

CONSERVATION OF THE WALL PAINTINGS IN THE MEMORIAL CHAPEL LIBRARY AT QUEENS COLLEGE, CAMBRIDGE

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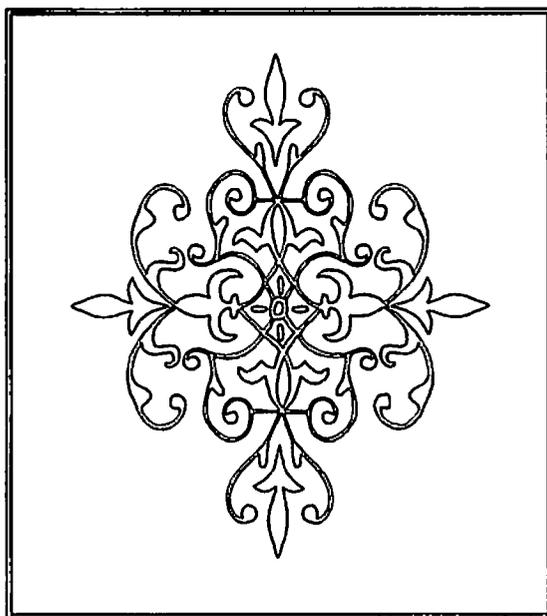
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Conservation of the Wall Paintings in the Memorial Chapel Library



Queens' College, Cambridge

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1. Summary

In October 1993, during the refurbishment of the Memorial Chapel Library, an area of decorative wall painting was discovered behind a section of wooden panelling on the first floor. The painting, which on stylistic and documentary grounds appeared to date from the last two decades of the 16th century, was of a particularly fine quality. Although it had suffered from a level of deterioration in the past, the condition of the painting was generally good. However, due to the structural work proposed in this area of the building, it was again vulnerable to further mechanical damage.

In order to protect the painting, emergency conservation was carried out and the surface was covered for the period of the building work. Following this, in January 1994, the painting was again uncovered and a full programme of recording and conservation was undertaken. The painting, which appears to be part of a far larger scheme, was cleaned and stabilised and now throws further light on the early history and decoration of this area of the Chapel.

2. Introduction

As part of the recent refurbishment of the Memorial Chapel Library, a number of sections of wooden panelling were removed from the area above the staircase in the ante chapel. This exposed a section of early, and extremely decorative, wall painting, which appeared to date from the late 16th or early 17th centuries. The painting, the larger part of which consisted of a series of complex arabesques contained in a series of polygonal frames, continued behind a later inserted wall, appeared to be a small area of a far larger scheme. While domestic wall painting on this period is not uncommon, the painting uncovered in the Memorial Chapel was clearly of an extremely fine quality and despite certain structural damage, appeared to survive in reasonably good condition.

3. Architectural History

The Memorial Chapel, which is situated in the north range of First Court, has undergone a number of architectural alterations and refurbishments since its construction in 1448, which would have had a direct affect on the room which contained the paintings. It is clear from the 19th century intersecting walls that the plan of this area has altered considerably.

The chapel, which is situated in the east part of the range, runs the full height of the building, while the west part of the range, which contained both the area known as the ante chapel and the Library, was split into two stories. The paintings are situated in the first floor of the ante chapel in what might once have been the ante-chamber to the president's gallery. The chapel was in use by 1454, however little is known of its history until 1773-5 when it was refitted under James Essex¹ and a plaster ceiling was inserted.² It was during this work that areas of cedar panelling, that were recorded in 1742 as having been on the east wall of the chapel, were repositioned on the walls of the ante-chapel.³ Essex's plaster ceiling was removed in 1845 and the original roof was completely restored. Bodley carried out extensive restoration between 1858-61. However after the New Chapel was built in 1890, the Memorial Chapel became redundant and it was not until the early 1950s that it was again refurbished and became the Memorial Chapel Library.

