

The Treatment of Previous Repairs in an Eighteenth Century Carpet

Nicola Gentle

This paper describes the use of paint on repairs in an eighteenth century carpet to reinstate the original idea of imagery and design, and at the same time to divert the viewer's eye from visual distraction. A retouching technique using Lascaux's Sirius primary watercolour system was recently adopted in England for the treatment of one of the most important British carpets in the care of the National Trust. The carpet was designed in 1769 for Saltram House, Devon, by the architect Robert Adam. In the past, extensive overstretching repairs were carried out where the wool knots had deteriorated. Frequently the colour of the yarns used were mismatched. To remove these would have weakened the carpet's structure, but by retouching them with paint the stability of the stitching is retained and the balance of the design is restored.

Die Bearbeitung früherer Reparaturmaßnahmen an einem Teppich des 18. Jahrhunderts

Der Artikel beschreibt, wie mittels einer Farbbretusche von Alt-Reparaturen an einem Teppich aus dem 18. Jahrhundert dessen originales Form- und Farbkonzept wiederbelebt und dabei gleichzeitig die für den Betrachter störend wirkenden optischen Beeinträchtigungen zurückgedrängt wurden. Diese Retuschiermethode bedient sich der Lascaux Sirius® Wasserfarben (Primärfarben). Sie wurde kürzlich auf einem der wertvollsten Teppiche des National Trust in England angewendet, der 1769 von Robert Adam für Saltram House, Devon, entworfen wurde. Beschädigte Knoten zeigten sich in der Vergangenheit stark überstreckt, deren Reparaturfäden meistens nicht mehr der originalen Farbgebung entsprachen. Für die Restaurierung des Teppichs war das Entfernen dieser Reparaturen keine Option, da diese Maßnahme die Stabilität zu sehr beeinträchtigt hätte. Die Reparaturen wurden retuschiert und konnten somit die Stabilität des Objektes weiterhin bewahren. Gleichzeitig wurde die originale Balance von Farbe und Form wiederhergestellt.

The Saloon Carpet at Saltram House, Devon, England

Conservation work has just been completed on a very important British carpet in the collection of the National Trust, England. It was designed by Robert Adam (1728–1792)¹ the architect involved with the Saloon at Saltram House, Devon, at that time the home of John Parker, 1st Lord Boringdon (1734–1788) (Fig. 1).² Robert Adam was the most sought-after architect-designer of the 18th century and his work can still be seen in many historic houses throughout England and Scotland. In a characteristic Classical style he created harmony and balance in every aspect of an interior from the ceiling to the floor and all the details in between. The Saloon at Saltram is considered one of his finest examples. Here the design of the carpet reflects that of the ceiling in the

proportions of its layout and repeated motifs. Adam's original drawings for the carpet and the ceiling are preserved in Sir John Soane's Museum in London.³

The carpet for the Saloon at Saltram was made between 1769 and 1770 by Thomas Whitty (1713–1792) who founded his renowned carpet factory in 1755 at Axminster, also in Devon (Fig. 2).⁴ Overall, the carpet measures 13.30 metres in length by 6 metres in width and is thought to weigh around 310 kilograms. It's construction is on a wool warp and a vegetable fibre weft (possibly linen) with a shallow pile of wool knots (Fig. 3). With around 38 knots per square inch it would have been classified at the time of making as the 'best sort' in the range of Axminster's production.⁵ The scale and boldness of its design did not require a finer knot count. Much skill can be observed in its production; it is understood that Thomas Whitty used the labour of young

1

Saltram House, Devon. The East facade with the Saloon at the centre of the ground floor





