



RETOUCHING A RETOUCED PAINTING. EVALUATION AND RE-TREATMENT OF HISTORIC RETOUCHINGS IN THE CONSERVATION OF A PAINTING BY LAVINIA FONTANA

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ABSTRACT

A major conservation project on *The Visit of the Queen of Sheba to King Solomon* by Lavinia Fontana was completed at the National Gallery of Ireland in Dublin in 2021. The painting was previously restored in the 1960s by a team of conservators from the Istituto Centrale del Restauro in Rome, who came to Dublin during the establishment of the first Gallery conservation studio, shaping the Irish approach to conservation for decades to come. Consequently, the painting recorded material evidence of a particular moment in the development of conservation in Ireland. Large areas of historic losses across the painting surface had been reintegrated with the application of retouchings in the *tratteggio* style, but during the most recent treatment, underlying instability required the removal of some of them. A decision-making model was developed to evaluate the quality and historic value of these retouchings to determine which to preserve, which to modify, and which to remove. A return to the *tratteggio* technique was chosen for the larger instances of loss compensation, albeit with a finer hatching so that the newer reintegration remains distinguishable from the historic one. Furthermore, where heat damage in the paint layers resulted in uneven topography, Paraloid-based gels were applied to bring continuity the surface texture in these areas. This paper will present the approach used to meet the conservation needs of the object, restore the legibility of the image and retain the evidence of the historic

intervention of this founding team of Italian restorers at the National Gallery of Ireland.

Keywords

Lavinia Fontana; *Tratteggio*; Rigatino; Archival Documentation; Gamblin Conservation Colors; B72 Retouching Gels

1. INTRODUCTION

In 2021, a large-scale conservation project was concluded at the National Gallery of Ireland on *The Visit of the Queen of Sheba to King Solomon*, an oil on canvas by Lavinia Fontana, 1599. The vast canvas, which had been treated previously in the 1960s, carried many large areas of retouching and part of the treatment required decisions to be made regarding their removal or modification.

This paper will present the research and choices made during the project and how the approach to the retouching treatment was informed by the historical context and documentation of the previous restorations. It will also cover issues related to the appraisal and re-treatability of aged *tratteggio*-style retouchings and outline a complementary method for textured retouchings using Paraloid B72-based gels.

1.1 The painting

The Visit of the Queen of Sheba to King Solomon is a vast 16th century canvas, measuring 256 x 325 cm, and

was purchased by the National Gallery of Ireland in 1872. The painting was the first work knowingly acquired by a woman artist for the collection and it was to become a much-admired cornerstone of the Italian collection, hanging on display except for periods of loan, renovation or restoration for the ensuing 150 years.

The Bolognese artist, Lavinia Fontana, was an exceptional and significant figure in the Italian art history and was active from 1575 to 1614, working first in Bologna and then in Rome. She is generally known as the first professional female painter in Europe, outside of a court or convent, and the first woman artist to have her own independent workshop.

Fontana was primarily known for her portraiture, which was very much in demand during her lifetime, but she also produced varied and ambitious devotional paintings, altarpieces and mythological subjects.

The Visit of the Queen of Sheba to King Solomon is one of Fontana's largest and most prized extant works, painted at the turn of the 17th century in Bologna, ahead of the artist's move to Rome at the invitation of Pope Clement VIII. In it, Fontana asserts her mastery of the depiction of biblical allegory, portraiture fine costume and jewellery, landscape, and interiors.

By the 19th century the painting had made its way into the collection of Prince Napoleon, held at the Palais-Royal in Paris. The building was set alight in 1871, and after its rescue from the fire, the painting was shipped to London and sold at Christie's Auctioneers. It was then restored in England before transit to Ireland [1].

In 2019 the Gallery was awarded a generous grant by the "Bank of America Art Conservation Project" to enable a comprehensive research and treatment project for the painting.

The recent treatment sought to address structural instabilities that would require the removal of the varnish and at least some of the retouchings applied in the former restoration campaign.

1.2 The background

During the assessment of the painting, the quality and historical significance of the restoration materials were noted. The painting was treated in the late 1960s at the Gallery and the treatment itself is emblematic of conservation history in Ireland and in Italy.

The National Gallery of Ireland opened its doors in 1854, but with decades of political tumult and

deprived public finances it wasn't until 1966 that the conservation department was opened, in collaboration with the Istituto Centrale del Restauro in Rome [2].

The Istituto Centrale acted as a consultant for the design and construction of the studio facilities and the initial survey of the collection, they also trained the first Irish conservators to staff the department. To initiate the operations of the department, a large team of professors and conservation students from the Istituto worked in Dublin for a period of five months over the summers of 1967 and 1968 to perform large-scale conservation treatments.