4. The Painting

The painting, which is situated to the right of a window splay, consists of three main arabesque designs supported in a frame of crosses, lozenges and octagons. (*Plate 1, Diagram 1 & 2*) The upper border is a combination of arabesque and strapwork motifs supported between two borders of rope moulding and would originally have run over the stone lintel of the window. (*Plate 2*)⁴ In the upper right of the painting, is the remains of a coat of arms or armorial device, which appears to be a single naturalistic eagle *displayed*, on a red background. (*Plate 4*) If Rev. William Cole is correct in his interpretation of the painting, this should represent the arms of one of the Oxbridge colleges or one of the Sees of England.⁵

¹ Essex also designed the south and west of Pump Court 1756-1760

² RCHM, **An Inventory of the Historical Monuments in the City of Cambridge**. London 1988

³ Willis, R. & Clark, J. **The Architectural History of the University of Cambridge**, CUP 1886, Vol. 2. pp.41.

⁴ The upper border is lost

⁵ In an intriguing reference to the paintings, Cole maintains that they included the arms of all the sees of England and of all the colleges except for Sidney Sussex. *'The west end was enlarged and a curious painted room above it converted into a Gallery for the Master's Family. When the Wainscote was pulled down, they found the Sides all covered with Coats of Arms on the Wall in Watercolours, as I apprehend, for I did not much observe them, being the Arms of all the Sees in England and of all the*

The only arms of a Cambridge college to include an eagle *displayed*, are those of Magdalene college. However these are quartered with two golden eagles on a blue background.

At the dado level is an extremely damaged band of wide alternating red and green stripes. (*Plate 3*) In the lower part of the painting there is a small cupboard. The replastering around the cupboard itself indicates that it either predates, or is contemporary with, the painting, which has incorporated it into the design, and included fictive painted clasps on its upper side.

The bright yellow pigmentation of the painted background of the main body of the decorations is particularly striking, both for its relatively complete condition, and the intensity of the colour. The Arabesque designs, all of which follow a similar but not identical pattern are picked out in red ochre. Although at first glance, this similarity might appear to indicate the use of a stencil, this is in fact not the case. Each individual motif has been painted freehand, and there is no evidence of underdrawing on the painting itself.⁶ The main bands of the polygonal frames are also painted in red ochre with their inside edges picked out in carbon black on the upper and right hand edges and what appears to be red lead on the lower and left hand edges, in an attempt to indicate fictive highlights and shadows.



Arms of Magdalene College, Cambridge. *Quarterly per pale indented or and azure, with an eagle displayed or in 2 and 3, and over all on a bend azure a fret between two martlets.*

The paintings were carried out on a thick limewash skim intended to reduce the irregularities of the stone and mortar substrate.⁷ A fine dark green ground was then applied over the entire surface and the yellow background and red ochre frame were painted individually.⁸ The basic shape of the coat of arms was also painted at this stage. The arabesques, highlights, shadows and details of the arms were painted subsequently. The pigments and technique suggest that an organic medium such as a glue size, would have been used.

Stylistically the paintings appear to date from the latter part of the 16th century or the early part of the 17th century. Although no other direct examples of this design have come to light, a number of close parallels are known. The frame and upper border rope mouldings are reflected almost exactly in the paintings at Byeball, Great Sampford in Essex (*Plate 7*) which is thought to be of a similar date. The enclosed arabesque motifs are similar in style to those found at Cromwell's house in Ely, (*Plate 8*) which, on structural and documentary evidence, have been dated to c.1573.⁹ This dating would appear to correspond with Cole's assumption that, due to the inclusion of the arms of Emmanuel College and the omission of the arms of Sidney Sussex College, the paintings must have been carried out between 1584 and 1596, when the two were founded.¹⁰

Colleges in both Universities, except Sidney College. Emmanuel was there: so I suppose it was painted between the years 1584 and 1596. MSS. Cole, 11. 13-18. Reprinted in Op.Cit. Willis, R. & Clark, J.

⁶ It is likely that the design was copied from a pattern book.

⁷ Interestingly, it was found that the lime skim was already damaged by the time the painting was executed, suggesting that it was not newly applied for the painting.

⁸ The yellow background does not appear to run beneath the red frame or the arms.

