Sub-group A with vertical grooves across the upper surface only. Pieces of sheet metal are wound around the hoop at intervals to give the appearance of alternating plain beads and ribbed units. The sheet bindings are in poor condition except for those of **3023** and **3025**. The hoops at Wroxeter are circular-, rounded rectangular- and elliptical-sectioned. Elsewhere rectangular or oval sections have been more normal. None retain terminals.

3024 is tentatively included in this group. The plain units may consist of applied 'bosses' rather than bands of sheet metal but the hoop is too corroded to be certain of this.

Group XVIII – light bangles with vertical decoration on narrow bands.
There are five examples of this group (**3027-32**) which was worn with the narrowest side to the wrist. The pattern of the grooves and ribs varies from a 'frilled edge' produced by continuous and closely packed grooves on a very narrow upper edge (**3027**), to a scalloped edge produced by two 'U'-shaped grooves between wide, rounded, rectangular ridges (**3028-30**), to wide 'U'-shaped grooves with narrow pointed ridges (**3031**).

Most of the sections are rectangular with domed tops. Two (**3027-8**) have one terminal present, both with perforations and probably from drum perforate fastenings.

Group XIX – light bangles with vertical decoration on wide bands.
There are 14 examples of this type (**3032-43, 3175-6**), with **3032** being almost complete. The sections are D- or rectangular-sectioned. The grooves tend to be U-sectioned and are vertical in ten examples, but diagonal in four cases giving a ribbed appearance. One is best described as corrugated (**3036**). The regularity of the grooving varies. On **3032, 3036** and **3041** it is very regular and even and these are probably cast. **3176** may have been further decorated by silvering.

Four have extant terminals and in one case they are both present (**3032**). Several types of joint are represented: drum perforate – **3032**; hook and eye or drum perforate – **3039** with one perforated end; overlap - **3041** with a pared an rounded end; hook and eye – **3037** and **3175** with one hook terminal. No internal diameters could be measured. The widths of the hoops vary from 4mm (**3037**) to 2mm (**3032**), but most were 3mm.

Group XX – light bangles with decoration on thin, wide bands.
There are two examples (**3044-5**) both belonging to Sub-group B with 'S'-shaped stamps. Neither retains terminals.

Group XXI – light bangle with decoration between incised lines.
There are five examples of the type with four of the sub-groups which are based on different central motifs being represented. There is one example of Sub-group A (**3049**) with vertical grooves along the centre. It may have had a tapered overlap joint. There is one example of Sub-group C with an S-shaped stamp (**3046**), and two of Sub-group D with scroll decoration (**3047-8**). The decoration on **3048** is well worn. **3177** belongs to the miscellaneous sub-group E and consists of irregularly punched marks between two incised lines.

Bliss also noted **3565** in this group as having a groove at one end that might have marked a terminal. This was not included in the database print-out listing of the bracelets and in that was described as a decorated copper alloy strip.

Group XXII – light bangles with plain zig-zag.
There are twenty-five examples of this group making it the best-represented at Wroxeter. None is complete. With the exceptions of **3051** and **3072**, they are worn with the narrowest side to the wrist.

There are 21 examples of Sub-group A where the upper surface is decorated with 'V'-sectioned, triangular grooves, alternately cut into each edge to give a relief zig-zag (**3050-70**). This can vary from a narrow neat spine (**3059, 3062, 3065**) to a broad band (**3056, 3066**). The shapes of the grooves vary from V-sectioned triangles to short vertical nicks (**3066**). The regularity of the lines varies. **3060** and **3063** may be from the same hoop, and have an incised zig-zag pattern on both the side sides in addition to a grooved zig zag on the upper edge. Seven have pared terminals for an overlap joint. The terminal of **3066** has vertical grooves incised on its widest surface. Four are of sufficient completeness to be able to measure their internal diameter: **3057** – 45mm; **3059** - 60mm; **3050** – 67mm; **3063** – 68mm.

There are three examples of Sub-group B where the alternating nicks are almost paired across so that the zig-zag resembles blocks connected by diagonal spines (**3071-3**). Of those two (**3071, 3073**) have paired and pointed terminals for an overlap joint.

There is one example (**3074**) of Sub-group C the boxed zig-zag produced by pairs of alternate notches, thus staggering the zig-zag at each of its points with a small box. The internal diameter is 65mm.

Group XXIII – light bangles with decorated zig-zag.
There are four examples. **3075** may belong to either Sub-group A or B where the simple zig-sag has diagonal or vertical grooves in addition, but it is too vestigial to be certain. **3076** is an example of Sub-group C decorated with ring and dot. It has a hooked terminal and an internal diameter of 64mm. **3077** has the Subgroup E decoration of a boxed zig-zag with ring and dot. **3078** is from Sub-group F of a zig-zag with a sinuous line of punched dots.

Group XXIV – light bangle with incised zig-zag.
There are no certain examples though see **3110** in uncertain group.

Group XXV - light bangles with dotted decoration.
There are 13 examples of this group and none are complete. All have thin rectangular-sectioned bands worn widest to the wrist. The different dotted motifs provide the basis of the sub-groups. There are three examples of Sub-group A with a row of single dots (**3079-81**). **3080** has a perforated terminal with a rectangular plate. The hoop sections are 3 x 1mm. There are five examples of Sub-group B (**3082-6**) with a row of ring and dots. None retain terminals. There is one example of Sub-group D (**3087**) with a row of punched dots with three transverse grooves between each and a pair of opposing scallops along the edges in line with the dots. The last motif is not typical of the sub-group. There are two examples of Sub-group E (**3088-9**) with a row of dots between nicks. Both have perforated terminals for hook and eye fastenings. **3088** has a rounded eye plate and **3089** has a slightly expanded eye plate with three transverse grooves and ridges. The decoration has a chip-carved appearance and may be die stamped or cast. There is one example of Sub-group F (**3091**) decorated with a cleft ring and dot block with vertical grooves.

There is one example (**3091**) of Sub-group G typically decorated with a row of ring and dots with lozenge units. It has two triangular edge nicks paired across to form lozenges which are divided from each other by vertical grooves and a ridge. The hoop is particularly thick. It has an internal diameter of 45mm. The thickness could suggest that it belongs to Group XXXI or XXXII – multiple and double unit bracelets.

Group XXVI – light bangles with lozenge decoration.
There are four examples of this group (**3092-5**). All are of sub-group A, i.e. hoops with uniform dimensions. **3094** has a pared and tapered terminal for an overlap joint, and an internal diameter of 60mm**.**

Group XXVII – light bangles with wedge decoration.
There is one example (**3096**) with a rectangular section belonging to Sub-group B where the wedges leave an upstanding ridge of Greek key. It has a vertical groove on each upstanding bar of the ridge. It does not retain terminals.

Group XXVIII – light bangle with scroll decoration.
There is one complete example (**3097**) with a drum perforate terminal retaining the drum and with three grooves before the terminals. It was too distorted to measure the internal diameter.

Groups XXXI and XXXII – multiple and two unit bracelets.
No certain examples were identified but **3109** and **3111** in the uncertain group may have come from such bracelets. See also **3091** placed in Group XXV.

Group XXXIII – plain hooked terminals.
There are two examples with one hooked terminal **3098-9.** Both are of sub-group A, a simple hook. The sections are oval and circular.

Group XXXIV – plain bracelets.
There are two examples belonging to the slender sub Group A (**3100, 3102**). The terminal of **3102** is slightly expanded with a perforation**. 3100** has an internal diameter of *c.* 40mm.

Group XXXV – bracelets with grooves behind terminals.
There are two examples. **3104** is slightly expanded and broken across a perforation. There is a unit of vertical grooves behind the terminal. **3103** consists of a blocked terminal where a small square boss separates the tapered hook terminal from the hoop. There are diagonal grooves in front of this.

Group XXXVII – plaited hoops.
There are five examples, four consist of circular-sectioned strands plaited together to form a square-sectioned hoop (**3105-8**). **3107-8** may both be part of the same bracelet. **3105** has a cuff and a hook or loop terminal formed by the fourth wire. The internal diameters of **3107/8** are about 50mm.

2601 is also discussed here though listed in the database print-out as a necklace fragment. It is a three strand plait and has a cuff and loop terminal.

Bracelets of uncertain or indeterminate group.
3110 is possibly from Group XXIV. It is rectangular-sectioned widest to wrist and has a simple incised zig-zag line with edge nicks at the centre of each zig-zag but it is only decorated for c. 45mm from one terminal. The rest of the hoop is plain.

3109 and **3111** may belong to the multiple unit or two decoration groups XXXI and XXXIII. **3111** has two zones of decoration. Near to the terminal there is a single ring and dot, a unit of transverse grooves and then two marginal longitudinal grooves flanked by edge nicks. Two transverse grooves separate this zone from another with a medial row of ring and dots. The terminal is perforated. **3109** consists of a complex decorative motif. A central band of transverse grooves is separated from margins of boxed zig-zag with ring and dots by two longitudinal grooves. At each sort end there is a unit of a single large triple ring and dot. The hoop is particularly wide and measures 11mm. Bliss could not find the decoration paralleled elsewhere.

3119 may represent a bracelet, possibly of Group XIX. It is decorated with very small, fine diagonal grooves on a wide band.

3118 may possibly be from group VII or VIII. It consist of a rounded terminal decorated with a ring and dot and a groove with a ? plain hoop.

3115 may be from Group XXIA. It is decorated with 'V'-shaped nicks which do not alternate, but it may form a degenerate example of the group with a very wide zig-zag band.

The hooked terminal of **3112** has a square block behind it and vertical grooves. A single medial groove is incised on the hoop which may have an internal diameter of 45mm. A similar type of Zone A decoration is seen on a multiple unit bracelet from Colchester (Cool 1983, fig. 79 no. 3).

3114 has a hoop decorated with edge diagonal nicks which give a frilled appearance. The terminal consists of a perforated expanded disc end (7.5mm diameter) which is plain. **3113** is a hook from, possibly, a bracelet.

Bone and Ivory

There are problems with the records for the bone and ivory bracelets. The database print-out clearly duplicated over 30 entries and these have been removed. Bliss stated that thirty-nine were recovered but then discussed 57 items but only 56 records are present once the duplicates are removed (**1-52, 54-6, 63**).

