Costume in the Early Anglo-Saxon Cemetery at Saltwood, Kent

Part 1 Women’s Costume Accessories

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Part 1: Women’s costume accessories

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Introduction
Brooches, pins and decorative accessories other than beads were recovered from twenty of the Saltwood graves. Although the skeletal remains could not be confirmed as biologically female, it is obvious from cemeteries with better bone preservation that items such as these generally signal the burial of a woman or girl (Stoodley 1999, 24-52, 105-118; Walton Rogers in press). They begin with two heirloom brooches, a button brooch and an early radiate-headed brooch, and then move through representatives of the 6th-century Merovingian four-brooch costume, and on into 7th-century pendant necklaces and a prestigious plated disc brooch. The owners of these accessories probably represent the more affluent members of society, but there are also some less ostentatious articles, such as pins, finger-rings, a bracelet and a lightweight annular brooch. Beads have been discussed separately (Hirst this volume), as have the buckles worn by both sexes (Marzinzik this volume), while the role of the accessories within the changing dress styles of the period has been reviewed alongside the fabrics of the clothing (Walton Rogers Part 2).

Button brooch
The earliest brooch from the cemetery is a worn gilded copper-alloy button brooch, ON 2167 (Fig.1), which was found with a late Kentish square-headed brooch, ON 2133, in a short grave, Western C4643, possibly that of a child. Button brooches are identified by their cast saucer shape and the representation of a man’s face, which, in the Saltwood brooch, has plump cheeks, round eyes, wide nose and notches on the moustache and brow; the man wears a pointed helmet and there are punched triangles around the rim. These features place the brooch in Avent and Evison.

Fig.1: The worn button brooch ON 2167 from Western C4643.
Class Aii (Avent and Evison 1982). It is 20.5 mm diameter and the iron pin is horizontal to the brooch face, as is often the case in these small Kentish examples.

Button brooches are found all over south-east England, and also in northern France at cemeteries with obvious Anglo-Saxon connections. Class A brooches are distinguished by the high quality of their workmanship, although Class Aii has more formalised features than Ai. A single Aii brooch has been recorded at Eastdean, Sussex (B.Ager pers.comm.), and two more in France, at Saint-Martin-de-Fontenay (Calvados) G90 (Pilet 1994, 80, 324; Suzuki in prep) and Frénouville G629 (Avent and Evison 1982, 80, 104-5), but the remaining eight have all been found in Kent, where they were almost certainly made (ibid.; Brugmann forthcoming). A brooch from Stowting G9, Kent, is a close match for the Saltwood example, even in the punched triangles around the rim.

Class A button brooches were originally dated to the second half of the 5th century and the early 6th (Avent and Evison 1982, 99) and many of the graves from which they come prove to be dated to Kentish Phase I (Brugmann forthcoming). The Stowting brooch, however, was in association with square-headed brooches, which are more usually attributed to Kentish Phase II (i.e. after AD 500). The Saltwood example was also found with a square-headed brooch, so that these two probably represent the tail-end of Class Aii button brooches. Most of the gilding of the Saltwood brooch has worn away from long-term use and deposition some way into the early 6th century is therefore likely.

**Radiate-headed brooch**

A worn and damaged radiate-headed Continental bow brooch was recovered from the well-furnished grave of a young adult, Western C3762, *ON 2007* (Fig.2). The brooch originally had five garnet-set knobs around the head, and the foot is parallel-sided with an animal head terminal. The ornament includes cast scrollwork on the head and in the borders of the bow and foot; a raised band with punched ring-and-dot running down the centre of the bow and foot; and blue glass eyes set into the animal head. The brooch has been cast in base silver (50%) and was once gilded, although it is now so worn that the gold is only detectable by analysis (Gilmour this volume). One of the knobs was already missing when it was placed in the grave and only three of the original five garnets are present, while the crown of the bow has obvious signs of heavy wear.
Fig 2: Incomplete radiate-headed brooch ON 2007 from Western C3762.

Radiate-headed brooches first appeared on the Continent in the 5th century, but their main period of production was the early and mid 6th century (Koch 1998). The Saltwood brooch bears all the hallmarks of one of the mainstream Continental products, although it is difficult to categorise it precisely. Within Alexander Koch’s system, it should be placed in Class I.3.1, which has five knobs on the head, a straight-sided foot and an animal-head terminal, while the scrollwork on the head and foot-plate indicates sub-category 5, the Schwarzrheindorf/Maastricht/Müngersdorf type-group (I.3.1.5) (Koch 1998, I 47-9, II find list 3, Map 3, plate 3.7). This is an early group, dated to c. 475-520, with a distribution tightly focused on the Middle Rhineland. They lack the garnet settings, however, and the Saltwood brooch might also be categorised as a plain variant of type I.3.1.4, represented by two less securely dated brooches from France with garnet-set knobs (Koch ibid., II plate 3.5-6). The example from Coizard-Joches, Dép.Marne, in particular has all the elements of the Saltwood brooch, with the addition of niello on the headplate. The design of the Saltwood headplate and knobs also re-appears in straight-foot brooches of Type I.3.3.1, which continue up to c. 540/50, although scrollwork on the foot occurs less frequently in these (ibid., I
52-7, II find lists 4-6, Maps 4-6, plates 5-7). The Saltwood brooch therefore fits most naturally in the earlier part of the radiate-headed brooch sequence.

Some five-knob, straight-foot brooches with scroll-work on the headplate have already been recorded in Kent, as pairs at Finglesham D3 (Chadwick 1958, 14-16, 40-1) and Bifrons grave 29 (Chadwick Hawkes 2000, 22, 26), and singly at Howletts (Smith 1918, 108 and plate 2) (Koch 1998, find list 5, type I.3.3.1.3 var. B). The Howletts brooch also has an animal head on the foot (though without eye-settings) and scrolls on the foot stem. Like the Finglesham pair, it has lantern-shaped knobs without garnets, and several of the lantern-knob series on the Continent have scrollwork down the foot, while others have settings for animal eyes (Kühn 1965, 140-151, Type 11, plates 76-8, plate 77.32-33). Thus, although the Saltwood brooch cannot be classified exactly, it has points of relationship with other radiate-headed brooches entering Kent from the Continent (see also Åberg 1926, 90-3). The Howletts brooch is not securely dated, but the Finglesham pair has parallels in South German Phase 4 (AD 510-530) and the Bifrons brooches have been dated to the second quarter of the 6th century (Brugmann 1999, 41-2).

Radiate-headed brooches are mostly found in pairs, but the Saltwood worn and damaged example was on its own with a keystone disc brooch of Avent’s Type 2.2, dated to the mid to late 6th century (see below). This confirms that it was already old when placed in the grave, although the textile pierced by the pin shows that, despite its battered state, it was still a functioning brooch.

**Square-headed brooches**

A pair of square-headed brooches was found in each of three graves, Western cemetery grave C3747, Eastern cemetery graves W1453 and W1762, and there was a single brooch from Western cemetery grave C4643. Two of the three pairs are typical of Kentish-made, Continental-influenced square-headed brooches, and the singleton from C4643 is a late derivative from the same group. The pair from W1453, on the other hand, belong to the *jütlandisch* design group, although where they were made is open to question. There is no standard classification system for Kentish square-headed brooches, even though Leigh has described them and their relationships (Leigh 1980), but Åberg has illustrated representative examples (Åberg 1926, 74-86, figs 119-146) and his figure numbers are now used as Type numbers (Brugmann 1997, 35-9).
Fig. 3: A pair of square-headed brooches from Western C374.
Left, ON 1977, pure silver, partially gilded; centre ON 1978, base silver, partially gilded and black patination; right, X-ray of ON 1978.
Matched pair from Western cemetery grave C3747

The brooches from C3747, ON 1977 and ON 1978, have the standard elements of the square-headed brooch, namely the rectangular head, lozenge-shaped foot and animal ornament rising from the junction of the bow and foot, to which has been added flat-cut garnets at the corners of the headplate, the centre of the foot and the footplate terminal (Fig.3). Although the two are identical in design, the metal is relatively pure silver in ON 1977 and base silver in ON 1978 (Gilmour this volume). Brian Gilmour is of the opinion that the black surface of the ridges of ON 1978 represents a deliberate patination, and since both brooches are gilded in the channels of the design, ON 1978 will have been visually black on gold, and ON 1977 silver on gold.