⁹ I am extremely grateful to Mrs Muriel Carrick for drawing my attention to these examples.

¹⁰ Op. Cit. Cole.

5. Condition Before Conservation

Despite certain types of deterioration which had effected the painting as a whole, the surface condition varied considerably. (*Diagram 3*) On the left hand side of the body of the painting the main problem was one of delamination between the paint layers and the limewash ground. Actual paint loss was comparatively limited, however much of the adhesion between the layers had failed, and the resulting flakes of paint were extremely vulnerable to accidental mechanical damage. Where losses had occurred, these extended only to the lime ground and not to the substrate. (*Plates 5 & 6*)

On the right hand side of the painting, the loss was more extensive, but in this area there was a loss of cohesion in the paint layers and areas of extremely small and powdering flakes of paint. The nature of this damage and its concentration in a clear vertical line suggested that the area had been sealed in by the inserted wall, and the resulting microclimate had caused considerable deterioration of the paint layer and in particular, the medium.^{11 & 12}

For the most part, the substrate was in good condition, however in the centre of the painting there was a large drilled hole which appears to have been intended to hold a peg for the later panelling. Also there was significant loss and damage to the area on and around the stone lintel.

Although it presented the least direct risk to the painting, the most disfiguring aspect of the deterioration, apart from the paint loss, was the thick accumulation of surface dirt, which effectively dulled the fresh colours of the pigments.

6. Conservation Techniques

Due to the nature of the structural work taking place around the paintings, the conservation programme was carried out in two phases. The first phase involved the readhesion of the most vulnerable areas of flaking paint, before the paintings were covered to prevent any damage from the surrounding building work.

These flaking areas were first treated with an injection of IMS and water (50:50) in order to reduce the surface tension. A 10% solution of the acrylic emulsion Plextol B500¹³ was then injected behind the flakes, which were held in place while setting occurred. Any excess adhesive was removed using acetone. The entire painting was then covered with a layer of Japanese tissue attached at specific points using a solution of 10% Paraloid B72 in acetone. A polythene sheet was then attached over the tissue having first been cut with ventilation holes to prevent the build up of any moisture.

When the most significant part of the building work had been completed, the protective facing was removed in order to allow the full conservation to take place.¹⁴ Further areas of flaking paint were treated in the same manner as described above in order to allow the cleaning to take place. However, on the right hand side of the painting, the pigment layers were so delicate that the readhesion had to be combined with both consolidation¹⁵ and cleaning.

¹¹ A loss of cohesion was also noted in the area surrounding the cupboard. However this deterioration appeared to be due to the painting technique on the different substrate rather than any later factors.

¹² The level of flaking behind the remaining 19th century stud was extremely serious and rendered the painting very vulnerable to the slightest mechanical damage. However, due to the inaccessibility of this area, it was impossible to carry out any form of stabilisation or conservation.

¹³ A product of Rohm & Haas.

¹⁴ The Paraloid B72 was redissolved in acetone.

¹⁵ A solution of Paraloid B72 at 3% in acetone was used for the consolidation.

After extensive tests, the use of Wishab silicon sponges was found to be the most effective and delicate method of removing the surface dirt. (*Plates 9 & 10*) In some areas it was found that Wishab also acted well on the stone. However, on the whole the stone surface responded better either to soft mechanical action from a India rubber or to swabbing with a saturated solution of ammonium carbonate and tri-ammonium citrate.¹⁶ On the splay of the window, the deteriorating and dirty limewash was removed using a small scalpel. Although relatively soft, the limestone was found to be in good condition, retaining much of its original tooling marks. The removal of the limewash also exposed two identical mason's marks of the following type: .

Structural damage was repaired using lime putty and sand mortars of an appropriate colour and texture. Those on the body of the painting used a 1:3 lime and silver sand mortar, while fine hairline cracks were repaired using a 1:4 lime and stone dust mortar. The repairs to the area surrounding the lintel were carried out using a 1:3:1 lime, sand and stone dust mortar.