Many pieces consist of fragments without terminals, and those with terminals are sprung so that the internal diameters cannot be measured very accurately. Internal diameters were measured to the

nearest half centimetre from the curvature of the post depositional hoop. They range from 50mm to 200mm, with the majority measuring 160mm but the average being 120mm. Two main groups are present, one around 50-100mm (13 examples) and the other around 160-200mm (12 examples). Only two hoops are of the mean diameter with a further two near to this (130 and 135mm). Decoration was not limited to a particular size. The widths, measured as though worn on the wrist, vary from 3.25mm to 7.5mm, with the majority fallings between 5 to 6mm.

Greep (1983) uses the fastening mechanism to sub-divide bone bracelets as they were fastened in two main ways with the use of a copper alloy collar or rivets. In Type 1 the joins can be pared and overlapped so that the join was of a similar thickness to the hoop. They were then secured by two copper alloy rivets with iron being used rarely. In Type 2 the ends were perforated and abut one another and were held by a collar, riveted to the bone and held secure by ribs made in the bone and collar. The types are sub-divided by decoration. Group A has ring and dot motifs and Group B includes incised notches and designs.

Type 1 – riveted type.
There are six hoops with this type of fastening (**5, 7, 25, 32, 39, 54**). None show any decorative motifs. The cross sections include flat rectangular shapes and oval shapes. The internal diameters vary from 50mm (**54**) to 165mm (**8**).

Type 2 – collar.
Bliss stated that there were 16 examples of Type 2, but only 14 are so recorded in the database print-out. The type is recognised by a grooved terminal with or without perforation. Some are stained green by the collar (**20**, **28**, **44**, **48**). The cross sections include 'D', circular and flat rectangular shapes. Again none shows any decorative motif. Eight internal diameters can be measured and these range from 95mm (**25**) to 190mm (**28** and **44**).

As well as the ones already noted **3, 8, 17, 24, 33, 43, 45, 47** and **51-2** belong to this type.

Fragments
There are 35 fragments without extant terminals. Of these 25 are undecorated. Three are decorated with a single line of ring and dots (A1); two with marginal 'U'-shapes and two medial lines (b4); on with marginal rows of 'U's' meeting a central row of ovals (B5); and four with oblique grooves (B7). In addition **18** shows a decorative type not included in Greep's typology – opposed short vertical lines along both edges. The pieces show a variety of cross section shape, including 'D', rectangular, circular, and elliptical shapes.

Three fragments may be ivory although the identification of this material is not certain, **5** shows a cross-hatched appearance which is often taken to indicate ivory. All of the pieces are plain. Nineteen internal diameters are measured and these range from 50mm (**4** and **5**) to ?200mm (**31**).

Jet and Shale[3]

Bracelets were the commonest shale artefact found with 289 recorded (**7321-7609**). There were also seven jet examples (**6829-36**). On the shale examples the prominent internal ridge, a by-product of lathe-turned manufacture left when the core is detached, was visible on many. This was rarely seen on the jet examples which showed a higher level of finish. Where sufficient was preserved, internal diameters were measured. For the shale examples the range was 35 to 85mm. Bliss noted that the majority had diameters of 60mm and there were many more 60mm and 70mm than of any other size. 60mm was also the commonest internal measurement of the jet bracelets (four examples). There was also one of 40mm and one was possibly 100mm.

[3] The identifications as jet and shale were made on appearance, the colour, the lustre and the texture.

A core from the waste debris of lathe-turning bracelets (**7319**) was recovered which might suggest that some manufacture of shale bracelets was being carried out at Wroxeter.

A slightly modified version of the grouping used by Crummy for the decorated jet and shale armlets at Colchester (Crummy 1983, 36-7) was used as the basis of the typology for the decorated examples from Wroxeter.

Type 1 – Ring and dot on the outer surfaces only
Type 2 – Cable, i.e. continuous oblique grooves on all surfaces
Type 3 – Latitudinal grooves and ridges
Type 4 – Edge notching on the outer surface

Type 1 - ring and dot on the outer surfaces only.
Four shale fragments are described as belonging to this type in the database print-out (**7556, 7560, 7594-5**). In her discussion Bliss also included **7320** as belonging here and possibly being the terminal of a penannular bracelet. In the database print-out it was categorised as miscellaneous.

Type 2 – cable patterns.
The database records ten examples in shale (**7535, 7575, 7589, 7597-9, 7601, 7602, 7606, 7608**) and one in jet (**6833**). It was noted that they were of varying diameters, widths and thicknesses.

Type 3 – latitudinal grooves and ridges.
All of the examples were made in shale and a total of 35 are recorded in the database print-out. The type was further sub-divided according to the groove pattern.

Type 3a consists of a single medial ridge of round or rectangular section on the outer surface only and two grooves. The pattern leads to a stepped rectangular cross section. There were six examples (**7575-6, 7559, 7565-6, 7568**).

Type 3b has between one and four grooves on the outer surface. The location of the groove varies from the centre to either the upper or lower edge giving an asymmetrical patterns. Ten examples were present (**7534, 7552, 7561, 7564, 7569-71, 7582, 7585, 7603**). In one case (**7582**) the grooving is so deep that it approaches the sub-type 3c.

Type 3c has multiple grooves, most normally four, producing ridges between. This produces a stepped cross-section which was wither rectangular or round. There were six examples (**7562, 7564, 7591,-2, 7596, 7600**).

Type 3d is a composite of both Type 3 lateral grooves and Type 4 edge nicks. The most common pattern consists of short, small notches along the edges of ridges giving the effect of discontinuous transverse grooves across the hoop. There were 13 fragments (**7537, 7540, 7551, 7553, 7555, 7572, 7581, 7583, 7586, 7588, 7590, 7605, 7609**).

Type 4 – edge notches on the outer surface
Three different principle patterns were observed amongst the 28 fragments.

In Type 4a the opposed notches on the upper and outside edges give a continuous line of diamond-shaped or oval-shaped facet on the outer surface. There are five examples of this pattern in shale (**7544, 7547, 7549, 7567, 7593**) and one in jet (**6829**). The Type 4b bracelets have alternate V-shaped notches on the upper and lower outside edges to give a continuous zig-zag decoration on the outer surface. Five examples fall into this category (**7544, 7547, 7549, 7567, 7593**). There are a further four fragments where the notches are sometimes opposed and sometimes alternate (Type 4a/b – **7536, 7542, 7550, 7558, 7580**).

Type 4c has oblique grooves on the outside face only. The decoration is in all cases different from the similar Type 2 cable although **7548** has a true cable pattern but on one side only. The other examples (**7554, 7576-9**) show less acute and narrower grooves which are straight sided rather than slightly bowed. Although not noted in the report fragments **7576-8** are drawn as joining and make up approximately 80% of the circumference

Type 4d consists of all the notch patterns that do not fall into the other divisions (**7533, 7543, 7573, 7587**). Those designated 4bd (**7538, 7541**) have notches which are very short and produce a pattern which is not definitely 'zig-zag'.

Bliss mentioned a polygonal fragment, (Type 5) but there is no items in the database do described.

Undecorated
The commonest shale bracelet type was undecorated and a total of 212 fragments are recorded on the database (**7321-7532**). The commonest section shape was a D (89 examples) followed by oval sections (58 examples) and circular/round sections 27 examples). Most of the jet bracelets were plain as well (**6831-2, 685-6**). They had a variety of section shapes.

Glass

9172 is an example of a Kilbride-Jones (1938) Type 2 of blue/green glass with a white and blue cable. **9186** was described a bracelet in the database printout but there was no discussion, and the piece was not noted in the small find appendix (Barker *et al* 1997, 250). As discussed below under the Class 9 beads, the piece is more likely to be a polychrome bead.

Beads

Glass

Introduction

The various documents relating to the glass beads in the archive mean that there is more information available for some beads than for others. The database print-out has 393 records for glass beads. In her discussion of them (written 1985, with additions in 1989) Bliss noted that there were 398. In the archive there is a preliminary catalogue relating to 212 beads by Bliss. These beads were catalogued following Guido's scheme (1978) which Bliss adapted by creating numbered types for the Roman forms. She did this by following the order laid out by Guido (1978, 91), then sub-divided further according to colour, size and sometimes opacity. She noted that she sometimes had difficulty assigning beads to the colour descriptions Guido gave. She also noted the difficulty of deciding whether some globular beads were in fact broken parts of segmented beads, and where it was appropriate to describe beads as biconical where in some cases a change of angle was not well defined.

The system designed for the 212 beads of the initial catalogue seems to have been abandoned prior to writing the discussion and creating the original database. Those followed the nomenclature of Guido for Guido Groups 5 to 9. They then defined fourteen Roman types (starting from 1), some of which did not occur at Wroxeter. It is this classification that is used in the Appendix of small finds (Barker *et al* 1997, 250) in the letterpress where the Roman numbered types are presented without explanation.

The original archive contains more information than the database print-out: for examples details of colour, details of whether the bead was transparent or otherwise, length, diameter and sometimes perforation diameter. The database print-out contains simple codes for the colour, the key for which is no longer in the archive, though blue and green can be recognised and only a single measurement. For this reason the database presented here uses the archive catalogue and typology for those beads originally catalogued and the database print-out categories for the rest of the beads.

A concordance is given in the summary reports below between the original typology and the one published. The original Bliss scheme was as follows and these numbers are used on the database under the Type and Sub-type fields.

1 – blue with opaque white wave. Guido Group 5A.
2 – small opaque blue with opaque white horizontal trails possibly related to Guido Class 7a.
3 – small translucent natural glass annular. Guido Group 6iib.
4 – medium translucent greenish gold. Guido Group 6iiia.
5 – medium translucent greenish gold. Guido Group 6iiib.
6 – medium translucent blue annular. Guido Group 6iva.
7 – small translucent blue annular. Guido Group 6ivb.
8 – small opaque sky blue annular. Guido Group 6vii.
9 – small opaque brown/gold annular. Guido Group 6viii.
10 – small translucent colourless annular. Guido Group 6x.
11 – large translucent natural glass globular. Guido Group 7i.
12 – small translucent natural glass globular. Guido Group 7ii.
13 – small green globular. Guido Group 7iii.
14 – large blue globular. Guido Group 7ii, iv, or v.
15 – small blue globular. Guido Group 7iv.
    I – less than 3mm diameter.
    II – translucent, less than 5mm diameter.
    III – translucent more than 5mm diameter.

