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**ELISEU VISCONTI'S  
MONUMENTAL  
MAROUFLAGE  
WALL PAINTINGS:  
CONSERVATION, CONTEXT,  
AND TECHNICAL  
EXAMINATION**

**Keywords:** mural paintings, marouflage, pigments, brushwork, colors, Modular Cleaning Program

**ABSTRACT**

This paper presents the conservation and techniques of four oversize oil paintings by Eliseu d'Angelo Visconti (1866–1944) that are part of the decorative scheme of the Theatro Municipal do Rio de Janeiro. Two of these large paintings were cleaned using the parameters established by the Modular Cleaning Program developed by Chris Stavroudis and the practical virtues of this tool are discussed. One painting presented extensive water damage and had to be detached from the wall, consolidated, and mounted on a honeycomb support. The technical and political reasons for these extreme measures are discussed with regard to the history of neglect and past ill management of this important theater, compounded by the uncertainties as to proper future preservation. A full technical examination, involving pigment and binding characterization was carried out to help decipher the artist's striking chromatic arrangement and to help understand the influence of the Impressionists and their followers on late 19th- and early 20th-century Brazilian painting.

**RÉSUMÉ**

Cet article présente la restauration et les techniques d'exécution de quatre peintures à l'huile monumentales d'Eliseu d'Angelo Visconti (1866-1944) qui font partie du programme décoratif du Theatro Municipal de Rio de Janeiro. Deux de ces grandes peintures ont été nettoyées selon des paramètres établis par le Programme de nettoyage modulaire conçu par Chris Stavroudis. Les avantages pratiques de cet outil sont discutés. Un des tableaux, qui présentait d'importants dégâts dus à l'eau, a dû être déposé, renforcé, puis remonté sur un support en nid d'abeille. Les raisons techniques ou politiques qui sous-

**THE ARTIST AND HIS MASTERPIECE**

The *marouflaged* oil on canvas wall paintings by Eliseu Visconti are the most important artistic elements of the lavish architectural interior of the Theatro Municipal do Rio de Janeiro. They decorate the ceiling of the audience hall (*plafond*) as well as that of the grand lobby (*foyer*), representing mythological and allegorical themes in a semi-pointillist manner (Figure 1 and 2) and were considered, at the time of the inauguration of the theater in 1909, a major step forward for Rio's academy-dominated arts scene.



**Figure 1**  
*A Dança das Horas*

Visconti was born in Italy in 1866 and emigrated to Brazil with his family as a child. He studied painting at the Academia Imperial de Belas Artes (renamed Escola Nacional de Belas Artes in 1890). After winning the main prize at Brazil's salon, he moved to Paris where he worked under artists such as Eugène Samuel Grasset (1845–1917) and William-Adolphe Bouguereau (1825–1905). At a later stage, he became strongly influenced

tendent ces mesures extrêmes sont discutées, en relation avec l'historique de négligence et de mauvaise gestion qui caractérise ce théâtre important, grevé par des incertitudes liées à sa préservation future adéquate. Un examen technique complet, incluant une caractérisation des pigments et des liants, a été effectué afin de tenter de déchiffrer l'étonnante composition chromatique de l'artiste, et de mieux comprendre l'influence des impressionnistes et de leurs disciples sur la peinture brésilienne de la fin du XIX<sup>e</sup> et début du XX<sup>e</sup> siècle.

## RESUMEN

Este artículo presenta la conservación y las técnicas de cuatro cuadros al óleo de grandes dimensiones de Eliseu d'Angelo Visconti (1866–1944), que son parte del esquema decorativo del Teatro Municipal de Río de Janeiro. Dos de estos grandes cuadros se limpiaron utilizando los parámetros establecidos por el Programa Modular de Limpieza desarrollado por Chris Stavroudis, y se discuten las ventajas prácticas de esta herramienta. Uno de los cuadros presentaba grandes daños debidos al agua y tuvo que ser desprendido de la pared, consolidado y montado sobre un soporte de honeycomb. Se discuten las razones técnicas y políticas de estas medidas extremas en relación con la historia de negligencia y de mala gestión en el pasado de este importante teatro, exacerbado con la incertidumbre de que haya una correcta conservación en el futuro. Se realizó un examen técnico completo, que incluía la caracterización del pigmento y del aglutinante, para ayudar a descifrar la sorprendente combinación cromática del artista y para ayudar a entender la influencia de los impresionistas y sus seguidores en la pintura brasileña de finales del siglo XIX y principios del XX.