The footplate terminal of the pure silver brooch ON 1977 has been broken and lost in antiquity, but any notion that ON 1978 is a base-metal replacement of another broken or lost brooch is contradicted by the impressed gold foils behind the garnets. Each of these foils, used to give added glitter to the garnets, has been stamped with a large ring inside a box. A smaller variant of this pattern has been recorded on a Class 3.1 keystone disc brooch from Dover Buckland G35, which has parallels at Lyminge and Abingdon, Oxfordshire (Avent and Leigh 1977, 26, 28-9), but otherwise ring foils are rare (Arrhenius 1985, 41). The unusual nature of the foils suggests that the two brooches were made in the same workshop at the same time and that the difference in the metals was intentional.

Garnet-set silver square-headed brooches are found throughout the East Kent cemeteries, with outliers in France, and single brooches almost identical with the Saltwood pair have been found at Dover Buckland G417 (Parfitt and Brugmann forthcoming) and Herpes, France (Leigh 1980, catalogue entry for ‘Herpes 1’), while there is a similar pair with extra garnets on the side lobes at Finglesham E2 (Chadwick 1958, 19-20). These brooches are similar in size, 73-79 mm long, with essentially the same Style I ornament. The headplate motif is derived from the ‘beast-men’ or Tiermenschen of Germanic art, which can be traced back to earlier versions in Nydam Style (Haseloff 1981, 111-131) and which recurs in a highly simplified form in the motifs of keystone brooches such as ON 2053 (Fig.4). The ornament at the bow-foot junction is another crouching animal, a common motif in related brooches (Fig.6) (Åberg 1926, Types 125 and 129-131).
Fig. 4: The beast-man motif: (a) on the headplate of a square-headed brooch from Saltwood ON 1977; (b) on a brooch from Buckland G417, sf1021c; (c) on a sword mount from France (after Leigh 1980, fig.23), image reversed for comparison; (d) on a square-headed brooch from Bifrons G63; (e) on a brooch fragment from Hardenberg, Lolland, Denmark (after Haseloff 1981, 121, fig.72/4), image reversed; (f) on a Kentish keystone garnet disc brooch from Saltwood ON 2053.

The six brooches of this group differ only in minor details: the gold foils of the Dover Buckland G417 brooch have a grid pattern where the Saltwood brooches have ring foils (the foils on the other brooches have not been individually identified); and the maker of the Saltwood brooches has replaced the scalloped edge of the Dover Buckland headplate with cast semi-circles within the headplate frame. Both Dover Buckland G417 and Finglesham E2 have been ascribed to Brugmann’s Phase III (530/540-560/570) (Brugmann 1999, 55; Brugmann forthcoming), and the Class 1.1 keystone disc brooch in the Saltwood grave draws comparison with another from the same Finglesham grave.

Matching pair from Grave W1762
The pair of small brooches, ON 296 and ON 302 from grave W1762, are examples of Åberg Type 132, which has vertical bars within the headplate panel, animals in the upper border of the footplate, and a lozenge foot with semicircles on the side lobes and two scrolls on the terminal lobe (Fig. 5). The motif in the footplate border of the Saltwood brooches resembles a long-necked bird, although it is likely that this is a re-interpretation of the dislocated Style I animal which usually appears here (Fig. 6d). The brooches are 54-55 mm long and the metal is debased silver, gilded in select areas of the design. There is a double row of niello around the edge of the outer panel of the headplate and a single row on the framework of the foot.
Fig. 5: A pair of square-headed brooches from grave W1762, (a) ON 296 and (b) ON 302. Åberg Type 132, made from gilded debased silver.
Brooches of Type 132 have been found singly at Howletts GA and Mill Hill G105C (where it was paired with another square-headed brooch) and as a pair at Chatham Lines G18 (Åberg 1926, 80, 200; Brugmann 1997, 38-9, 192; 1999, 56, 58). Examples from outside Kent include single brooches from Herpes in Charente, France, and Barrington, Cambs, and a pair of a related variant from Brighthampton, Oxfordshire (Åberg 1926, 80). Brugmann (1999, 50) puts the Kent examples of Åberg Type 132 in the earlier part of her Phase III, AD 530/40-560/70, and the silver disc brooch ON 301 in Saltwood grave W1762 indicates a corresponding date (see below).

*Fig.6: The crouching animal motif (a) at the bow-foot junction of brooch ON 1978; (b) in the same position on a square-headed brooch from Dover Buckland (1994) sf 1021c, Grave 417; (c) motif on a round-headed relief brooch from Skjervum, Sogn & Fjordane, Norway (after Leigh 1980, fig.21; and (d) the long-necked bird on the bow-foot junction of brooch ON 296 (Saltwood).”

*Square-headed brooch from Grave C4643*

The silver brooch from grave C4643, ON 2133, with gilding in the recessed areas and niello on the head, bow and the dividing rib of the foot, represents Åberg Type 133 (Fig.7). These small brooches, mostly in the region of 50 mm long, have a shallow profile with a short bow. The footplate has the silhouette of a classic square-headed brooch, but the original reasons for the outline shape – the cross or lozenge foot and the animals springing from the bow-foot junction – have disappeared and in their place is a raised band dividing the foot into two panels of dislocated and segmented Style I ornament (Fig.7c). The process that led to this emphasis on the silhouette
and revision of the ornament is already in progress in Åberg Type 131, which has the same outline shape and a version of the crouching animal motif at the bow-foot junction, although it has geometric ornament in the headplate. In the headplate of Type 133 the motif is a variant of the Style I beast-man already seen in the brooches from grave C3747 (Fig. 7b, cf Fig. 4). As David Leigh has shown, there is no simple linear sequence in the designs of these brooches, but a constant cross-pollination of ideas (Leigh 1980).

Fig. 7: (a) The single square-headed brooch from Grave 4643, ON 2133, Åberg Type 133 in gilded silver. (b) The segmented motif of the headplate compared with the motifs on similar brooches (ii) and (iv) from Chessell Down, Isle of Wight (after Leigh 1980, fig. 23). (c) The segmented motif of the footplate compared with (iii) and (v) similar brooches from Chessell Down (after Leigh 1980, fig. 22) and (vi) a beastman from Vrena Sweden (after Haseloff 1981, fig. 72, image reversed for comparison).

The Saltwood brooch appears to be a late development in design and motif and the divided foot is also regarded as a late feature (Leigh 1980, 316). It has been argued that all the Kentish square-headed brooches must have been made in the same workshop, since they share so many motifs and technical features, and because there is no regional grouping in the different types (Leigh
1980, 108-120). Type 133, however, shows a westerly distribution, in a pair from Chatham Lines G6, two pairs and two singletons from Chessell Down (G40, G55 and unprovenanced), Isle of Wight, and a single brooch from Droxford, Hants, to which may be added two from Herpes, France (Åberg 1926, 200; Aldsworth 1979, 143; Arnold 1982). Several of these sites have also yielded Type 131 brooches (ibid.). Whether this indicates manufacture in an offshoot workshop, or that the original workshop was making a late series of brooches for an external market, is impossible to say. There are few dateable grave goods associated with Type 133, although Chessell Down G40 had broadly 6th-century artefacts, including a ‘duck’ brooch and a crystal ball in a silver sling (Arnold 1982, 25-6, 56). Stylistically, however, it seems likely that Type 133 falls towards the end of the square-headed brooch date range, in the latter half of Phase III.

Jütländisch square-headed brooches from grave W1453

The pair of square-headed brooches from Eastern grave W1453, ON 78 and ON 43, illustrate the Germanic love of trompe l’œil (Fig.8; 9b-c). Originally gilded, they have been cast in high relief with images that change as the brooch is turned. The small human face on the headplate disappears between a pair of glaring eyes when upside-down, and the face looking out from behind the terminal roundel can be viewed from either direction. Other motifs include a bearded face at the junction of the foot with the bow, two more in profile on the arches springing from the bow-foot junction, and parts of animals in Salin’s Style I in the lower borders. The framework of the headplate and foot is plain, as are the roundels on the lobes and the central ridge of the bow. The headplate has borders of cut-down circles and the bow displays a variation on bead-and-reel and S-scrolls. Differences between the two brooches are few, although the face by the terminal roundel has a single pair of pellets for the eyes on ON 43, where ON 78 has two pairs of pellets to represent eyes and cheeks.

