

handle with it by as much as 20 degrees, although usually by much less, while the lower attachment at the uncollared belly remains stable. The handle may become detached at the top join, the point of greatest strain, and may crack on the lower one, usually on the right. Sometimes the top join will stay with the pot but pull the rim out-of-round. The simplest solution is to place the top handle join slightly to the right so it straightens out after twisting, although this assumes that the plasticity of the handle is maintained in drying and that the bonding attachments between handle and body will survive the movement.

The *luted handle attachment* is particularly sensitive to differences in the drying state of handle and body, and is at a disadvantage in providing handle junctions which can be relied upon to resist the stresses of drying and shrinking characteristic of natural clays. Luted top attachments are rarely found on heavily collared medieval vessels, probably because of their vulnerability to the movement involved.

To overcome these problems, the join is often made by disrupting the wall of the pot to secure the handle. This technique encompasses the large and varying class of *pegged handle attachments* (Pearce 1984 gives a well-illustrated account of pegged handle attachments on medieval pottery in the London area). One virtue of the pegged handle is its ability to provide a reliable join by reducing the danger of a collared twisting movement. The junction is stabilised by a mechanical structure, not unlike joinery, which also makes use of the bonding properties of clay. The peg, with its rivet-like action, maintains a firm contact between handle and body during drying. This allows a continuous exchange of moisture between them, which makes differences in the drying state of body and handle much less critical than they otherwise would be. The clay fillets on the upper and lower joins of a handle have a similar function. Although they add little to the intrinsic strength of a join, they are invaluable as a way of enlarging the area of contact between handle and body to facilitate moisture exchange during the drying period.

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FOUR ZOOMORPHIC ROOF FINIALS FROM WORCESTERSHIRE

Introduction

In March 1999, excavations at Worcester Road, Droitwich (NGR SO 901633; Bretherton *et al.* forthcoming) recovered four pieces of zoomorphic roof finial from the lower fill of a cesspit. Associated pottery and flat roof tile provided a secure *terminus post quem* of the late 13th to 14th century for the upper and lower fills of the pit and their contents. The site is located on parts of two medieval burgrave plots, which have changed little in layout since the medieval period. The finial is likely to have come from a dwelling in

close vicinity to these plots, but there was no firm evidence for such a building within the excavated area. The artefact assemblage and associated features indicated use of the site from the Roman period onwards. Prior to excavation, the land was being used as a small car park and is to be developed as sheltered accommodation in the near future. The discovery of these roof finial fragments prompted further investigation into comparable finds from the area and the status of the buildings commonly associated with this type of finial.

The occurrence of zoomorphic roof finials in Worcestershire and the surrounding region was extensively researched by the late Gerald Dunning during the 1960s. However, all reports relating to these finds were published in regional journals, which are not easily accessible to a wider audience. This class of finds has also been more widely considered by Moorhouse (1988) and Wood (1965). This paper is an attempt to improve the availability of information alongside more recent finds, concentrating particularly on those from within Worcestershire, but with the intention also of forming a more extensive survey of similar objects from the surrounding region.

The Droitwich finial

Of the four pieces of finial found in Droitwich, the two most substantial are in the form of a human and a horse's head made of Worcester-type fabric (Fig. 1, No. 1; Hurst and Rees 1992, 207). Both are crudely modelled with an uneven, reduced, green-coloured glaze, which has blistered in places and has a yellowish appearance where reduction is incomplete. The horse in particular has large areas of oxidation. Neither piece is particularly detailed or realistic in appearance, but both have a distinctive style. It is apparent that the two heads were originally part of a horse and rider finial as indicated not only by their appearance, but also, more significantly, by the presence of crudely modelled fingers holding onto the reins of the horse. Similar examples have been found on various sites, both in Britain and on the Continent (Dunning 1974).

The horse appears to have been made in several parts. Impressions on the inside of the neck show that it was wheel-thrown separately to the solid head. More complete examples of this finial type, such as that found in Bedford (*ibid.*), suggest that the body of the horse would also have been formed separately in the same way. Weakness caused by the joining of these parts may account for the head having become detached at the base of the neck in the Droitwich example. The extent of glaze around this break indicates that the join was just 2 mm thick in places, with the thick, applied reins positioned to mask any resulting scars.