by the Symbolist Pierre Puvis de Chavannes (1824–1898) as well as Impressionists and Post-Impressionists such as Henri-Jean Guillaume Martin (1860–1943). Back in Rio with its colorful tropical environment, his Impressionistic manner flourished and became popular among artists and critics alike. During the extensive reform of Rio's urban layout and the re-building of the central areas of the city at the beginning of the 20th century, Visconti was commissioned with important projects in collaboration with architects and builders. His paintings at the Teatro Municipal are the highlight of his artistic/decorative oeuvre and are unanimously considered by art historians to be among the most important examples of the visual arts in Brazil.

## THE MAROUFLAGE TECHNIQUE

The hybrid character of *marouflage* wall painting makes it difficult to classify. If emphasis is given to the architectural/decorative function, it can justly be characterized as a mural technique; however, from a painting's materials and methods viewpoint, it would be more accurate to describe them as oil (or other) on canvas paintings adhered to walls for the purpose of decorating architectural interiors. Historically, the adhesive used was made from a starch/animal glue mixture (Mora et al. 1984), but in the 19th century, oil-based pastes were favored and it can be speculated that the reasons for this change were improved tack and handling properties, a tendency to dry more slowly and the elimination of the ever present danger of canvas shrinkage. In 1907, Visconti writes the following to Mr. Francisco de Oliveira Passos, the head engineer and designer of the new building: "The amount of Ceruse white that I deem necessary for the *marouflage* of the Municipal Theater's decorative paintings can be calculated at 250 kilograms. This *Ceruse* white can be found in small barrels and the brand names *Beriot* and *Lefevre* are considered to be of good quality" (Cavalcanti 1997). Analysis shows that the adhesive used for the purpose was in fact composed of an oil, lithopone, and lead white paste.

Visconti was certainly well aware of the trends and importance<sup>1</sup> of decorative paintings from his studies in France under Grasset, and *marouflage* was the only mural painting technique that fitted his plans to paint a commission in Paris for a theater in Rio. He executed the *plafond* frieze between 1905 and 1907 in a studio rented from Puvis de Chavannes' widow in Neuilly-sur-Seine and the three paintings for the grand lobby (1913–1915) in a large building he had built in Paris. When finished, these were rolled and shipped to Rio de Janeiro where he supervised their attachment to the ceilings and walls of the newly built opera house.<sup>2</sup> Notes in his diary show that "On January 14th (1916) the operation of attaching the large canvas to the wall was effective. On the upper part a batten 2 cm thick was used to hold the canvas that had been rolled over two cylinders and the operation started from the center... we were four in all" (Cavalcanti 1997).

## THE PLAFOND

The *plafond* painting is a gigantic oval canvas attached to the ceiling above the audience hall.

It has been described as an allegory to the different times of day in its eternal and repeating movement and its form allows spectators to see the composition, free of distortion, from any position in the hall.

The subject matter – *A Dança das Horas* (The Dance of Hours) – comes across very convincingly as elegant female figures, painted in light colors, dancing hand in hand across the picture plane. The segments representing daylight hours are painted in luminous warm colours, with dusk and night in bluish shadows. All the figures of the composition are monochromatically under-modeled with a brownish umber-like tint that remains visible in the shades and middle tones as lighter flesh pinks progress towards discrete highlights. The contours of the figures are strongly delineated with dark viridian green and, in some figures, with an intensely chromatic cobalt blue line.<sup>3</sup> Over the flesh tones of the modeled figures, Visconti painted a myriad of small light dots of color, usually light blue, which contrasted with the warm skin colored under-layer. These small brushstrokes are aligned sinuously to reinforce the sensation of moving air, flow, and rhythm. This can be traced back to the influence of French paintings, as in his notebooks the artist writes about Henri Martin's murals commissioned for the capitol in Toulouse: "The air circulates all around. For values three at most. The mixture of colors is obtained by juxtaposition and not blended to each other. This is the fresh and luminous result that can be seen in his pictures" (Cavalcanti 1997). On the other hand, the representation of hair, details of drapery, flowers, and ribbons are done with a fluid and confident *alla prima* handling in a more direct depiction of the iconography (Figure 3).