2
The Saltram Saloon carpet marked out with a grid prior to vacuum-cleaning



3
Detail of the construction of the Axminster carpet

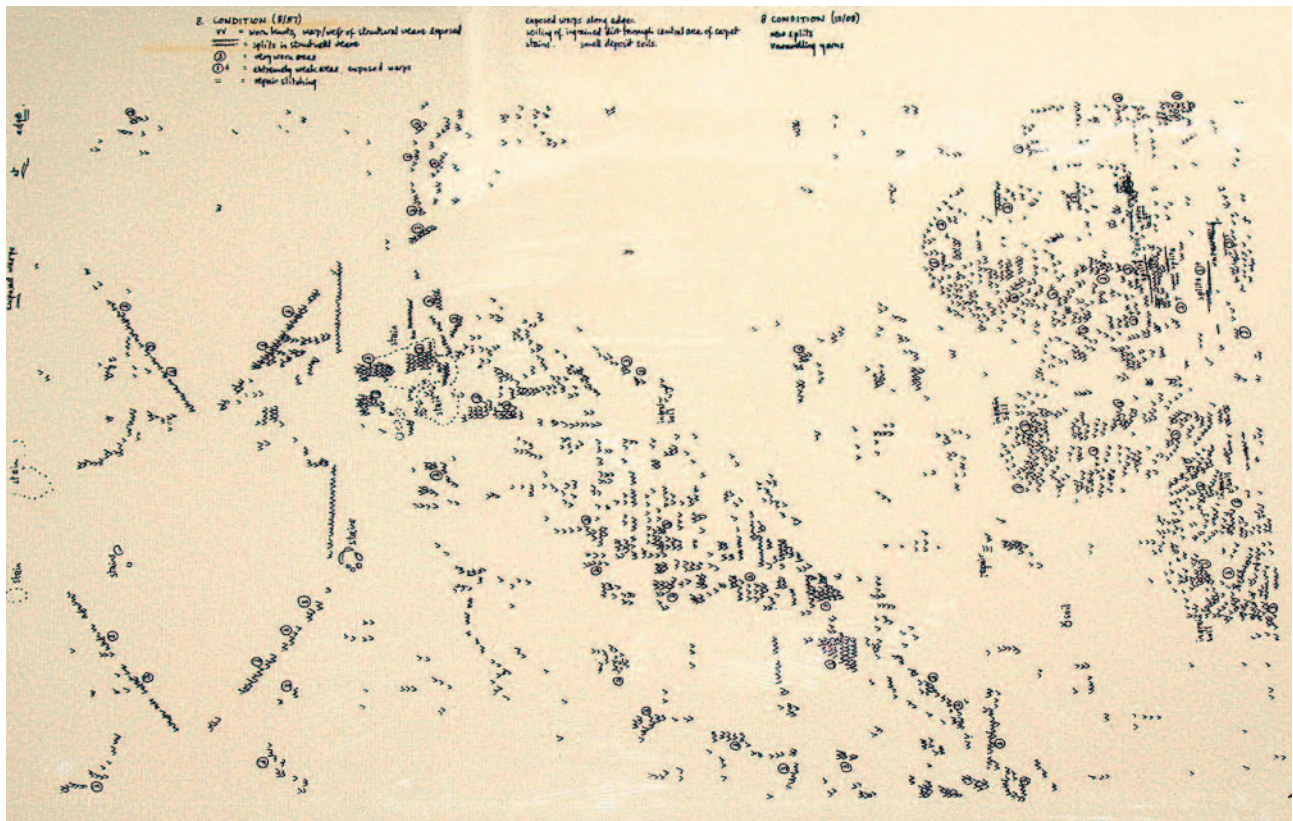


4
Photographic survey sheet 8

weavers aged around 10 to 15 years for their agility of knotting. Initially, his own children were put to good use, overseen by their aunt, Betty Harvey.⁶ The sum of £126 was paid for the carpet when it was delivered to Saltram in September 1770.⁷

Condition Surveys

Saltram was acquired by the National Trust in 1957. In the early years of the Trust ownership the Saloon carpet was certainly walked on and events such as concerts were held on it, but damage was beginning to be noted.