A small area of glaze inside the neck appears to have run when applied, suggesting the presence of a hole somewhere on the body through which this could pass. Similar holes have been noted in other horse and rider finials, the best example being from Bedfordshire, with four holes measuring between 12.5 and 20 mm in diameter. It is assumed that these were cut to allow the escape of steam from the body during firing (Dunning 1974, 112).

The horse's head has applied ears and mane. The eyes are essentially 'pinches' of clay from the head itself, giving the impression of large eyebrows, with stamped, double concentric rings for detail. There is a deep groove at the end of the muzzle, presumably intended to represent a mouth. The mane is applied in two separate pieces above and below the reins and stands vertically away from the head and neck in the style of a 'hogged mane', rather than falling to one side. The applied reins are very thick and it is unclear whether they are intended to represent a bunch of

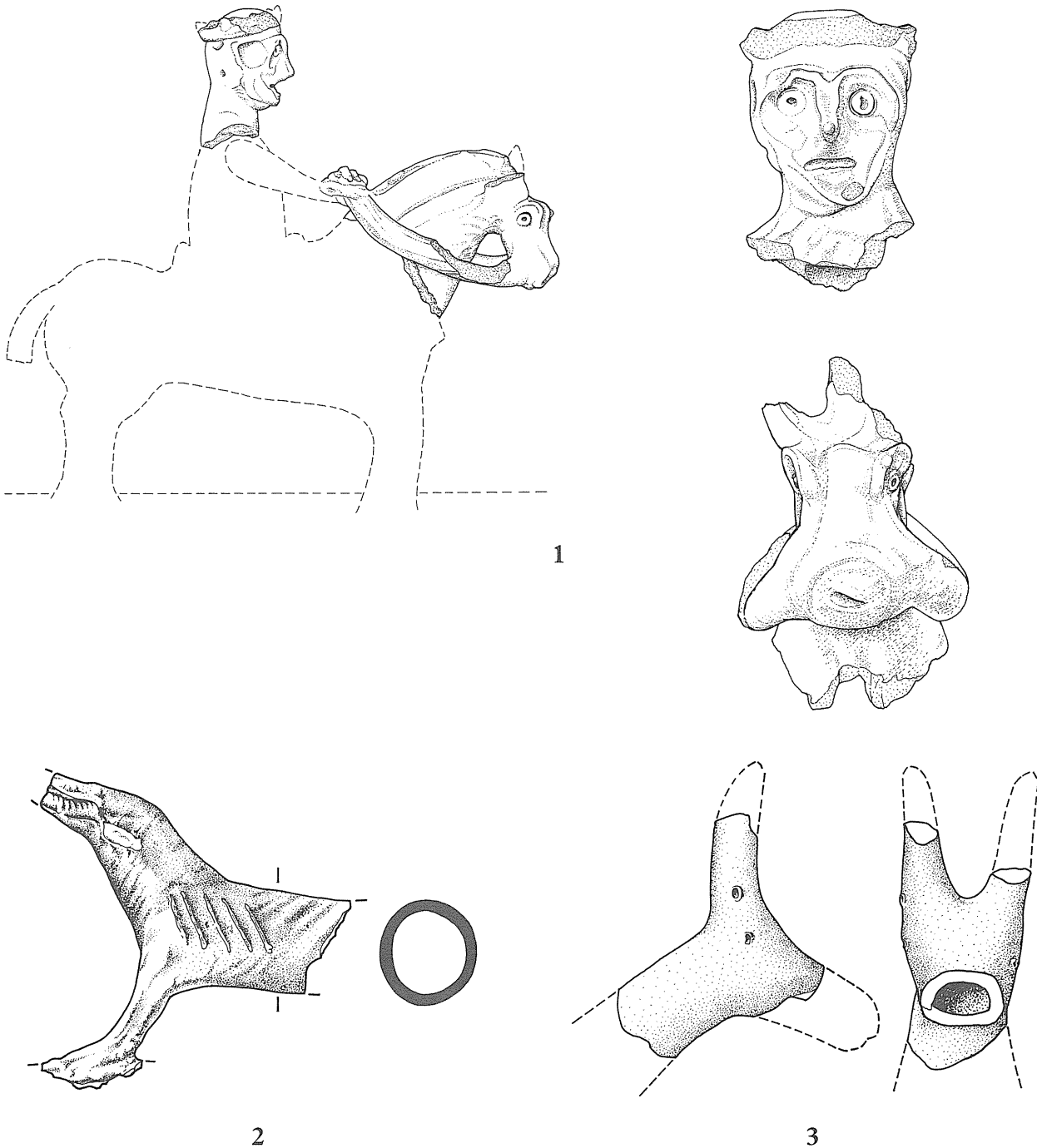


Fig. 1. No. 1, finial from Worcester Road, Droitwich (drawn by C. Hunt); No. 2, finial from Lich Street, Worcester (drawn by S. Rigby, after Dunning 1968a); No. 3, unprovenanced finial from Worcester (drawn by S. Rigby, after Dunning 1968a). Scale 1:4 (No. 1 right 1:2).

many reins, a single wide rein or merely to cover the body-neck join as mentioned above. The closest parallel for this horse has been recovered in London (Pearce *et al.* 1985, fig. 79, no. 443). This example is similar in appearance, with the same thick reins, and dates between the 12th and mid 14th centuries.

The human head is masculine in appearance. It is also solid and bears many similarities in construction to the horse, although the fabric is almost entirely reduced. The eyes have been fashioned in the same manner, although

they are not so pronounced. The nose has been formed from the face and again the mouth is represented by a single deep groove, with little care taken over the exact positioning. The ears are merely two finger-indentations, one on either side of the head. The neck has been formed around an internal column of clay and it is probable that this was used as a dowel to attach the head to the body, which may indicate that the body was hollow, as in the case of the horse. Other examples of joints for attaching heads to finials include a small plug of lead found within the neck of a

similar figure from London (*ibid.*, 50; fig. 79, no. 444). This plug bears the impression of a nail, which appears to have been inserted into the body thereby joining the two pieces. A type of head-dress is applied to the head. Most of this has broken away, but what remains appears to represent a crown, which would suggest that the finial was intended to represent the reigning monarch.

