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The conservation of some leather upholstery from Brodsworth Hall

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Introduction

This paper deals with a project undertaken by the Leather Conservation Centre last year. The problems encountered are commonly found, and the solutions which were worked out, may be useful to other conservators. The system of conservation was developed by Amber Rowe, who was working as a senior conservator at the Leather Conservation Centre at that time, and Salwa Joram, an intern student from Cologne.

English Heritage have recently acquired Brodsworth Hall, a large country house in south Yorkshire. The house was built in the 1860s and was continuously occupied by the same family until 1988. The decision was taken to maintain the house interior as it was found, in order to preserve the ambience of gentle ageing. To keep the worn and faded condition of the interior, only such conservation as was needed to stabilize the contents was considered. A major conservation effort was set in motion, with a time constraint as the House is due to open to the public during the summer of 1995.

Condition

Amongst other items, the Leather Conservation Centre was asked to conserve a set of eighteen matched leather upholstered chairs from the dining room. These chairs were in a range of conditions. The chairs are wooden framed with their original, deep buttoned, red leather upholstery. Many of the chairs had tears and losses revealing the padding beneath. In places the red grain layer had worn or been abraded away, leaving a cream patchy appearance.

In addition, crude repairs had been made in the past using some kind of scrim (loose woven bandage) stuck down and coloured with thick red gloss paint.

Some other furniture in the house had been treated similarly, and we were told that a man from the village had made these ‘repairs’ some time in the 1970s. These repairs had made the leather very stiff and had pulled at the surface, causing flakiness at the edges of the scrim. It also seems that a dilute coat of red paint had been applied unevenly in areas in an attempt to improve the appearance of the upholstery, but with subsequent grain loss the colour variations had become all the more noticeable. The chairs were also dusty and dirty, particularly in the deep buttoning, but the wooden frames and legs were in good condition (Fig. 1 shows a chair before treatment).

Treatment

In close consultation with English Heritage curators, a method of conservation was worked out to reduce the speed of deterioration of the chairs with minimum intervention. It was decided that it was unacceptable to disassemble the chairs for conservation, and that the old repairs should remain. A system of steps was set up which was adaptable to the various conditions of the chairs.

1. Cleaning  
Each chair was carefully brush vacuumed, the deep buttoning and the scrim repairs being particularly dusty.

2. Consolidation  
The lifting surface flakes, generally found around the edges of the previous repairs, were treated with 5% Paraloid B72 in toluene to consolidate. Then the flakes were set down in place using EVA Vinamul 3254. These materials were selected for their ease of use and stability.

3. In-painting  
In the areas where the grain layer was missing, leaving a bright cream colour, a diluted solution of Stahl leather dyes was painted on to reduce the visual impact.
4. Replacement of leather losses
In the places where the leather was missing, the cream kapok or black horse hair padding was visible.

Thick Japanese tissue (from Falkiner Fine Papers) was coloured using acrylic paints (Winsor and Newton) to tone with the red leather. This was cut to shape and placed behind the area of loss. If necessary, the edges of the leather were tacked down onto the paper using a little Vinamul 3254, although for the most part the paper insert was held in place by the pressure of the surrounding upholstery. The Japanese paper has an even and natural texture which blends well with the leather, whilst still being visible as a repair. It is also easy to colour and use.

5. Support and protection of the leather
Different methods of holding the surface together, strengthening the leather and reducing further damage to the flaking grain layer were considered. The seats and the seat backs, which had sustained the most damage, required support with an appropriate material. As it was not possible to work from the underside of the leather, weak and torn areas would have to be supported from the top surface. The most suitable material was found to be a woven nylon net, which has been used widely in textile conservation. When the net was dyed to tone with the upholstery, it was only slightly visible and also had the effect of suggesting a more even colour and improving the visual appearance of the leather.

All of the chairs required netting on the chair seats, and most of the chairs needed either the top of the chair backs and the reverse of the back covered, or both. The woven nylon net (Dukerie Textiles, Nottingham) was dyed specially for the chairs using Ciba Geigy Lanaset dyes. It was then pre-coated with Beva 371 diluted in toluene and Genclene (1,1,1-trichloroethane) to which a small amount of red/brown Stahl leather dye had been added to reduce surface ghosting. Beva 371 was selected for its long term stability, reversibility and ease of application. It was adhered to the surface of the upholstery by heat activating the adhesive film using a heated spatula set a 80°C. The net for the seats was pasted only around the sides, leaving the top without adhesive.

The net was not completely adhered to the surface of the seat because it was better from a reversibility point of view to have as little of the adhesive in contact with the leather as possible.

It was also considered that to cut and shape the net into the areas of deep buttoning would be too time consuming. If netting was required on the top of the chair backs, it was trimmed unevenly across the front to disguise the edge (Fig. 2 shows a chair after treatment).

Conclusion
Once this system was established, it was found to be applicable to other upholstered leather furniture items from Brodsworth Hall, either wholly or in part. Aspects of the treatment have also been used in other projects unrelated to the Brodsworth Hall collection, the Japanese tissue infills having been particularly useful. It is recognized that this treatment is by no means a permanent solution. The conservation of the interior of Brodsworth Hall is a very large project, with constraints on time and money, and having a policy of keeping the contents looking used. However, the chairs are stabilized for the moment, until Brodsworth Hall is up and running and a rolling conservation programme can be started.

Product Information

Beva 371 (thermoplastic wax/resin mix adhesive): available from AP Fitzpatrick Studio 1
10-22 Barnabas Road
London, E9 5SB
(The sole authorized producer in Europe is:
C.T.S. s.r.l., Via Plave 20/22,36077 Altavilla Vicentina (VI), Italy)

Japanese Tissue: available from Falkiner Fine Papers
76 Southampton Row
London WC1B 4AR

Lanaset Dyes: available from Ciba Dyes and Chemicals
Hulley Road
Macclesfield
Cheshire SK 10 2NX
*Nylon bobbin net*: available from Dukerie
Textiles and Fancy Goods
Fearfield Buildings
4 Broadway
Lace Market
Nottingham NG1 1PR

*Paraloid B72* (ethyl methacrylate co-polymer, in solution with toluene): available from conservation suppliers.

*Stahl leather dyes* (water soluble dye solution): available from Stahl GB Ltd
Bakewell Road
Loughborough
Leics. LE 11 ORD


Fig. 1. *A chair from Brodsworth Hall before treatment*

Fig. 2. *The same chair after treatment*