Both brooches are relatively small, 74-75 mm long, and they have been made from silver alloy, although the contrasting levels of silver and lead in the two suggest they are not cast from the same charge (Gilmour this volume). On the back of both brooches the pin support and the pin clasp have been riveted to cast ribs (Fig.8), which might indicate a repair, although separately made pin fittings are not unusual in this particular metalwork group (Haseloff 1981, I, 144, 154, 158; Evison 1987, 37). The brooches show a significant degree of wear and a stub of metal on the crown of both bows probably marks the point where an ornamental disc will once have been attached.
Fig. 8: The pair of jütländisch Group C brooches from grave W1453, left ON 43 and right ON 78.
These two brooches are members of Haseloff’s *jütländisch* Group C, of which the distinguishing features are a disc or medallion on the bow, roundels on the footplate lobes and cast ornament in the form of face masks and animals in Style I (Fig.9b-e) (Haseloff 1981, I 21-3). The heads in profile on the side arches and the full-face masks on the foot and headplate are particularly diagnostic of Group C. *Jütländisch* brooches and their Jutish-style derivatives have been found in Norway, Denmark, Germany and France, and in Britain in at least ten cemeteries in Kent, with an outlier in Sussex (Haseloff 1981, I 18-51; Leigh 1980; Chadwick Hawkes 1958; Evison 1987, 35-8; Down and Welch 1984; 1990, 95-6; Brugmann 1997, 35-7). Some were made in South Scandinavia and others are almost certainly the work of a Jutish or Jutish-trained master working in East Kent (Leigh 1980, 120; Down and Welch *ibid*).

The Saltwood pair share individual features with the Kentish variants, especially an example from Cop Street, Goldstone, Ash (formerly ascribed to Richborough) (Fig.9d), but their closest correspondence is with a brooch from Tranum Klit, Jutland (Fig.9e). This is also relatively short, 71 mm, and the design includes faces in similar positions to those on the Saltwood brooches, although the Jutland brooch incorporates S-scrolls in the headplate frame, bow and inner panel of the footplate, while two bosses on the headplate stand in the place of the glaring eyes on the Saltwood example (Haseloff 1981, I Fig.29, III Plate 14.2). A larger and more elaborate brooch, 139 mm long, from Donzdorf G78, Kreis Göppingen, Germany, has variants of the same motifs, and both the Donzdorf and Tranum Klit bows have the prominent vertical and crossways ridge seen on the bows of the Saltwood brooches (Haseloff 1981, I Fig.24, III Plate 15). It is obvious from this and other members of Group C that the image in the headplate of the Saltwood brooches represents a development of the well-known ‘mask between two beasts’ motif.

The proportions of the Saltwood brooches are subtly different from those of most other *jütländisch* brooches (Fig.9a). They have a small head, wide bow and a foot that is essentially oval in outline, which takes the over-all design closer to Continental oval-footed bow brooches (Kühn 1965, plates 100-101; Koch 1998, plates 40-44). To achieve the smoother oval profile, the side roundels and the animals in the lower borders have been pared back and the arches at the bow-foot junction have been shortened by re-modelling. It has already been recognised that the Style I motifs transferred from *jütländisch* brooches into the oval-footed series (Haseloff 1981, II 540-644) and the modification of the essentially *jütländisch* shape seen in the Saltwood brooches argues for some reciprocal influence.
Fig. 9: (a) The typical shape of a Continental oval-footed bow brooch, based on an example from Harmignies, Belgium (Koch 1998, II, Plate 40/7); (b) Saltwood brooch ON 43; (c) the foot terminal of ON 78; compared with jütländisch Group C brooches from (d) Cop Street, near Goldstone, Ash, Kent (previously Richborough), and (e) Tranum Klit, Denmark (after Haseloff 1981, fig. 28 and plate 14/2). All to scale.
It is obvious from the quality of the high-relief casting, the deep hollow bow and the freshness and vigour of the motifs that the Saltwood brooches represent Scandinavian metalworking skills, and yet their shape, size and pairing suggest that they were made with a client from the Merovingian sphere in mind. This poses the question, where exactly were they manufactured? They were worn with a pair of Continental quatrefoil brooches and a necklace that incorporates Continental beads, as part of the Merovingian four-brooch costume, Dress Style IV (see Costume and textiles). While none of these features individually is unusual for Kent, in combination with the outline shape of the brooches, they raise the suspicion, might there not have been a Jutish-trained equivalent of the Kentish master at work on the Continent, whose brooches were brought to Kent as part of the woman’s costume? The similarity in motifs between a jütländisch Group B brooch from Engers, Kreis Neuwied, Rheinland-Pfalz, Germany, and another from Finglesham D3, at one stage led E.T. Leeds to suggest that both brooches had been made in the Rhineland. This theory was refuted by several authorities, who argued that the motifs were clearly not part of mainstream Frankish work, and, since their designs and motifs had an influence on later Kentish products, their manufacture in Kent was a preferable solution (Chadwick 1958, 45-57). As Down and Welch (1990, 95) have pointed out, however, no workshop sites have been excavated, and now that it is known that some smiths were itinerant (Hinton 2000, 111-5; Hines 1995, 77; 1997, 22), the question of place of manufacture becomes still more difficult to answer. Nevertheless, the appearance of a new pair of jütländisch brooches will undoubtedly re-open the scholastic debate.

Haseloff places the manufacture of Group C brooches in the period AD 500-520, based on the dating of two graves with large brooches, Donzdorf G78 to the second quarter of the 6th century and Bifrons G41 to the mid 6th (Haseloff 1981, 173). Brugmann allocates the Kent series to her Phases II and III, but she suggests that the smaller variants worn in pairs are likely to be a late development, and places the Jutish-style pairs from Bifrons G64 and Finglesham G203 in Phase III, 530/40-560/70 (Brugmann 1997, 35; 1999, 55-6). Many of the Continental oval-footed bow brooches of comparable outline shape also belong to this phase (Koch 1998, Typentafel 3), and the quatrefoil brooches from the Saltwood grave are unlikely to be earlier than AD c 530 (Koch 2001, 219). The wear on the Saltwood square-headed brooches is no more than is to be expected if the woman had worn them throughout her adult life, and the quatrefoil brooches have seen an equivalent degree of use. All of this suggests that the Saltwood burial belongs to Brugmann’s Phase III and that the brooches were probably made towards the end of the jütländisch Group C period of production.
Bird brooch

The small silver-alloy bird brooch from Eastern grave W1762, ON 327, has a slender shape and a short hooked beak, with Style I ornament on the body; the eye and tail are set with garnets and there is a row of niello around the edge (Fig.10). Small bird brooches of this general type were widespread within the Merovingian world, but the sleek lines of this particular example identify it as a Kentish product. There is a similar brooch from Buckland (1994 excavation) G419, sf 1000, which is silver-gilt (Brugmann forthcoming) (Fig.10), although the Buckland bird faces left and the Saltwood bird right. Right-facing is usually regarded as a Continental fashion and left-facing Kentish, but Brugmann refers to a set of unpublished Kentish bird brooches from Grave 30 at Bekesbourne which are identical in design to the Buckland brooch and which also face right (Brugmann ibid.).

Fig. 10: Brooches from Eastern grave W1762 (left) compared with those from Dover Buckland grave 419 (right). Top left, SLT bird brooch ON 32; top right, bird brooch DB sf 1000; bottom left SLT disc brooch ON 301; bottom right disc brooch DB sf 1001. All to scale.
Kentish bird brooches have been dated on stylistic grounds to Phases II-III, c.500-560/70 (ibid.; Brugmann 1999, 45, 102). They were mostly used as one of the upper two brooches of the ‘four-brooch costume’, which was probably also the function of the Saltwood example.

**Silver disc brooch**

The small silver disc brooch from Eastern grave W1762, ON301, has a central garnet surrounded by a field of cast ornament made up of four trapeziums, each incorporating three triangles, and it is finished with rows of punched triangles (Fig.10 lower left). A brooch of similar size and design, but with gilding and raised chip-carved triangles where the Saltwood brooch has sunken ones, was recorded at Buckland (1994 excavation) G419 sf 1001 (Fig.10 lower right). Brugmann relates the Buckland brooch to a small group of Continental disc brooches with a central setting and a radiating geometric design framed by a flat rim, which are dated by Koch to South German Phases 4-5, AD 510-550 (Brugmann forthcoming; Koch 2001, 74-7, 234). In both Saltwood G40 and Buckland G419 the brooch was worn centre chest in combination with a Kentish bird brooch and the women in the two graves can be regarded as wearing related costume styles (see Costume and textiles).

**Quatrefoil brooches**

A matching pair of small, four-lobed or quatrefoil brooches was recovered from Eastern Grave W1453, ON 105 and ON 119 (Fig 11a). The brooches are cast in the form of an equal-armed cross with roundels between the arms and they are set with five circular garnets, without foil backing, one at the centre of the cross and one at the end of each arm. The alloy from which they have been made includes silver, although copper predominates, and some worn gilding is present in places (Gilmour this volume).