Due both to the decorative nature of the painting and the strong pictorial lines, the need for reintegration was felt to be relatively limited. On areas where the paint loss exposed the bright white background, toned watercolour washes were used to reduce the aesthetic disruption.¹⁷ However, no reconstruction was carried out and the effect of the toned washes was to draw the painting together to such an extent that the disturbance caused by the damage was considerably reduced. (*Plates 11 - 14*)

7. Conclusions & recommendations

The conserved area of painting is clearly a small part of a much larger scheme, in all likelihood, that referred to by Cole. However the extent of the surviving area of painting is unclear. Measurements made in the library, to the west of the partition wall, indicate that the wall has been boxed in rather than having been replastered. This might well suggest that the painting continues along at least part of the wall, as projected in Diagrams 1 & 2. This fact should, of course, be considered if any future structural work is undertaken on or around these walls.

Following its conservation, the painting is now in a relatively sound state. However, a painting of this age is always vulnerable to accidental mechanical damage and should be treated with a measure of delicacy. In order to reduce the risk of future deterioration the wall painting should be checked on a regular basis and a qualified conservator should be contacted if any significant change is seen to occur. This is particularly important as the building has undergone a change of use and the stability of the internal atmosphere will have been disrupted.¹⁸ The effects that this might have on a painting that has been covered for a number of centuries are unpredictable, but it is likely that any significant effects will occur during the first twelve months.¹⁹

¹⁶ Areas treated in this way were thoroughly swabbed with water in order to remove any residues.

¹⁷ All reintegration was carried out using Winsor & Newton Series 1 watercolours.

¹⁸ It is particularly important to monitor the effect of the insertion of new heating systems.

¹⁹ As with much historic building work and particularly in the case of wall paintings, it is important that no cement is used in close proximity to the paintings. Apart from the serious mechanical problems that this can cause, the transfer of soluble salts, which occurs as a result of the setting process of cement, can be extremely damaging to wall paintings.

Diagram 1. Plan of the staircase in the Memorial Chapel Library showing the positions of the areas of wall painting

