

Title The Conservation of an Enamelled Plaque from Haughmond Abbey, Shropshire. AM Lab No 776871

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Abstract An account of the cleaning and stabilisation of a thirteenth century Limoges enamel plaque; probably part of a cross found during excavations at Haughmond Abbey, Shropshire, 1977.

Keywords Copper, gilding, enamel, champ-leve, rivetting, punching, mediaeval, Limoges, cross, conservation, photographs, drawing analysis, Laboratory Report; 2905.

THIS REPORT IS LEVEL III

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The Conservation of an Enamelled Plaque from Haughmond Abbey, Shropshire

Site Number

288

AM Lab No 776871

Introduction

The plaque was discovered at Haughmond Abbey by Mr J J West during his excavations there in 1977. It was found in the fill of a grave in the north cloister alley which had been disturbed after the Dissolution.

Mr Claud Blair, Keeper of Metalwork at the Victoria and Albert Museum has identified the plaque as a Limoges enamel dating from the 13th century.

1. Description

The plaque is made of copper lavishly decorated with gilding and champ levé enamel. In shape it is like an inverted "T" and for this reason is thought to be from the base of a cross. It is 74 mm high, 62 mm wide and is 3 mm thick on average. There are six holes round the edge, presumably to fasten it to the framework of the cross. All the metal on the front which is not covered with enamel was originally gilded, including the divisions between the cells, and most of the gilding remains. The cell divisions are decorated with punched dots.

Round the edge of the plaque runs a band of gilded metal and within this there is a narrow border of enamel, dark blue shading to pale blue and thence to white. Inside this border, on a field of dark blue enamel a gilded angel sits or kneels on three small hills or clouds. The angel's head is made of a separate piece of metal rivetted to the plaque (see Plate II) and it is the only part which is in relief, the details of the angel's wings etc, being engraved. The halo and the clouds or hills are of enamel, green, lemon yellow and another colour, now much decayed, but which appears to have been a clear olive green occurring on the hills or clouds only. The angel seems to be pointing down with its right hand, while the left hand holds an object resembling a scroll, but there is a horizontal line going from the right sleeve to the left hand which suggests that perhaps the original intention was that the right hand should cross the body to join the left.

2. Examination and Treatment

The plaque was received by the Ancient Monuments Laboratory the day after it was excavated. Mr J J West, the director of the excavations, had made no attempt to clean it on site and, on the advice of the Laboratory, had packed it damp as some anxiety was felt over the possible state of the enamel, though this, as it turned out, did not present a problem. When examined the plaque appeared to be in very good condition. There were decayed patches on the dark blue enamel field, and one patch of 'sugary' enamel in the border but the enamel looked to be strong and showed no signs of laminating or separating from the metal. Two colours, the outer one of the border and the inner one of the hills or clouds had decayed completely but careful examination revealed them to have been respectively dark blue and clear olive green.¹ Milliprobe (XRF) analysis showed that the metal was fairly pure copper, with a small amount of lead. Tin and zinc were not detected. XRF analysis also showed that the gilding had been done by the mercury amalgam process.

The back of the plaque was treated first and to stop the enamel drying out while work was proceeding the piece was placed face down on polyurethane foam wetted with distilled water.

¹ I am indebted for this information and for the milliprobe (XRF) analysis to Miss Justine Bayley, AM Laboratory.

a. Cleaning the back of the plaque.

The back of the plaque appears on superficial examination to have a nice, thinly patinated surface, but in fact the corrosion layer is much thicker than it appears to be. Damp mud was removed from the surface and below it was found a thin hard layer of green and blackish corrosion products. Under this was a comparatively thick layer of very powdery light green material. The surface of the metal was underneath this. It was considered that the hard layer more nearly represented the original surface than the present surface of the metal so no attempt was made to remove the bulk of the corrosion products. A few unsightly lumps were taken away and traces of gilding were looked for but none were found.

When the back was finished and the plaque turned over to deal with the front the back was placed in contact with a piece of flexible polyurethane foam wetted with 1% benzotriazole in water in an attempt to stabilize the back without resorting to vacuum impregnation, or submersion, both of which were felt to be unwise. After stabilisation, when the metal had dried, the metal was given a protective coating of cellulose lacquer.

b. Cleaning the front of the plaque.

Since the front had been kept damp the mud was easily removed and the enamel painted with several layers of polyvinyl acetate emulsion to stop it drying out too quickly while the metal was being dealt with. Copper corrosion products were removed fairly easily from the surface of the gold using a variety of tools and the remains of gilding were found round the edges of the plaque, where it had not been visible before. The metal was then painted with several coats of 3% benzotriazole in IMS to stabilize it. Finally, the polyvinyl acetate was removed from the enamel. Although there were many small patches of decayed glass in the dark blue background and two of the colours appeared to have decayed completely, it was judged safe to allow the enamel to dry out. When dry, the decayed patches were more easily seen, but the enamel showed no signs of coming away from the metal or laminating. A number of removable resins were tried on the surface in an attempt to render the light coloured areas less obvious but these attempts were unsuccessful. The enamel was finally painted with a cellulose lacquer to give it some protection without making it shine too much. This can be removed with acetone if necessary.

