

Wortley Romano-British Villa Site: Reconstructing painted wall-plaster found in the cellar

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The Roman site at Wortley, near Wotton-under-Edge, was accidentally discovered by the landowner in 1981 when he found a loose piece of mosaic flooring while digging a hole for a fence post. As a result local enthusiasts opened a trench and exposed the badly damaged *pilae* of a hypocaust system along with many Roman finds, including painted wall-plaster, *tesserae*, *tegulae* and pottery. At this stage archaeologists from Keele University were called in and eventually adopted the site for long-term training excavations for which we worked as finds supervisors. The digs began in 1985 and continued in six-weekly sessions over the summers of 1986–96 until matters beyond our control required the site to be closed and backfilled. Nevertheless, by this time a major part of the site had been dug and work is in progress towards the publication of the final report. However, since the dig produced a large quantity of finds and we are not now funded in any way this is proving to be a lengthy job. One problem which arose was how to deal with the mass of wall-plaster fragments found within the cellar deposits. This threatened to be a difficult and time-consuming task. For this reason we were very grateful to receive, through the Bristol and Gloucester Archaeological Society, one of the first Bridgeman Research Grants, awarded to enable us to experiment with a computer in our attempts to recover the details of the wall decorations from the plaster fragments recovered. This work is now complete and we are pleased to be able to report our results.

With regard to the cellar itself, the received wisdom is that cellars in Roman Britain were rare and their construction mainly restricted to the period AD 70–155 when the Roman army brought the custom of underground rooms to Britain from Gaul. Moreover, their distribution in this country appears to have been limited to a few tribal areas, one being that of the Dobunni, within whose territory Wortley lay.¹ Outside the main towns almost all of the civilian cellars have been found in villas but few as far west as Wortley (Fig. 1).² As a rare Roman feature, then, the Wortley underground room with its wall-plaster seemed to merit special attention.

The Wortley cellar was constructed within the date-range given above for other Roman cellars since it was part of the original late 1st-century building. Although it was not possible to excavate it completely, it is clear that the stone-lined room was *c.* 2.3 m deep by 4.2 m square. The remains of two splay windows were uncovered in the west wall and two niches in the south wall (Fig. 2). The most remarkable find was the unusual underfloor capstoned water-channel system which may have fed a font-like structure in a central position. Taken together, the four features described as present here, the painted wall-plaster, wall niches, splay windows and water system, are all mentioned by Perring as features which could indicate that the cellar was built for use as a cult-room. In particular he noticed that the presence of some form of water supply is a dominant

1 D. Perring, *The Roman House in Britain* (London, 2002), pp. 183–4.

2 D. Perring, 'Cellars and Cults in Roman Britain', *Archaeological Journal*, 146 (1989), pp. 280–1.



Fig. 1. Worthing Roman site, O.S. ST765918.



Fig. 2. Looking west at the part-excavated cellar-room, the remains of two splay windows in the west wall (facing the camera) and the outline of two niches in the south wall (left of photograph) can be seen.

feature of such cellars.³ The best example of these is probably the deep room at the Lullingstone villa in Kent where a painted scene of water nymphs is associated with a well cut into its concrete floor, thus suggesting the worship of a water cult.⁴

While the first-phase entrance to the Worthing cellar is unknown, at a later date, *c.* AD 150-200, when considerable alterations to the villa probably indicate a change of ownership, an antechamber with stairwell for access was added to the cellar (Figs. 3 and 4). At the same time its water-channel system was covered by a new concrete floor. Perhaps these alterations also reflect a change of religious cult. There is some evidence to indicate that the cellar-room was decorated with painted wall-plaster from the start, but here we are, of course, attempting to reconstruct the scheme which was in place just before the demolition of this part of the building, which is likely to have taken place sometime during the first half of the 5th century.

