

RESTORATION OF POLYCHROME WOOD SCULPTURE: A CASE STUDY WITH HIGHLY WEAKENED POLYCHROME

Juliana do Amaral Leopaci (1)
Mariah Boelsums (2)
Fernanda Bredariol (3)

- (1) Atelier de Conservação e Restauro de Obras de Arte S. Jorge - ACROARTE; Açores/PT, juleopaci@gmail.com
(2) Culture Secretary of Federal District; Brasília/BR; mariah-boelsums@hotmail.com
(3) FB Conservação e Restauro; São Paulo/BR; bredariol.fernanda@gmail.com

ABSTRACT

This article presents a case study of a polychrome wood carving sculpture representing Jesus Christ crucified. The piece belongs to the Chapel of Nossa Senhora da Glória, located in the district of Ressaca/Carandaí, Minas Gerais, Brazil. It was in a poor state of conservation, especially the very fragile polychrome, impairing the work's legibility. From the analysis of the state of conservation of the object, four important points were considered to support the proposed treatment: stability, reversibility, aesthetic legibility, and the potential oneness conceptualized by Cesare Brandi, which aimed at the stability of the material that would guarantee the potential oneness of the work without creating a historical and artistic falsehood. These points are directly linked to the modern techniques and resources used, as well as the intention to maintain the integrity and authenticity of the work. The entire polychrome process was of great importance to acquire its stability, due to the presence of four types of lacunae. Lastly, the chromatic reintegration, in which the pointillism technique was used, aimed to be distinguishable from the pictorial layer of the work. Therefore, this study aims to present the restoration process of a polychrome wood sculpture and, mainly, to demonstrate the importance of chromatic reintegration to insert and ensure aesthetic legibility and a potential oneness of the work.

Keywords

Polychrome; Stability; Wood; Sculpture; Pointillism.

1. INTRODUCTION

A polychrome wood sculpture representing a Crucified Christ was restored by the Fundação de Arte de Ouro Preto (FAOP) through the Applied Course on Conservation and Restoration. Ouro Preto Art Foundation works to preserve community collections, incorporating them as teaching materials in the training of technicians in conservation and restoration for the mentioned Foundation.



Figure 1 – Front and back of the polychrome wood sculpture before restoration. Photo: FAOP, 2015.

The piece of art in question was restored in 2015 and 2016 under the supervision and guidance of FAOP professor Mariah Boelsums and a team composed of three students in the training in the applied course: Juliana do Amaral Leopaci, Fernanda Bredariol, and Elen Rose Carvalho de Souza.

Concerning the sculpture, it came from Nossa Senhora da Gloria Chapel, located in the district of Ressaca / Carandaí, Minas Gerais. The Chapel is an "original and preserved example of the religious architecture of Minas Gerais from the colonial period" (p. 32) [1], in Rococo style, and simple features that approach the neoclassical composition. It is considered the oldest architectural reference in the city of Carandaí which dates to the 18th century, and, in addition, it became a place of expression of local cultural manifestations, highlighting the Nossa Senhora da Glória (Our Lady of Glory) annual celebration, which takes place every August.

Due to its peculiar characteristics and the values added to its history, the Chapel was listed as a historical landmark in 2008 by the State Council for Cultural Heritage - CONEP.

It is intended to address the criteria and techniques used for the chromatic reintegration of the sculpture representing Christ Crucified. Therefore, the construction technique and the state of conservation of the sculpture will be described, focusing on the aspects of its polychrome and, later, the theoretical and technical discussion about the chromatic reintegration technique used in the sculpture will be presented.

2. MATERIALS AND METHODS

This article reports a study of a sculpture from the Brazilian colonial period, in which it is possible to identify a great diversity of materials and construction techniques used, being considered as an example of polychrome wood sculptures from the State of Minas Gerais, highlighting the inseparable character between form and color existing in such pieces.

It is, therefore, a devotional sculpture representing the Crucified Christ. Such a sculpture falls into the category of a large image, that is, a sculpture "(...) *free in space, in general, it is worked on the front and back, allowing different points of view within the space in which it is inserted, not adhering to any fund, as a relief.*" (free translation, p.39) [2].

It is characterized as an entire image in solid wood, without articulation, being considered a static work and

formed by three main blocks: base, cross, and the figure of Christ.