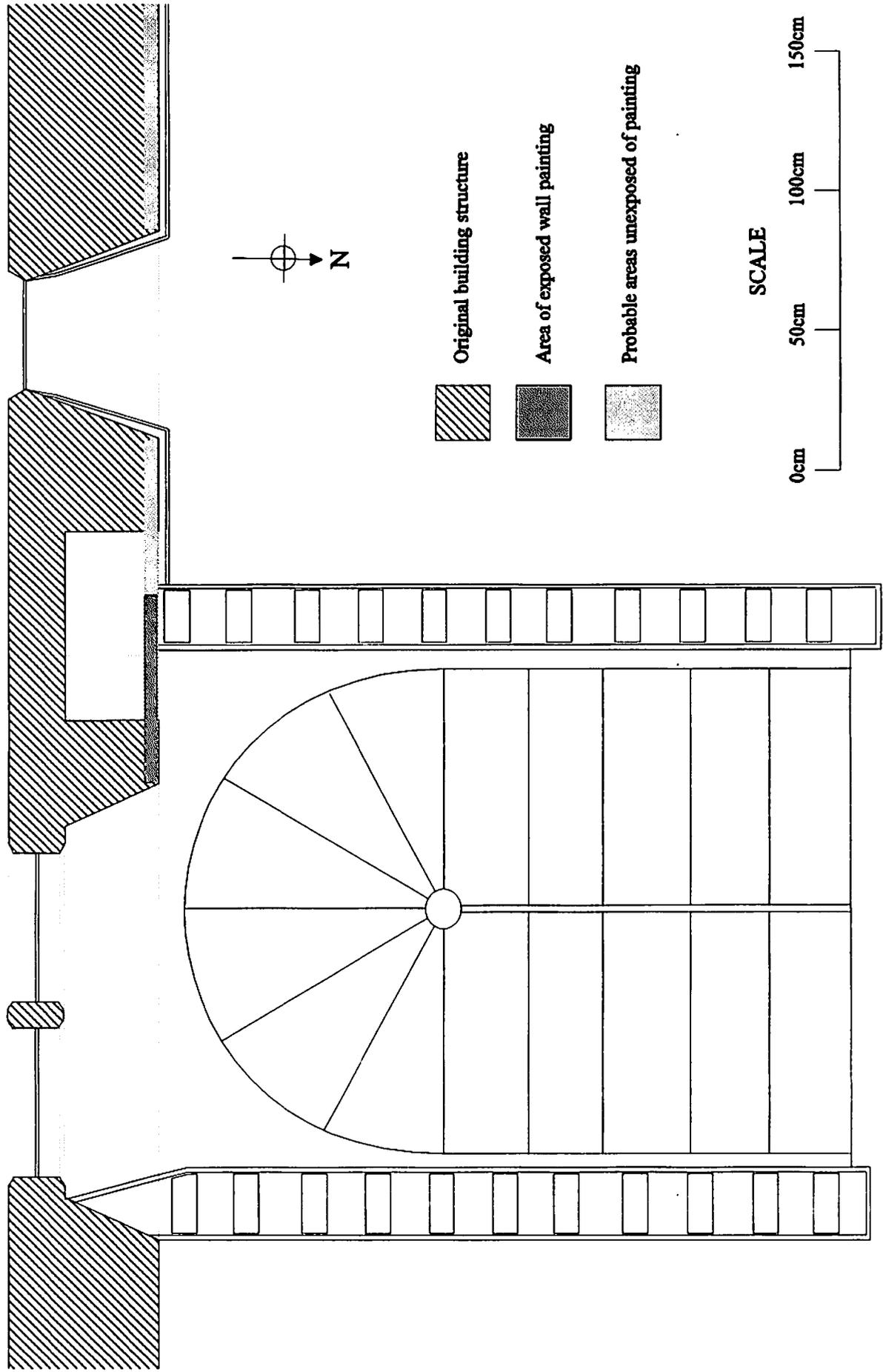
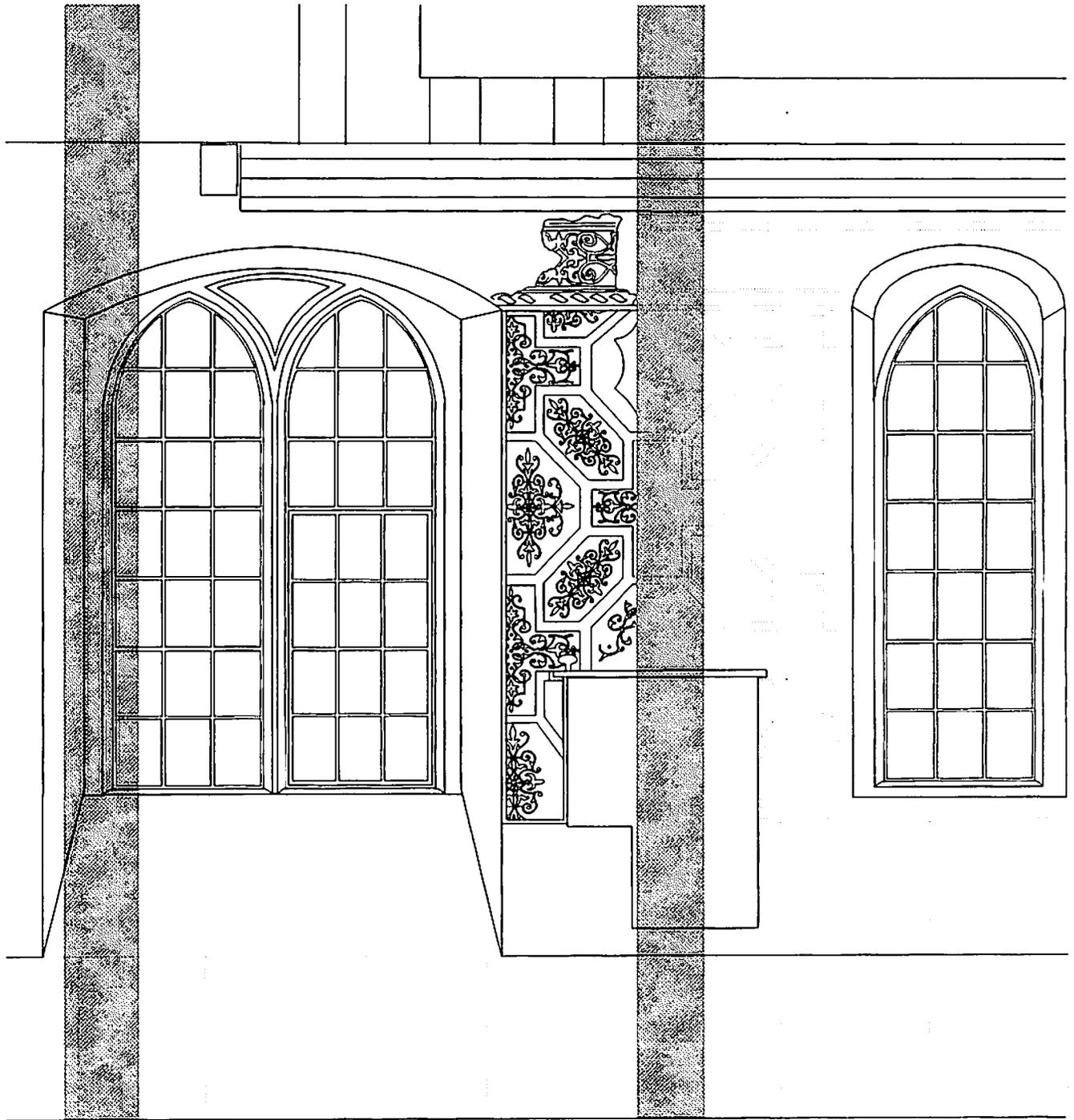