*Fig.11: The pair of quatrefoil brooches from Eastern grave 1453, left ON 105 and right ON 119*
There is an almost identical brooch from Howletts, also set with garnets (Smith 1918, 107-8, plate 2), although whether there were any associated grave goods is not clear from the publication. This is a common brooch type of the Merovingian Continent, where they are found in silver and copper alloy, with and without garnets (Koch 2001, 219-220, 557-8). The Howletts brooch seems to have been a singleton and the Continental examples occur both singly and in pairs, as part of the ‘four-brooch costume’ (Martin 1991, 636). Ursula Koch places them in South German Phase 5, AD 530-555 (Koch ibid. & 75-7).

**Keystone garnet disc brooches**

There are two keystone garnet disc brooches, one a standard type from Western grave C3747, ON 1987, and the other an unusual variety from Western grave C3762, ON 2053. Brooch ON 1987 is an example of Avent’s Class 1.1 (Avent 1975). It is cast in silver with well-defined panels of gilt animal ornament separating three keystone garnets, each on the same grid-pattern foil as the central circular garnet; and there is a double opposing row of niello around the rim (Fig 12).

Brooch ON 2053 is cast from a silver alloy with a high copper content, which gives it its present green appearance (Fig.12), in contrast with the more pure silver of other examples of keystone brooch. It is now heavily corroded, but it has a ring of gold inlay around the central garnet setting,
which is in turn surrounded by a flat circle of green-stained bone, all inside the main ring, which incorporates three keystone garnets separated by animal ornament. The gilded panels of cast ornament are of Avent’s Type 6.2 and this, with the wide beaded rim, place the brooch in Avent’s Class 2.2. Several brooches of Class 2 have white material in the central setting and the green staining in this example is likely to derive from the corroding copper alloy.

Class 1 and 2 keystone brooches came to the fore as the four-brooch costume disappeared in the second half of the 6th century. At Mill Hill they were both introduced in Phase III (530/40-560/570) but they were primarily in use in Phase IV (560/70-580/90) (Brugmann 1997 and forthcoming). It is probable that Class 1 came to an end before Class 2, since both Class 1 and Class 2 brooches were associated with Bead Group A2 (AD 480-580) and A2b (AD 530-580) in Brugmann’s recent survey, but only Class 2 brooches were found with Bead Group B (AD 550-650) (Brugmann 2004, 58). Their function within Kentish costume Style V is uncertain, although they may have been the fastener on a chemise. The gilding on Saltwood ON 2053 shows signs of wear on one quadrant more than the other, perhaps from contact with beads.

**Annular brooch**

The copper-alloy annular brooch from Central cemetery grave C1521, ON 83, has a thin hoop of circular section, poorly cast continuous ribbing and the fragmentary remains of a copper-alloy pin with a distinctive bean-shaped section at the hinge (Fig 13).

![Fig.13: Copper-alloy annular brooch, ON 83.](image)

Annular brooches of this type, with thin hoops and copper-alloy pins, mainly belong to the late 6th and 7th centuries (Drinkall and Foreman 1998, 255; Geake 1997, 52-4). They form a part of Leeds type F, a group which also includes D-section brooches (Leeds 1945, 48), of which there is a thin-hoop example from Bifrons (Conyngham Collection No.94: Chadwick Hawkes 2000, 77).
Such brooches are rare, however, in Kent, the majority being found in the Humberside-Lincolnshire region, with smaller numbers in Yorkshire, East Anglia and the West Midlands (Leeds *ibid.*; Hirst 1985, 56). Contacts between Kent and the Humber basin during the late 6th and early 7th century have already been suggested from other evidence (Hirst *ibid.*) and the Saltwood example is likely to have derived from this interchange.

The lightweight annular brooches of the late 6th and 7th centuries were usually worn as a singleton on the upper chest, in contrast with the earlier annular brooches which were worn in pairs on the shoulders. This particular brooch came from a small grave, probably that of a child, where it was in the region of the waist.

**Plated disc brooch**

Disc brooch *ON 2413* from Central cemetery grave C6421, with its rings of cloisonné ornament and gold filigree, belongs to the general category, ‘plated disc brooches’, although it has a corrugated collar of a type more usually seen in composite disc brooches (Fig 14). It is 47 mm diameter and has been constructed from a gold front plate, to which the cloisonné cells and gold-wire filigree have been attached; a silver backing plate; a gold rim-collar that holds the two plates together; a separately made raised boss which is set into the front plate; and a ring of off-white material around the boss.

*Fig.14: Gold plated disc brooch, set with garnets, blue glass and gold-wire filigree, ON 2413.*
The gold boss has a central square garnet surrounded by four cells, of which two still hold garnets. Outside the ring of white material is a ring of cloisonné incorporating blue glass, garnets, and void cells which may have been intentionally empty. Outside the cloisonné ring lies a double ring of filigree, into which have been set eight individual cloisonné settings of garnets, made up of alternating shapes, essentially squares and triangles with their sides squeezed in. All garnets are set on a grid-pattern gold foil. The two rings of filigree are separated by a beaded wire and the filigree is made up of double coils, mostly facing clockwise, sometimes counter-clockwise. Where the front plate meets the rim, a thick beaded wire covers the join, and the gold collar around the rim has three ribs. On the back, the pin holder and pin hinge have been cast with the silver back plate, but the pin itself is iron. There are patches of wear on the sides at two places opposite each other, their position being at right angles to the line of the pin.

Plated disc brooches developed out of the later forms of keystone garnet disc brooch. Their elaborate cloisonné and filigree work represented a new departure, but most of the plated brooches still had the distinctive beaded and nielloed rim of the keystone brooch. The Saltwood brooch has the corrugated or ‘reeded’ collar of the larger and heavier composite brooch. Composite brooches have a layered construction similar to plated brooches, but are distinguished by a second ring of cloisonné work and often extra bosses (Avent 1975; Pinder 1995; Coatsworth and Pinder 2002). Plated and composite brooches were both comparatively rare – Avent listed 24 plated and 16 composite, as against 144 keystone brooches in his 1975 survey – and each was unique. The Saltwood brooch has most features in common with Avent’s Class 1 and its design is closest to that of a Class 1 brooch from Faversham (Avent No. 147, Plate 50), which has a very similar boss, heart-shaped filigree, and triangles and tri-lobed shapes in the outer cloisonné ring. The diameter is similar, 43 mm, and the cloisonné work is also red and blue. Two further Class 1 brooches from Faversham (Avent No. 145 and 146) are clearly related types.

Plated disc brooches overlap chronologically with the end of the keystone series (Avent 1975, 4), which lies in the late 6th and early 7th century (Brugmann 1997, 39-41; Geake 1997, 33). The Saltwood brooch was accompanied by a garnet and gold pendant necklace, as are the plated disc brooches from Teynham and Chartham Down, and may be ascribed to the 7th century (Geake 1997, 40). At least five plated brooches, including Class 1 examples from Sibertswold-Barfreston and Upchurch-Otterham Creek, were found with amethysts, which suggests that some brooches were still in use after AD 650 (Brugmann 2004, 58, 70-1). This would mean they were contemporary with composite disc brooches, which would explain the corrugated collar around the rim of the Saltwood brooch.
This is clearly a prestige brooch and comes from the best equipped woman’s grave in the cemetery. It may have fastened a lightweight linen mantle (see Costume and Textile).

**Bracelet**
A bracelet, *ON 1194*, was found in the region of the waist in Central cemetery grave C1210 (not illustrated). It is made from sturdy copper-alloy (leaded gunmetal) wire, 2 mm in diameter, and it is the expandable type, where the coiled ends of the wire slide along the shank of the bangle. As recovered, it has a small diameter, approximately 45 mm, and the poorly preserved skeletal remains indicate a child aged 8 to 18.

Bracelets were not especially popular among the Anglo-Saxons, but the simple sliding-wire bangle is the most common type and current from the 5th to the 7th centuries. In Kent there are similar copper-alloy examples from Dover Buckland, G1, G15, G20, G67 and G129 (Evison 1987, 85-6), Mill Hill G62, G73 and G78 (Brugmann 1997, 69), Finglesham G34 and G210 (Chadwick Hawkes and Grainger 2006, 246, 311), Bifrons G29 and G70 (Chadwick Hawkes 2000, 27, 45), Lyminge G27 (Warhurst 1955, 26), and there is a silver example from Dover Buckland G85 (Evison 1987, 85). In the Thames Valley in the 5th and early 6th centuries, bracelets were found almost exclusively with children, and elsewhere they occur more often with children than with adults – although this pattern is less in evidence in the later 6th and 7th centuries (Dickinson 1976, 200; Geake 1997, 55-6; Evison 1987, 85-6).