Comparable finials from Worcester

To date, three zoomorphic roof finials have been identified in Worcester, two of which have been published by Dunning (1968a). The remaining object has not previously been published; all are currently held at Worcester City Museum.

The first of these finials (Fig. 1, No. 2) was found during excavations in Lich Street, a main thoroughfare of medieval Worcester (*ibid.*, 51). It takes the form of the front quarters and body of a hunting dog with bared teeth and an aggressive stance, which Dunning surmised was in the 'attitude of attacking another animal'. He went on to suggest that there may originally have been the figure of a stag brought at bay on the adjoining tile. The finial bears many similarities to that found in Droitwich, both in fabric and general production techniques. Once more the fabric can be identified as Worcester-type ware, with some oxidation of the surfaces and a dark green glaze. In addition, the body is hollow and decorated with a combination of applied parts and incised markings. The figure would have been placed lengthways along the ridge tile, part of which is still attached to the feet, and would have stood 184 mm high. Dunning estimated that the total length would have been approximately 300 mm, therefore occupying most of the tile to which it was attached.

The head of a similar dog (not illustrated) was retrieved from the site of the Duke of Wellington Inn, Deansway c. 1970, although no records survive relating to the find (T. Bridges pers. comm.). The piece is in poor condition with much of the face and one ear missing. However, the top of the head and surviving ear are sufficient to identify it as a dog very similar in form to that recovered from Lich Street. The fabric is the same as that described above but with a higher proportion of incomplete reduction, giving the glaze a more streaked appearance. The main difference between the two pieces can be seen in the level of detail of the features, with that from Lich Street being far more finely executed. The head from Deansway is carelessly decorated with eyes formed by a pointed tool pushed into the clay above the muzzle, and the mouth merely a thumb-nail impression. In contrast, the eyes on the piece from Lich Street are positioned carefully and although formed by thumb-nail impressions, give the appearance of the narrowed eyes associated with an aggressive, growling dog. Furthermore, the mouth is incised on the muzzle with individual teeth easily identifiable.