The Visit of the Queen of Sheba to King Solomon was one of the largest of the 118 artworks treated by the visiting team and a prime example of the use of novel materials and techniques associated with the Italian development of modern conservation methods.

The restorers left some images and documentation which informed and guided the project planning. Prior to the 1960s restoration, the painting, after over ninety years hanging in a gallery, once illuminated by candlelight, was coated in thick layers of grime and darkened varnish. Furthermore, Victorian-style retouchings were present across a large number of the damaged areas, probably applied using oil colours.

The 1960s treatment involved re-lining the painting using a modified version of the traditional Italian glue-paste lining, with the addition of a synthetic adhesive, novel at that time, called Gelvatol [3]. A new, heavy timber stretcher replaced the existing one and an open-weave lining canvas was used to support the original. Removal of dirt, varnish and retouchings was carried out with pure solvent and solvent mixtures, a system that would become common in the National Gallery of Ireland conservation department. Application of large swathes of gesso fillings were supported by a strawboard base, where the original canvas was missing. The campaign of retouching was applied in the relatively novel *tratteggio* style, using a Paraloid-based medium and a synthetic varnish was applied [4].

Tratteggio is an image reintegration method using a vertical hatching system that was invented and developed in the late 1940s in the Istituto Centrale del Restauro and was inspired by the theory of conservation-restoration of Cesare Brandi [5].

The treatment in the 1960s saw the application of *tratteggio* retouching along the entire lower edge and in vertical areas at the seams, the left and right edges and on the right side of the painting where large losses had occurred due to the fire. It was estimated the

retouchings were present at 15% of the painting surface.

These materials and techniques would become a signature set for the treatment of large paintings at the Gallery, as the department continued to operate after the Summer projects, staffed with Irish conservators, trained in Rome.

The use of techniques inspired by Brandi was not prevalent amongst English-speaking countries at this time, so this in itself distinguished the Gallery from its counterparts elsewhere in the Anglosphere.

2. MATERIALS AND METHODS

Due to the importance of the former restoration campaign, a minimal intervention approach that would preserve the evidence of previous restorations and allow for optimum re-treatability for the painting was applied. Examining the aged condition of these materials and the potential for removal, modification and re-treatability in this case would again see this painting set the standard for future interventions through the paintings collection.

2.1 Decision-making

The treatment plan was designed with the intention of leaving in place as much of the existing filling and retouching as possible, where it was deemed to be stable and in a 'good enough' condition to be adjusted. Unfortunately, most of the large old canvas losses had not been individually repaired but only bridged using a strawboard base, which resulted in the cracking of the filling material, due to their contrasting responses to thermo-hygrometric fluctuations. The underpinning of the filled areas was surveyed and only removed where the structure was found to be unstable.

Aiming to maintain the most significant passages of retouching, a selective cleaning was planned, categorizing the retouchings to be removed, modified and maintained.

Lastly, a varnish system that would facilitate a greater degree of re-treatability with less invasive treatments in the future was evaluated.

2.2 Retouchings categorization

In order to consistently guide the cleaning and reintegration campaign, the existing retouchings were identified and grouped in three categories.

In the first category, the retouchings were of high quality and were finely laid down in *tratteggio* style but showed some discolouration. These areas often had a high level of reconstruction, at crucial and focal points in the composition. The removal of only the top layer of varnish was considered and the retouchings in this category were retained. Superficial adjustments were also planned to improve the colour match and slightly modify the reconstructed forms were required. In the second category, the *tratteggio* was varying but of acceptable quality. In most cases, the retouching had been expedited by laying down base colour and applying lines over this, so the level of clarity and illumination in these areas was lower. The material was discoloured and the application was less skilful than the category 1 retouchings. The reconstructed forms in these areas required significant modifications so that the retouchings were retained but with comprehensive adjustments.

In the third category, a *tratteggio* of a much lower quality was identified. In these cases the vertical lines were applied in a less formal technique with varying thickness and at varying intervals. The boundaries of these retouchings were less well defined and would sometimes overlap original paint. The retouchings in this category were removed completely to be re-applied (figure 1).



Figure 1 – Examples of the retouchings categorization. Category 1 (left), category 2 (centre), and category 3. Photos ©National Gallery of Ireland

2.3 Varnish removal and cleaning

The 1960s reports revealed the painting was varnished with 'Retoucher' varnish [4], which is generally composed of acrylic resins, and then was retouched with 'Paraloid' colours, which also consists of acrylic resin.

In a later document, dated 1982, written on the occasion of a loan, the conservator reported the

painting was varnished with a thin layer of dammar, natural triterpenoid resin [6].

Knowing the stratigraphy of the material to be removed (acrylic resin + terpenoid resin), with the aid of the Teas chart it was possible to estimate the solubility areas of each material and establish a solvent mixture able to selectively remove the top layer of yellowed natural resin without solubilising the Paraloid-based retouchings and acrylic varnish. Furthermore, other tests with pure solvents were carried out with the aim to remove both materials from the surface, without interfering with the original oil paint layer. The selective removal of layers of varnish and retouching was carried out, as the categories in section 2.2 dictated.