The flat and spatially shallow background is painted with defined, juxtaposed, and occasionally superimposed mosaic-like brushstrokes. The width and length of the brushstrokes vary with each area of the composition. Off-pinks are obtained by a mixture of lead white and iron oxide red and more chromatic pinks contain cadmium red. Light yellows are composed with massicot and lead white and in a few samples cadmium was present. Light greens are chromium oxide and most blues are blends of white lead and cobalt blue.

All colors are mixed with white (mostly white lead) except the viridian green used to contour some of the figures. Each field of color exhibits a light, unsaturated, primary hue among which fewer complementary/contrasting colored brushstrokes are laid. These flow in one direction within each color field but this varies from area to area, imbuing the composition with a dynamic, rhythmic pattern. The overall visual illusion can be described as a softly colored bas-relief carousel of moving female figures surrounded by whitish veils. The composition of all pigments



**Figure 2**  
*A Musica*

**Figure 3**  
*A Dança das Horas*, detail

has been determined by Fourier transform infrared spectroscopy (FTIR), X-ray fluorescence spectrometry (XRS), and polarized light microscopy (PLM) (Souza 2010).

### THE FOYER

The three *foyer* murals were painted ten years after the *plafond* and reflect a certain degree of change in Visconti's approach to the rendering of form and decorative composition. The main central panel, *A Música*, differs from the previous commission in many subtle ways. It is conceived to be more complex in composition and iconography, which may be related to its architectural setting. It can only be fully appreciated from a viewpoint more or less directly below and in one glance, as opposed to the oval frieze-like *plafond* painting that can be seen effectively even when the spectator is off center or high in one of the theater's balconies.



**Figure 4**  
*A Música*, detail

The figures are monochromatically modeled much in the same manner as his circular composition in the *plafond*, but the chromatic outline reinforcing their silhouette is absent from most of the *foyer* figures.<sup>4</sup> The use of contour lines was reserved for some isolated figures set against a non-contrasting background. The tangible edge of each modeled figure is painted darker and in some cases shows a distinct brownish contour, unlike the *plafond* painting, *A Música* blends background and foreground through effective diffuse brushwork applied over the figures in smaller and more diversified dots and strokes. These are combined with a looser handling of the background in contrast to the more mechanical side-by-side brushwork used on the *plafond*. The background treatment often overlaps onto the figures and in some areas it is hard to distinguish the different planes (Figure 4).

The color scheme is similar to the one used in the *plafond* but in this painting a colored priming – beige for the lateral strips and white for the central strips – serves the purpose of establishing a chromatic grounding for the color scheme. The background is painted with under-saturated hues that prevail in some areas and transition smoothly towards other adjacent chromatic fields. One other feature stands out on closer inspection: chromatic pigments are used next to less chromatic ones of the same hues. Brushstrokes of massicot and white lead contrast with light chrome yellows, earth pinks contrast with vermillion pinks, and the same can be said about adjacent mixtures of chrome green and viridian. The colors used are mostly light and analysis shows that zinc white was added to most paints and was also used on its own throughout the composition. This pigment is used for delicate scumbles in the depiction of smoky areas and drapery, suggesting a good working knowledge of the optical properties of pigments. This use of pigments to produce saturation contrast prevails in all panels decorating the theater.<sup>5</sup>

## CONDITION AND TREATMENT

### Plafond

Both paintings in the auditorium had gathered a considerable amount of unsightly dust and soot, becoming considerably gray and uneven. The paint layer, however, was well attached and the *marouflage* adhesive showed no signs of failing.

The monumental *plafond* painting was cleaned with a 1% aqueous solution of sodium citrate, buffered to a suitable pH with Bicine (2-(Bis(2-hydroxyethyl) amino)acetic acid). This combination was deemed best for cleaning the tenacious grime and soot deposited on the surface of the painting, after a series of tests were carried out using the Modular Cleaning Program developed by Chris Stavroudis (Figure 6). The program guided conservators safely and expeditiously through the complexities of choosing the most suitable combination for the removal of soot and dust from the paint surface; it was developed to help conservators clean painted surfaces with solvents, solvent gels, or water-based systems in a rational and systematic way, and is an innovative new offspring of the collaboration between Richard Wolbers and the Getty Conservation Institute.

The cleaning was straightforward, thorough, and safe, and restored the painting to its former intensely colored beauty. Although the joins in the adhered canvas are probably more perceptible now – due to the darkening of the textile support - no in-painting was deemed necessary as the image reads as a unified and convincing whole.