16 – small opaque ‘black’ globular. Guido Group 7viii.
17 – small opaque white globular.
18 – small translucent colourless globular.
19 – small opaque yellow annular – Guido Class 8.
20 – Meare variant translucent colourless with opaque yellow waves. Guido Class 11g.
21 – Segmented beads.
- I – opaque dark blue.
- II – green.
- III – Opaque ‘black’.
- IV – ‘gold-in-glass’
  - IVa – ‘Gold-in-glass’ segmented.
  - IVb – ‘Gold-in-glass’ globular segments.

22 – Cylinder beads.
- I – Blue.
  - Ia – translucent dark blue.
  - Ib – translucent turquoise.
  - Ic – opaque dark blue with longitudinal striations.
  - Id – iridescent opaque pale blue.
- II – Green.
  - IIa – translucent dark green.
  - IIb – translucent blue/green.
  - IIIc – opaque blue/green.

23 – Opaque green cylinder segment.
- I – very small, less than 5mm diameter.
  - Ia – with a large perforation c. 2mm diameter.
  - Ib – with a small perforation, c. 1mm diameter.
- II – small more than 5mm diameter.
  - IIa – with small perforation c. 1.5mm diameter.
  - IIb – with a large perforation c. 2.5mm diameter.

24 – Biconical .
- A – Small.
  - AI – more than 7mm diameter, blue, symmetrical section.
  - AII – more than 4mm and less than 7mm diameter.
    - AIIai – symmetrical section, translucent blue.
    - AIIaii - symmetrical section, opaque green.
    - AIIb – asymmetrical section – translucent blue.
  - AIII – 4mm diameter.
    - AIIIai – symmetrical section, translucent yellow.
    - AIIIaii – translucent green.
    - AIIIb – translucent blue.
  - AIV – less than 4mm diameter, asymmetrical section.
    - AIVi – translucent blue.
    - AIV ii – opaque green.
- B – Medium.
  - BI – blue.
  - BII – opaque turquoise.
  - BIII – opaque terracotta.
- C – Long opaque blue.

25 – square-sectioned.
- I – long, more than 6mm.
  - Ia – opaque turquoise.
  - Ib – opaque dark blue.
- II – medium, less than 6mm.
  - IIa – opaque dark blue.

IIb – opaque green.
IIc – opaque 'black'.
III - cuboid.
IIIa – opaque dark blue.
IIIb – opaque green.
IV – cube.
IVa – dark blue.
IVb – opaque green.
26 – opaque green hexagonal-sectioned .
27 – opaque blue diamond-faceted.
28 – blue oblong with round section.
29 – translucent blue heart-shaped.
30 – opaque 'black' flat-sectioned oval.
31 – translucent blue flat-sectioned round.
32 – melon bead.
33 – Exotic 'black'.
I – Annular with white and purple opaque swags.
II – Biconical with opaque white and turquoise trails and a central band of opaque yellow blobs with black centres.
III – Barrel-shaped with opaque red collar and white zig-zags.
34 – Wound.
I - opaque turquoise.
II – opaque turquoise.
35 – 'Black' with green decoration – too fragmentary to allow for identification of type.

Guido Group 5A.
These are annular deep blue beads with white waves. In the original archive typology this was group 1 with two examples (**8715** and **9076**). In the discussion Bliss noted that a third bead had a yellow trail was rather than a white one. Presumably this is **8716**, although it may have been the example of Class 11g discussed below over which there appears to have been some confusion.

Guido Group 6.
This group consists of undecorated annular beads. In the original archive catalogue the beads belonging to this category were Types 3-10, and a total of 18 can be identified in the database (**8718-8733, 9101**).

They consist of four small blue/green beads (Guido 6iib, Bliss 3); two medium greenish gold (Guido 6iiia, Bliss 4), one small example in the same colour (Guido 6iiib; Bliss 5), two medium blue beads (Guido 6iva, Bliss 6) and three of the small blue form (Guido 6ivb Bliss 7); two small opaque sky blue beads (Guido 6vii, Bliss 8), one small opaque brown gold (Guido 6vii, Bliss 8) and two colourless examples (Guido 6x, Bliss 10). There was also one medium example (**9101**) for which there are no details of colour

Guido Group 7.
In the database print-out nos. **8727-98** were assigned to this group of globular monochrome beads, though it may be noted that **8734** and **8785** were originally assigned by Bliss to other forms. Currently there are 62 that can be identified.

In translucent blue/green there is one large (Guido 7i, Bliss 11) and one in the small to medium category (Guido 7ii, Bliss 12). All of the other colours are only represented by small to medium beads (less than 15mm diameter). These consist of seven green beads (Guido 7iii, Bliss 13); 43 blue ones (Guido 7iv, Bliss 15), one opaque sky blue bead and (Guido 7v), two small to medium 'black' (Guido 7viii, Bliss 16).

Guido Class 8.
These are small opaque yellow beads which Bliss originally identified as her Type 19. There are two examples (**8799-8800**).

Guido Class 9.
Bliss did not identify any examples of these large annular beads with two colour cable twist decoration in her original catalogue, though from the drawings it is clear that **8802** is an example of one. It has a purple ground (according to the annotation on the drawing) and was originally assigned to her Type 33 (exotics with a black ground). In the discussion she correctly identifies this as a Class 9 bead. In the discussion she further note that there were three examples but there seems to be conflicting information. In the database print-out **8801** is correctly identified as an example, but the entry for a third fragment originally identified as a bead of Class 9 has been crossed out. It reappears at the end of the listing in a hand-written annotation as a possible bracelet fragment (**9186**).

The piece was drawn and though the drawing is not of high quality and the piece is fragmentary, an identification as a bead of this type would be more likely. The cable clearly goes across the upper face of the bead. In Kilbride-Jones (1938) Type 2 bracelets like **9172** the cable runs around the circumference in the middle of the upper face. There are other forms of glass bracelets where decoration runs across the upper face, but in those cases the decoration is not in the form of a twisted cable. For this reason the piece appears in the database here as a bead of Guido Class 9.

Guido Class 11g.
In her original archive Bliss originally correctly identified **8717** as an example of this form (her Type 20). These are large colourless annular beads with an opaque yellow wave and the illustration clearly notes this colour combination. By the time of the final discussion and database print-out it had been re-assigned to the Guido Group 5 category, but that group does not have examples with colourless grounds.

Roman Group 1 – small segmented beads
In the discussion the sub-type A of this category can be equated with the sub-types I to III of Type 21. In total there are 20 examples (**8803-8807, 8809-12, 8814-5, 8818-25, 8827, 8983**). Seven are green, three appear 'black' and the rest are blue.

Sub-group B are gold-in-glass both segments joined together and single segments. Bliss categorised them as Type 21 IV. There are a total of 45 (**8753, 8828-39, 8841-71, 9190**)

Roman Group 2 – cylindrical beads
Bliss originally categorised according to whether the cylinders were long (Type 22 – 16 examples) or short segments (Type 23 – 10 examples). In the final discussion they were divided according to colour with 2a being blue, 2b green and 2c other colours. In total 46 are recorded (**8872-8880, 8882-915, 8987, 9088, 9100**).

All of the Type 23 cylinder segments were opaque green and in total there appear to have been 16 of this green disc cylindrical type. The longer ones were also made in blue, opaque white and translucent amber.

Roman Group 3 – square-sectioned beads.
The archive discussion assigned these to Type 25. This was the commonest bead type at Wroxeter with 73 examples (**8968-77, 8977, 8979-82, 8984-8, 9014, 9106-7**). The majority were between 4-5mm in length and 3-4mm in section. The majority are blue (53 examples) and 14 are green. There was also an opaque turquoise one (**8982**) and an opaque 'black' example (**8973**).

Roman Group 4 – long polygonal beads.
All but one of the 11 found (**8989-99**) had a hexagonal section and were green. They formed Type 26 in the archive listing. The exception was pentagonal (**8996**) and had a mottled green and white glass and might have been in imitation of an emerald.

Roman Group 6 – small biconical beads.
These were originally described as Type 24A. In total there were 35 examples (**8735, 8947, 9035-43, 9056, 9078**, most of which were blue. There were also six green ones. Other colours are represented by single examples and include brown (**9028**) and translucent yellow (**9025**).

Roman Group 7 – long biconical beads.
Medium and long biconical beads were originally described as Type 24B and C. There are 13 and all but two were blue. The exceptions are opaque turquoise (**9056**) and opaque terracotta (**9078**).

Roman Group 8 - rectangular beads with chevron decoration.
This was not a form originally identified, though six examples (**9044-9**) were eventually found. They are blue short rectangular beads. In five cases the chevron is white and red. The sixth has a yellow and white chevron.

Roman Group 9 – oblong bead with round section.
This was Type 28 in the original archive where three were identified (**9050, 9054, 9057**). In the discussion only one example was noted (**9050**), with the other two being assigned to the following group. All were blue.

Roman Group 10 – Miscellaneous heart and pear-shaped beads, and oval and round beads with flat sections.
This somewhat miscellaneous grouping was originally assigned to Types 29 to 31 and, as has been noted, to Type 28. Of main interest is **9051** (hear-shaped translucent blue) and **9052** a 'black' oval bead with a flat section. **9055** is a blue pear-shaped bead. **9009** originally described as a blue/flat-sectioned round bead had been re-assigned to Roman Type 6 by the time the database print-out was completed.

Roman Group 12 – small gadrooned beads
There was one example in blue glass tentatively assigned to this type (**9058**) though Bliss noted that it might have been a standard blue glass melon bead. The latter, however, are normally much larger than this example.

Roman Group 13 – diamond faceted beads
This was originally identified as Type 27. There are three examples (**9059-61**) made in opaque / translucent dark blue glass.

Roman Group 14 – melon beads
Melon beads were originally Type 32. A total of 16 are recorded **(9062-73, 9087, 9102-4**) but the level of cataloguing does not allow a distinction to be made between those made of frit and those of translucent glass. From the illustrated examples most appear to have been made of frit.

Miscellaneous beads
The discussion notes nine further beads which did not fit into any of the forgoing groupings. One of these appears subsequently to have been identified as jet. **9079** and **9080** were originally assigned to the archive Type 33 which equated with Guido's exotics of the late Roman period (Guido 1978, 101).

9074 is a flat rectangular bead with a pyramidal-shaped upper surface in dark blue translucent glass.

9075 is a globular blue bead with white inlay in horizontal lines. **9076** was noted as being very similar, though originally it had been placed amongst Guido Group 5A.

9077 is a translucent dark blue prism decorated with a white inlaid chevron.

9078 was described as a biconical bead with a prominent medial ridge in bright-red or terracotta paste. Originally it had been placed in Bliss Type 24.