There is reason to think that the room immediately above the cellar was built with a timber floor and this may also have served as a wood-beamed ceiling for the cellar beneath, since we have not recognized any ceiling plaster in the cellar deposits. However, it is clear that all four walls of the cellar-room were decorated because each of them retained some trace of plaster although very little paint had survived. It seemed that the best evidence for the recovery of the cellar's decorative scheme would come from a particular group of painted wall-plaster fragments which were found together in the backfill. These had probably fallen from the cellar's east wall near the ante-chamber since they could be matched to two or three fragments still attached to that particular wall. At

3. *ibid.*, pp. 284-6.

4. G.W. Meates, *The Lullingstone Roman Villa* (Kent Archaeological Society Monograph, vol. 1), p. 32.



Fig. 3. Looking south at the cellar-room (centre) to show the stairwell added on the east side (left-centre).



Fig. 4. Overall plan of the site showing position of the cellar, anteroom and stairwell.

this point we sought the help of computer graphic software together with a colour printer and a flatbed scanner. They were used in the following way: after manually sorting the fragments by design and to find joins, the resultant groups of joining fragments were placed onto the scanner and converted into colour bitmaps. Each bitmap was numbered, labelled and stored electronically before being imported into a program (Corel Draw) where the background of the bitmap was removed so that it could be displayed in isolation. As each bitmap was added it was manipulated into position or joined to its neighbours where the join was known. The advantages of adopting this method were that the bitmaps could be stored full-size and reproduced to any scale, whether as a whole or in part - a considerable advantage when dealing with a large surface area. When as many bitmaps as possible were assembled on screen and manipulated to our satisfaction the result was printed off as a high resolution colour photograph.

We calculated that the fallen wall-plaster had covered an area measuring approximately 1.1 m by 0.7 m and it can be seen that the design is based on a panel outlined in stripes of dark-red and green which joins a wide yellow-ochre band in one place. Perhaps this band bordered an entrance reveal since its outer edge is chamfered. Within the panelling the form of decoration is less certain, but sketchy trefoil (floral?) shapes in colours of yellow-ochre, blue, green and red together with some fine brown lines are present, all painted on a light background (Fig. 5).

As mentioned above, the coloured shapes match one or two fragments still attached to the east wall while the red and green stripes of the panelling appear to match faint traces of paint on the plaster remaining *in situ* at the eastern end of the south wall (Fig. 6A). On this same south wall, a ridge in the plaster running horizontally below the niches and around the rest of the room at this height, may indicate that there was a ledge or other feature in this position. At floor level and continuing around the south-east corner further surviving plaster shows splashes of red and black paint on a light background clearly indicating a dado in this position. In addition, there were signs that one of the niches had been outlined with a black stripe and painted white internally (Fig. 6B). The first reconstruction was made by combining the evidence from the reassembled fragments and the *in situ* plaster to show that the basic design scheme for the south wall of the cellar room consisted of panelling above a dado (Fig. 7), thus following the most common form of Roman wall-painting schemes, occurring throughout the Roman period in Britain.⁵

The second reconstruction concerns by far the largest group of matching wall-plaster found at Wortley, in fact the fragments filled about 100 large boxes. Most came from the backfill of the stairwell/ante-room area, with some from the cellar-room itself. This plaster has largely survived in very good condition, probably due to the fact that, during building demolition, it was chipped away from its backing so that the building-stone or timber could be reused. The design here is completely different from the cellar wall-plaster, while the quantity is so large and the fragments so dispersed that attempts at re-assembly have been largely unsuccessful. Nevertheless, with so much plaster to hand there was enough evidence available to allow the design scheme for the upper room to be built up with the aid of the computer. In the initial sorting of this mass of plaster several distinct groups became apparent. The largest group formed the main design scheme which was found to be based on a framework of interlocking octagons overpainted in dark red on a green background (Fig. 8). Many of the string-marks used by the craftsmen in setting out this red framework are apparent and one example is shown (Fig. 8A). With the framework in place they then outlined its red lines with a thin white line on either side (Fig. 8B) and completed the design by adding a decorative brown line enclosing a scattering of white/brown floral motifs within the spaces created by the framework. The motifs themselves were painted free-hand with varying degrees of care, or perhaps their differing form reflects the work of several different hands (Fig. 8C).