**Finger Rings**
Fragmentary remains of finger rings were recovered from three children’s graves. One is from the same burial as the bracelet, where it lay in the region of the pelvis (*ON 1195*, grave C1210); the second was found towards one end of the grave of a 7-to-10-year-old (*ON 2248*, Western grave C4726); and the third, not seen by the author, was recovered from Central cemetery grave C1387, *ON 1240*. The hand bones were not preserved in any of these graves, but the objects have the typical size and construction of finger rings. The first, *ON 1195*, is a simple spiral coil of oval-section copper-alloy wire, 16 mm diameter (Fig.15); the second, *ON 2248*, is a plain flat strip of silver with tapering ends, curled into a spiral of about 20 mm diameter; and the third, *ON 1240* (examined by Ian Riddler) is a copper-alloy band with fluted decoration.
Fig.15. Copper-alloy spiral finger ring, ON 1195.

Spiral rings in silver and copper alloy occur throughout Anglo-Saxon England, mostly in 6th-century graves, and they seem to be a solely insular product (Down and Welch 1990, 100; Boyle 1995, 87; Timby 1996, 59; Brugmann 1997, 66; Malim and Hines 1998, 217; Drinkall and Foreman 1998, 273-4). A single example from grave 134 at Castledyke, North Lincolnshire, was originally thought to belong to the early 7th century (Geake 1997, 56), but has since been re-dated to the 6th century (Drinkall and Foreman 1998, 272). Rings of this nature were usually worn by adult women on the left hand. On children they are rare, which suggests that the large, adult-size ring from grave C4726 was placed in the grave as a memento or keepsake.

**Wire necklace rings**

Fragments of silver wire, 1.0-1.5 mm diameter, were found in association with beads in two graves from the Central cemetery, grave W1279, ONs 14, 19, 22 and 26, and grave W3080, ONs 351-354 (not illustrated). Some of the fragments from grave W3080 have finer wire coiled around the shank, a feature typical of 7th-century necklace rings, such as those from Harford Farm, Caistor St Edmund, Norfolk, where the thin tapered end of the wire has been worked into ornamental coils (Penn 2000, 50, Plate XVI). Grave W3080 was probably a double burial, and the position of the rings in relation to other artefacts suggests that they were originally at the neck of one of the bodies. The more extensive remains of wire from grave 1279, representing over 110 mm in length (and there are obviously some pieces missing), were from the region of the upper chest. In this group of fragments there are three tapered ends, but in the absence of any coiling, it seems likely that the wire comes from a simpler form of necklace ring.
Wire rings of different sorts had been used throughout the 6th century, but necklaces incorporating silver rings are mostly dated to the 7th century (Geake 1997, 48; Hawkes 1990). The whole necklace could be made up of rings, or they might be elements within a more elaborate string of beads and pendants (ibid.; Hyslop 1963, 173-5, 179-182, 185-6, 198-9; Penn 2000, 51). The Harford Farm type with extra decorative coils may have its origin in earlier finger rings, but incorporated into necklaces it has been recorded in Grave 11 at Shudy Camps, Cambs (Lethbridge 1936, 4), Grave 39 at Chamberlain’s Barn II, Leighton Buzzard, Bedfordshire (Hyslop ibid., 182), and most notably in five burials at Finglesham Graves 7, 62B, 138, 182, 203 (Chadwick Hawkes and Grainger 2006, 235, 254, 279, 294).

Sliding-knot wire rings in copper-alloy had an earlier and more general use, as suspension loops for a variety of objects. A copper-alloy wire ring from male burial Central C6643, ON 2499 (position not recorded), and another from below the necklace in grave W3080, ON 355, probably belong in this broader category.

**Pins**

Pins were recovered from nine burials, six in the Central, C1138, C1261, W1279, C2401, C6423 and C6516, two in the Western, C4597 and C4684 and one in the Eastern cemetery, W1490 (not illustrated). Some of the graves in the Central cemetery, C1138, C1261, W1279 and C2401 included female-gender accessories, but the remaining burials had no gender-specific grave goods. The iron pins from C1261 (ON 1167), C2401 (ON 1479) and C6516 (ON 2506) and the copper-alloy pin from W1279 (ON 27) are short, under 80 mm long, and this, together with their simple globular and disc heads suggests a late 6th- or 7th-century date (Walton Rogers in press). This would accord with the site phases ascribed to the graves, which are Phases 3b-4 for C1261, 4b-6 for C2401 and C6516 and 5-6 for W1279. A fragment of a copper-alloy pin with a flat, perforated oval head (ON 2428 grave C6423, Phase 5-6), a fragment of thin copper-alloy shank with two zones of encircling grooves (ON 1115 grave C1138, Phase 4-5) and fragments of a thin iron shank (ON 2135/2139 grave 4597, Phase 4) probably belong in the same ‘short’ category. Only two iron pins with a loop or crook head (ON 2163 grave C4684 and ON 270 grave W1490, both Phase 2-3) are over 80 mm long and of the longer Migration Period type.
Pendants and pendant necklaces

Necklaces incorporating glass and gemstone pendants are a feature of high-status women’s graves of the 7th century. There are two examples from Saltwood, one from Western cemetery grave C4699 which includes a large intaglio carved with Christian symbols, and the other from Central cemetery grave C6421. In addition, a child’s grave, Central cemetery grave C6416, has yielded a small blue intaglio mounted as a single pendant and suspended from a leather thong.

Fig.16: Pendants from necklaces: top, domed garnet in silver setting, ON 2177 from grave C4699; middle flat-cut pear-shaped garnet on gold foil in silver setting ON 2430.1 (left), and flat-cut drop-shaped garnet on gold foil in a gold setting ON 2411 (right), both from grave C6421; bottom, front and back of coin pendant ON 2412 also from C6421. All to scale.
The two pendant necklaces

Remains of three pendants were found in the region of the upper chest of the body in grave C4699, along with six beads (Fig.17), two of amethyst, ON 2179-80, and four of glass, ON 2172, 2181, 2181.8, 2182 (Hirst this volume). The arrangement of these nine items in a closed circle implies that the necklace had been placed on the woman’s chest, rather than hung around the neck. The pendants consist of a circular cabochon garnet set in a silver frame with a notched inner edge, ON 2177 (Fig.16); remains of a cabochon garnet, probably originally pear-shaped, with a gold foil backing and a chamfered silver frame, ON 2173; and a large yellowish brown glass intaglio with remains of a silver backing, ON 2174, discussed further below.

![Fig.17. Beads from grave C4699, above, amethyst and, below, glass.](image)

The necklace in grave C6421 lay in a crossways band immediately below the plated disc brooch, in what was probably the region of the upper chest. The pendants are set with flat-cut stones and include a drop-shaped garnet with a gold foil backing, in a gold mount, ON 2411 (Fig.16); a pear-shaped garnet in a silver setting, ON 2430.1 (Fig.16); fragments of garnet and glass and pieces of silver frame, ON 2430.2 and ON 2430.4, representing further pendants; an amethyst bead ON 2430.3; and a gold coin pendant discussed separately below, ON 2412 (Fig.16).

Glass and garnet pendants in a variety of simple shapes, mounted in gold, silver and copper-alloy, are found throughout the area of Anglo-Saxon occupation in graves dated to the 7th century (Geake 1997, 39-40, 211). They are arranged in neatly organised symmetrical necklaces in the larger barrow burials at Desborough, Northants, and Galley Low (Brassington Moor), Derbyshire (Baldwin Brown 1915, IV, Plate 102), and the necklace from the barrow at Roundway Down, Wilts, probably belongs in the same category (Baldwin Brown 1915, III, Plate 81). In cemetery burials, however, they are more likely to appear as oddments strung together in the
manner of a charm bracelet. Garnet pendants resembling those from Saltwood, with and without gold-foil backings, have been found at several other sites in Kent, in five graves at Dover Buckland (Evison 1987, 56-7), four at Barfreston, one at Sibertswold and one at Kingston (Faussett 1856, Plate IV). The most dazzling necklace comes from Sibertswold G172 where there are eight pendants of different types, and there is another from Barfreston G48 which has five pendants. These two last include a pair of amethysts, which are a common feature of pendant necklaces. The small mounds raised over both Sibertswold G172 and Barfreston G48 emphasise the status of the women buried there (Faussett ibid, 131, 143).