### Foyer

On the other hand, two of the three large paintings decorating the *foyer*; *O Drama* and *A Arte Lirica*, were in very bad condition. The history of their conservation dates back to the 1930s, when intense tropical rains caused the copper covered roof to leak, soaking the walls and causing the lime/sand plaster to lose cohesion, with consequent detachment of the canvas from the wall as well as extensive delamination and paint loss in large areas. This pattern repeated itself throughout the years and no decade passed without a major disaster. It goes without saying that most of these events were followed by attempts at conservation, some of which were ill conceived, with over-cleaning, thick yellowed varnishes, and darkened repaints disfiguring the appearance of what was intended to be a light and chromatic composition (Figure 5).

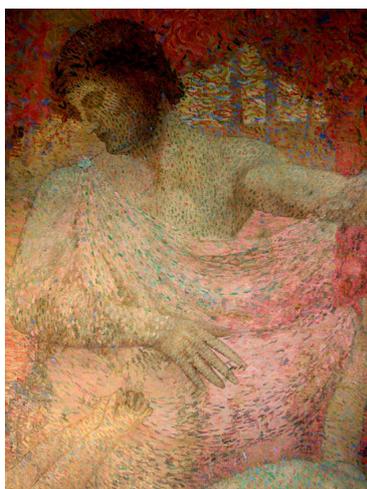
These two water-damaged paintings were heavily faced and detached mechanically from the wall.<sup>6</sup> A variation of the traditional *strappo* technique was used, with care being taken not to use contacting adhesives, as the purpose was to remove the precariously adhered canvas from the wall with minimum risk to the paint layer. After consolidation and cleaning of the reverse, *O Drama* was mounted on honeycomb panels, under vacuum. The decision to adhere these paintings on such alien supports was taken with some degree of concern as the technical nature



**Figure 5**  
*O Drama* – before conservation, detail



**Figure 6**  
*A Dança das Horas*, during cleaning



**Figure 7**

*O Drama*, after conservation

**Figure 8**

*O Drama*, back in situ

of the original *marouflage* would be permanently altered. However, this was weighed against the very real risk of future roof leaks and was mitigated by the acknowledgement that the flat, rigid appearance of a *marouflaged* painting could be duplicated by mounting on a honeycomb panel.<sup>7</sup> Beva 371, a heat-activated polyethylene vinyl acetate-based adhesive was chosen due to its strength and history of over four decades of use in conservation. Water resistance was paramount in this specific project and in the authors' experience, this adhesive performs quite well in high-humidity environments.

To attach the canvas to the panel, a traversing heat source was used to activate the adhesive. This equipment was purpose-built from a 5m × 0.60 metal box containing a closely set arrangement of infra-red lamps. The lamps faced downwards, supported by wheeled legs, allowing the heat source to move across the painting, held under vacuum pressure. Temperatures on the surface of the paint layer hovered around 70°C and sensors embedded in the adhesive reached 65°C. After cleaning, filling, and rather extensive reconstructive inpainting,<sup>8</sup> both paintings appeared uneven and their colors were distinctly under-saturated due to previous harsh treatments and water damage. Although there is no evidence in Visconti's writings that he intended the paintings to be varnished and many of his other surviving paintings were not (Figure 7), a thin varnish layer was deemed necessary to restore color saturation and the characteristic oily sheen that could be gauged (as was his intent?) by observing the pristine state of the paint surface of the *plafond* (Figure 8). A 5% concentration of MS2A resin was the resin of choice due to its outstanding optical properties. To render the surface semi-mat<sup>9</sup> the flattening agent of Winsor and Newton Artists Mat Varnish was left to decant out of solution repeatedly and the clear and progressively more diluted ketone resin was discarded each time. When added to MS2A – different proportions were tested to ascertain the right level of gloss – the result was that of a saturated, yet unvarnished paint surface.

Re-installing the panels in their gesso-framed niches was a simple procedure and their appearance as *marouflaged* wall paintings remains very convincing.

## CONCLUSION

Although conservation encompasses all technical procedures that help preserve the original state of the object for as long as possible, there are many occasions in which extreme measures have to be taken to assure long-term survival of an important art work. This paper presents two different approaches to similar paintings housed in the same environment. The large paintings in the auditorium, which had no history of water damage, were treated minimally and remain almost untouched by time, man, and the elements. Two of the paintings in the *foyer* that were badly damaged and threatened by architectural flaws (and likely to be by future administrative neglect), required greater structural intervention. This was

not an easy choice and was done with active concern for the historical and aesthetic changes imposed upon the paintings.