In addition to the main blocks, the secondary blocks, which are formed by the two arms of the body of Christ – the left arm and the right arm - and by the two rods that form the structure of the cross - the vertical and the horizontal rods, stand out. There is also a metal plate with the inscription INRI (Jesus Nazarenus Rex Iudeum) fixed to the front face of the cross.

In this way, the sculpture is composed of seven blocks: base, vertical pole, and horizontal pole of the cross, metallic plate, body, and the two arms of Christ.

The use of blocks is a constructive resource that assures both the stability of the support - due to the positioning of the wood fibers - and the aesthetic improvement of the precise details in the carving of the sculptures. According to Coelho (apud BRUSADIN, free translation, p.144), the use of blocks begins in the mid-eighteenth century:

Sculptures made up of many blocks began to be made, with the main block being the most important part of the body, the other blocks forming arms, hands, or complementary items. This allowed for a more efficient and gentle way of carving some parts of the body, such as hands and fingers. [3]

Regarding polychrome, which can be understood as "(...) *the cover or covers, with or without preparation, performed with different pictorial or decorative techniques, which totally or partially covers sculptures, architectural elements to provide these objects with a finish or decoration*" [4], it can be considered that the sculpture presents simple polychrome, as it does not present ornamentation or aesthetic details of technical complexity.

Methodologically, the study of the polychrome of this sculpture was divided into three parts: the figure of Christ, the base, and the cross; considering each of these parts presents different stratigraphies from each other.

To study the pictorial strata that constitute the polychrome of this sculpture, two techniques were used: the first, of a non-destructive character [5], was based on the organoleptic analysis of the loss areas of the pictorial layers, seeking to identify the strata from the lacunae that already exist in the work; and the second, of a destructive nature [5], was based on the opening of prospecting windows, in previously selected locations, to confirm the strata of polychrome. By using these methods, it was possible to know the polychrome of the piece, as well as to plan interventions based on the data collected.

Regarding the figure of Christ, the predominant pictorial technique was skin color, also known as carnation. In addition to the sizing layer and the preparatory coating, it was possible to observe, through the areas of pictorial loss, the existence of two chromatic layers in the flesh: one composed of a darker shade of pink and another underlying layer composed of a lighter shade of pink. Under the outermost layer of skin color, there were reproductions of bruises that were located on the hands, feet, knees, neck, shoulders, and both sides of the hips.

The perizonium drapery had an adhesive layer, a preparatory coating, and a pictorial layer in white, and the cord had a layer of golden glitter, which was oxidized.

Regarding the hair of the Christ, it had two pictorial layers, the outermost in black and the underlying in brown, in addition to the preparatory coating and adhesive layer.

The base and the cross had similar polychromes, consisting of an adhesive layer, preparatory coating, green pictorial layer, blue pictorial layer, and blue-grey pictorial layer. The only difference to be mentioned is that in the cross, there was an additional layer of brown color between the preparatory coating and the green pictorial layer.

Furthermore, the figure of Christ, which was the only part of the piece covered with varnish, presented a thin and yellowish layer of the material, arranged heterogeneously on the pictorial layer.

2.1. State of conservation

As this article focuses on the conceptual and technical discussions for the treatment of pictorial lacunae in the sculpture, the description of the state of conservation will be more detailed concerning polychrome, presenting in a very generic way the damage to the work's support.

That said, the support had damage related mainly to xylophagous insect infestation and the natural movement of the wood, which caused several fissures and cracks throughout the work. One-off interventions were also identified with epoxy resin on the fingers of the Christ figure and on the base, where there possibly had been a knot in the wood.

Regarding polychrome, the work was in a precarious state of conservation, with an excess of superficial dirt adhered to the entire length of the sculpture: in Christ figure, there was a high amount of polychrome loss,

sometimes leaving the base of preparation or the exposed support, creating interruptions in the enjoyment of the work and considerable aesthetic noise; and on the cross and the base there were punctual losses of polychrome.

It is worth mentioning that there was a yellowish layer of oxidized varnish present throughout the figure of Christ, even over the pictorial lacunae, confirming that varnishing was done in a later intervention.

In general, all the pictorial strata of the sculpture were extremely fragile, in detachment, and with a high degree of cracking, especially in the figure of Christ since the base for the preparation of the skin color was powdery and exposed.