The third example (Fig. 1, No. 3) is of unknown provenance within the city, described only as having come from 'disturbed soil' (Dunning 1968a, 52). The finial is of the same fabric as above, but highly inferior in terms of modelling and decoration, with no features and a poorly applied, streaky, green glaze. Comparison with other examples, such as one from Southampton (Dunning 1975, 192 and fig. 214.1404), suggests the form represents the head of a stag with two antlers that curve forwards. The finial is broken at the neck and the snout is incomplete with no indication of a mouth. This head is too big to have been attached to a body, as in the above examples, and Dunning was also unable to identify a way in which it could have been successfully attached to a ridge tile. Instead, he suggested that it was more likely to have projected obliquely

from the side of something larger, such as a globular extension which itself was attached to the ridge tile, as seen in parallels from France (Dunning 1968a, 52).

Comparable finds from the surrounding area

Within the West Midlands region as a whole, further zoomorphic finials of 13th- to 14th-century date have been identified. The most complete example is that excavated from Weoley Castle, Birmingham. Again, this finial is published by Dunning (1962) and can be seen to share many characteristics with all those described above. It takes the unusual form of a sheep or goat with human arms and hands, which lie flat on top of the muzzle, as if shading the eyes. The fingers of the hands are indicated by incised lines in a similar fashion to those holding the reins of the Droitwich finial, and in common with the dog's head from Deansway, the eyes have been formed using a pointed object, with the mouth a deep incision. As in the case of the stag from Worcester, this figure appears too large to have been joined to a body before attachment to a ridge tile and is likely to have been displayed by the same method (described above).

The publication of the finds assemblage from Sydenhams Moat, a moated manor house in Warwickshire dating to the 13th century, includes the head of a man (Smith 1991, fig. 17, no. 11). The figure is bearded and appears to have a crown at the front of the head. The eyes are applied and pierced and the nostrils pierced but badly positioned beneath a nose moulded from the face. As in the case of the head from Droitwich, this piece has become detached at the base of the neck where it may have been joined onto a body. The description within the finds report for Sydenhams Moat speculates whether the head may be a knob from a chafing dish, a candlestick or part of a roof finial. The similarities in appearance and size between this figure, the rider from Droitwich and the example from London would suggest that it is indeed part of a roof finial.

The final published example from Warwickshire takes the form of a bird of prey, found in 1953 at another moated manor house called Whichford Castle (Dunning 1968b, 218). The face of this finial is detailed with a straight, pointed beak and deep hollows for eyes. The wings are folded and the legs are slightly apart, with incised feathers covering the feet and toes. The figure is approximately 205 mm long and 100 mm high, and stands facing across the tile rather than down its length as seen in the rest of the examples; it appears to have been attached by dowels from the feet which would have fitted into holes in the ridge tile. The finial can be dated to the late 13th century and was identified by Dunning (*ibid.*, 219) as either an eagle or hawk on the basis of the features represented, including the 'forward-looking eyes' and the feathering on the legs.

The combination of wheel-throwing and high quality sculpting in the construction of the above objects would suggest that the finials were made by skilled potters rather than the tilers who produced the ridge tiles on which they stood.

Buildings associated with roof finials

Zoomorphic finials from rural areas in the West Midlands are almost exclusively associated with high-status moated buildings indicative of wealth. Based on these examples, it seems likely that finials from urban contexts within the city of Worcester and the important medieval industrial town of Droitwich would have come from buildings of equivalent status. A lack of records for two of the finials from Worcester