5. N. Davey and R. Ling, *Wall-Painting in Roman Britain* (Britannia Monograph 3, London, 1981), p. 31.



Fig. 5. Computer reconstruction of a group of excavated plaster fragments which probably fell from the cellar's east wall.

Fig. 6A. (right) Photograph enlarged to show vestiges of paint on the wall-plaster *in situ* on the cellar's south wall.



Fig. 6B. (below) View of the south wall showing where paint remained on the plaster.

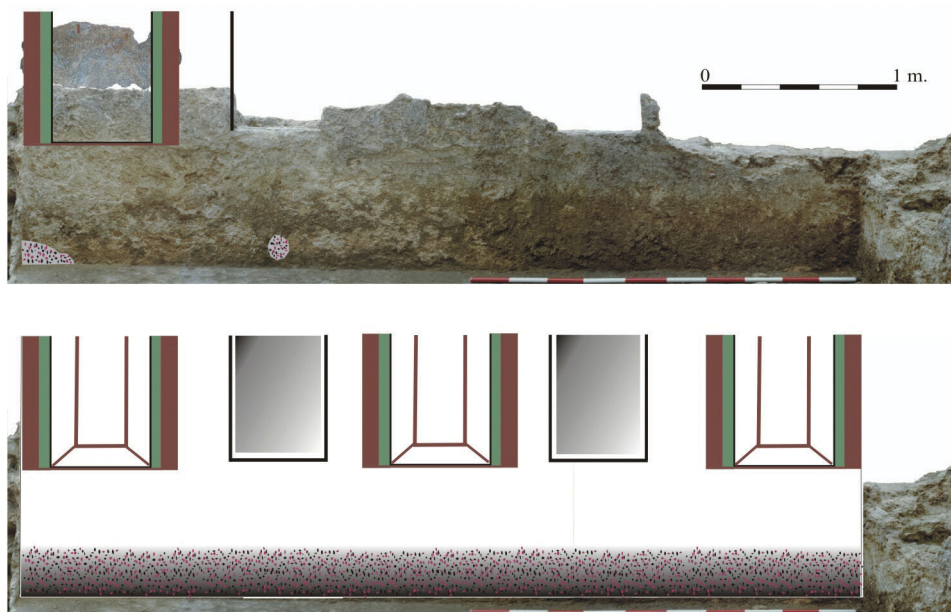
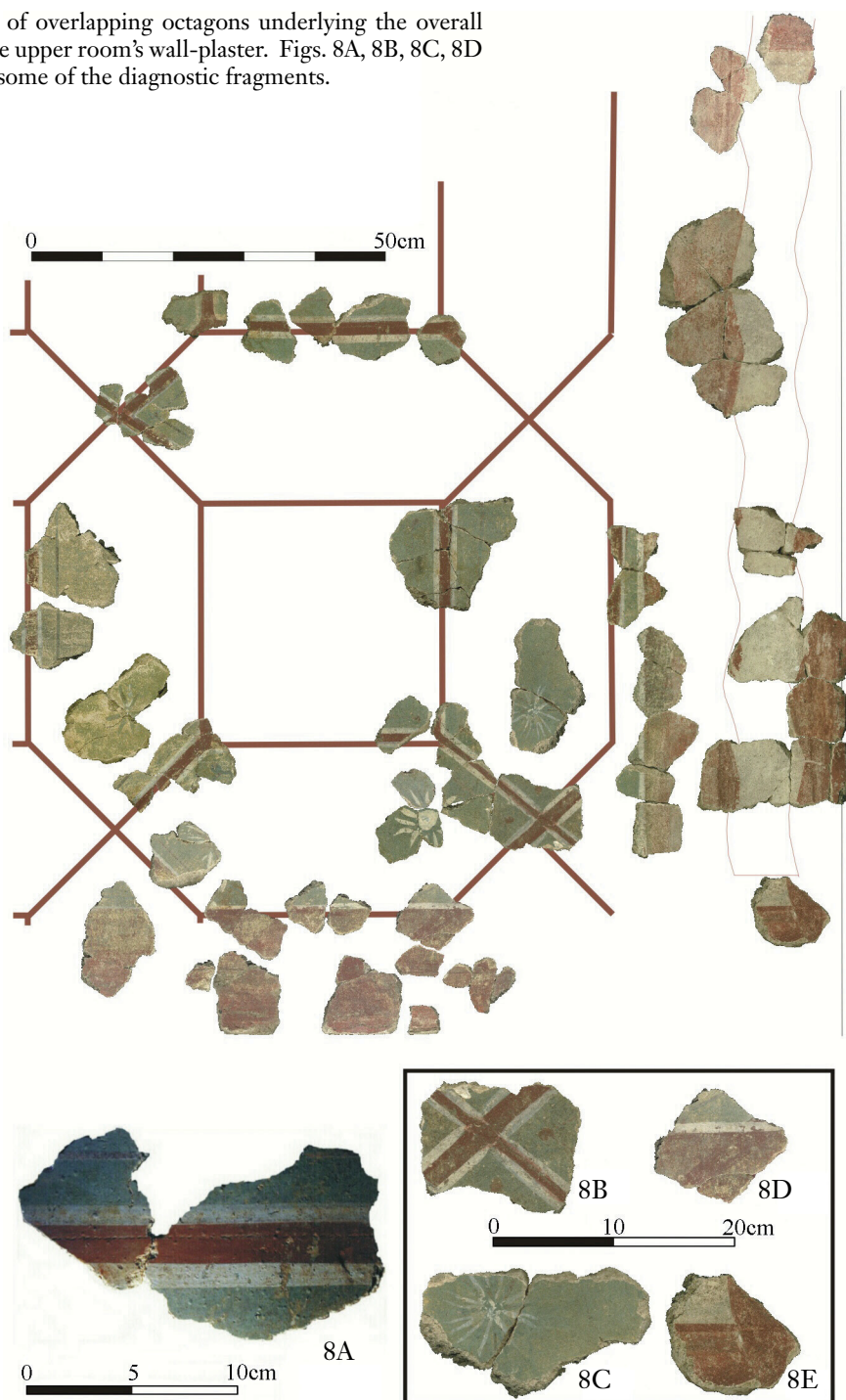


