

RYŪKYŪ ROUND LACQUER BOX: CHROMATIC REINTEGRATION METHODOLOGY

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ABSTRACT

An exemplar from the Ryūkyū Islands (Japan), this red lacquer circular box dates from c.1590 and is part of the collection of the National Museum of Ancient Art (MNAA) - Lisbon, Portugal [1-2].

The conservation and restoration intervention carried out at the José de Figueiredo Laboratory (LJF), considering its state of conservation with a high risk of lacquer detachment and consequent loss of a large part of the decorative elements, allowed the study and definition of methodologies, including in the treatment of chromatic reintegration [3]. Its condition, the type of intervention, as well as its subsequent placement on display, motivated the reintegration method chooses and its application, which aimed to improve the reading and decorative understanding of the box. The use of extra-fine quality gouache in the mimetic reintegration executed ensured the necessary compatibility and stability with its constituent materials.

Keywords

Ryūkyū; Box; Red lacquer; Chromatic reintegration; Gouache.

1. INTRODUCTION

This box (fig. 1) made mostly with red lacquer from the late 16th century and attributed to the Ryūkyū Islands (Okinawa), belongs to the MNAA's furniture collection (inv. 4 Cx) [1-2]. It is a circular box with a

flat lid and base, and rounded sides. The base has a recessed rim and an inner edge to fit the lid [4].

The overall dimensions are 16 cm high by 46 cm in diameter.

The wooden support of *Erythrina orientalis* (L.) Murray (*deigo*) and clay, precedes the lacquer surface in red, Vermilion, (fig. 2) and black [2-7]. The gilded decorations (Au) represent vegetal and geometric elements [1; 6]. The inside of the box contains sprinkled metallic powders in its decoration [5].

A metallic plate, with the number 4 engraved, is applied inside the base, which is an old reference to its inventory number. In addition, the inscription *ESPERANCA LISBOA* can be seen on an old paper seal glued to the bottom of the base, identifying its provenance, the Convent of Nossa Senhora da Piedade da Esperança [2-4].



Figure 1 – Lacquer box. Before intervention. Photo: Débora Sarmiento and Margarida Cavaco (DGPC-LJF).

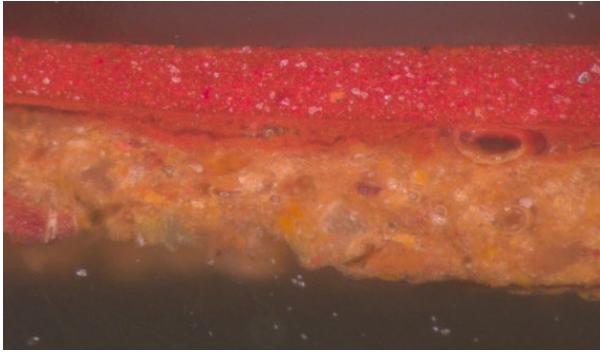


Figure 2 – Cross-section of red area (side of the box), 110x.
Photo: Ana F. Machado (DGPC-LJF).

1.1 Lacquers from Ryūkyū

In Portugal there are several exemplars of this type of object (*tundabon*), also known as “packaging boxes”, to guard porcelains (Borges de Sousa, 2019, p. 65) [1]. Ryūkyū's lacquer production features influences from Japan, China Ming and Southeast Asia, attending to the established trade relations with the Fujian region [1-2; 8-9]. The utilisation of local woods, such as *Erythrina orientalis* (*deigo*), was a constant, as can be seen for the structure of the present box [1; 7].

In China and the Kingdom of Ryūkyū, the production of red lacquer objects in the late 15th century became frequent [1]. However, there is a difference in the hue of the lacquer. The intensity of red of the Japanese islands was greater [1]. In addition, the gilded decorations, applied over red lacquer, become very appreciated in the 16th century [8].

In objects of the same type, the lid acquires decorative relevance because it has various elements placed in its centre [2]. Concerning the decorative grammar, “flowers, birds, landscapes and geometric elements ... windings and bands decorated with greeks” are usually represented (Borges de Sousa, 2019, p. 65) [1]. Specifically for the lacquer box under study, only floral and geometric elements, windings and traces of a band of greeks are observed.

1.2 Conservation and Restoration intervention

In the assessment of the conservation state, were noted: openings joints of the rims (fig. 3), support lacunae caused by xylophagous insects' action (fig. 3); high risk of lacquer detachment (fig. 4); polychrome layers lacunae (fig. 3); wear of the gilded decorative elements; high accumulation of aggregated dirt and biological colonization (fig. 5) [3].