Diagram 2. Elevation of the south wall showing the positions of the wall paintings



Intersecting walls



Projected areas of unexposed wall paintings

SCALE

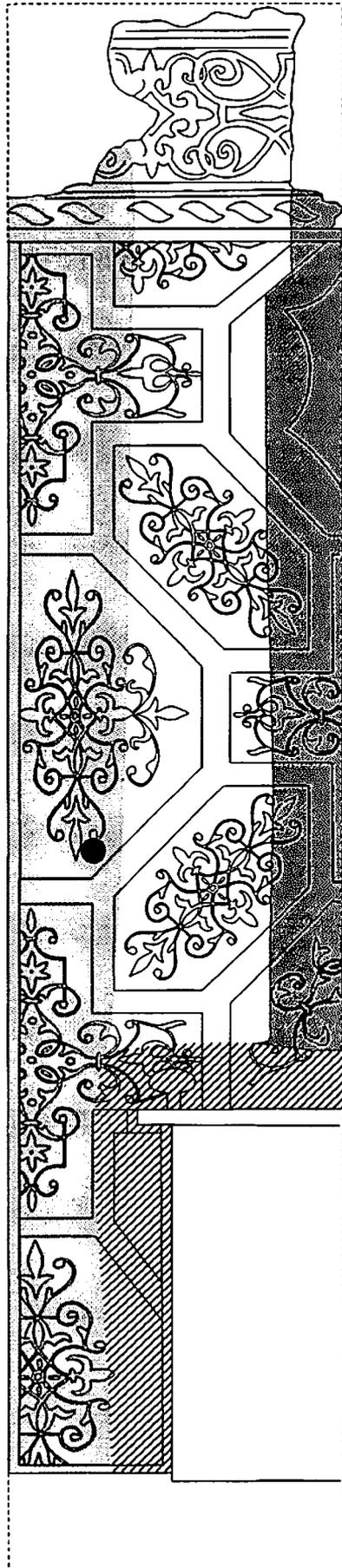
0cm

50cm

100cm

150cm

Diagram 3. Elevation of the south wall showing the surface condition of the wall painting before conservation



Areas of particularly serious delamination between the paint layers and the lime ground