9079 was described a very unusual tubular bead in 'black' glass with a red collar and white scrabble decoration.

9080 was described as a long barrel-shaped bead in 'black' glass though it may be noted that the drawing shows it as long biconical. It was decorated by a central band of yellow/white glass with black centres. From the drawing there appear to be six of these. There are white and turquoise swags between the spots, like swag and eye decoration.

9081 was a globular bead of dark purple glass with four deep and wide segments cut out and possibly once filled with white inlay.

Jet and Shale[4]

Bliss noted that there were 428 jet beads and 24 shale ones. The equivalent numbers as recorded on the database print-out are 422 (**6838-7259**) and 14 (**7271-83**).

The beads were classified by reference to a typology developed from the Wroxeter collection. The principle organising criterion was whether the bead a one longitudinal perforation (Type A) or two transverse perforations (Type B). Within the types they were grouped according to shape. The sub-groups depended on the presence/absence of decoration and further refinements of shape. The type A and B division was the same for both materials initially but the groupings within it were different. By the time the final report was published, the shale beads had been assigned to the same typologies as the jet ones. This involved defining new types in the B category, what these were is undocumented.

Beads which were single examples or unusual were classified as exotics and it was observed that there were frequently no parallels for them. Some beads were cut by hand rather than lathe-turned and the poor quality workmanship sometimes meant that hybrid groups had to be used, see especially Jet Type A3/4. The principle classification was as follows for the jet beads.

Type A - one long perforation
- A1 – Barrel beads
- A2 – Globular beads
- A3 – Diamond-shaped beads
- A4 – Diamond facetted beads
- A5 – Cylinder beads
- A6 – Single disc beads
- A7 – Double disc beads

Type B – Double transverse perforations
- B1 – Loaf beads
- B2 – Semi-circular wedge button beads
- B3 – Cylinder beads

[4] The identifications as jet and shale were made on appearance, the colour, the lustre and the texture.

Type A1 – barrel-shaped beads.
Barrel-shaped beads have convex sides which taper towards each end. The treatment of the shorter end varies from horizontal to acute angled ends. All the beads are perforated longitudinally, most centrally although some are off centre. The decoration of the bead types varies and this forms the basis of the sub-groups.

A1a beads are plain with circular cross-sections. There are 11 examples (**6838-48**).

A1b beads are faceted with the surfaces planed to give a number of flat surfaces. They have polygonal sections including hexagonal, septagonal and octagonal shapes. There are ten examples (**6849-58**).

A1c beads are fluted with alternating longitudinal concave bands and ridges. They can have both circular, sub-square (**6853**) and hexagonal sections (**6852**). There were 39 examples (**6859-96, 7610**).

Type A2 – Globular beads.
Seven beads of this type were recovered (**6897-903**). The beads have an oblate/oval section with a flat top and bottom. One bead is especially flat at the lower and upper surfaces and has a wedge section (**6903**). The size of the bead varies from 13mm (**6902**) to 3mm (**6901**). Five of the beads are plain and two are gadrooned (**6897, 6899**).

Type A3 – Diamond-shaped beads.
Five examples were found (**6904-6908**). They are probably hand-cut from cylindrical beads. Each side has been cut at an angle from the centre to give a diamond-shaped form with medial ridge, albeit very faint, running around the whole bead. The cross sections are commonly square.

Type A4 – Diamond-faceted beads.
Twelve beads are classified on the database as diamond-faceted (**6913-24**). They are produced by chamfering the corners of a cylindrical bead and planning off the faces giving four diamond-shaped faces and eight triangles. All of the Wroxeter examples are rectangular or sub-rectangular in shape.

Four beads are classified as A3/A4 (**6909-12**) as they are too badly made for it to be possible to assign them to either A3 or A4 with certainty.

Type A5 – Cylinder beads with a circular cross-section.
This is the largest group at Wroxeter with a total of 210 recorded on the database (**6925-7134**). They are lathe-turned and there is a large range of variation in decoration, form and size leading to the formation of four sub-groups.

Beads of type A5a are plain beads. There were 14 jet examples (**6925-38**) and one of shale (**7282**). There are some irregularly formed ones such as **6934** which has one flattened side and an off-centre perforation, it may have been hand-cut. Some of the beads have tapering ends (**6937, 6927**) and may have functioned as terminal beads to necklaces. **6938** is a slight variant of the plain cylinder having parallel sides and a faintly incised line in the centre.

The variant A5b is the commonest of the sub-groups with 119 jet examples (**6939-7057**) and one of shale (**7283**). They are decorated with deep transverse grooves and this leads to fragmentation. Some of the beads have parallel sides whilst others taper, usually at one end only but in some cases (e.g. **7011**) at both. **7040** tapers, has a collared end and is only grooved at the ends leaving a central plain area. This bead is probably a terminal bead. The diameters of the cylinders range from 2 to 8.25mm, the majority occurring between 3 and 5mm.

There are 21 beads classified as A5c (**7058-78**) and 56 as A5d (**7079-7134**). A5c is defined as a broken cylinder of only a single disc length, and A5d as a broken cylinder of double disc length. Bliss noted that in a sense these were not real sub-groups as they belong either to broken cylinders (A5b) or to the double disc beads (Type A7). They have been isolated because of this uncertainty and because

their respective lengths occur frequently. The beads may be parts of longer beads which have broken in antiquity and been re-used. The end surfaces show a circular indentation or ridge around the perforation, and all the beads show breakage along the central perforation. It may be that the beads were intentionally broken since the line of breakage is very clean in comparison to the broken surfaces of the broken fragments in A5b. Alternately, if they were produced individually on the lathe, the indentation might result from the attachment of the piece of jet to the lathe.

The beads have parallel sides except for two examples with bevelled edges (**7076-7**). These may be segments of the large segmented beads, type A8a as the diameter of **7076** is 10.25mm. It is also possible that they are the heads of composite pins since their sizes and shapes are similar to those, such as the ones from South Shields (Allason-Jones and Miket 1984, 78 nos. 2.443-6).

Types A6 and 7 – single and double disc beads.
Type A6 is defined as a single disc bead (**7135-40**) and A7 as a double disc bead (**7141-6**). They contrast to those placed in A5c and A5d in that their surfaces are very smooth and flat. The beads appear to be designed to be of their given lengths and may have been produced by cutting sections of the required length from long jet cylinders with transverse grooves and then smoothing and polishing the end surfaces.

The diameter range from 5.25mm to 10mm for single disc beads and from 5 to 11.5mm for the double disc beads. The discs are generally larger than the longer cylinder beads of A5b.

Type A8 – Cylinder beads with segmental divisions and circular sections.
This group is well represented with 58 examples (**7147-7204**). The sub-groups are formed by differently shaped segments and Bliss noted that in some cases the classification of the beads was very subjective. The sub-groups are as follows;-

- A8a – biconical-shaped segments
- A8b – globular-shaped segments
- A8c – barrel-shaped segments
- A8d – sub-rectangular-shaped segments
- A8e – disc-shaped segments
- A8f – corrugated/rilled shaped segments
- A8g – trapezoidal-shaped segments

Some beads have two types of segments. **7203** has a rilled section as well as trapezoidal segments and a collar or sub-rectangular segment. **7204** has a collar and trapezoidal segments and sub-rectangular segments. Both have been classified as trapezoidal segmented.

The cross sections are circular. The beads are probably lathe-turned cylinders with the segments cut and shaped by hand in a few cases. The diameters vary greatly. Those beads with a rilled or corrugated surface (A8f) are commonly very narrow with diameter of only 2-5-3mm. The rest of the beads average 4 – 6mmin diameter. Most of the beads have parallel sides although **7202** (A8g) tapers towards both ends, and possibly this may have been a terminal bead. Two other beads of the same sub-type also have collars and may also have been terminal beads.

Seven beads (**7165-74**, Sub-group A8c) have a fine transverse line between the segments.

Type A Jet Exotics – single perforation
Four of the exotic beads have a single perforation. **7213** is a multi-facetted flower bead. These were designed to articulate closely together as a necklace (see for example the necklace from Colchester – Crummy 1983, 33 nos. 807-9). **7216** is a plain cylindrical bead tapering to one end with oblique grooves giving a continuous spiral pattern. The jet is not of particularly high quality. **7214** is a 'hollow tube' decorated at one end with four collars of disc-shaped segments. The remainder of the

tube is plain. **7211** is most like a 'nut and screw' in appearance. The cylinder is grooved, finely giving fine corrugated segments and has a broad plain collar at one end and near to the end of the other. **7211** and **7214** are probably terminal beads.

Type B1 – Loaf beads
They have a rectangular section with a bevelled upper surface which is commonly decorated. The decoration varies from diamond-shaped facets, 'V'-shaped grooves at the short ends on both long sides giving a slender hour-glass shaped groove, and a series of grooves and ridges in a splayed pattern. In total there are 19 jet examples (**7240-58**) and six of shale (**7270-4**, **7281**)

Three beads form a variant of the type and have been catalogued as exotics as there is only a single example of each. **7210** is rectangular but with deeply cut notches on the upper surface giving a frilled appearance. **7212** has a plain flat surface. Bead **7217** is rectangular with a pyramidal-shaped upper surface.

Type B2 – Semi-circular wedge beads.
It may be noted that this is the form used to make graduated bracelets (see for example Allason-Jones 1996, 27, nos. 26-37) though Bliss did not explicitly note this. There are 22 jet examples (**7218-39**) and a single shale one (**7275**). Seven of these (**7220, 7224-9**, and **7239**) have 'NO' shaped ridges on the upper face. Two other patterns are each represented by three examples: **7230, 7233** and **7236** have lozenge patterns, **7234-5** and **7237** have a pattern of a central notch and bevelled edges. The other patterns tend to be singletons and are noted in the database.

Type B3 – cylinder bead with a circular section.
There is only one example of this (**7259**) and it was regarded as an exotic despite having a type assigned. It has transverse lines at both ends and shows good evidence of lathe manufacture including a central pit where it was attached to the chuck.

Type B4 – circular with dished centre.
This type was only recovered in shale and was represented by three examples (**7276-8**).

Type B5 – sub-rectangular with ring and dot decoration
This type was only recovered in shale and was represented by a single example (**7280**).

Type B – exotics.
Three jet beads form a variant of B1 and have been catalogued as exotics as there is only a single example of each. **7210** is rectangular but with deeply cut notches on the upper surface giving a frilled appearance. **7212** has a plain flat surface. Bead **7217** is rectangular with a pyramidal-shaped upper surface.