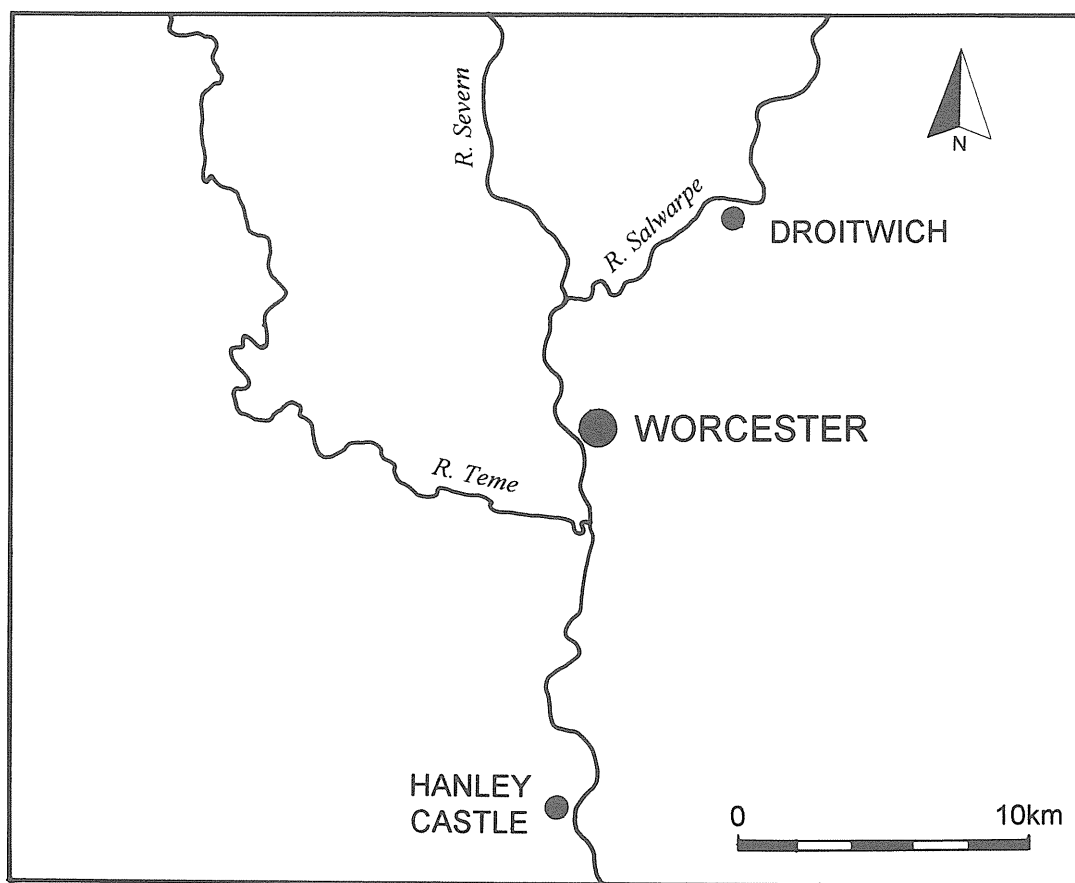


Fig. 2. Location map of the main area referred to within the text (drawn by C. Hunt).

makes it uncertain whether this was the case. However, the only documented piece, the hunting dog from Lich Street, is from a site situated between the area formerly associated with higher-status buildings in Cathedral Close and the main medieval thoroughfares of the High Street and Friar Street (T. Bridges pers. comm.).

Documentary evidence of the period shows ornamental roof furniture to have been displayed on buildings of almost every use and status from agricultural upwards (Moorhouse 1988, 46). However, it appears that lower-status buildings had mainly functional roof furniture in the form of chimneys, ventilators or louvers, whilst the more elaborate and therefore more costly decorative forms were associated with wealthier buildings. The zoomorphic finials described in this paper would have fallen into the latter class.

The highly individual nature of zoomorphic finials suggests that they were commissioned rather than produced as a matter of course alongside other classes of ceramic building material and vessels. For example, Moorhouse (*ibid.*, 44) notes the examples of two crests in the form of mounted knights, purchased in 1372/73 at a cost of 2s for the roof of the Royal Hall at Banstead (Surrey), and that of a king bought for 'putting upon' the king's hall at Kempton (Middlesex) and costing 18d. The average daily wage of a labourer at this time was approximately 2–3d (Dyer 1989, 215, table 18), so these objects were clearly expensive. The prices quoted above would have been far beyond the reach of the majority of medieval society, available only to those with the financial means to afford them. In addition, the symbolism created by the forms chosen suggests association with the wealthier classes, as illustrated in the examples above (hunting dogs, birds of prey, kings or knights and

stags), all powerful images associated with higher social status during the medieval period. The objects were not intended to be naturalistic in appearance but a stylised representation of the chosen animal, as also seen in the heraldry of the time. These finials would therefore have identified the houses of the more wealthy and in turn have been a symbol of status and power in a society with distinct social divisions.

Production of finials in Worcestershire

Although all the finials so far identified in Worcestershire are of a Worcester-type fabric, it cannot be assumed that these kilns were the only ones in the area to be supplying a market for such objects. The Malvernian kilns based in the parish of Hanley Castle (Hurst 1994) were also producing large quantities of pottery, flat roof tile and glazed ridge tile, including crested forms, at this time and are highly likely to have produced finials of their own. This assumption is supported by examples of houses in Hanley Castle with globular finials thought to be of medieval date still attached to their ridges (J. D. Hurst pers. comm.). However, although fieldwalking on sites associated with these potters has recovered c. 12000 sherds of pottery, no examples of zoomorphic types have been recovered.