Serious Loss of cohesion and micro flaking, apparently as a result of the micro climate caused by the close insertion of a partition wall



Areas of loss of pigment cohesion associated with the different layer of plaster surrounding the cupboard



Drill hole, which appears to have been used to support the earlier paneling

SCALE





Plate 1. (Above) General view of the central area of the painting before conservation. The vertical line of loss on the right hand side appears to be due to the very close insertion of an earlier wall and the resulting build up of a damaging micro climate. The post on the right hand side is part of the 19th century partition. (Photo: Tobit Curteis 1994)

Plate 2. (Right) Detail of upper border of the painting showing the arabesque strapwork design. The fragmentary remains of an upper rope moulding can be seen just below the wooden beam. (Photo: Tobit Curteis 1994)



Plate 3. (Above right) Detail of the lower part of the painting showing the cupboard and the remains of the red and green striped dado. The dado was extremely badly damaged and was subsequently plastered over by the college. (Photo: Tobit Curteis 1994)



Plate 4. (Left) Detail of the upper area of Plate 1 showing the rope moulding and the remains of the coat of arms. More of the coat of arms is visible behind the post but access is too limited to allow conservation. A preliminary cleaning test can be seen in the lower central area. (Photo: Tobit Curteis 1994)

Plate 5. (Below left) Detail of the central area of Plate 1 showing the most complete of the arabesque designs. Despite its regularity, the painting has been carried out freehand, apparently without the use of an underdrawing. (Photo: Tobit Curteis 1994)

Plate 6. (Below right) Raking light detail of the upper left hand area of the previous plate showing the level of delamination and flaking of the paint layer. (Photo: Tobit Curteis 1994)





Plate 7. (Left) Detail of one area of the wall paintings at Byeball, Great Samford, in Essex. Although this particular example is less delicate than the paintings at Queens' College, the polygonal frame is almost identical. The upper border of the Byeball paintings also uses the twin rope mouldings although, like the body of the painting, the contained motifs are floral. On stylistic grounds, the painting would appear to date from the end of the 16th century and would therefore be contemporary with those at Queens'. (Photo: Muriel Carrick 1994)