Bone

Three beads were recovered; barrel-shaped, waisted cylinder and a collared cylinder (**488-90**). These are normally very rare in bone and Greep (1983, 764) noted only 11 examples.

Metal

The small find appendix (Barker *et al* 1997, 250) notes one gold and three copper alloy beads. The former is **8544**, a slightly barrel-shaped bead with faceted and chamfered corners. The database print-out does not include any entries for copper alloy beads and it is possible these have been given some other name.

Semi-precious stones

The material for these was identified by Hutchinson (1990[5]) but there is little information in the archive about their shapes. **8319-21** were coral beads. The first two barrel-shaped and the third biconical. There is no information about the shape of the fourth. One other fragment of coral (**8233**) and two of amber (**8324-5**) were presumably from other beads. There was one emerald bead of the normal form, i.e. a natural crystal pierced longitudinally (**8326**) and one bead of variscite (**8322**).

[5] See also Hutchinson 1996 which includes colour illustrations of various of the Wroxeter beads. HEMC.

Brooches

There are 187 records of brooches in the database print-out. The archive has a report by Don Mackreth written in 1991 which contains full catalogue entries and a commentary on each group. The introduction sets out a way in which it would be possible to examine the depositional practices to explore what items were residual and what items relate to on-site occupation. A set of tables were proposed comparing the brooch assemblages from the Bushe-Fox, Atkinson, Webster and Barker excavations which would have brought out the collection biases in each. These do not appear to have been constructed.

It has been felt that the publication of Mackreth's corpus of brooches in 2011 has made reproduction of the detailed commentaries here redundant. It had been hoped to annotate the Wroxeter brooches with their numbers in the Mackreth corpus but not all of them can be identified there. In the database the brooches have been divided between bow, plate and penannular brooches in the Type field. The sub-type field divides them into the broad families of brooches (e.g. Colchester Derivative, Headstud etc). If a number is attached to this, for example Crossbow 3-3a this indicates that the brooch was included in Mackreth's 2011 corpus. It is the relevant type numbering there. Mackreth's detailed catalogue entries are provided in the comment section. This information together with the illustrations should allow the reader to explore the assemblage.

The assemblage may be summarised as follows.

Bow brooches

Almgren 101	**2159**
Aucissa	**2170**
Colchester	**2168**
Colchester Derivative	**2154, 2161-3, 2173, 2178, 2181, 2183, 2185, 2208, 2277, 2302, 2304**
Crossbow	**2157, 2184-9, 2206**
Headstud	**2169**
Hod Hill	**2203**
Knee	**2153, 2155-6, 2258, 2171, 2180, 2186, 2204**
Late La Tène	**2167**
Trumpet	**2164, 2176, 2179, 2182, 2184, 2205, 2276, 2281**

Disc brooches

2166, 2175, 2197-2202, 2209, 2251, 2254, 2284, 2292, 2298. 2603

Penannular brooches

Mackreth type 7	**2191, 2295**
Mackreth type 8	**2172, 2174, 2190, 2287, 2297, 6748-9**
Mackreth type f.1a	**2192**
Mackreth type f.2a	**2299**
Mackreth type X.5	**2296**
Unclassified	**2160, 2193-6, 2207, 2221, 2239,2242, 2246, 2267, 2280, 2289, 2291, 2308, 6708**

Finger rings

Metal

The metal finger rings were grouped according to the system presented in Cool 1983. The majority were of copper alloy and in the discussion below that material can be assumed unless otherwise stated. Bliss wrote a report on the non-ferrous finger-rings and occasionally made reference to iron examples. In the database print-out a small number of additional iron rings are listed, and these will be noted at the end of the relevant sections.

Group 1 – Expanding joint rings
One compete example (**2885**) is included in this group though it could be an earring of Allason Jones 1989 Type 3. It is made of slender circular-sectioned wire with tapering ends. This is bent into a ring and an expanding joint is made by overlapping the ends and coiling them around the ring with nine turns. The ring is of Sub-group A because the bezel of the ring is formed by a globular, blue glass bead (Guido Group 7a) threaded onto one of the overlapping strands and secured between the coiled ends. The ring has a diameter of 19.5mm and the glass bead has one of 7mm.

Group II – spiral ring
One ring (**2886**) was cautiously included here as it had an unparalleled form not easily included in Cool's description. The hoop consists of an elongated semi-circular-shaped plate with a rectangular section, which is decorated with a medial groove. The plate tapers to plain oval/circular-sectioned rod terminals. The grooving of the central plate may be made to imitate spirals. The metal appears silvered, or it may be white metal or even silver. It has an internal diameter of 21 x 19mm, and the coil is 12mm deep. The central plate is 8mm wide and the rod terminals measure 3mm in diameter.

Group IV – simple expanded rings with settings.
Six certain and one possible rings in could be assigned to this group.

Sub-group A has a circular outline and three from Wroxeter including one silver example could be included within it. **2892** and **2893** (silver) are complete with slightly oval outlines and both retain intaglios. In the former case it was of green glass with a cantharus design. That in **2893** was cornelian carved with an insect**. 2891** was crushed flat and the setting was missing. The hoops are D-sectioned except for **2891** which was rectangular-sectioned. The shoulders are also D-sectioned and the bezels are oval and have oval shallow depressions for oval settings. **2893** has a flattened area around the setting. All the hoops are undecorated. Where the internal diameters could be measured the both were 17 x 14mm. The bezels are of very different sizes and range from 17 x 7.5mm (**2893**) to 10 x 8mm (**2892**). The database print-out also records **2890** as being a possible example of Group IVA.

Sub-group B is defined as having more massive or slightly angled shoulders. At Wroxeter there were three examples. **2888** is complete and the other two (**2887** and **2889**) are half hoops without their settings. All the hoops are 'D'-sectioned and **2888** has a D- / oval-shaped outline overall. The bezels have a flattened area around the setting. **2888** retains an intaglio consisting of an oval, truncated cone cornelian with a hippocamp swimming head right. The internal diameter of the complete example is 17.5 x 15.5mm. the bezel widths are 12mm in two cases but 16mm in the case of **2889**.

Group XI – key rings.
There are two examples of this group. **2894** is complete and **2895** consists of the wards only. In addition **2882** may belong to the group and is discussed in the uncertain group.

The complete example is characteristic of the members of the Sub-group A except for its penannular hoop. The hoop is rectangular-sectioned and worn with the widest side to the finger. It expands very slightly to a plain rectangular block bezel. At one side of the bezel there is a key for a lever lock which projects back along the finger. The key consists of a cylindrical stem which rises from the left

side of the bezel when the key is viewed from above. The rectangular-sectioned ward forms a Greek key pattern. It is cast in one piece.

2895 has an oval-sectioned hoop and a plain rectangular bezel with a piped stem rising from the left side. The wards are rectangular-sectioned and project from the left side of the stem. They are of equal lengths but not of equal widths.

Group XII – ornamental key rings.
There are three examples of Sub-group A (**2896, 2898-9**) together with a fragment (**2897**) consisting of the ward only.

The hoop sections include rectangular, oval and D-shapes. **2898** is circular-shaped but **2899** is more D-shaped. All have rectangular block bezels although that of **2898** consists only of a thin-sectioned rectangular plate projecting from one side of the hoop and that of **2896** is only a slightly expanded hoop with a small square boss on the centre top surface. Only one ring is decorated (**2899**) which has edge nicks, grooves and marginal lines on two edges only. At the shoulder/bezel junction there are two 'V'-shaped grooves.

The plates rise from the centre of the bezel on a short rectangular-sectioned stalk and are plain. That of **2896** is square with an H-shaped perforation. The plate of **2898** is unusual as it is T-shaped with a T-shaped perforation. The fragment **2897** consists of a thin-sectioned, Greek key pattern, decorated with a central incised line.

The internal diameters are 19mm and 17.5 x 16mm. The plates are of a similar size and measure 12 x 17mm and 11.5 x 17mm.

Group XIII – constricted shoulder rings
There are five examples of this group in copper alloy (**2900-4**). Generally the group shows a wide range of variation and this is reflected at Wroxeter. The sub-groups are dictated by the bezel form.

Four rings belong to Sub-group A which have circular or oval box bezels. Only one, **2900**, is complete though **2903** is almost so but has lost its setting. **2902** has a shallow 'V'-shaped groove between the bezels and the shoulders. **2901** is of similar form, but the constriction is more evident and is represented by a deep and wide chevron-shaped concavity. The shoulder constriction on **2903** is well developed and consists o two opposing 'V'-shaped notches whereas that of **2900** consists of two sets of concavities with a cordon between None of the hoops show additional forms of decoration.

The bezels are also varied. **2901-3** have oval-shaped box settings of different sizes. Those of **2901** and **2902** are fairly shallow and may originally have held an enamel setting. The depression of **2901** still holds a white powdery substance. The setting of **2903** is deeper and probably originally contained a glass setting. **2900** has a deep circular box containing a domed blue glass setting. The internal diameters of the complete examples are 11mm and 15 x 13.5mm.

There is also one example of Sub-group C (**2904**) which has a single small square box bezel for circular settings now missing. The main setting is circular and is filled with a black paste shaped into a bearded mask. The shoulders are only slightly concave but the ring is placed in this sub-group owing to its similarity to an example of that group from Richborough (Bushe-Fox 1949, 128, pl. XXXV no. 104). The ring has an internal diameter of about 17mm.

The database also records one example in Sub-group A (**6710**) and one in Sub-group B (**6711**) made of iron (see Barker *et al* 1997, fig. 306) which are most unusual finds.

A further copper alloy ring, **2927** shows some affinities with rings included in this group but it was considered that the differences were sufficient for it to be placed in the uncertain group.

Group XIV – rings with a sharp change of angle halfway up the hoop (an elbow).
There are two complete examples **2905-6** in this group with **2906** being made in white metal. Both have the sharp break of angle which is characteristic of the group, but the elbow is not further decorated as is sometimes the case. The hoops are D-sectioned and rectangular-sectioned. The shoulders are rectangular-sectioned and widen towards the bezel so as to take a triangular shape and are grooved, thus placing the rings in Sub-group B. **2905** has deep marginal grooves along the long sides leaving a round-topped, triangular-shaped central ridge between the grooves. **2905** has marginal grooves around the sides.