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## NOTES

- <sup>1</sup> In 1905 Visconti writes: "The applied or decorative arts are not minor, as is usually said, but a variety of the fine arts" (Cavalcanti 1997).
- <sup>2</sup> The oval canvas was originally divided and painted in eight separate segments. Their dimensions and exact shape were calculated by the German mathematician, Mr. Stalen-Brecher (Cavalcanti 2002).
- <sup>3</sup> The unprimed canvas can be seen between brushstrokes and some chromatic fields of color are separated from the adjacent ones by a darker, contrasting color that helps them stand out as distinct shapes.
- <sup>4</sup> "Musical Inspiration is painted first in cameo (grisaille) with white and burnt sienna Le Franc decoration colors. The Poetic Inspiration is painted as cameo using white lead and burnt sienna, Lefranc decoration colors" (Cavalcanti 1997).
- <sup>5</sup> As noted above, the artist had trained under well-known artists in Paris and was interested in color theory, as can be seen by the surviving color charts and chromatic circles he created from which to study. He must have been well aware of the optical differences between lead and zinc whites.
- <sup>6</sup> One of these murals – *A Arte Lirica* – was detached by the Argentine conservator Mr. Domingo Tellechea in a previous conservation campaign and mounted on a honeycomb support with calcium caseinate.
- <sup>7</sup> The paintings are installed 14 meters high and the theater's fire brigade calculated that, once notified, they could remove the threatened paintings in approximately two hours. It is also reassuring that the fiberglass/epoxy resin panels are totally impermeable to water and will form an efficient barrier in case of future infiltrations.
- <sup>8</sup> Inpainting was accomplished with Golden MSA Conservation Colors.
- <sup>9</sup> In a manuscript, the artist mentions using a "very absorbent" canvas and "Le Franc decoration colors" to paint *A Musica*; therefore, it is reasonable to assume that the resulting surface would tend towards a mat sheen.

## REFERENCES

- CALZA, C.** 2010. *Relatório técnico da análise por fluorescência de raios-X realizada em pinturas de Eliseu Visconti e Henrique Bernardelli que decoram o teto do foyer e as rotundas do Theatro Municipal do Rio de Janeiro*. Rio de Janeiro, Brazil.
- CAVALCANTI, A.M.** 1997. *Translation of Eliseu Visconti's miscellaneous manuscripts – property of the Museu Nacional de Belas Artes*. Rio de Janeiro, Brazil.
- CAVALCANTI, A.M.** 2002. Entre a alegoria e o deleite visual: as pinturas decorativas de Eliseu Visconti para o Theatro Municipal do Rio de Janeiro. In *Arte e Ensaios 9*, EBA/UFRJ. Rio de Janeiro, Brazil.

MORA, P., L. MORA, and P. PHILIPPOT. 1983. *Conservation of wall paintings*.

London: Butterworths.

SOUZA, L.A.C., et al. 2010. *Relatório de análises*, Universidade Federal de Minas

Gerais, CECOR/EBA, Belo Horizonte, Brazil.

## MATERIALS LIST

Bicine (2-(Bis(2-hydroxyethyl)amino)acetic acid

Sigma-Aldrich Brasil Ltda

Av. das Nações Unidas 23.043, Vila Almeida

São Paulo, SP, CEP 04795-100

[www.sigmaaldrich.com](http://www.sigmaaldrich.com)

Citric acid & Sodium Hydroxide

Vetec Química Fina Ltda

Av. Pastor Manoel de Souza, 1021, Xerém

Rio de Janeiro, CEP: 22290-900, Brazil

[www.vetecquimica.com.br](http://www.vetecquimica.com.br)

MS2A (hydrogenized ketone resin)

Linden Chemicals

Urb Solfeiras- Lote 9, Carvoeiro

Lagoa, 8400-527

Algarve, Portugal

[sales@lindenchemicals.com](mailto:sales@lindenchemicals.com)

Honeycomb panels

Barracuda Advanced Composites

Rua Visconde de Pirajá, 414/1022

Rio de Janeiro, CEP: 22410-002, Brazil

[www.barracudatec.com.br](http://www.barracudatec.com.br)

Beva 371 & Golden MSA Conservation Colors

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