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Case study

Alternative methodology for traditional interventions: A colonial painting and its lining with the nap bond method

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ABSTRACT

Lining treatments used in the conservation-restoration field can be classified according to the adhesive used. Traditional methods include those based on glue-starch and wax-resin whilst those using synthetic adhesives are considered alternative methods. Rise of new materials and mechanical equipment like the low-pressure table expanded possibilities of intervention. However, alternative methods require previous exhaustive testing of procedures, tools and supplies. This paper describes research carried out by an interdisciplinary team of conservators, historians and chemists from the IIPC-TAREA that elucidated fundamental aspects of a painting of San Luis Gonzaga from the South American colonial period, deteriorated but with an important documentary value. In the case here presented a minimal intervention restoration criterion was applied and the nap bond method used proved to be the most suitable alternative lining for this particular situation.

1. Introduction

The oldest remaining catholic temple in Buenos Aires city is the church of San Ignacio de Loyola, built by the Jesuits by the end of 17th century. Intentional fires of 1955 [1] led into a comprehensive recovery work in 2011 during which eight canvas pieces of different sizes and shapes were found within the altar's table, under several layers of dust and rubbish (Fig. 1). Eventually each piece took its place and the set gave the idea of the large painting on canvas to where they belonged, even when a big portion was missing.

At the lab, researchers could identify in those fragments a painting of San Luis Gonzaga considered lost by the vernacular historiography from the 1940s. Two additional fragments belonging to the same painting were found later and nowadays belong to the heritage of the Isaac Fernández Blanco Hispanic American Museum [2]. Discovery led to questioning the traditional concept of reintegration and posed a new challenge, turning this case into an unusual conservation example.

The role the painting played on the altar can explain the serious canvas deterioration. Located at the niche, it was part of one of the props of the Church altarpieces [3]. It takes this name by the actionable mechanism, which completely closes the altarpiece, like a theater stage curtain [4], making the image visible or not according to liturgy needs. The painting moves from right to left in most of the cases or, in special cases like the present one, it moves upside down. In this case, at certain moment the mechanism probably broke whilst the painting was laying down, it remained there and suffered severe damage.

Even when San Luis Gonzaga canvas was a devotional object, nowadays it appears as a mere group of fragments. However, having in mind that these remnants witnessed cultural, artistic, historical, institutional and religious facts, it was agreed to priorize their documentary value rather than their original nature of a cult object or art work [5]. That decision led into a complex program of experimental techniques based on the re-treatability [6] and minimal intervention criteria [7] that could enhance that documentary value.

2. Materials and methods

Looking for details that could confirm relationship between the set of eight pieces and the two others belonging to the Fernández Blanco Museum, textile fibers and pictorial samples were contrasted. Density of the tissue and morphological identification of fibers were established by optical microscopy [8].

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Fig. 1. a: San Ignacio altarpiece, where fragments were founded; b: detail showing the fragments at the moment of recovery within the altarpiece's table.

Thereafter the fragments were cleaned and pictorial layer in extremely loose condition was consolidated with rabbit-skin glue. In all the eight fragments, deformations were corrected by indirect and gradual humidification. Water flow was controlled by a Gore-tex® sheet and then the fragments were kept under weight until complete drying. In order to join the painting fragments, hemp threads previously embedded in acrylic adhesive were softened and pressed on the back of the fabric with heated spatula [9]. Once the eight painting fragments were bond together, the structure was reinforced employing a completely reversible treatment, choosing the so-called alternative lining: nap bond or nap bond lining [10]. This system, a type of contact adhesion, demands frames or screens for the homogeneous distribution of the adhesive. For this purpose, three devices were tested: two different polyester monofilament screens from Gasatex® and one aluminum sheet. The latter was 0.8 mm thickness with 2 mm diameter holes regularly distributed at a rate of 4 per cm^2.

For the reinforcing fabric linen gauze (22 threads per cm^2) was selected. In addition, different types of adhesive mixtures compatible with nap bond system and based on PlextolB500® and methylcellulose were tested. The lining adhesive mixture was spared on the reinforcing fabric through the selected device – the aluminum sheet. The painting was then supported on the reinforcing fabric impregnated with adhesive and these were placed in the suction table. After three hours of air flow, structural treatment finished with the original canvas attached to the reinforcing fabric, being the surface completely dry.