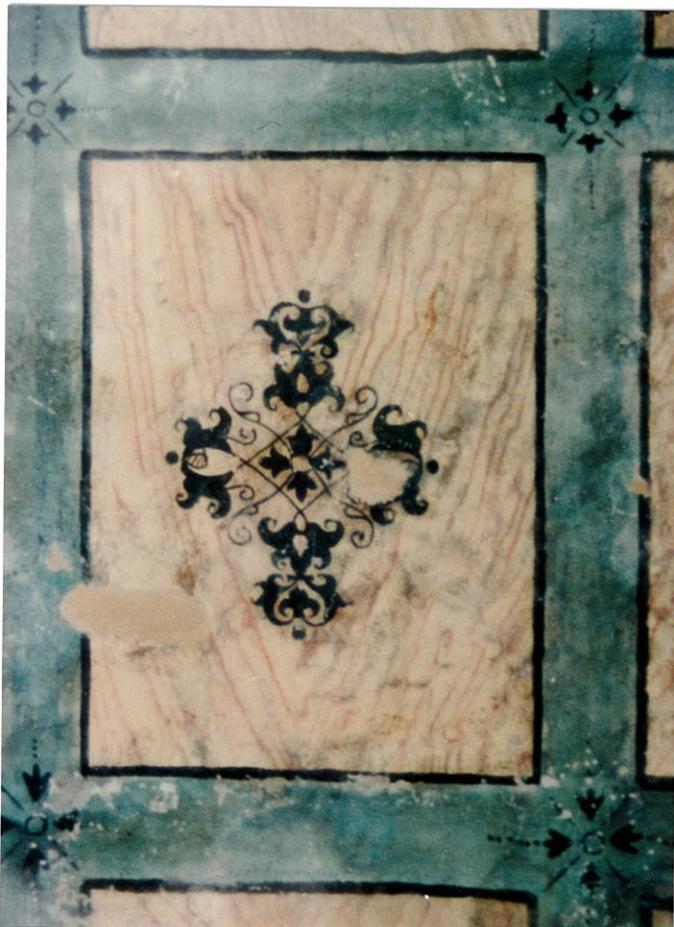


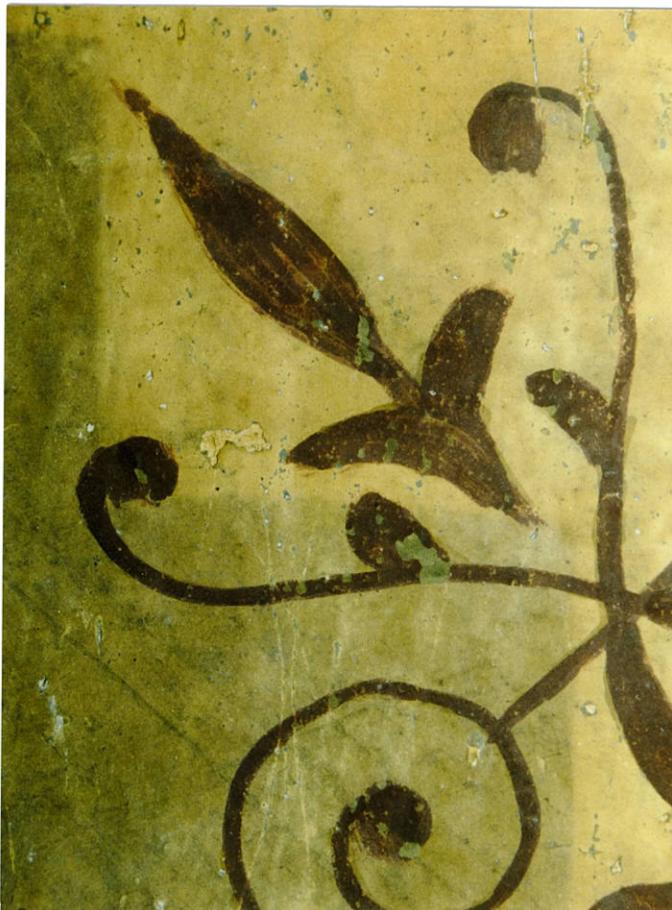
Plate 8. (Left) Detail of one of the arabesque motifs in Cromwell's House in Ely. The painted fictive panelling is dated to c.1573 on structural and documentary evidence. Although it is used in a different context, the arabesque motif is similar in design to those at Queens College and presumably reflects a local Cambridgeshire fashion in the last part of the 16th century. (Photo: Muriel Carrick 1994)



Plate 9. (Left) Detail of the central area of the painting during conservation, showing a cleaning test using a Wishab silicon sponge. The surface dirt was particularly dense in this area, but was easily removed with light mechanical action. (Photo: Tobit Curteis 1994)

Plate 10. (Below left) Detail of one of the central arabesques during cleaning. The loss of the upper paint layer has clearly exposed the green ground layer in a number of areas. (Photo: Tobit Curteis 1994)

Plate 11. (Below right) Detail of the lower area of the painting after conservation. Despite the high level of damage in this area, the cleaning has exposed a great deal of the detail. The edge of the new staircase can be seen in the foreground of the plate. (Photo: Tobit Curteis 1994)





- **Plate 12.** (Above left) General view of the wall painting after conservation. Reintegration was limited to the use of toned watercolour washes used to reduce the aesthetic disruption caused by the surface loss and the bright white ground. The uncovering and cleaning of the stone, both over the lintel and within the splay of the window, considerably enhances the overall effect of the painting. (Photo: Tobit Curteis 1994)

Plate 13. (Above right) Detail of the previous plate showing the central arabesque after conservation. Comparison with Plate 5 clearly shows the effect of the cleaning and reintegration that has taken place. (Photo: Tobit Curteis 1994)

Plate 14. (Right) Detail of Plate 13 showing the upper part of the painting after conservation. The new wall on the right hand side has further obscured the coat of arms. (Photo: Tobit Curteis 1994)