Based on the cleaning tests, two solutions were selected: an alcohol/hydrocarbon mixture that would remove only the top layers of natural varnish, leaving the retouchings intact, as for category 1 and 2; and an organic ester for the areas where removal of both varnishes and retouching was indicated. Application systems such as gels and absorbent tissue composites were tested but the most controllable and even results were achieved using cotton swab application.

2.4 Filling and intermediate varnishing

Where unstable fillings had been removed, they were reapplied with new gesso made with rabbit skin glue 10% in demineralised water and chalk (calcium sulphate), and their topography was finished according to the retouching method planned for each area. For the smaller losses a textured finish was applied, matched to the surrounding levels and modelling the gesso to imitate the irregularity of the paint layer. On the areas of large infilling designated for the new *tratteggio*, a flat filling was applied.

Prior to the retouching, an isolating layer of varnish, the aldehyde resin Laropal A81 in an aromatic/aliphatic solvent mixture was applied.

2.5 Fire Damage treatment

In addition, we sought out a texturing material to apply in the areas of wide aperture surface wrinkling and alligatoring resulting from the historic fire damage.

B72 Retouching Gels, a medium developed to mimic the impasto found on modern paintings was particularly useful in this instance. The product is available in a selection of viscosities and evaporation rates and brings a depth of saturation and work-ability to textured retouchings that can be difficult to achieve using textured gesso and surface retouching.

A mock-up with the eight Gel formulations was created, by mixing the different gels with a selection of Paraloid B72 Retouching Colours (table 1), and the 'Fast – Heavy 20' formulation gave the best results due to its thickness and relatively quick evaporation time [7].

The fire damage affected large vertical areas on the canvas, and caused legibility issues over certain focal points of the composition. With the use of the B72 gel chosen, we were able to regularise the surface of the most extremely damaged areas to allow for a clarity in the image. Although we deliberately did not completely disguise the damage, which is characteristic evidence of a major incident in the history and provenance of the picture.

Due to the matte appearance of the acrylic resin contained in the gel, a top coating with Laropal A81 was applied, to even out the saturation of the area with the rest of the painting and the area was subsequently retouched (figure 2).



Figure 2 – An area showing fire damage before (left) and after treatment with B72 retouching gel (right). Photos ©National Gallery of Ireland

Furthermore, the increasing transparency of oil paint, due to the natural aging process and the abrasion brought by successive historic restoration campaigns, resulted in a high level of visibility for the many pentimenti throughout the painting. In many cases this confused the image and made distinguishing the final composition details very difficult. The perception of perspectival space and the solidity of depicted forms was also affected, encouraging a misinterpretation of the image. Therefore, a consistent level of retouching for these abraded areas was required. The intention was to re-establish the dominance of the artist's final image while allowing the pentimenti to be noted upon closer inspection. This was done with reference to the technical imaging, scientific analysis and art historical research that was carried out on the painting. Where abrasion had resulted in a fragmented surface, retouching was applied using a pointillism technique to reduce the impact of the abrasion and allow for the legibility of damaged forms. This was carried out with reference to technical imaging and archival imaging to ensure that pentimenti remained visible but the final composition maintained dominance. The pointillism retouching was also used to conceal the areas affected by the fire damage that were previously integrated with B72 Gel (figure 2).

2.7 Final Varnish

At the end of the treatment a final varnishing was necessary to protect the painting and the retouchings from discoloration and to achieve an even saturation of the surface. Due to the size of the painting, a satin varnish was chosen to saturate the painting surface while reducing light reflections. For this purpose, Regalrez 1094-based varnish was evaluated as the best option for its stability and its solubility in aliphatic solvents, without risk of solubilisation of the retouchings during brush varnishing.

Two proprietary formulations, Regal Varnish Gloss and Matt were chosen, which are developed for conservation purposes with the addition of UV stabiliser and an elastomer to facilitate the application by brush [9]. To best evaluate the adequate level of glossiness, a mock-up sample canvas was prepared with a selection of colours and finishes for evaluation, including Gamblin conservation colors. Half of the mock-up canvas was coated with two layers of the same Laropal A81 used as isolating varnish. Then the

different mixtures of the two Regal Varnish were applied, in different proportions. The varnish composed by Regal Varnish Gloss 4:1 Regal Varnish Mat was chosen as final varnish, and a single layer was applied to the painting by brush. This final varnish has a satin appearance which is fundamental for the legibility of large-scale paintings as it reduces light reflections (figure 5).