5
Overlay sheet 8 recording aspects of condition



6
Overlay sheet 8 recording past repairs

In 1997, the author was commissioned to make an extensive survey of the carpet, knot by knot. For this, photographic images were pieced together on sixteen A3 boards and then Melinex overlay sheets were annotated with the condition state – such as loss of pile and splits (Figs. 4 and 5). It was observed that in the past extensive over-stitching repairs had been carried out where the wool knots had degraded and the more brittle weft yarns had deteriorated causing structural break-down. During the survey these repairs were recorded on separate overlay sheets with a note on their quality and colour-matching (Fig. 6).

The repair stitching showed varying degrees of skill. In the central 'lotus' motif some repairs were particularly unsightly, distorting and damaging to both the structure and appearance of the carpet. In places coarse linen threads had been randomly run through on the reverse and then cobbled wool stitching worked on the pile face (Figs. 7 and 8). This approach was thankfully infrequent. Elsewhere, the over-stitching appeared to have been nicely worked, but very often in the incorrect colours or ones that had faded (Fig. 9).

Shadowing within the Design

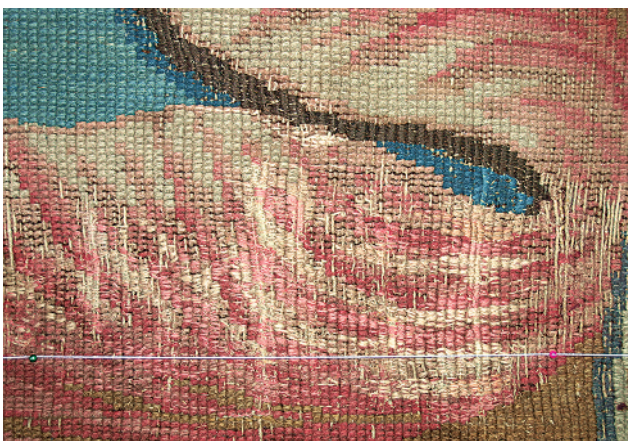
One of the key features of Robert Adam's design is the shadowing around the motifs throughout the carpet, giving a three-dimensional effect that echoes the plaster moulding on the ceiling. With time the original dull black shadow knots have deteriorated considerably, no doubt due to the use of an iron mordant in the dye – a problem commonly encountered also in tapestries. In Figure 10 the remains of the original black shadowing around the urn motif can be clearly seen on the reverse of the carpet, while Figure 11 shows that the repair over-stitching on the pile face, although made competently, is in a yellow coloured thread, upsetting the balance and concept of the design. The overlay sheets show that apart from the pink shades in the central 'lotus', most of the repairs follow the shadowing within the design (Fig. 6). Analysis of some of the repair threads revealed a combination of natural and early synthetic dyes, suggesting the over-stitching was made in the latter part of the 19th century.⁸ As well as yellow threads, those of golden, ochre, olive and green or a mixture of colours had been used. None of these repairs ever