Fig. 7. View of the south wall with the basic decorative scheme suggested by the available evidence.

Fig. 8. Framework of overlapping octagons underlying the overall design of the upper room's wall-plaster. Figs. 8A, 8B, 8C, 8D and 8E are some of the diagnostic fragments.



Related to the main body of plaster were a number of thicker, more substantial fragments, painted plain red, now mostly faded. Although again few joins were found, a number of them had clearly stood upright on a level surface; this was probably the timber floor of the upper room. Hence it is reasonable to interpret them as being part of a plain red dado painted beneath the octagonal scheme. To help confirm this fact, one fragment is shown here, chosen in particular because it has a thin white line separating the green background colour of the main scheme from the red colour of the dado. In addition, an underpainted diagonal red line, which is just discernible on the same fragment under the faded red paint, is probably part of the original red framework underlying the main scheme (Fig. 8D). A third related group of fragments show a wavy line white border outlined by the same red paint (Fig. 8E). Some chamfering of the edges in places may indicate a door reveal (but see below for another interpretation). While the background colour of the plaster has for the most part faded, its original bright green can still be seen in a few places where overpainted lines have flaked off. For this reason the brighter colour has been selected for our computer-assisted reconstruction (Fig. 9). The plentiful evidence on which it is based make it likely that the finished result is fairly close to the original. It should be noted that, in a Roman context, plaster painted with an octagonal-based design is often interpreted as ceiling-plaster. In this case it is clear that we are looking at wall-plaster in a large enough quantity to suggest it may have covered the major part of a room. Furthermore two separate groups of plaster, each apparently evidencing a single design feature, must belong somewhere within the same decorative scheme.