After the analysis from the organoleptic exam and the windows of prospection, we have detailed and classified the artwork conservation regarding polychrome, as follows: superficial and adhered dirt, oxidized varnish on the figure of Christ, pulverulence on the underlying pictorial layer of the carnation, cracking on the pictorial layer over the 3 blocks, loss of the preparation coat and detachment of generalized polychrome and repaintings with losses, cracking and paint lifting.

2.2 Intervention proposal

The kind of intervention proposed here ensures stability, reversibility of the materials used, aesthetic legibility, and the potential oneness that Cesare Brandi (1906-1988) postulates in his book *Theory of Restoration* [6]. According to Brandi, the history of the artwork must be respected, the extension of its useful life must be sought, and, above all, to allow its return to the place of origin or assign a new function or destination to the art piece are other factors that must be taken for granted. These four points are directly interconnected with the modern techniques and resources that were used in the restoration process of this artwork as we have sought to maintain the integrity and authenticity of the piece. Therefore, the intervention proposal was to:

- I. fix the pictorial layer with priority
- II. dismantle the artwork;
- III. clean the artwork mechanically
- IV. protect the piece against xylophagous insect infestation;
- V. remove the epoxy adhered to certain parts of the pictorial layer and between the block fittings;
- VI. remove the oxidized varnish;

- VII. consolidate the support, in the loss of the base (deteriorated base), cracks, and fissure;
- VIII. clean the surface mechanically;
- IX. level the lacunae in the pictorial layer completely
- X. complete and restructure the artwork support
- XI. treat the metallic elements of the piece;
- XII. do the chromatic reintegration using the pointillism technique;
- XIII. apply a final coat of varnish.

3. RESULTS AND DISCUSSION

Here, the theoretical and conceptual criteria of conservation and restoration that permeated the intervention of chromatic reintegration in the lacunae in the polychrome of the sculpture of Christ Crucified will be discussed.

First, it is necessary to define lacunae as “interruptions in the figurative fabric of a work” (p.58) [7]. From the moment these lacunae gain prominence, they become figures and the work of art itself ends up in the background, establishing an inverted figure-background relationship and generating significant noises in the enjoyment of the work.

Cesare Brandi in his book *Theory of Restoration*, dedicates a chapter to the analysis of lacunae in works of art. For this, the author uses a concept of psychology called Gestalt and through the relationship between figure and background, one of the Laws of the Organization of Perception, he analyzes and interprets the lacunae in cultural goods. Brandi establishes, therefore, that from the moment the lacuna has the potential to invert the natural perception of figure and background in a work of art, the restorer must intervene to ensure the work regains its artistic potential so that it can be fully enjoyed without the presence of noise once caused by the mentioned lacunae. Thus, the author developed some chromatic reintegration methods that aim to neutralize the aesthetic interruptions of the lacunae.

The first method consists of the application of neutral paint, aiming at the relocation of the lacuna in the pictorial surfaces of the work of art. The second had the same principle as neutral ink, but it uses a low tone or undertone, changing the lacuna into a background for the figurative fabric.

The third method proposed by Brandi is based on the concept of differentiated reintegration, respecting the artistic and historical authenticity of the works, through

the *tratteggio* technique, developed at the Istituto Central de Restauro, in Rome.

To assess whether lacunae are inverting the relationship of figure and ground in a work of art, we need to consider factors such as the constitution, location, extent, quantity, and typology of lacunae. For example, lacunae located in focal points of works are more likely to become figures and cause aesthetic noise. The amount, constitution, and extent of loss are also important factors because depending on the density of these factors, a work can end up being reduced to its lacunae, completely losing its potential oneness [8], culminating, in the limit, in a de-characterization that transforms the work into a ruin [9], where there are no longer enough elements of integrity and authenticity to reference an intervention of chromatic reintegration without forgery.

(...) for the moment, we must limit ourselves to accepting a ruin as the residue of an historic or artistic monument, which can be nothing other than what it is, and where restoration can only maintain it that way, using whatever techniques are required. Hence, the legitimacy of the conservation of a ruin lies in the judgment it receives on its historicity, as a mutilated but still recognizable witness to a work and a human event [10]

Lastly, the typology of lacunae is another essential element for the analysis. According to Laura Mora [11], there are 4 types of lacunae: patina, pictorial layer, depth of preparatory coating, and, finally, the superficial gap of the pictorial layer or “usury”.