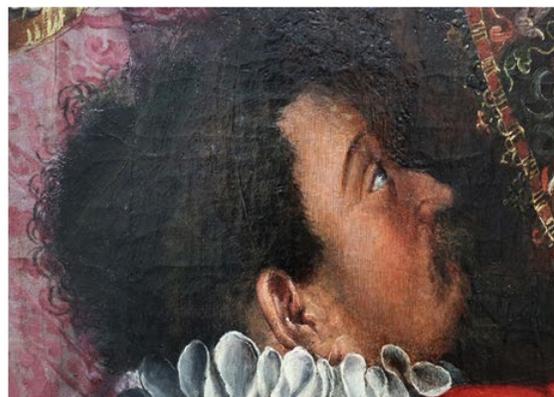


Figure 4 – Comparison of the man in red's facial retouching. 1872 reintegration from archival image (top), 1960s reintegration (centre), last treatment (bottom). Photos ©National Gallery of Ireland

3. RESULTS AND DISCUSSION

3.1 Archival Documentation

The comprehensive examination of documentation from the visiting restorers from the Istituto Centrale in the 1960s that was carried out during the course of this project will be of great value for future care and treatment plans for the collection at the National Gallery of Ireland. Almost 120 paintings were treated with this approach at the Gallery and many later treatments in the 1970s and 80s were heavily influenced by these methods and materials.

Each of the treatments carried out during the summer projects in 1967 and 1968 were accompanied by a report and photographic record and this corpus can be analysed to identify trends in the aging and deterioration of particular conservation materials, potentially informing preventative and interventive care plans for the collection. For this reason, further survey and assessment of archival documentation, including digitisation of the photographic archive, will be valuable.

3.2 Re-treatability of Paraloid B72 Retouchings

The assessment and selective removal of varnishes and retouchings where Paraloid B72 medium was used during this project will inform and guide the future approach to re-treatment of those paintings sharing similar materials and stratigraphy.

The levels of discolouration observed in these retouchings, the solubility for removal and the efficacy of superficial adjustments to the material are pertinent to any future treatment of this conservation material.

3.3 Paraloid Retouching Gels

Paraloid B72 resin has been used in conservation for numerous purposes for decades, with a growing body of evidence of the material's safety and reversibility after long periods of time. The use of Paraloid-based gels in this intervention was very beneficial to achieve a more even topography for those areas which could not be filled with traditional putties.

The evaluation of B72 Gels and their use as a surface modulator in areas of paint damage presents opportunities for further development and testing.



Figure 5 – Lavinia Fontana, *The Visit of the Queen of Sheba to King Solomon*, 1599, oil on canvas, 252 x 327 cm, National Gallery of Ireland, Dublin (NGI.76), after treatment in 2021. Photo ©National Gallery of Ireland

4. CONCLUSIONS

The results of the treatment allow for the painting to be enjoyed with a new clarity and legibility. Not only that, the evidence of its life experience, through pentimenti, fire damage or restoration, remains visible for those who would investigate. The treatment allows for increased re-treatability in the future and easy identification for each campaign of retouching present.

REFERENCES

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- [2] SOMERVILLE-LARGE, P. (2004). *1854-2004 The Story of the National Gallery of Ireland*. Dublin: National Gallery of Ireland.
- [3] Gelvatol is the trademark of a poly vinyl alcohol, a water-soluble synthetic polymer developed in the early 1960s by Monsanto which was novel at that time.
- [4] Archival reports mention the use of a *Retoucher*, which generally refers to a retouching varnish produced by Lefranc & Bourgeois, composed by an acrylic resin.

[5] CANAVAN, M., MARCATTILI, L. (2020). The Roman School at the National Gallery of Ireland: Connecting past and present conservation practices through the treatment of a painting by Lavinia Fontana. In *Young Professional Forum, Emerging Skills for Heritage Conservation: Proceedings*. Turin: Centro di Conservazione e Restauro di Venaria Reale. 164-170.

[6] Andrew O'Connor, National Gallery of Ireland NGI. 76 report: unpublished. 21 May 1982.

[7] B72 Retouching Gel, Fast- Heavy 20, produced by Artcare in the United Kingdom. It consists of a thick gel made by ethyl methacrylate and methyl acrylate copolymer in 1-methoxy-2-propanol.

[8] Kremer Retouching Chips Paraloid B72.

[9] Regal Varnish Gloss is a finishing varnish composed by Regalrez 1094 23,5% in aliphatic hydrocarbons, such as shellsol D40, with low toxicity and a boiling point of 140-160 °C. The formulation contains 1% by weight of plastifying agent called Kraton G-1650, a copolymer in blocks of styrene-ethylene-butylene-styrene, and 0.5% of UV stabiliser Tinuvin 292, a hindered amine light stabiliser (HALS).

Regal Varnish Matt is the same formulation as Regal Varnish Gloss, but with the addition of 3.5% of microcrystalline wax Cosmolloid 80.