An extensive area of polychrome lacuna was visible on the top of the lid, with only a few traces of decorative elements remaining (fig. 5) [3]. In this area, the biological activity was mostly over the surface of the clay structure, leading to its wear [3].

The action criteria of the conservation and restoration intervention were defined in collaboration with the museum. The main objective was to ensure the material stability of the object, not forgetting its aesthetic and artistic values. Therefore, several conservation and restoration treatments were carried out, such as fixing lacquer surfaces, mechanical and chemical cleaning, filling lacunae and chromatic reintegration [3].



Figure 3 – Opening joint, support and polychrome layers lacunae. Photo: Débora Sarmento and Margarida Cavaco (DGPC-LJF).



Figure 4 – Lacquer detachment. Photo: Débora Sarmento and Margarida Cavaco (DGPC-LJF).



Figure 5 – Box with extensive area of polychrome lacuna on the lid. Photo: Débora Sarmento and Margarida Cavaco (DGPC-LJF).

1.3 Mimetic Chromatic Reintegration

As it was not intended nor would it be possible to restore the whole of the missing original, the chromatic reintegration aimed to create the compromise of uniform the surface and improve the reading of the object [3].

The chromatic reintegration method chosen was the mimetic one. Its aim was to reproduce and apply the original surrounding colours (of clay or lacquer) on the lacuna areas identified [3; 10]. This reproduction was achieved by mixing of several paints on the palette until the desired tone was obtained [10]. The paints were chosen through of decomposing the original colours of the box [10].

Since the aesthetic concern was present in the intervention carried out, also motivated by its placement on display, from the optical point of view it was intended that the retouching was not perceptible to the general public and that its differentiation was ensured by the material applied, the gouache [3; 10].

2. MATERIALS AND METHODS

2.1 The Gouache

The Gouache is a paint technique characterised by its solubility in water and opacity, obtaining a matt effect in its application [11]. This is due to its composition, which includes white pigments or additives [11-12].

As for the binder, it may contain gum Senegal, gum Arabic or dextrin, the latter also of more recent use and as this case proves because the *Royal Talens* extra-fine quality gouache tubes, selected for this purpose, have it in their composition [11; 13-14].

The dextrin, a polysaccharide with low molecular weight obtained from starch, is a water-soluble polymer, thus ensuring its complete compatibility with the clay base of the box [14-15].

Therefore, the gouache technique was chosen for retouching due to the stability of the material applied, compatibility with the box's constituents, reversibility, texture and desired final matt finish.

2.2 Methodology

On the lid, attending the lack of decorative elements, it was decided only to homogenize the surface, reintegrating the wear spots of the clay structure to its colour (fig. 6 - arrow). On the rim of the lid and base, where most of the support lacunae were found, they were filled on the clay layers level and reintegrated to its colour (fig. 7 a-b). In these areas, to obtain a colour identical to the clay, were mixed some *Royal Talens* gouache paints: *Yellow Ochre* (227), *Magenta* (397), *Burnt Sienna* (411) and *Black Intenso* (703) [16].

To restore some of the decorative elements represented on the sides (lid and base), small areas were reintegrated with red colour, similar to the colour of the lacquer, and after were executed golden lines to reproduce the decorations (fig. 7 c-d). These lines chromatically resemble the original decorative grammar. To obtain the red colour, the *Royal Talens* gouache tubes *Vermilion* (311), *Magenta* (397) and *Black Intenso* (703) were used. For the golden lines, the metallic colours were mixed from the same type of extra-fine gouache, *Light Gold* (802) and *Deep Gold* (803) [16].