Although finials appear to have been produced by potters rather than tilers, their distribution appears to reflect that of other classes of ceramic building material, rather than pottery. Naturally, the pottery assemblages of 13th- to 14th-century date excavated in Worcester display a predominance of Worcester-type wares, although Malvernian fabrics are also present. However, assemblages from sites in Droitwich

generally contain similar quantities of pottery from both the Worcester and Malvernian industries. In contrast, tile assemblages of the same date from both towns generally have a strong bias towards Worcester products, with those of Malvernian origin mainly confined to glazed ridge tiles. Perhaps the best illustration of this pattern is the assemblage from the Upwich brine well, Droitwich, which was closely dated by documentary evidence and dendrochronology to 1264–5 (Lentowicz and Hurst 1997, 82). This contemporary group has a strong bias towards Malvernian pottery fabrics, but Worcester tile. A similar pattern could be identified within the assemblage from Worcester Road, Droitwich, from which the 'horse and rider' finial came (Bretherton *et al.* forthcoming). Clearly the Worcester potters and tilers both sent their products over a wide area of central Worcestershire and the 'horse and rider' finial was found within this distribution area.

In the case of tile, it is likely that transportation costs were a factor in choosing a supplier. This may also provide a possible explanation for the similar pattern identified in the distribution of roof finials, with commissions being given to the local kilns out of convenience, and to keep down the already high costs of these one-off items by saving on transportation expenses. On this basis, finials of Malvernian fabric might be expected in areas closer to that manufacturing centre. In the case of the finial from Droitwich, this may have been the key reason for the choice of a product from Worcester rather than Hanley Castle which was approximately 11 km further away from Droitwich (see Fig. 2).

By their very nature, the majority of finials found are incomplete, and without the presence of easily recognisable pieces such as the head it is likely that many fragments remain unidentified within ceramic assemblages. The majority of body sherds could easily be misidentified as coming from a vessel because the objects were hollow and wheel-thrown, and many may also have been wrongly identified as aquamaniles, which they closely resemble. The large number of joins within these composite objects also weakens them and reduces the chances of survival as a whole. In the case of the Droitwich finial, the two smaller pieces were only identified during quantification of the pottery, having been mistaken for handle sherds of a vessel on site. In a city as rich as medieval Worcester, it can be assumed that the skyline once displayed many more finials than have been identified in archaeological assemblages to date.

Conclusion

The four finials from Worcestershire and those from the surrounding area form an unusual class of objects produced between the 13th and 14th centuries. Although highly individual in physical appearance, the range of subjects represented is repeated in similar finds across Britain and northern Europe and is commonly identified with the wealthier or aristocratic classes. The individuality of each finial may be attributed to the commissioning of skilled potters, as indicated by documentary evidence of the period. In the case of the finials from Worcestershire, this appears to have resulted in a concentration of forms being produced by the local kilns in Worcester, presumably connected with convenience and cost for the manufacture and transportation of these 'one-off' items.

These decorative objects must have been an integral part of the medieval landscape in both urban and rural settings and were a clear statement of status and wealth within society. However, only a small number have been identified within assemblages to date and it is likely that many non-

diagnostic pieces have been mistaken for vessel sherds in the past.

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SOME EARLY CLAY ROOF TILES FROM BISHOP'S WALTHAM PALACE, HAMPSHIRE

Introduction

In 1991 John Hare published the results of his research into the development of the roofing industry of later medieval Wessex (Hare 1991, 86–103). He showed that in central and southern Hampshire, slate was the predominant roofing material from the late 12th century through to c. 1350–75 when a ceramic roof-tile industry was swiftly developed. In north-east Hampshire and west Surrey a different picture is emerging. Slate hardly appears in the archaeological record at all, whereas ceramic tile makes its first appearance c. 1175.