Both have block bezels, which is the type most commonly encountered on Sub-group B rings. The bezel of **2706** is incised, that of **2905** is obscured by corrosion. The blocks are diamond and rectangular shapes respectively In the former case it rises from a rectangular plate which has 'V'-notches cut along its long sides. In the latter case a plate is not so clear but a small sub-square one may exist. Both rings were cast in one piece.

2906 may have been repaired since there is an area of corroded copper alloy in the centre of the hoop. Also the ring may have been unfinished as on one side of the bezel plate there is a rough projection which may represent a casting by-product. The ring is more delicate than **2905** which is more robust. The shoulders of the former measure 3.5mm whereas the those of the latter measure 8.5 x 4mm. The internal diameters measure 19.5 x 11mm and 11.5 x 14mm respectively.

Variants of this type may be represented by **2932-4.** They are discussed in the uncertain group.

Group XVI – rings with scalloped shoulders.
There are two complete examples of this type (**3205-6**), both have intaglios set in box settings and thus belong to Sub-group A. The rings of this group are reminiscent of Group XIII, but here the concavity of the shoulder is exaggerated so that they look scalloped. This is clearly seen in the case of **3205**. In **3206** the feature is not so well developed and the shoulders consist of flat trapezoidal plates decorated with incised lines which are separated from the box bezel by a concave plate with opposed 'V' nicks. The hoop, of flat triangular section, is set at right angles to the shoulders. In contrast to Group XIII there is a break in the angle of the hoop.

3206 has an octagonal box bezel with a blue glass or paste intaglio, and that of **3205** is oval with a similar intaglio.

Group XVII – Facetted rings
Bliss included three rings in this group (**2907-8, 2910**) whilst noting that none were typical of the group as defined. Normally for example rings in this group have eight facets whilst the Wroxeter ones had more, **2910** having twelve. Two are complete, though one of these was broken at a pared top/bottom overlap joint. The third ring was a half hoop. They all have a facetted outline on the exterior and in two cases this is confined to the exterior with the inner face being circular. The rings are of equal width all around the circumference and no one facet is markedly wider than the others. They are rectangular-sectioned.

The outer surface of **2907** is very gently and irregularly faceted. The facets of **2910** are lozenge-shaped and are of uneven widths being formed by opposed scoops cut out along the outer edge. The facets are relatively widely separated from one another and there are two vertical grooves between each facet. **2908** is very probably a re-used bracelet fragment, owing to the decoration on the outer surface. The design consists of a cleft, blocked zig-zag seen on the bracelets of Group XXV. The inner surface is also facetted. The facets are extremely long and are clearly defined.

According to the Cool typology **2907** and **2908** belong to Sub-group A since they have straight-edged facets, **2910** is of sub-group B since it has a curved outline formed by chamfering each corner of each facet.

2909 might possibly belong to this group but is discussed in the uncertain group section.

Group XIX – finger ringed with pronged bezel.
No certain examples were identified in copper alloy though the bezel fragment **2923** is reminiscent of the form. The database print-out records one as being of iron (**6713)** which is a most unusual occurrence.

Group XX – bracelet trinket rings
Bliss noted five examples in this group (**2884, 2911-3, 3208**), though in the database **3208** is merely identified as a ring rather than finger ring. Bliss further noted that one was silver and two complete. In the database print-out none of these are recorded as being of silver. The rings are decorated with designs similar to those on the light bangle family of bracelets and on Type 2 earrings (see respective discussions). The rings are of a uniform width all around the circumference and have rectangular sections. Both of the complete rings are annular, one has a top/bottom overlap joint with one terminal squared and pared and with the other tapered. The remains of solder may still be seen on one surface.

There is a single example of Sub-group A (**2884**) which has ribbed decoration. The ring is distorted and the decoration is very faint.

Three rings (**2911-2, 3208**) belong to sub-group B decorated with a zig-zag pattern. This is created by alternating small 'V'-shaped nicks along the edges. The zig-zag is not regular in the case of ring **2911**. The internal diameter of **2911** is about 14mm.

One ring (**2913**) can be placed in the miscellaneous Sub-group C. The outer surface is roughly decorated with two circumferential grooves with incised transverse lines between thus forming a central band of small rectangular blocks in relief. This decoration is not paralleled by any of the designs seen on the bracelets. The internal diameter is 19mm. It is possible that the ring was not used as a finger ring, though it seems very probable.

Group XXI – plain trinket rings.
One ring is tentatively included here (**2914**) though it is possible that others could have been included which are currently included in the miscellaneous small hoop category. It does show some differences to the type as defined as, instead of having a hoop of constant width around the circumference, it shows a thickening for one half of its circular section, along the straight side of its 'D'-shaped outline. This could be due to wear of a once uniform hoop or could be a deliberate attempt to define a bezel area.

Group XXII – miscellaneous trinket rings
Two rings (**2915-6**) are included in this group. The hoops are of rectangular and D-section shapes. One (**2915**) is penannular with a butt joint, a D-sectioned expanded bezel transverse grooves on the shoulder and can be included in Sub-group A. It has an internal diameter of 21mm which is relatively large. Similar rings are placed by Allason-Jones in her earring Type 2b. No **2916** falls into the more miscellaneous Sub-group B. It has a hoop of Group XXB which expands at one end into a flat, oval plate which bears traces of silvering. The other end is tucked, rather than soldered, underneath the plate bezel. The ring has an internal diameter of about 16mm.

Two iron finger-rings were assigned to this Group, one to Sub-group A (**6709**) and one to Sub-group B (**6714**).

Group XXIII – rings with pyramidal block bezels.
2917 consisting of a bezel and shoulders only is cautiously included in this group. The rectangular bezel has sides that slope out to the top only slightly and is decorated with two diagonal crosses which are side by side and are separated by a single transverse groove, possibly representing the numeral twenty. It is the largest example in the collection being 10.5mm wide and with a bezel measuring 22.5 x 11mm.

Group XXIV – rings with butt-jointed bezels.
Two rings belong here. **2919** is complete and the other **2918** has a slightly broken bezel but it otherwise complete. The rings are penannular and have a D- and a rectangular sectioned hoops. In the case of **2919** the hoop expands abruptly to form triangular shoulders and overlap to give a square bezel plate. In the case of **2918** the expansion is more gradual. The D-sectioned hoop flattens to the bezel which is now represented by only slight expansions at the ends. Both rings possibly show evidence of the presence of a former bezel plate. **2918** may have the remains of solder on the upper surface of one expansion and the upper surfaces of both plates of **2918** have corrosion products which would result from the attachment of a separate plate. The shoulders of **2919** are very well defined triangles which are decorated with three grooves. Those of **2918** are plain.

The hoops themselves are of similar widths and thicknesses but have very differently sized bezels. That of **2918** is 2.25mm in width, whereas that of 2919 is 13mm.

Group XXVI – miscellaneous expanded bezel rings.
Rings of this group only share the feature of a bezel which is much wider than the hoop on either side of it. Two rings (**292, 3169**) are placed in this group since they do not appear to fit the defined groups nor represent obvious variants of them. One ring has a thin circular-sectioned hoop which is penannular and has pointed terminals. The bezel is a narrow rectangular block with a 'granulated' surface of raised dots. It bears the traces of red enamel. The other ring is of the trinket ring type with a flimsy thin hoop and a large rectangular expansion plate on one side to which decoration may have been applied and there may be silvering.

The iron ring **6712** was assigned to this category on the database print-out[6].

Group XXVIII – miscellaneous rings.
One ring is in included in this group (**2921**) and is one of the most elaborate in the collection. The ring is penannular with a top/bottom overlap joint. The hoop and shoulders are 'D'-sectioned and the latter are decorated with transverse grooves and cross-hatches. The bezel/shoulder junction is marked by a shallow scallop or concavity. The bezel is divided into three connected identical areas. Each consists of a square plate with a tiny square box with a circular depression. Whether these were intended to be filled is questionable. The separate areas are made by cutting two sets of opposed semi-circles from the long edges of a rectangular block. The bezel is further decorated by a marginal incised line which denotes the three areas. This ring consist of features which belong to other ring forms: the scalloped shoulders of Group XVI: the three bezel panels with box settings which are vaguely similar to those of Group XIIIC or, alternately, are reminiscent of the three prongs on bezels of rings of Group XIX.

Fragments.
There are six fragments of rings, including three bezels, two shoulder parts and a sixth fragment which, at the time Bliss was writing, was awaiting cleaning. In each case an insufficient amount of the ring remains to be able to place the part into a defined group since the groups may only differ in one respect and share others. Thus, if the differentiating part is missing it is not possible to be certain of the group. However, in the cases of three bezels it is possible to suggest groups by comparison with the group characterisations and with the illustrations by Cool. Thus, bezel **2922** is seen on rings of Group XIIIA; bezel **2923** on rings of Group XIVB and XVIA, and bezel **2926** on rings of Group XVIB. **2924-5** and **2935** also fall into this category.

Uncertain Group
Twelve rings are placed here. They all show some affinity with groups as defined by Cool but a certain attribution was not possible. They are discussed by the group they may be related to

[6] The possibility that it belongs to Group 4 must be high as they were more commonly made in iron. HEMC

?Group IV – **2890** – This plain simple expanded ring may be an example of a Group IV ring, but its small size and flimsy nature question its membership there. This could perhaps best be place in Group XXVI. Only the shoulder and half of the bezel remain and the setting is lost.

? Group XIV or ??IV – **2932-4**. It is possible they represent variants of Group XIVA. **2932-3** are similar with oval flanged rim bezels. The shoulder/bezel junction is marked by a deep chevron shaped groove and the shoulders are triangular-shaped with flanged margins. Below the shoulders there is a marked carination in both cases. **2933** is of particular note since there is an inscription along one edge of the shoulder/bezel area. Unfortunately this could not be deciphered. The rings are large and heavy and both are incomplete. **2934** consists of a rectangular sectioned hoop which expands to a similarly sectioned oval bezel plate which is decorated with marginal grooves along its edges only. There is a central oval box bezel which is quite deep and contains some white-yellow coloured crystals. The ring is oval-shaped overall but with a slight carination below the shoulder.

? Group VII – **2930**. This ring consists of a plain, rectangular-sectioned strip of ? silver or white metal which broadens at the shoulder to form a bezel. Group VII rings are described as simple expanded rings with plain bezels which can be of rectangular section. Although the bezels are usually marked by oval flattened areas, some do lack this detail. It may be noted that few totally plain examples are described in the catalogue and those which are, are far narrower than the Wroxeter ring.