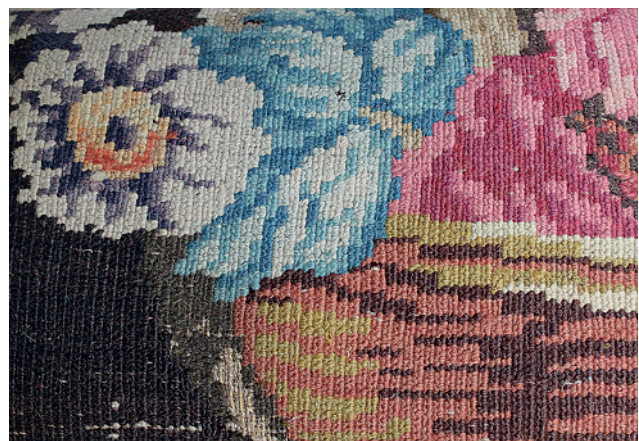
7
Linen thread repairs on the reverse



8
Unsightly repairs in central 'lotus' motif



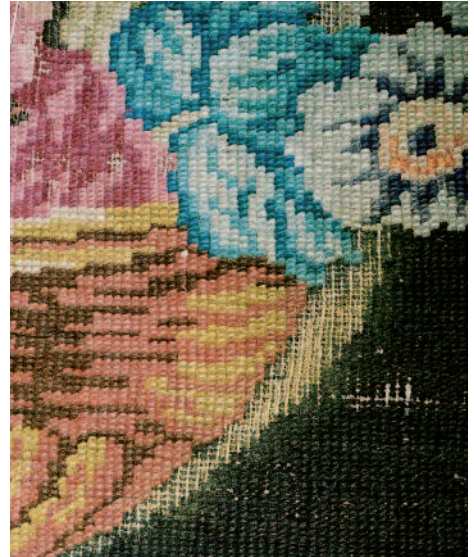
9
Nicely worked repairs of incorrect colour. Evidence of dull black shadowing on the urn seen on the carpet reverse



10
Evidence of dull black shadowing on the urn

11
Yellow repair stitching on shadowing of the urn on the pile face

12
Removal of repairs leaves weakness in the weave structure



matched the dull black of the original shadowing knots that can still be discerned underneath. The choice of bright colours for stitching over the degraded knots may seem deliberate. Was this a 19th century attempt to brighten up the carpet? That would fit with family history. In the 1880s, after years of financial troubles, Albert, 3rd Earl of Morley, returned the Parker family to Saltram and began a major programme of refurbishment.⁹

Conservation of the Saltram Saloon Carpet

Over recent years, several bids were made to raise funding for the conservation of the carpet. In 2002 and again in 2008 the author was asked to make feasibility studies regarding the possible removal of repairs. Trials were carried out to estimate the time required to remove the different types of stitching and more importantly to assess the impact on the carpet during the unpicking process and the condition of its structure afterwards. Even where the repairs were easy to pull out there was concern that remains of the original knots were being disturbed. The unpicking process was seen to leave the weave-structure very vulnerable with a need for some sort of strengthening and visual in-filling (Fig. 12). Various techniques for in-filling were considered: one possible method was to lay wool yarns across and couch them down. In 2016 funding was finally secured for work on the carpet within a larger Robert Adam Interior project, which recognised the Saltram Saloon as one of the most complete Adam Interiors still existing without alteration.¹⁰ The project was to include the conservation of the Saloon ceiling and possible cleaning of the damask wall-hangings. For the carpet cleaning was carried out in situ: first the House staff and volunteers vacuumed the carpet under the supervision of a textile conservator (the author). This was followed by surface wet-cleaning by an experienced specialist in carpet-cleaning.¹¹ Moving continuously across the carpet each section was sprayed with de-ionised water, and then with a wash



13
Unsightly repairs replaced with laid-couching and 'brick' couching

solution containing the non-ionic detergent Dehypon LS54. After working this into the pile with soft brushes, rinsing was carried out using an industrial extraction machine, which both delivers and extracts the water. The section was dried off with cotton towels and then pod fans were used, ensuring that the carpet was never saturated nor remained damp for too long.

A team of free-lance textile conservators then attached an auxiliary support to the carpet. Working with the pile face down a linen cloth backing was first fixed to the reverse using regular temporary stitches. Next with the pile face up, a permanent pattern of stitching was worked for overall strength, and pure conservation laid-couching was employed to support the weak areas, using polyester threads in just two colours that blended both with the dark ground and elsewhere with the exposed weft.

Dealing with Past Repairs

Decisions had to be made about how to deal with the past repairs. In the central area the most damaging, unsightly

ones were unpicked and replaced with a combination of laid-couching and ‘brick’ couching in appropriate wool yarns (Figs. 8 and 13).¹² Removal of the unsympathetic previous stitching was considered justified from both an aesthetic and a conservation view point.

However, the majority of repairs both in the ‘lotus’ motif and the shadowing were well enough executed, although incorrect in colour. It was known that a retouching method using Lascaux’s Sirius primary watercolour system of paints had been developed and successfully used by conservators at the Rijksmuseum, Netherlands, on previous repairs of tapestries and that the materials had been fully tested there.¹³

The paints had shown very acceptable light- and wet-fastness qualities, although reversibility of the method was seen as questionable. However, there seemed sufficient justification to use the technique since the intervention was only to be carried out on the sections of the textile that were not original. In discussion with the National Trust Advisor for Textile Conservation, Ksynia Marko, this method was considered to be an ideal solution for the carpet.