From the analysis of all these elements and the relationships between them, it is possible to plan an intervention proposal considering first whether the lacunae are integrable or not and, second, if the lacunae can be reintegrated, the techniques to be used for the chromatic reintegration.

In the case of the sculpture of the Crucified Christ, the object of this study, the lacunae were more concentrated in the figure of Christ and presented a loss of more than 50% of the skin color. Regarding the typology of the lacunae, there were surface lacunae – loss by abrasion -, the pictorial layer – which leaves the preparatory coating exposed -, the depth gap – loss of the pictorial layers, leaving the wooden support apparent.

The location of the lacunae was also analyzed: the focal point of the sculpture is the figure of Christ and most of the lacunae were concentrated in that figure, in the face,

eyes, triangulation of the chest, feet, and throughout the entire length of the body of the figure of Christ.

After a careful analysis of the state of conservation from a technical and ethical point of view and considering all the historical aspects of the work of art, its devotional function/destination, and its place of origin composing the altar of a Chapel, it was concluded that the lacunae took the leading role in the fruition of the work and were causing noises that altered the potential oneness of the sculpture, interrupting the aesthetic reading and making the primary functionality of the work unfeasible. That said, we opted for the full leveling of the lacunae and the chromatic reintegration using a differentiated technique.

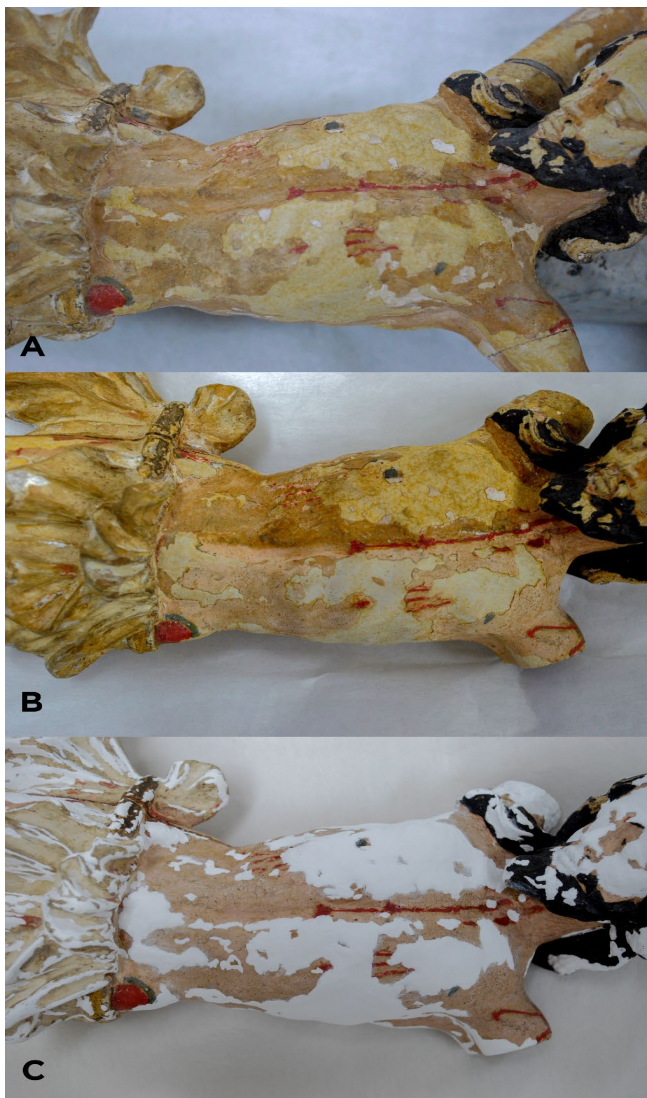


Figure 2 – (A) Figure of Christ with oxidized varnish; (B) Half of the left side with oxidized varnish and the right side with varnish removal; (C) Full leveling of the lacunae.
Photo: BREDARIOL, F., 2016.



Figure 3 – Full leveling of the lacunae in the base.
Photo: BREDARIOL, F., 2016.