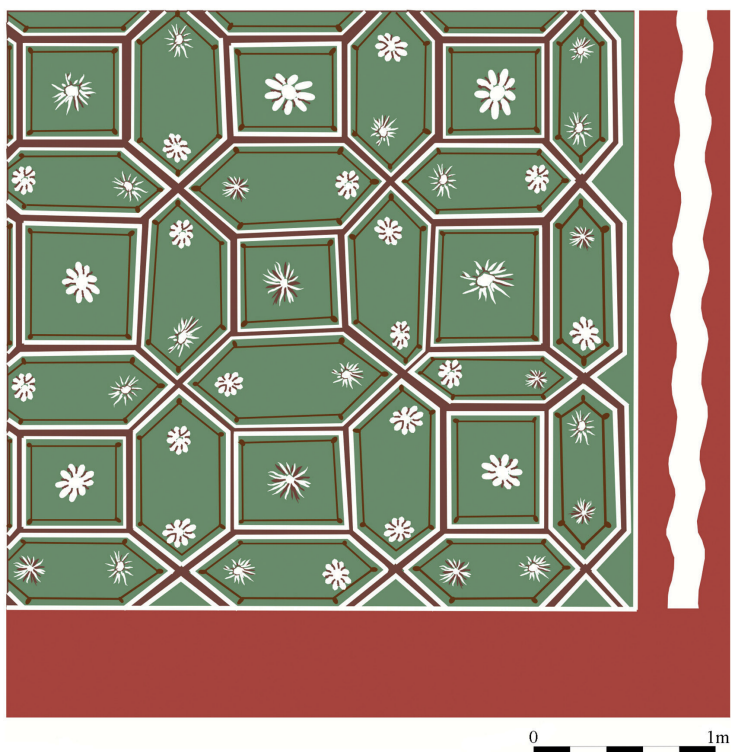


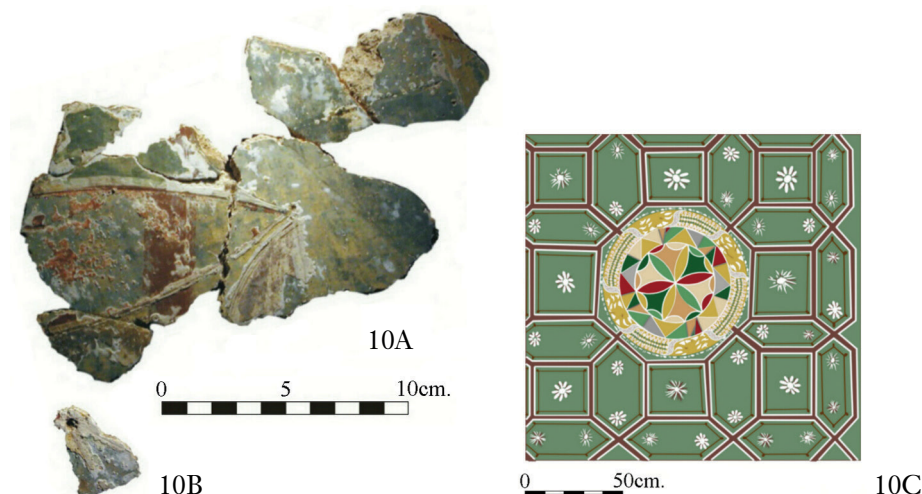
Fig. 9. Reconstruction of the upper room's wall decoration.