Roofing materials from Bishop's Waltham Palace

As part of a programme of research into the development of early medieval roof-tile kilns and their products, a detailed study of the roofing materials recovered by the late S. E. Rigold from his excavations at Bishop's Waltham Palace (SU 552173; Fig. 1) was undertaken by the author. The aim was to ascertain whether there were any parallels between the ceramic roofing materials excavated by the writer at the Quarr Abbey tiler, Isle of Wight and similar material used at Bishop's Waltham (Riall *et al.* 1996). This revealed that 'pie crust' style crested ridge tile used in conjunction with a slate-roofed structure at the Quarr tiler (dated to c. 1280–1300) was matched by similar tile at Bishop's Waltham where slate was, at this period, the predominant roofing material (*ibid.*, note 1). However, amongst the Bishop's Waltham material there were also a number of fragments of ceramic roof tile which can be dated to the mid to late 12th and early 13th centuries, and some of this tile can be shown to be derived from tile kilns in north-east Hampshire and west Surrey.

At Bishop's Waltham the earliest buildings appear to have been covered with ceramic roof tile of the so-called 'Roman type'. This system of roofing used flat *tegula* tiles, with a flange running down each edge, and the joint between each pair of *tegulae* covered by a curved *imbrex* tile. Some of the material recovered by Rigold is undoubtedly Romano-British tile which may have been re-used, since there are

fragments of combed hypocaust tile in the assemblage, but much of the material is certainly medieval. Similar tile was recovered from the nearby Palace Stables site (Lewis 1985, 108–109). Traditionally, this style of roofing material is dated in Southampton and London to the mid to late 12th century (Platt and Coleman-Smith 1975, 189–90; Armitage *et al.* 1981). At some point in the later 12th century the use of 'Roman type' tiles was supplanted by the introduction of 'bat' tiles, so-called from their shape (also called 'shouldered tiles'), with these in turn being replaced by a complex sequence of peg tiles and peg-and-nib tiles. Bat tiles are currently known only to occur on sites across London and in association with the roof-tile kilns at Farnham and Guildford in Surrey and Lewes Priory in Sussex. Both the Surrey kilns have been dated to the early 13th century, the kiln at Borelli Yard, Farnham, falling out of use before 1220 (Riall 1995), whilst that at Guildford was abandoned before 1230. These kilns produced a surprisingly complex sequence of roof tiles encompassing both peg tile and peg-and-nib tile.

Tile types

Two forms of the Guildford-produced peg-and-nib tiles have been recognised amongst the Bishop's Waltham material, along with a further tile type, an ornate, knife-cut, crested ridge tile, which is perhaps from the Borelli Yard tiler, Farnham.

BW Type 1: peg-and-nib tile, represented by three fragments, none of which provides either a full width or length (Fig. 2).

The key diagnostic feature in this tile type is the method in which the nib was formed and, in particular, the presence of two finger-marks on the tile-head. The nib was formed from a separate piece of clay and applied to the back of the tile, the joint between the nib and tile being reinforced by pulling part of the tile-head down to the nib and merging the two together. This very unusual, perhaps unique, manufacturing technique left a 'dent' or 'notch' in the tile-head, making this tile type very recognisable. The nib has traces of pinch-marks on either side and is sub-triangular in shape when viewed from above. A key feature of this process is the presence of two finger impressions on the tile-head in the base of the 'notch'. These impressions are so slight and narrow that they seem to indicate that the nibs were made by a younger person, possibly a child.

The Bishop's Waltham tile exactly matches examples from Guildford (there termed GCP T3) where complete tiles were found. These were c. 375 mm long and 215–225 mm wide with a thickness of 17–21 mm. Although rectangular, these tiles have rounded corners. Many have a bright, glossy glaze, brown or orange in colour, applied to approximately the lower third of the tile. The great majority were made with the peg-hole on the left of the struck face and the nib to the right. Less than 10% of the tiles were made with the peg-hole on the right and nib to the left. The Bishop's Waltham tiles are all of peg-and-nib type.

BW Type 2: a second peg-and-nib tile type, this is represented by at least six fragments, but again no complete widths or lengths survive.

The nibs on these tiles are set very close to the tile-head and are rather wider (80–90 mm on BW Type 2 and 50–60 mm on BW Type 1 tiles), but a little more protuberant than those on BW Type 1 tiles (20–25 mm on BW Type 2 compared to less than 20 mm on BW Type 1). In two cases a line was scored across the tile just below the nib and parallel to the tile-head. A similar feature occurs on the Guildford tiles. The BW Type 2 tile nibs are more geometric in shape than BW Type 1, being better formed and perhaps