3. Conclusion

The treatment of the metal was successful, that of the enamel less so. The decayed areas on the dark blue are still obvious and detract from the very real beauty of the object.

The method of stabilising the back of the plaque by placing it on a piece of polyurethane foam soaked in benzotriazole appears to have worked very well. The corrosion layers were stabilised while work proceeded on the front and there was no danger of crystals of benzotriazole getting into or underneath the enamel. It is a pity that a resin could not be found which would render the decayed patches invisible, but the protective coating which was applied is easily removed should a suitable resin be discovered in the future.

Appendix I

Photographic Record

	<u>Before Treatment</u>	<u>After Treatment</u>
Colour Photographs	HA.A.(c)3	HA.A(c)4, 5, 6
Colour Transparencies (35 mm)		5723, 5724
Radiograph	A 1878	

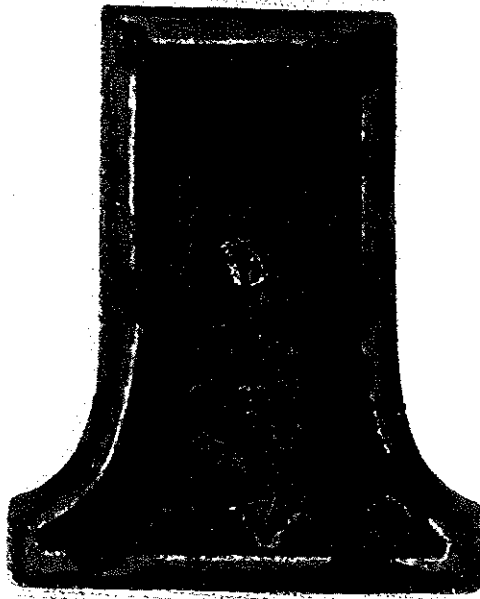
Appendix II

Photographs and Illustrations

Photographs - E Lawler.

Illustrations - Y Brown.

Before Treatment

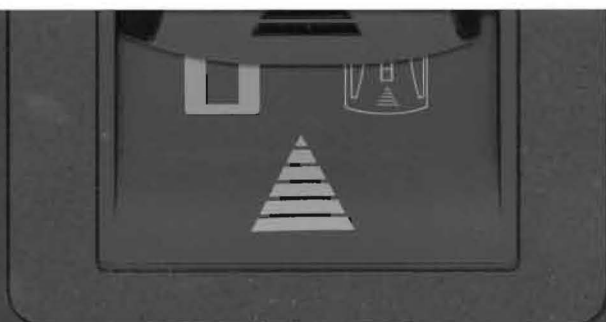


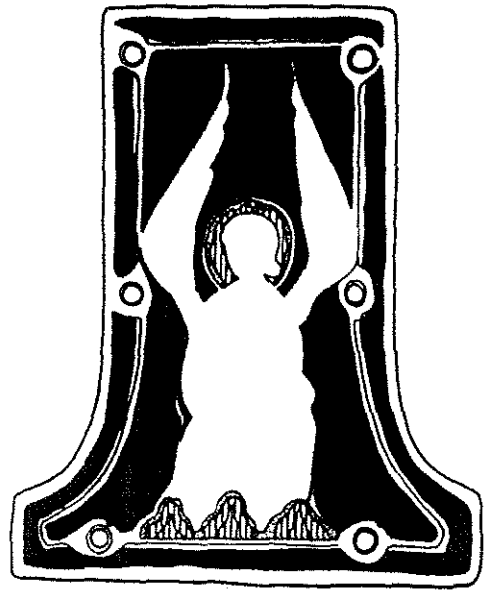
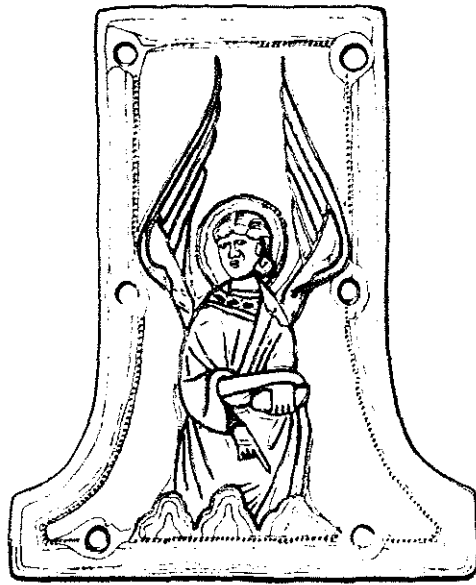
0

50 mm



After Treatment





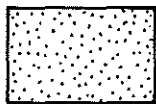
COLOUR SYMBOLS FOR DECORATED POTTERY & ENAMEL



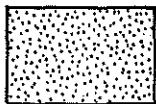
LIGHT BLUE



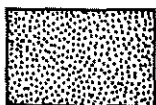
DARK BLUE



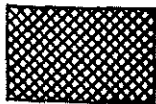
YELLOW



YELLOW OCHRE



ORANGE



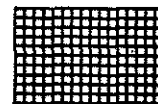
GREY



BLACK



BROWN



PURPLE



GREEN



RED