The first of these is a circular feature overpainted within the outline of a red-line octagon and was, in fact, the first clue which led to the octagonal scheme becoming recognized as the main overall design (Fig. 10). This particular feature has a compass-generated geometrical pattern within a circle at its centre. It is surrounded by a band for which the reconstruction is largely conjectural since sparse evidence remains but seems to have included differently shaped and coloured triangles. Possibly the intended design was based on two interlocking squares, one rotated at 45° to the other.⁶ The whole was then surrounded by a circular wreath having ribbon bindings. The incised lines and prickmarks used in setting out this pattern are apparent on the plaster fragments (Figs. 10A and 10B). Also shown is the suggested finished appearance of the feature (Fig. 10C).



Fig. 10. Individual feature from upper room showing plaster fragments.

6. Martin Henig notes that interlocking squares were quite a common late Roman device, found both on mosaics and pewter artefacts. Martin Henig and Paul Booth, *Roman Oxfordshire* (Stroud, Gloucester, 2000), pp. 140-1, 146.



Figs. 10A and 10B are diagnostic fragments showing prickmarks. Fig. 10C. The suggested appearance within the overall design.

The second individual design feature is even more striking. It appears to take the shape of a large triangle and, since some of the red-painted outer edges of this plaster are chamfered, it has been interpreted as the painted decoration for a pediment. The central pattern resembles carefully pleated material set fan-like within a circle. It is surrounded by a floral wreath, the whole being supported within the triangle upon three bands decorated with leaves or petals (Fig. 11A). Although in this case there is no evidence to link the scheme to the octagonal design of the upper room, it is likely that the pediment was in this same room, because its pattern was set out using the same kind of incised lines and prickmarks as the rest of that plaster (Fig. 11B). Moreover, since the triangle of the above feature measures more than a metre in height it would seem to be too large to have headed a doorway. Perhaps it should be associated with the red/white wavy border already shown, which also had some chamfered edges. Together they may have surrounded a niche in the wall. Is it possible that we are looking at the decoration of a household shrine - a facility that would have been present in most Roman houses? A conjectural reconstruction of such a feature is shown, where the white wavy borders represent helical columns supporting a large decorated pediment which is set above a niche whose intended purpose was to hold images of the household gods or *lares*. Thus it would have been similar in appearance to shrines as they are depicted on Roman artefacts (Fig. 11C). If this is indeed the case, then this household shrine with its large and impressive triangular pediment must have dominated the upper room.

The possible triangular pediment, just described, may have a parallel in some painted wall-plaster found at Vineyards Farm, Charlton Kings. Although only one corner of a triangular feature was found there, it does bear some resemblance to the painted plaster from Wortley, including the fact that there was some edge-chamfering. There must remain the possibility that, in this case also, the painted feature was part of a pediment, rather than indicating a staircase as the excavators suggested at the time, since apparently no other evidence for stairs was found at that site.⁷

7. B. Rawes, 'A Prehistoric and Romano-British Settlement at Vineyards Farm, Charlton Kings, Glos.', *Trans. BGAS*, 109 (1991), pl. 1, pp. 58-60.