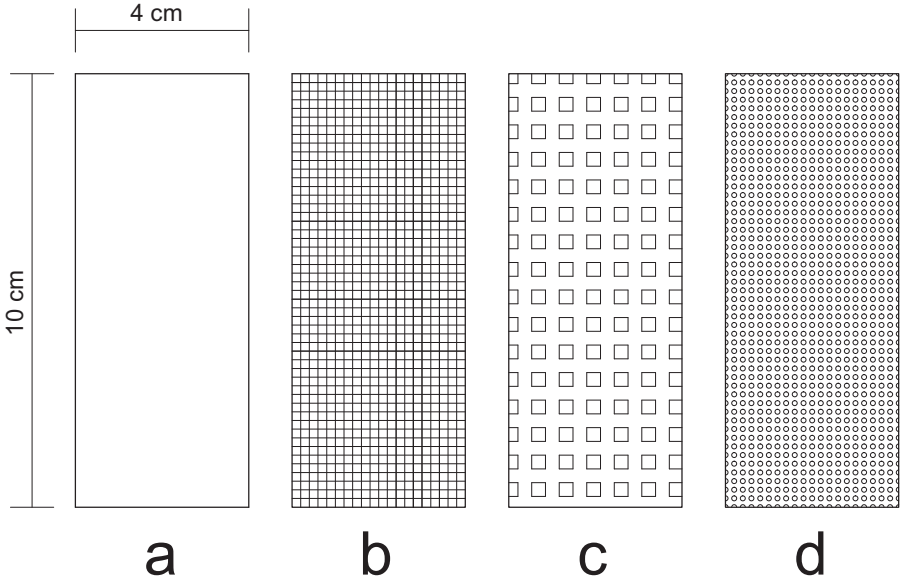

Fig. 2. Screen selection based in the amount of dry adhesive deposited on linen sample: a: control sample, weight 0.4 g; b: Gasatex® monofilament screen, 50 holes per cm^2, adhesive deposited 0. 5 g; c: Gasatex® monofilament screen, 4 holes per cm^2, adhesive deposited 1 g; d: aluminium sheet, adhesive deposited 0.2 g.

Fig. 3. a: individual fragments and their position in the painting before restoration; b: San Luis Gonzaga painting after restoration.

3. Results and discussion

Textile density of the original canvas varied between 25 and 27 threads per cm^2, as expected when the weaving is manual. Irregular threads thickness and presence of knots confirmed this assumption. Furthermore, dislocations, cross-marking, average fiber diameter and the macroscopic characteristics were compatible with presence of linen [11].

Given the value of the painting as an historical document, treatment to be chosen would completely avoid veiling or modifying the painting. Prototypes, previous trials and relevant bibliography were checked [12–14], to finally choose the nap bond method. Developed by Vishwa Mehra in 1972, it is an adhesion technique by cold contact [15]. The fundamental characteristic of this procedure is its easy removal, whilst in traditional lining methods [16] texture and color saturation of the painting usually suffers alteration [9]. During 1974 Conference of Greenwich on lining, in light of thoughtful critical review on criteria and hitherto existing practices [17] the nap bond system meant a change in the lining concept, since it is a less invasive and more respectful treatment. As the use of nap bond reduces the level of humidity needed and the amount of adhesive employed, it minimizes any alteration of the piece and achieves an easily removable lining. In addition, avoids original canvas impregnation and high temperatures, factors both generating important alterations in intervened painting [18] in most of the cases.

A screen is needed to dose the lining adhesive. The aluminum sheet was chosen since through this screen the supply of lining adhesive was uniform and the amount was enough to achieve effective adhesion (Fig. 2). At the same time, different lining adhesive mixtures were tested. A Plextol B 500® dispersion thickened with methylcellulose to 8% in water (20: 80) resulted in the most appropriate combination due to the viscosity obtained [13,19].

At last, the painting was applied on the impregnated linen gauze and favored by the use of suction table both surfaces bonded successfully.

4. Conclusion

Extreme deterioration of San Luis Gonzaga's painting and its treatment constitute a unique case in Centro TAREA. Even though the union of all recovered fragments nearly completes the Saint image, 40 percent of the painting remains lost and none of his traditional attributes can be found in the painting (Fig. 3) [20].

The attempt to retrieve a document from a deteriorate painting, triggered the setting-up of a laboratory for testing alternative technologies with seldom used materials and techniques. Basic guidelines in the restoration field as the use of reversible materials and minimal intervention, guided this project. Although the nap bond lining is considered an alternative treatment for particular cases, in fact very few due to its weak adhesion [9], in this one it turned out ideal for the painting vestiges [15] where protecting the documentary value of the piece was essential. In addition, the possibility of re-treatability of the object meant an essential quality of this lining method. In this way, any fragments that could be found in the future could be added and thus completing the ancient Saint image.

In conclusion, restoration of the fragments allowed recovering a legible image, which even with huge lacunae but without removing signs of its history, evokes the representation of San Luis Gonzaga. Use of an alternative technique allowed maintaining this cultural object as an historical document of the past.

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