By accepting the retouching of the past over stitching the support given by the old repairs would be retained and the balance of Adam’s original idea would be regained. All the previous deliberate changes to the carpet had already been fully recorded in the survey of 1997. Any future retouching adjustments would be noted likewise on new overlay sheets. Lascaux’s Sirius primary watercolour system uses a water-based paint containing some acrylic medium. The system is comprised of five primary colours (instead of the usual three): magenta, red, yellow, cyan and ultramarine plus black and white. Because the paints come in liquid form, a full range of shades can be mixed with precision using a drop by drop

method: thus recipes for colour-matching can be noted and reproduced as required. Some trials were made on wool canvas-work embroidery samples to compare Lascaux Sirius watercolour black and Lascaux Artist Acrylic black. The results with Sirius watercolour were by far the more compatible both in use and appearance: it was observed that the paint application penetrated the repair thread without spreading to the original yarns. It created an appealing finish in contrast to the Artist Acrylic, which produced a superficial crusty layer. In January 2018, Mieke Albers, senior textile conservator at the Rijksmuseum, was invited to Saltram to give a master-class in the techniques of mixing colour and paint application. Although most of the mismatched colours occurring in repairs to the shadowing could be treated with just two coats of Sirius Black, there were many places where more guidance was welcome. This training gave the conservators involved a good start for tackling the more complex areas, particularly in the various pink shades of the central ‘lotus’ and diverse colours of individual motifs.

Application of Retouching

The retouching phase was carried out by the author and four of the textile conservators who had worked on the support phase of the project: they could recognise the repairs and also understand the condition of the carpet. For this process the established set-up on a roller-to-roller system used for the stitching was maintained, with an extra row of tables inserted to allow a longer overall view as the paint was applied, working from the centre out towards either one of the warp ends (Fig. 14).



14
Retouching repairs on the
carpet in the Saloon



15
Detail from the floral garland during
retouching repairs on the shadowing



16
Detail in Fig. 15 after the retouching
treatment



17
Motif in the floral garland with heavy
over stitching repair



18
Motif in Fig. 17 after the retouching
treatment

Application of the black paint was often quite straight-forward in the shadowing of the geometric design. The simple method of retouching not only distracts the eye from the mismatched colours of repairs, but also unifies and disguises unevenness in the stitching, dulling any sheen on the repair threads. Elsewhere, the shadowing repairs could be very close in colour to the original knots and required concentration and some discussion to distinguish between them (Figs. 15 and 16). It was especially satisfying to regain the definition of the design within the floral garlands and to reduce the shiny gold stitches to a matt black shadowing. With the retouching the clarity of colours within the flowers and the definition of the individually recognisable varieties have been restored simply by removing the disturbance of the brightly coloured repairs around them. It is known that Whitty had a particular interest in plants and botanical imagery.¹⁴

The more complicated matching of colours necessary in the central 'lotus' and other individual floral motifs was helped by the observation of the remains of original knots under the repairs or by referring to the same imagery on the other half

of the carpet (Figs. 17 and 18). The treatment has diverted the eye away from the distraction of past repairs and restored the flow of Robert Adam's design (Fig. 19).

Conclusions of the Conservation Experience

It is understood that this is the first case in the UK where such a retouching treatment has been applied to a textile object. The method has achieved a positive result with respect to the visual aspects of the carpet and the structure by retaining the support given by the well-worked past repairs. For many months the textile conservation team worked on all aspects of the carpet's treatment in public view. Interest in the National Trust's collaboration with the Rijksmuseum, Amsterdam, certainly enhanced the visitors' experience to Saltram during that time.

The overall aim of the Robert Adam Interior project is to reinstate the appearance of the Saloon at Saltram to how it would have looked at the beginning of the 19th century - that



19

The central 'lotus' motif after treatment

is, before the repairs to the carpet were made. Thus, returning the original colours to the carpet can be justified. The Saloon is considered to be one of the finest and most complete examples of Adam's interiors. The method of retouching has surely restored integrity and finesse to his design for the carpet.