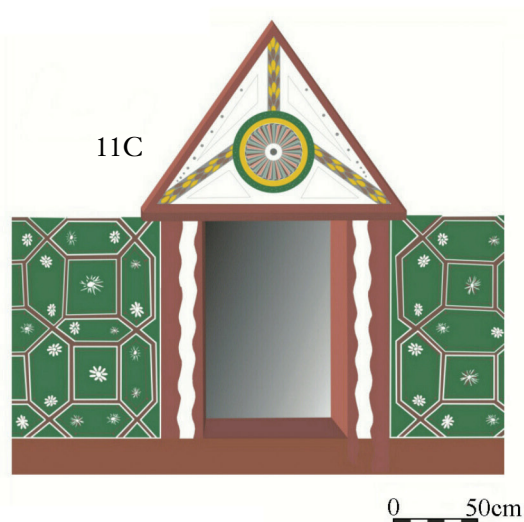
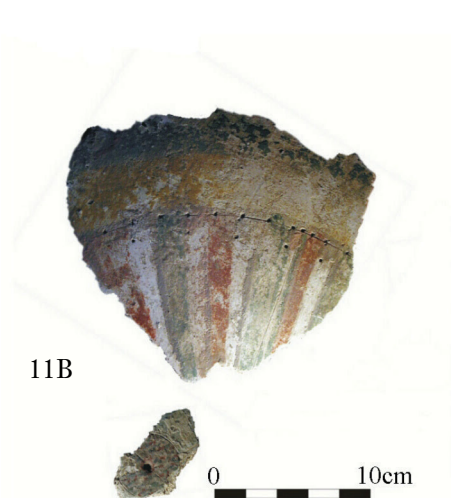
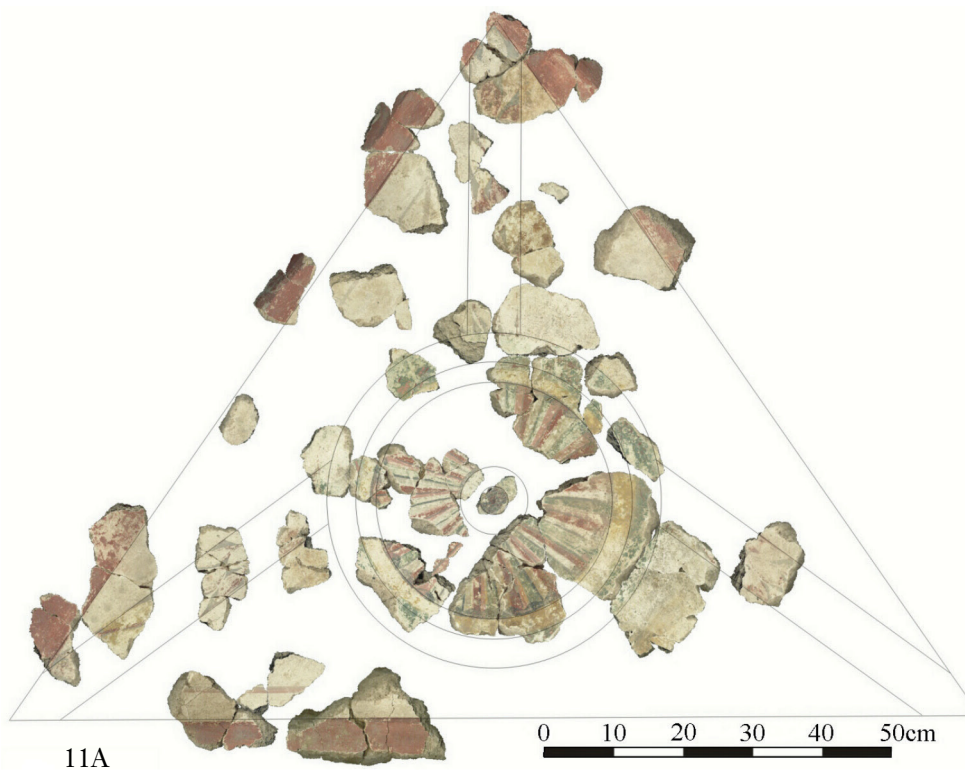


Fig. 11A The diagnostic fragments which indicate a triangular pediment.

Fig. 11B Enlarged fragments showing setting-out prickmarks.

Fig. 11C Conjectural reconstruction of the feature as a household shrine.

The methods used to deal with this mass of wall-plaster have been largely experimental as we sought the assistance of today's technology, unavailable to archaeologists in the past.⁸ The use of a flatbed scanner was found to be of considerable value since individual plaster fragments could be scanned and the resultant image stored in the computer to be used in various ways. In this report, images have been selected from this store to illustrate the evidence on which the reconstructions are based. This allows the reader to view the hand-painted original against the uniformity which the computer brings to any reconstructed design. In addition, an allowance must be made for the limits imposed by the colour palette of the computer program. Nevertheless, we hope that we have been able to show that this part of the Wortley building was elaborately decorated with brightly coloured wall-plaster emphasising its importance to the occupants.

8. Any computers able to support software such as Corel Draw could be used in this way.