Group XI/XII – **2931.** The ring consists of only the hoop and most of a rectangular block bezel. The bezel is broken at one end, possibly where a key once projected on a bezel stalk. The bezel is marked with deep, irregular short grooves along one long edge. It is suggested that the ring is a key ring since this form is the only one of Cool's forms which has this bezel form. Dr Martin Henig also suggested that **2882**, a complete ring with a small tongue-shaped extension on one side as a bezel, may represent a broken key ring.

?Group XIII – **2927.** The ring consists of the bezel, one shoulder and a little of the hoop. The bezel has a circular box containing a natural green glass setting, set on top of a small oval bezel plate. The D-sectioned hoop widens at the shoulder which is marked by three deep transverse grooves. These could possibly be seen as representing much reduced concavities. The shoulders are not constricted. Members of Group XIIIA do not have bezel plates and those of Sub-group B which do, have very large oval ones. Thus assigning this ring to a group is problematical.

? Group XXII or XIII – **2929**. The ring is missing most of its hoop and its oval setting. The flimsy nature of the ring, which has a very thin section throughout, suggests it may be of the trinket variety. However, the presence of cordons on the shoulders which project beyond the hoop are known on rings included in Group XIII, although these have thicker sections. The bezel is very simple – an oval plate with an extremely shallow depression for a small oval setting.

? Group XVIII – **2909.** This ring may not have functioned as a finger ring owing to its very large size: the internal diameter is 19mm and the section is 7.5 x 4.5mm. The ring perhaps can be seen as a kindred type of the facetted rings. The diamond-shaped facets, in effect, are formed by chamfering the corners of the rectangular ones, although the ring is cast. The facets are well-formed, with slightly smoothed and rounded sides. For some reason, one area is heavily corroded, whether this is connected to its function is not known. It's inner surface is circular.

? Group XXIII – **2883** and **2928**. The slight sizes of these suggests they may be trinket rings. However the fact that the bezel of **2928** may have contained a setting may question this classification. Apart from the missing setting the ring is complete. The ring is rectangular shaped and its upper surface seems corroded, possibly from having something attached to it. The bezel shoulder area is marked by a transverse groove. The ring has an internal diameter of 16mm. The shoulders of **2883** are also decorated with transverse grooves. The bezel consists of a semi-circular flange to which a plate may once have been attached.

A single lead alloy finger ring was also identified (**8289**).

Bone

Four fragments from hoops of small rings were recovered and noted by Bliss. These are probably nos. **483-486**. In the database **561** is also described as one.

Bliss noted that the ones she described may have functioned as finger rings although other possibilities include hair rings and pendants. The rings are plain with either D- or oval-shaped sections. Their internal diameters range from 16mm to 20mm. The regularity of the hoops and their cross sections indicate that they were lathe-turned. Although rings are widely distributed they are not a prolific find and Wroxeter produced a relatively large collection.

Glass

The database print-out lists 16 items described as glass finger rings (**9150-64**, **9187**). Bliss knew of 15 when she wrote her report. She divided them into plain (Type A) and decorated (Type B). There were seven of the former, all with 'D' sections. Three of these had expansions at one point of their hoops to form a bezel (**9150, 9152, 9159 –** Sub-type Ai). There were also three examples where the ring was plain (sub-type Aii). Two of these can now be identified (**9153**, **9163**). The grid and find number identification given for the third does not match any item in the database. It is likely, though, that **9134** is the third example from the illustration. There was also one ring, **9156**, that had a faceted outline (Sub-type Aiii).

The decorated rings of sub-type B had both flat rectangular sections and 'D' sections. They were wider than sub-type A and the hoop tapered. Three (**9155**, **9157-8** – Sub-type Bi) were decorated with oblique grooves. One of these (**9157**) had a plain area that probably represented a bezel. Four had lozenges in high relief arranged in a regular pattern (**9151**, **9154**, **9160-61** – Sub-type Bii). One had a shallow indentation (**9162** – Sub-type Biii).

All of these were described by Bliss as being very dark glass appearing black covered by gold patination. The additional one (**9187**) is described simple as patinated and so may also have been 'black'. The number of these black glass rings from a Roman site is unprecedented.

Jet and Shale[7]

A total of ten finger rings were recovered, seven of jet (**6815-21**) and three of shale (**7305-7307**).

One of the jet rings is complete (**6815**), the rest are fragmentary. They have triangular or 'D'-shaped cross sections. Where measurable the internal diameters range from 15 x 13mm to 21.5mm. Two have faceted exteriors with rounded interiors (**6815, 6821**). The bezels are rectangular and **6815** has shoulders marked by shallow scoops.

Three of the rings have decorated shoulders. **6817** has a motif like the spade on a playing card on its shoulders as well as opposing 'V' notches giving a pinched effect and a chevron-shaped groove. **6820** has notched shoulders and a plain bezel. **6818** is a hoop fragment retaining part of a notched shoulder.

The shale finger rings were all fragmentary. The hoop cross sections are 'D'-shaped and sub-square. **7306** has a slightly expanded long rectangular bezel with a faceted hoop. (**7305**) has an oval, plain,

[7] The identifications as jet and shale were made on appearance, the colour, the lustre and the texture.

raised bezel and most of the hoop is missing. **7307** has a very unusual form. The shoulder consists of two diamond-shaped facets which meet to make a pyramidal bezel.

Plain rings that might have served as finger rings were designated small hoops. These could have served different purposes but it is useful to note them here. In total there were seven small plain hoops of jet (**6822-8**) and four of shale (**7308-7311**). Their internal diameters suggested that they might have been used as finger rings but the lack of a3ny evidence of a bezel meant that this could not be confirmed. It is possible that the fragment **6824** is from the shoulder of a ring as it widens towards the bezel. The cross-sections vary from 'D' to a flatter narrower 'D' to triangular. Some are wide and thick. **6828** has a width of 7.75mm and a thickness of 6.25mm and an internal diameter of only 16mm, and so is unlikely to be a finger ring. It was noted that one of the shale rings too appeared to be too small to be a finger ring.

Gems

Bliss identified eight glass 'gems' (**9142-9**) which would have acted as settings for itms of jewellery. They imitates agnate, jasper and carnelian and including a modern imitation of a sapphire (**9148**). She divided them according to whether they were bichrome (Type A) or monochrome (Type B).

She also identified five imitation gems or counters which were small plano-convex items. She noted that with diameters between 7 and 9mm these appeared to be too small to be glass counters. One of these was **9167** which was catalogue in the database print-out as a miscellaneous items. Bliss stated that this example had been heat affected. It is not possible to identify the others.

Intaglios

Twenty-nine separate intaglios are catalogued as **8290-8318**. The majority are carnelian. Jasper and glass ones are also present. No detailed report has been found in the archive.

Earrings

Bliss completed her report on the earrings in 1987 but was able to use the Allason-Jones typology that was published in 1989. Nineteen can be identified though she noted that in some cases they might have been finger rings.

Type 1 – undecorated penannular ring.
There is one complete example (**2936**). It is of the same form as bracelet group V and finger ring group XXI. The terminals are now overlapping. The width of the wire is irregular and increases slightly at the terminals. The wire is of circular section. The hoop has an internal diameter of 12 x 12.5mm.

Type 2 – penannular ring with decoration on the inner and outer faces.
There are 12 examples of this group and only one is incomplete. There is a lot of variation within the group in respect of hoop shape, wire section shape, the treatment of the terminals and in the decorative scheme. The following sub-groups were present

- 2b – with incised transverse lines at the terminals.
- 2c – with both crenellations and transverse lines at the terminals.
- 2d – with crenellations all round.
- 2e – with incised lines around the face.
- 2f – with incised lines around the inner surface.
- 2g – strip section with chip carving or moulding to give chevron effect.

There are three examples of Type 2b (**2937-9**). Two hoops are circular-shaped and one (**2939**) is oval. All the hoops are open and have one or two pared terminals. Both terminals where present are decorated by transverse lines, though the ends of hoop **2937-8** are undecorated. The hoops of **2937-8** maintain the same width all around the circumference with the terminals expanding very slightly (0.25mm). **2939** is flattened on one side only and this carries the decoration. This earring would have been worn with the decorated side at the front of the ear. The hoops are cast and the inner surface shows a medial ridge. The internal diameters of two hoops are larger than that of Type 1 and measure 17mm (**2937-8**) and 13 x 9mm (**2939**). The wire is of finer section at 1.25-1.5mm.

There is a single example of Type 2c (**2940)**. The hoop is similar to **2937-8** except the terminals overlap one another and show deep crenellations in addition to transverse lines. The present internal diameter is 12 x 13mm.

There is a single example of Type 2d (**2941**) which is now broken. The hoop is oval-shaped and circular-sectioned. The decoration is of a variant form of the crenelated surface and consists of 'rounded'-edged double reels separated by long barrels. There are no extant terminals.

There is a single example of Type 2e (**2942**). The hoop is circular-shaped and circular-sectioned. It is decorated with continuous incised grooves leaving a ribbed surface and it may be silvered. The width of the hoop diminishes towards the butt terminals. It is possible that the hoop was annular at one time since there are no obvious terminals and, when examined under a microscope, the surfaces of the ends appear sheared. If so then the hoop may be part of a Class E penannular brooch (Fowler 1963). The internal diameter is relatively large at 17mm, and the width (2mm) is large.

There are two examples of Type 2f (**2943, 3170**). The hoop is circular-shaped and sub-rectangular-sectioned. Only the inner surface is decorated with transverse grooves. The terminals form a butt joint. The complete example (**2943**) is cast. It has a relatively large section (1.75 x 2.5mm) and a relatively small internal diameter (10.5 x 9.5mm).

There are four examples of Type 2g (**2944-7**) and they maintain the same width around all the circumference. They have flat rectangular sections which are decorated at the edges by alternating notches forming a zig-zag pattern. This varies from a fairly regular pattern to a blocked form where the nicks on alternate sides are almost paired across so that the zig-zag resembles blocks connected by diagonal spines (**2944, 2947**). The earrings are paralleled by bracelet groups XXIV and XXII. **2946** has notches on both sides of the narrow edge and may be a re-used bracelet. Three earrings have extant terminals. Those of **2946** now overlap and are squared. **2947** has a top/bottom overlap joint which has now sprung and may have been an annular ring in antiquity. Examination under a microscope shows the remains of solder on the terminals which supports this and may suggest that the hoop functioned as a finger ring of Group XXB. **2945** has tapering terminals which form a side/side overlap joint. No solder is visible. The internal diameters vary from 14mm (**2944**) to 17mm (**2946**). The section are around 3mm wide apart from that of **2945** which is 1.5mm.