The coin pendant from grave C6421
The coin pendant from grave C6421, ON 2412, is a gold solidus minted at Marseilles in the name of the emperor Maurice (AD 582-602) (Richard Abdy, The British Museum, pers.comm.), mounted with a ribbed gold suspension loop (Fig.16). Pierced Roman coins appear in necklaces of the 5th and 6th centuries, but post-Roman coins with ribbed or corrugated suspension loops belong to the later 6th and 7th centuries (Evison 1987, 49-51). Unfortunately, due to pressure of time, it was not possible to analyse the purity of the gold in the loop, which can help date the mounting of the coin (Mortimer and Anheuser 1998, 248-250). The Saltwood solidus has a cross on one face, as do many mounted coins of this period, and it is possible that, like the Virgin Mary intaglio, it was worn as an intentional reference to the Christian faith (Evans 1991, 22-6).

The glass intaglio sf 2174, from grave C4699
The large yellowish brown intaglio from grave C4699 has been engraved with the image of a woman with arms raised in prayer, orans, flanked by a pair of Greek crosses. Remains of a thin silver plate adhering to the back of the gemstone indicate that the intaglio was originally had a silver setting comparable with that of the other pendants from this grave (Fig.18). The figure has been identified as a woman from her costume, which is made up of a full-length gown with a high, wide belt; a pallium sketched in diagonally across the skirt; a veil which covers the back half of the head; and a garment draped across the upper chest with loose ends hanging at the back, which may be a mantle, stole or the lower part of the veil. While venerable men, such as St Procopios in a late 5th-century intaglio (Fig.19) are on rare occasions represented in long robes with a diagonal pallium, the head-veil is only seen on women.
The figure is almost certainly the Virgin Mary, who appears in wall paintings, icons, mosaics, metalwork and textiles of the Early Medieval Mediterranean world, often in the orant posture, as here (Vassilaki 2000). Mary had been venerated since the earliest years of Christianity, but her cult became more firmly established in the latter half of the 5th century, when Greek temples were re-dedicated in her name and shrines were set up in Constantinople (Mango 2000). In most images, Mary has a nimbus (halo), which the Saltwood figure lacks, but there are two 6th-century ivories of Mary with Jesus which demonstrate that the nimbus was not always present (Vassilaki 2000, 26, 29, 266-7).

This belongs to a group of large glass intaglios which can be confidently dated to the late 5th or early 6th century (Spier in press, 93). They have a distinctive shape, being oval with thick convex sides and a flat top, and they are usually yellow or brown and over 20 mm long (the Saltwood example is 26.5 mm). They derive from smaller garnet intaglios of the same shape, which were made towards the end of the 5th century in Constantinople, and which in turn were influenced by Sasanian prototypes (ibid., 85-91). Christian images, including the Virgin Mary orans with a cross or crosses, are well represented in the garnet group. A similar image of a woman with arms raised, flanked by Greek crosses, appears in a smaller gemstone intaglio in a German private collection (Stupperich 1986, 241, Plate 41/5 and 41/6, catalogue no.25), although
in this instance the woman wears the Byzantine pallium across the shoulders and long sash, as illustrated in the mosaics at San Vitale, Ravenna (Fig. 19).

![Fig. 19: (a) The orant figure on intaglio ON2174, compared with: (b) St Procopius in an impression from a haematite stone with the name of the saint on the reverse, 30 mm long (gem at the British Museum, impression in the Beazley Archive https://www.beazley.ox.ac.uk/gems/styles/late-antique/haematites.htm); (c) Virgin Mary on a garnet, 17 mm long, from a private collection (Beazley Archive https://www.beazley.ox.ac.uk/gems/styles/late-antique/garnets.htm); (d) Virgin Mary flanked by two crosses in an impression from a gemstone intaglio, 12 mm long (after Stupperich 1986 plate 41/6).](image-url)

The glass examples come mainly from sources in the Syria-Palestine region, but others have been found in Asia Minor and six have been set in buckles and belt-sets of a type worn in both Gothic and Byzantine milieux (Spier *ibid.*, 93). Jeffrey Spier (pers.comm.) places their manufacture and that of the Saltwood example in Constantinople itself. On the other hand, some of the more crudely cut garnet variants are considered Visigothic copies (Spier *ibid.*, 91) and the heavy brow bone and the headband on the woman in the Saltwood intaglio suggest a Germanic influence: these features re-appear in western work such as the Susanna Crystal, produced in Lorraine in the 9th century (Kornbluth 1995, 31-48, Figs. 1-4, 1-26).

The intaglio is likely to have been re-mounted as a pendant in the 7th century. There are some individual finds of intaglios in 6th-century settings, such as the Germanic finger-ring at Snape, Suffolk (Filmer-Sankey and Pestell 2001, 7-8, 195-8), a square-headed brooch from Alveston, Warwickshire (Henig 1974, I, 196-7), a probable buckle-plate from Lyminge (*ibid.*) and a silver sling from Buckland II (Adams forthcoming), but by the 7th century whole gemstones and their glass imitations, whether intaglio, cameo or plain, were more commonly mounted in pendant settings. Roman intaglios in pendants have been recorded at Harford Farm G33, Norfolk (Penn 2000, 49-51), and St Martin’s Canterbury (Webster and Backhouse 1991, 23-
4), and there is a Byzantine example from Sibertswold G172, Kent (Henig 1974, ii 85, no.634). There is also a Byzantine or Sasanian intaglio in a finger-ring from a 7th-century grave at Alfriston G28, Sussex (ibid. ii, 36, no.231), and a garnet cameo in a pendant setting from Epsom, variously identified as Byzantine (Henig 1974 I, 197, ii, 96, no.734), Sasanian (Arrhenius 1985, 37), or Roman or Byzantine (Webster in Webster and Backhouse 1991, 54).

Pendant necklaces are a late Roman and Byzantine fashion that appeared in Lombard Italy in the second half of the 6th century and spread to Anglo-Saxon England via Francia or Frisia (Care Evans in Webster and Backhouse 1991, 29). The presence of long, pale amethyst beads probably places the necklace from grave C4699 in the third quarter or final half of the 7th century (Brugmann 2004, 40, 63). At this time there was a change in the nature of Byzantine goods reaching north-west Europe, which may mark increased East-West diplomatic activity – activity in which the Church played a vital role (Harris 2003, 71-2, 92-3, 104). There was a boom in monastic foundations, beginning in AD 670 (Blair 2005, 79-100), and in this period Hild was Abbess at Whitby (d.680) and Ethelburga at Barking. Since the 4th century, Mary, because of her virginity, had been a model for cloistered women, and early medieval Lives of female saints regularly draw on her story (Tsironis 2000, 27, 35). The intaglio bearing her image therefore carries many layers of reference, both to women in the early Church and to the diplomatic connections of 7th-century Kent.

The blue glass intaglio from grave C6416
A blue intaglio set in a silver-alloy mount, 17 mm long, ON 2518, was found by the teeth of a juvenile aged 10-12 years in Central grave C6416, phase 5-6. It depicts a figure who stands with his left hand pointing down while his right clasps a short staff. The intaglio has been mounted upside down in relation to the suspension tag, which consists of two metal plates sandwiching a narrow leather strap (Fig.18). The form of suspension and the absence of any associated beads or necklace fittings differentiate this child’s pendant from those found in adult women’s graves.

The intaglio has been examined by Martin Henig who provides the following note.

The intaglio is of soda lime glass, opaque, with a blue upper layer (copper having been analysed as the colorant) on a dark ground, imitating ‘nicolo’, an onyx with the same contrasting colours. Nicolo glass intaglios are often found on British sites but most are moulded. This is cut with a very simple standing figure. This and the uneven layering bring to mind the Alsen gems which are found in Northern Europe and normally dated to the 9th century, though as noted by Henig and MacGregor (1996, 89, pl.x) these were derived from earlier Byzantine prototypes. Although generally not quite as crude as the Saltwood intaglio, the alternatives seem to be to regard this as providing a much earlier beginning for the Alsen gem tradition or to see it as a sub-Byzantine piece, possibly made in Gaul.
Catalogue of costume accessories described in the text
Metallurgical analysis by Brian Gilmour

Eastern Cemetery
Stone Farm Bridleway - ARC SFB99

Grave W1453
Phase 2
ON 43
Gilt silver-alloy **bow brooch** with square head, large bow and openwork oval foot, pair to ON 78. Cast in high relief. Head-plate panel has a human face pointing upwards, with hair arcing out in three rows which each enclose a large eye. Frame has cast half-ring-and-dot motifs. Bow has hollow back and nine ribs, of which one pair is beaded, and a crossways rib. Foot has raised lozenge with a human head at top and bottom, and roundels at side and foot terminals. Animal legs and paws in the lower borders. Single-lug pin-support, possibly cast with brooch; pin absent. Pin-catch is separate copper-alloy plate attached by two rivets to cast rib; catch turned to left (viewed from back with pin-support uppermost). L 74 mm W head 26.5 mm, W bow 14.8 mm. L pin catch 21 mm. Wt 22.8 g. Gilmour: debased silver (42% copper); mercury-gilding in recesses.