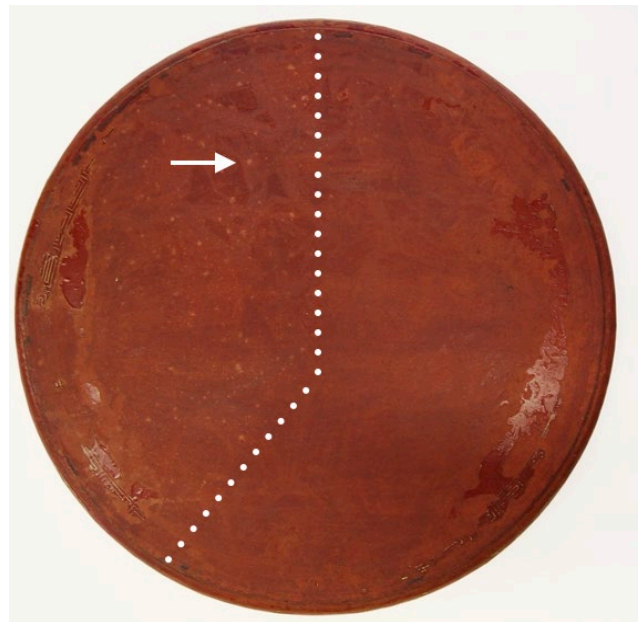


Figure 6 – Left - Before the chromatic reintegration; Arrow - small wear points. Right - After the chromatic reintegration. Photo: Débora Sarmento and Margarida Cavaco (DGPC-LJF).



Figure 7 – a) Before the chromatic reintegration of the filling area; b) After the chromatic reintegration (arrow); c) Before the chromatic reintegration of small areas; d) After the chromatic reintegration (arrows). Photo: Débora Sarmento and Margarida Cavaco (DGPC-LJF).

3. RESULTS AND DISCUSSION

Considering that most of the reintegrated area corresponds to the colour reproduction of the clay, optically characterised by the absence of gloss, the matt effect of the gouache ensured its mimicry.

On the sides, the reintegration of all the missing decorative elements could have been reproduced according to the repetitive decorative grammar. In the reintegration of the lid, however, it would have been necessary to cover the entire clay surface in the red colour of the lacquer and to draw a band of greek motifs based on the existing traces (fig. 8a). The digital reconstruction of part of the original decorative theme of the lid (fig. 8b), based on the graphic and documentary elements at our disposal, allowed us to realize that its reintegration would give a wrong perception of the object, since the composition of the central decorative elements would always be missing. As such, the mimetic chromatic reintegration carried out was based on a compromise. On the lid, we only opted for the reintegration of the fills and wear points of clay (disturbing elements to the reading), and on the sides we reproduced just some missing decorative elements, of small areas and previously chosen for the effect. In this way, it was possible to improve the perception of the whole (fig. 9-10).

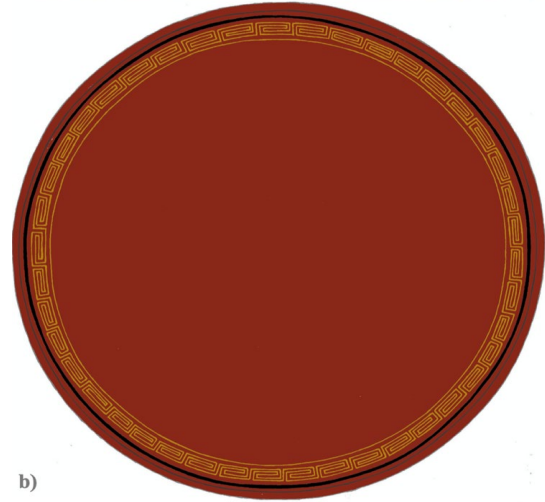


Figure 8 – a) Traces of the original decoration; b) Digital reconstruction. Photo: Débora Sarmento and Margarida Cavaco (DGPC-LJF).



Figure 9 – Lacquer box. After intervention. Photo: Luís Piorro (DGPC-LJF).



Figure 10 – Lacquer box in the Exhibition, MNAA (top left). Photo: Débora Sarmento and Margarida Cavaco (DGPC-LJF).

4. CONCLUSIONS

The conservation and restoration intervention ensured the stability of the box and the type of chromatic reintegration executed guarantees its greater artistic fruition. The choice of the mimetic method was mainly due to the strong aesthetic component present in the intervention carried out, largely also motivated by its subsequent exhibition. The necessary imitation of colour, texture and absence of gloss was assured by the choice of a stable material and compatible with the box such as the gouache.

Its display in the MNAA temporary exhibition, *Asian Luxury. Porcelain, Lacquer and Silk - From Consumption to Appropriation*, and its inclusion in the respective catalogue only add further value to an object that was previously in the Museum's reserves, attending to its state of conservation [1-2]. The missing gilded decorative elements did not disturb the reading of the object and the whole exhibition, due to the visual effect achieved through the reintegration performed.

In future conservation and restoration interventions, the chromatic reintegration methodology followed here may be reproduced on objects of the same type with a vast extension of lacquer lacunae areas.

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