Type 3 – plain ring with overlapping inter-twined terminals, sometimes with a bead threaded through.
There are two examples of this Group (**2948, 3717**). They consist of a length of wire bent into a circle which tapers towards the end. The overlapped terminals are secured by twisting the ends around the hoop to form an expanded joint. The type is paralleled by bracelet Group II and finger ring Group II. The earrings have a circular shape and the terminals are secured by 2½ turns. The internal diameter is 14 x 13. Hoops of this type may have pendants of wire and glass beads suspended from them or glass beads threaded through the joint (cf **2885** catalogued as a finger ring).

When **2948** was examined under a microscope it was found that the wire was formed by folding a strip of copper alloy into a tube. At some places the seam has opened. There is no evidence of distortion of the wire at the terminals, which would be expected if these were undone to open the hoop.

Type 6 – penannular ring made from three strands of wire twisted together
There are three examples of this type, two being complete (**2949-51**). The rings are made by twisting together three strands of circular-sectioned wire. There is only one extant terminal, formed by coiling one of the strands around the hoop. The remaining two strands may have formed a loop or hook as in the bracelets (Group I). No internal diameters were measurable because of the distorted or fragmentary nature.

When Allason-Jones studied this earring assemblage she identified **2568** as being the hook from an earring. Bliss noted it could as easily have been from a necklace fastener and so categorised it as a less specific jewellery element.

Pendants

Copper alloy

Bliss assigned two items to this category. One was a flat-sectioned oval-shaped disc with a perforation at one end (**2629**) The other was half of a small bell (**2397**). There is a loop for suspension cast in one with the dome, and a perforation at the top for the attachment of the clapper. On the inner surface there is solder for the attachment of the lower part of the bell. It is of very small size and was presumably ornamental.

Bone

Six pendants were recovered, five made from teeth (Greep 1983 Type D) and the sixth a rare bone phallus.

Of the Type D pendants, one was a Type D2 (perforated bos incisor – **495**). It has a perforation bored horizontally through the root at the base of the tooth. There were also four examples of Type D4i which are perforated boars' tusks with a single crude perforation. All are broken. Three retain the perforation (**491-2, 494**), the fourth was lost in 1986 but recorded as a very worn piece of tusk (**552**) and so the identification is uncertain.

The phallus pendant falls into Greep's miscellaneous Type E (**493**). It has a perforation through the centre. Bliss stated that another example was recovered at Wroxeter from the Webster excavations though neither of the reports for that excavation publish such an item.

Jet[8]

Four objects were identified as pendants. In the case of **6811** this was because the cross-hatching on the fragment was similar to that on examples from Strood and Vindolanda (Henig 1978, 276-7, pl LV no. 755 and LVI no. 759). In the case of the other three (**6812-4**) means of suspension such as perforations or perforated extensions are present. **6813** is a wedge-shaped plaque perforated at the centre of the back and at the centre of the upper surface. A similar wedge block recorded from earlier excavations at Wroxeter (Bushe-Fox 1913, pl. XL.27) has a perforated cylindrical extension for suspension.

Shell

The small finds appendix in the published report (Barker *et al* 1997, 251) notes under pendant that a perforated cowrie shell came from one baby burial and an unperforated *Turritella* shell in another. There are **8528** and **8530** respectively. The database print-out also recorded **8527** and **8536** as being oyster shells with perforations.

[8] The identifications as jet and shale were made on visual examination.

Necklaces and fine chains

Gold

These were not the subject of a separate report. **8538** and **8540** are elaborate gold hook fasteners and **8543** may be a part of a third. There is also a fragment recorded as gold wire (**8537**) which was presumably from jewellery. **8541**, **8545** and **8547** are recorded variously as strips and sheet fragments. The measurements and appearance (where drawn) of these suggest they are too slight to be part of jewellery items and it is possible that they may have been gold 'thread' from textiles.

Copper alloy

Bliss prepared reports on all of the copper alloy that fell into this category. The fine chains were discussed alongside a report on all of the copper alloy chain fragments but these were divided into fine ones that were from jewellery and more robust ones that had various purposes. For the latter see Section 8 '- Domestic utensils.

Necklace fasteners
Necklace fasteners are represented by hooks, eyes and a complete terminal consisting of two eyes and a hook with a fragment of its chain still attached.

Eight hooks are recorded on the database (**2561, 2566-9, 2584**). Three of the hooks consist of an elongated hook formed by turning out at the end which in the case of **2570** is spiralled to closely resemble a crozier. The other end of the wire is bent into a loop in the same plane as the hook and the free end is coiled around the body of the fastener. **2567**, although only a fragment, is a distorted example of this form and is most similar to **2568.** The hooks are about 23-5mm long.

Three hooks (including **2584** which is still attached to its chain) are made from thick sheet metal and consist of a hook, which is a crozier shape in the case of **2584** but is broken in the other examples, with a gradually expanding bar body which is perforated at the end. The ends of **2584** and **2561** are rounded but left square on **2569** which is totally plain. Both **2561** and **2584** have cut serrated edges for part of the long sides. A double loop lies *in situ* in the perforation of **2561**. The hooks vary in length from 23mm to 32mm and are about 6mm in width.

Two hooks consist of cast expanded bars which are decorated with a line of oblique grooves. **2565** has an elaborate crozier hook with a knob terminal whereas **2566** has a simple curved hook.

Bliss stated there were four eyes, two of which are complete. The database records have three (**2562-4**). There is also an example attached to a chain (**2578**). All are constructed by a similar method using circular-sectioned wire. A double or single loop is made way along the wire. The rest of the wire is then laid back parallel to the straight wire and another double or single loop is formed at its end, and in the same plane as the first loop. The remaining free end is wrapped around the body to entirely encase the two parallel strands. **2562** differs from the others in that the extant loop is open but this may represent a broken example which has been adjusted and reused. The complete eyes measure 14 and 24mm in length and 4mm and 3mm in diameter.

Finer wire chains
There are 16 examples of finer wire chains used in jewellery. These were grouped according to the classification offered by Cool (1983). That identifies two types based on the shape of the link and the method of manufacture. A third group (Group III) was defined based on the material from Wroxeter.

There are nine examples of Group I bar and loop chains. The links in these are a piece of wire formed with each end bent into a loop with the end wrapped around the central straight bar. A bead may be threaded onto the straight bar. Necklaces can be made up entirely of such links (Group IA) or the bar and loop links can alternate with some other form of link.

Eight of the Wroxeter examples belonged to Group IA (**2573-80**). The loops were single in the cases of **2574-5** and **2578-80**, and doubled in the cases of **2573-4** and **2576**. In four cases the central portion retained a glass bead. In the case of **2578** it was a dark blue diamond and triangle faceted rectangular bead. The other three beads were described as rectangular. That on **2573** was green, on **2579** it was green/blue, and on **2580** it was blue.

There was a single example of Group IB (**2581**) where the bar and loop link had a globular blue bead and that link was joined to a short chain made up of interlinking single or double penannular rings (defined Group III here).

There was a single example of a double loop-in-loop chain (Group II – **2582**). Each link is pinched to an oval, bent in half and threaded through the loops of the two previous loops producing a rigid construction of almost square section (3 x 2mm). The chain measured 29mm in length.

There are six members of Group III (**2583-8**). All consist of chains made up of single or double interlinking penannular rings of about 5mm diameter and of circular-section wire. **2586** consists of relatively thick rings (2mm) and unlike the others they are made of a coil of two turns of wire. The links of all the chains are set at right angles to one another. The group also includes a section of chain attached to the only complete necklace terminal found (**2584**). That is a square-sectioned hook which expands and thins to a rounded end which is perforated. The long sides are serrated for part of their length. The eyes consist of links with looped ends and a coiled body of wire.

In addition to the necklace fasteners specifically identified as such, elsewhere in her reports Bliss identified eight loose hooks of fine wire (**2381-8**) and noted that they were of a comparable size and shape to those used as terminals for necklaces, bracelets or earrings. Five are made from flat-sectioned wire which in the case of **2383** thickens to a flat-sectioned possible bracelet. Three are made from round-sectioned wire. It is possible that **2384** is a fragment of a brooch pin.

Buttons and studs

Button and loop fasteners in both copper alloy and bone were included in the personal equipment category of the small find appendix of the published report (Barker *et al* 1997, 251). The category also included other fasteners of bone.

Copper alloy

Two button and loop dress fasteners were recovered. They were categorised according to Wild's (1970) system. **2571** was an example of Wild Type Vc consisting of an undecorated disc head and a triangular loop. **2572** does not correspond exactly to any of Wild's classes . It has a circular head with cast concentric rings which corresponds to the head of Type Va fasteners, but its circular loop shows affinity with Type VIII, as does its smaller size and less robust nature. It is perhaps closest to Type VIIIb, the form with a flat enamelled head, though no enamel was visible in the rings.

Bone

There is also one example of a button and loop fastener in bone (**517**). Following Greep (1983, 135-7) it is a Type 2 fastener made in two pieces. It consist of a lathe-turned flattened disc. The button is missing. The back-plate is four-sided with tapering sides, being narrowest and curved at the top where it is attached to the button by a copper alloy dome-headed rivet (now missing). The Wroxeter piece is unusual in respect to having a circular perforation at the lower end. Usually this is rectangular having been worked out from a drilled hole.

Toggles are typically barrel-shaped with an oval cross-section and a sub-rectangular perforation. Greep divided them into five groups according to the decoration. The example from this excavation (**224**) belongs to the miscellaneous Type 5. It is well decorated with dot-filled pendant triangles. Bliss noted that Greep listed 49 examples in his catalogue, and Wroxeter had produced the largest number from a single site. (Atkinson 1942, pl 62A nos. 1-2; Bushe Fox 1913, pl XI no. 1; 1914, fig. 1.3; 1916, pl XXII.2[9]).

One dumb-bell button (**221**) was recovered. It was sub-rectangular in shape rather than the more normal oval shape and Greep (1983, 476) assigned it to his irregular group of such objects.

Hobnails

Though not mentioned in this category in the small find appendix, the database print-out has 28 records relating to hobnails from shoes (**5383-409, 5425**).

Bootlace ends

See Section 14 - late Saxon and later finds.

[9] see now also Webster 2002, 122 nos. 178-80. The type has also been interpreted as the cheek piece of a bridle (see for example Crummy 1992, 223 no. 202).