ON 78
Gilt silver-alloy cast **bow brooch**, pair to ON 43. Pin-support, possibly single-lug, made as separate attachment; copper-alloy spring and pin intact. Pin-catch riveted to cast rib, as in ON 43; catch turned to left. L 75 mm, W head 26.5 mm, W bow 14.0 mm. Wt 23.8 g. Gilmour: debased silver (21% copper); mercury-gilding in recesses.

ON 105
Copper-alloy cast **quatrefoil brooch**, pair to ON 119. Circular garnet is at centre of an equal-armed cross, with a circular garnet at each terminal; between the arms of the cross are four cast roundels with poorly defined beading. No foil visible behind garnets. Cast single-lug pin-holder; pin catch intact, turned to left; pin represented by iron corrosion. D 26 mm Th 2.4 mm. Wt 7.1 g (heavy corrosion). Gilmour: recycled leaded low-zinc brass alloyed with silver; partial mercury gilding.

ON 119
Copper-alloy cast **quatrefoil brooch**, pair to ON 105. D 26.5 mm Th 2.5 mm. Wt 5.9 g. Gilmour: recycled leaded low-zinc brass alloyed with silver; partial mercury gilding.

Grave W1490
Phase 2 – 3
ON 270
Iron **pin**. Pointed shaft of circular section, top looped over with end bent back on itself. L. >80 mm

Grave W1762
Phase 2
ON 296
Partially gilded, cast copper-alloy Kentish small **square-headed brooch**, pair to ON 302. Gilding over punched decoration (cup and triangle) on headplate frame and lower borders only. Inner panel of headplate has vertical lines surrounded by beading and a double row of niello triangles in outer panel. Bow has prominent ridge. Crouching beasts at shoulders of foot. Foot is lozenge-shaped with beading inside a single row of niello triangles. Half-circles with niello inlay on side-terminals and two scrolls on foot-plate terminal. Wear on crown of bow, headplate and footplate terminal. Cast single-lug pin-support and pin-catch intact, turned to left; copper-alloy spring present, pin absent. L. 55 mm W head 24.7 mm W bow 10.5 mm. Wt 9.2 g. Gilmour: silver alloyed with recycled low-zinc brass; mercury gilding.

ON 301
Silver cast **disc brooch** with central garnet not set on foil. Cast decoration of four trapezoid shapes, each divided into three triangles. Punched row of inward facing triangles around rim and double row along division between
trapeziums. Cast single-lug pin-support and pin-catch; pin-support broken, pin absent. D 21.5 mm, Th 1.4 mm. Wt 2.6 g. Gilmour: high-grade silver.

**ON 302**
Partially gilded, silver-alloy cast Kentish small **square-headed brooch**, pair to **ON 296**. Cast single-lug pin-support and pin-catch intact; catch turned to left; pin represented by iron corrosion.
L 55 mm W head 24.7 mm, W bow 10.8 mm. Wt 8.8 g. Gilmour: silver alloyed with recycled low-zinc brass; mercury gilding.

**ON 327**
Silver-alloy cast **bird brooch**, of slender form with short hooked beak, facing right. Garnets without backing foil for eye (circular) and tail (triangular), both in raised settings. A row of inward-pointing niello triangles around edge.
Cast pin-support and pin catch; catch broken, pin absent. L 36 mm W 15.5 mm Th 1.5 mm. Gilmour: 86% silver.

**ON 378**
Fragments of circular-sectioned silver **wire**. Two fragments with coils of finer wire around shank. L 14 mm W 1.5 mm.

**Central cemetery (west of trackway 226)**
**North of Saltwood Tunnel - ARC SLT98C**

**Grave C1138**
*Phase 4 – 5*  
**ON 1115**
Fragment of copper-alloy **pin**, from area close to tip. Two zones of encircling grooves, circular section. L 27 mm D 2.4 mm. Gilmour: bronze, 85% copper, 10% tin, 2% zinc, 2% lead.

**Grave C1210**
*Phase 3b*  
**ON 1194**
Five fragments of copper-alloy wire **bracelet**. Single wire, ends overlapped for 40 mm and twisted together. D of wire 2 mm. D of bracelet (reconstructed) c..45 mm. Gilmour: leaded gunmetal.

**ON 1195**
Coil of copper-alloy wire, possibly a **finger ring**, in two fragments. Wire has oval section and the coil has two-and-a-half circuits. W of wire 2.0-2.5 mm D of coil 16 mm. Gilmour: gunmetal, probably recycled from bronze and brass together.

**Grave C1261**
*Phase 3b – 4*  
**ON 1167**
Iron **pin** with globular head and straight shaft of circular section tapering to point. L. <80mm.

**Grave C1387**
*Phase 3b – 4*  
**ON 1240**
Copper alloy cast **finger ring**. Overlapping band of rectangular section with five parallel incised lines providing fluted exterior. Gilmour: recycled mixed copper alloys.

**Grave C1521**
*Phase 3b – 4*  
**ON 833**
Copper-alloy cast **annular brooch**. Irregularly made, narrow circular section, rilled on upper surface. Separate fragments of copper-alloy pin (*ON 1458*), originally flattened and looped around brooch ring; pin bean-shaped section. D brooch 35.5-37.0 mm D ring 3.3-3.8 mm Wt 7g. Gilmour: 83% copper, 4% zinc, 12% tin, with traces of lead and silver.

**Grave C2401**  
*Phase 4b – 6*  
*ON 1479*  
Iron pin in three pieces. Globular head. Shaft circular in section, with even taper to point. L. <80mm.

**Grave C6416**  
*Phase 5 – 6*  
*ON 2518*  
Blue glass oval intaglio pendant in a silver-alloy mount, possibly re-worked from a finger ring. The glass is in two shades of blue. The intaglio figure is probably male with right hand holding a short staff and left pointing downwards. Back and frame of mount has been cast in one and the two suspension plates brazed on. Remains of leather strap between plates. L 17.2 mm W.0 11 mm Th 4.3 mm W strap plates 3.5 mm. Wt 1.4 g.

**Grave C6421**  
*Phase 4a*  
*ON 2441*  
Drop-shaped garnet pendant in gold mount. The flat garnet is on an incised cross-hatched foil and stands proud of the frame. Frame is plain and attached to a backing plate with beaded rim. The suspension loop has three lengthways ribs. Irregularly made. L 21 mm (including suspension loop) W 11.6 mm Th 3.7 mm W suspension loop 3.2 mm. Wt 2.5 g. Gilmour: 96% gold, 3% silver, 1% copper.

*ON 2442*  
Gold coin pendant incorporating a Visigothic gold coin. The irregularly made suspension loop has lengthways ribs and is a more yellowish gold than the coin. D 19 mm Th 1.0 mm W suspension loop 4 mm. Wt 3.8 g. Gilmour: coin 99% gold, 1% copper, trace silver.

*ON 2443*  
Gold composite disc brooch on silver backing plate with filigree and cloisonné ornament. The separately made central boss is of gold, with a square central garnet, originally surrounded by trapezoid garnets, of which two survive. All garnets in the brooch are on hatched foil. The central setting is a complete ring of off-white material, probably shell. The central cloisonné ring is made up of garnets and blue glass set in gold, with some empty triangular cloisons, possibly originally empty. The outer ring of filigree has eight extra garnet settings, four triangular alternating with four square, set in gold. Each setting has an empty cloison in the middle. The filigree is made from beaded wire arranged in a double coil, facing left and right in a random fashion. The gold rim is beaded at the upper edge and corrugated on the sides. There is extensive wear on the outer cloisons, especially those at 90˚ to the line of the pin. The pin-support is a single lug cast with the backing plate, as is the pin catch; the pin is iron. D brooch 47 mm D boss 12.4 mm D central setting 19 mm, D cloisonné ring 29 mm Th rim 3.7 mm. Wt 34.2 g. Gilmour: no data.