This intervention was guided by the criterion of distinguishability in which “[...] *the intervention should be observed, but immediately recognizable, and without the need for special instruments, when a closer view is reached*” (p. 47) [12]. Article 12 of the Charter of Venice also emphasizes that “*the elements intended to replace the missing parts must integrate harmoniously into the whole, distinguishing themselves, however, from the original parts so that the restoration does not falsify the document of art and history*” [13].

The differentiated technique selected for chromatic reintegration was pointillism, derived from the decomposition of colors studied by Michel Eugène Chevreul (1786 – 1889), introduced in conservation and restoration in 1972.

It is a set of points of pure colors juxtaposed, adapting to old and recent paintings. Depending on the original pictorial surface or the texture of the support itself, the size and distance of the points, pointillism can result either in a differentiated or in an illusionist reintegration. In the latter case, the points made are so tiny that the human eyes cannot appreciate them without the help of an optical magnifying instrument.

On a light background, where a thin layer of paint of a colder and lighter color than the original has already been applied, dots of color of different chromatic values are placed to recreate the shapes. (Free translation) [14]

In the case of the sculpture in question, the choice of the appointed technique was possible because the lacunae presented chromatic references in the areas surrounding the polychrome were still preserved, allowing the reestablishment of the potential oneness of the work of art without creating a false artistic effect or a false history.



Figure 5 – Chromatic reintegration on the figure of Christ. (2). Photo: BREDARIOL, F., 2016.

4. CONCLUSIONS

The restoration of the sculpture of a Christ Crucified was based on interventions that ensured stability, integrity, authenticity [15], the reversibility of the materials used, aesthetic legibility, and its potential oneness [16].

After the full leveling of the pictorial lacunae, the process of chromatic reintegration began, using the juxtaposition of points in several pre-selected tones based on color theory criteria, based on the authentic tones of the areas surrounding the paintings. gaps and ensuring the integrity and legibility of the work while maintaining the distinguishability of the intervention.



Figure 4 – Chromatic reintegration on the figure of Christ. (1) Photo: BREDARIOL, F., 2016.



Figure 6 – Final restoration of the cross and the base. Photo: BREDARIOL, F., 2016.

Thus, the entire restoration process, both the support and the polychrome, was carried out in a way that ensured reversibility and stability, through the use of specific materials and appropriate techniques for chromatic reintegration, in line with the concepts, the guidelines, and codes of ethics in the field of conservation and restoration.

REFERENCES

- [1] INSTITUTO ESTADUAL DO PATRIMÔNIO HISTÓRICO E ARTÍSTICO DE MINAS GERAIS (IEPHA/MG). (2008). *Dossiê de tombamento provisório da Capela de Nossa Senhora da Glória*. Belo horizonte.
- [2] [4] COELHO, B., QUITES, M. R. (2014). *Estudo da escultura devocional em madeira*. Belo Horizonte: Fino Traço.
- [3] BRUSADIN, L. (2014). *Os Cristos da Paixão da Ordem Terceira do Carmo de Ouro Preto (MG)*. Master Thesis. Belo Horizonte: Federal University of Minas Gerais.
- [5] JUNIOR, J. C. (2012). *Química Aplicada à Conservação e Restauro de Bens Culturais: uma introdução*. Belo Horizonte: São Jerônimo.
- [6] [7] [8] [10] [12] [16] BRANDI, C. (2005). *Theory of Restoration*. Italy: Nardini.
- [9] RIEGL, A. (2014). *O culto moderno dos monumentos: a sua essência e a sua origem*. São Paulo: Perspectiva.
- [11] MORA, L. (1987). Comentarios al problema la reintegración de la imagen. *Seminário Taller de Actualización para America Latina - Conservacion de Pintura sobre Tela*.
- [13] CONSELHO INTERNACIONAL DE MONUMENTOS E SÍTIOS ESCRITÓRIO/ICOMOS, Carta de Veneza. (1964) *II Congresso Internacional de Arquitectos e Técnicos dos Monumentos Históricos*.
- [14] BAILÃO, A. (2011). As técnicas de Reintegração Cromática na Pintura: revisão historiográfica. *Ge-conservación*, (2), 45-63.
- [15] VIÑAS, S. (2004). *Teoría contemporánea de la Restauración*. Madrid: Síntesis.