Acknowledgements

I would like to pay tribute to the personnel from the National Trust who have supported this project over the years: particularly the late Sue Baumbach, Marilyn Dunn, Ksynia Marko and Neil Wressell. I thank the textile conservators who made the retouching method a success: namely Juliet Campbell, Liz Flintoff, Holly MacInnes-Hurd and Hester Walshaw. And many thanks are due to Mieke Albers of the Rijksmuseum for sharing her methods and expertise.

Nicola Gentle, ACR,
27 Stuart Road,
Exeter EX1 2SZ,
Devon, England

Notes

- 1 BEARD 1978
- 2 CORNFORTH 1967, EVANS 2012, JOHNSON 1998
- 3 Sir John Soane's Museum Collection Online: Saltram Park, Devon: designs for the house and estate, for John Parker, 1768–82. Drawings for the ceiling are dated 1768 while those for the carpet are from 1769.
- 4 AXMINSTER 2005, CHURCH 2004
- 5 AXMINSTER 2005, p. 8
9/10 knots per 5 cm (1.97 inch) in the weft direction, 14/15 knots per 5 cm (1.97 inch) on the warp
- 6 AXMINSTER 2005, p. 4. CHURCH 2004, p. 13. During observations of the carpet section by section, evidence of the diagonal change over of weft between adjacent weavers has been recorded, thus showing that six workers were employed across the carpet. The process of weaving across such a wide loom was evolved by Whitty and it made him a prime maker of his day. The textile conservators have been thoughtful and appreciative of the very young skilled weavers who made the carpet.
- 7 AXMINSTER 2005, p. 9. EVANS 2012, p. 40. JOHNSON 1998, p. 14. The equivalent cost today would be around £ 22,000, more than 24,000 Euros.
- 8 Dye analysis was carried out at the Textile Research in Archaeology facility, York.
- 9 EVANS 2012, p. 9, JOHNSON 1998, p. 51–53
- 10 The Robert Adam Interior project was able to go ahead thanks to the generosity of the Wolfson Foundation.
- 11 Glyn Charnock of Chameleon Cleaning, Norwich
- 12 Stitching was made in wool yarns over alternating double warps in a 'brick' pattern to stabilise the warps and give colour back in the weft direction. Some retouching was later made to blend in with the original colours.
- 13 ALBERS 2012. Sirius® paints from Lascaux Colours & Restauro, Barbara Diethelm AG, Zürichstrasse 42, CH-8306, Brüttisellen
- 14 CHURCH 2004, p. 16. MACINNES-HURD 2012

Bibliography

- ALBERS 2012: Mieke Albers, Colouring the Past for the Future: Retouching of Old Restorations in a Tapestry. In: A Woven Alliance: Tapestry, Yesterday, Today and for Tomorrow. ICON Textile Group symposium post-prints 2012. Edinburgh, pp. 93–100
- AXMINSTER 2005: Axminster Heritage Centre, Magic Carpets – the Axminster story, Magazette Media, 2005
- BEARD 1978: Geoffrey Beard, The work of Robert Adam. Edinburgh and London 1978
- CHURCH 2004: John Church, The tale of two weavers; the life and times of Thomas Whitty. Lyme Regis 2004, pp. 1–24
- CORNFORTH 1967: John Cornforth, Saltram, Devon I, II and III. In: Country Life, 27 April, 4 May, 11 May and 14 September 1967, pp. 998–1001, 1064–8 and 1160–4
- EVANS 2012: Siân Evans, Saltram, Devon, The National Trust 2012
- JOHNSON 1998: Ceri Johnson, Saltram, Devon, The National Trust 1998
- MACINNES-HURD 2012: Holly MacInnes-Hurd, Botanical research for Axminster carpets. In: ICON NEWS, January 2012, pp. 36–39

Credits

All photographs are by the author