*ON 2440*  
(1) Pear-shaped garnet pendant in silver mount. The flat garnet is set on a diagonally placed piece of cross-hatched gold foil, in plain silver frame. Separately made rim has inward facing notches; the backing plate is incomplete. The gold suspension loop has lengthways ribs. L 22 mm W 13 mm Th 2.7 mm. Wt 2.0 g.  
(2) Fragments of another garnet pendant. A fragment of flat garnet, wider than that in pendant (1), has remains of gold foil similar to (1) and silver backplate. 13.6 x 11.2 x 3.0 mm.  
(3) Amethyst piece.  
(4) Trapezoid fragment of glass, probably from another pendant, associated with fragments of notched silver (4a-c), probably from the pendant frame. Glass 17 x 17 x 2.7 mm; silver, longest fragment L 11 mm  
Two fragments of silver-alloy sheet, probably backing plate from (4). 7 x 2mm and 6 x 2 mm. Gilmour: no data.
Grave C6423  
*Phase 5 – 6*  
*ON 2428*
Fragment of copper-alloy **pin**, with flat oval head, perforated. L 29.5  D 2.0 W 4.5. Gilmour: no data.

Grave C6516  
*Phase 4a*  
*ON 2506*
Short iron **pin** with globular head and straight shaft of circular section  L. <80mm.

Grave C6643  
*Phase 4*  
*ON 2499*
Copper-alloy wire **ring** in five fragments. Single wire ends overlapped and curled round at ends. D wire 1.0-1.3 mm D ring 16 mm. Gilmour: copper alloy coated with a pewter-like alloy of tin and lead.

Central Cemetery, East of Trackway 226  
Stone Farm Bridleway - ARC SFB99

Grave W1279  
*Phase 5 – 6*  
*ON 14, 19, 22, 26*
Nine fragments of curving silver **wire**. Circular in section with lengthways groove in some pieces. Three pieces have a tapering end with a blunt tip. Total L 110 mm, D 1.0-1.3 mm, tapering to 0.8 mm. Probably necklace rings associated with beads. Gilmour: no data.

*ON 27*
Copper-alloy **pin**. Fragmentary with rounded discoidal head and four lateral bands marking transition to shaft. Most of shaft now missing. L. <80mm. Gilmour: no data.

Grave W3080  
*Phase 5 – 6*  
*ON 351-354*
Fragments of silver **wire** of circular section; two fragments with coils of finer wire around shank. Probably associated with beads. Total L 50-55 mm D 1.3 – 1.5 mm. Gilmour: no data.

Western Cemetery  
North of Saltwood Tunnel - ARC SLT99

Grave C3747  
*Phase 3*  
*ON 1977*
Silver Kentish **square-headed brooch**, pair to alloy brooch *ON 1978*. Foot lozenge-shaped, footplate terminal missing. Cast animal ornament on inner panel of headplate and shoulders of foot; lozenges and semi-circles on headplate frame. A garnet on a circle-in-square impressed foil at both upper corners (square), at centre of foot (lozenge-shaped) and originally on footplate terminal (missing). Single-lug pin-support cast with brooch; pin-catch intact, turned to left; iron pin present. Wear at edges of brooch. L 67 mm (incomplete) W head 32 mm W bow 13 mm Wt 18.9 g. Gilmour: 96% silver, 3% copper, 1% gold; mercury-gilded in recessed areas.
ON 1978
Partially gilded, silver-copper-alloy Kentish square-headed brooch, pair to silver brooch ON 1977. Footplate terminal intact and set with a rectangular garnet on circle-in-square foil. Gilding in headplate panel and outer borders of footplate. Punched triangles around headplate. Single-lug pin-support and pin-catch cast with brooch; remains of a copper-alloy wire spring present, but pin absent. Wear at edges of brooch. L 73 mm W head 31 mm W bow Wt 20.9 g. 12 mm. Gilmour: 55% silver, 41% copper, 3% gold, trace lead; mercury-gilded in recessed areas.

ON 1977
Silver gilt cast Kentish disc brooch, Avent Class 1.1. Flat central garnet in frame (Avent central setting 1.1) and three keystone garnets (Avent 1) separated by cast ornament of Avent type 1.1. All garnets on simple hatched foil. Rim has a double band of niello triangles band. Gilding worn. Pin-support and catch cast with brooch; catch broken. D 23 mm Th 1.6 mm. Wt 4.5 g. Gilmour: slightly debased silver; mercury gilded.

Grave C3762
Phase 3
ON 2007
Base silver cast radiate-headed brooch, with parallel-sided foot. Five knobs, one incomplete (broken in antiquity), three set with a flat garnet and fourth with garnet absent. Plain foils behind all garnets. Animal head on foot terminal has two blue glass eyes. Cast ornament of scrolls on head and foot of brooch. Punched ring and dot on central rib. Bow worn. Double-lug pin-support and pin catch cast with brooch; catch (L.14 mm) turned to left; pin represented by iron corrosion. L 87 W head 50 mm W foot 14 mm. Wt 18.1 g. Gilmour: 50% silver, 38% copper, 5% zinc, 5% lead, trace tin; mercury gilding in recessed areas.

ON 2015
Curving fragment of silver wire, oval section. A band of organic material 2 mm wide wraps around it. L 17 mm W 1.4 mm Gilmour: no data.

ON 2053
Base silver cast Kentish disc brooch, Avent Class 2.2. Flat central garnet in gold frame surrounded by bone in gilt case (Avent central setting 1.2). Three keystone garnets (Avent 1) separated by cast ornament of Avent type 6.2. Inner rim plain band edged with beading (Avent 1 and 3), outer rim beaded (Avent 3). Cast pin-holder and pin catch present but heavily corroded; pin represented by iron corrosion. D 30.5 mm Th 3.3 mm. Wt. 13.8 g. Gilmour: 48% silver, 48% copper, 3% zinc, traces tin and lead; mercury gilding in recessed areas.

Grave C4597
Phase 4
ON 2135 and ON 2139
Three fragments of iron pin, head missing. Circular cross-section. L >45 mm D 3 mm.

Grave C4643
Phase 2
ON 2133
Silver cast Kentish small square-headed brooch. Shallow bow with prominent ridge; angular foot with flared footplate. Poorly cast, relief on foot unclear. Animal ornament on inner panel of headplate. Remains of niello, two inward-facing rows of triangles, on outer panel and frame. Single-lug pin-support cast with brooch; pin-catch broken, pin absent. L 50 mm W head 18.7 mm W bow 9.5 mm. Wt 6.9 g. Gilmour: good quality silver, probably alloyed with some recycled brass; mercury gilded.

ON 2167
Gilt copper-alloy sheet-metal button brooch, Avent Class Aii. Gilding on face mostly worn away. Wide border with punched triangles. Face plump-cheeked, helmet pointed, eyes round, nose wide, moustache horizontal, notches on moustache and above brows. Cast single-post pin-holder present, catch missing. Iron pin missing apart from spring, direction of pin 90˚. Flange slopes 80˚ from horizontal. D 20.5 mm H of flange 2.3 mm Wt 2.4 g. Gilmour: gunmetal with some (2%) silver.
Grave C4684
Phase 2 – 3
ON 2163
Fragments of a long iron pin of circular section with oval looped head. Middle section absent.

Grave C4699
Phase 5 – 6
ON 2173
Fragments of a garnet pendant in silver mount, incomplete. The fragment of garnet has remains of hatched gold foil backing. The fragments of silver frame have a bevelled edge. Garnet 10 x 8 x 2.5 mm. Longest piece of silver frame, 13 mm x 1.6 mm. Wt main fragment 0.5 g. Gilmour: no data.

ON 2174
Oval brownish yellow intaglio with remains of silver sheet backing, probably from a pendant. The intaglio depicts a female figure with arms raised (‘orans’) wearing full-length gown, vitta, veil and stole, flanked by two squared-terminal crosses. L 26.5 mm W 20.7 mm Th 7.2 mm. Wt 6.9 g. Gilmour: no data.

ON 2177
Circular garnet pendant in silver mount. The stone has domed face and concave back. The mount has a plain backing, also concave, and frame. Rim with inward-facing notches probably separately applied. D 19.5 mm Th 5.9 mm D stone 14 mm. 3.3 g. Gilmour: no data.

Grave C4726
Phase 2
ON 2248
Fragments of a silver ring, probably a coiled finger ring. Flat section, tapering at ends. D (reconstructed) 20 mm W 4.7 mm tapering to 2.5 mm Th 0.6 mm. Some fragments show wear on outside.