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Two early cinquecento Renaissance polyptychs by Antonio de Saliba on Sicily and Malta: an art-historical and scientific investigation

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ABSTRACT
This study focuses on two Renaissance polyptychs that were produced by Antonio (1466/7–*c.* 1535) and Giovanni de Saliba (doc. 1461–1517?), referred to in this study as the *Taormina Polyptych* (1503–04) and the *Rabat Polyptych* (1510–15). Through art-historical research and scientific analyses, this study sheds light on their original visual completion and manufacturing techniques. The *Taormina Polyptych*, located at the Cathedral of St Nicholas of Bari in Taormina, Sicily, underwent thorough on-site examination, revealing details overlooked in prior studies. A two-dimensional digital reconstruction, the creation of which was aided by early 20th century photographs, provided insights into its original appearance. The *Rabat Polyptych*, once situated in the Franciscan Observant Church in Rabat, Malta, faced dismemberment in 1785, leading to challenges in reconstruction. By analysing historical documents and employing digital reconstruction techniques, the original framework was hypothesised. Scientific studies, including histological and stratigraphic analyses of wood and pigment samples respectively, carried out on two newly discovered predella panels from the *Rabat Polyptych*, provided insight on Antonio de Saliba's techniques. The digital reconstructions and insights into manufacturing techniques contribute to scholarship on Antonio's works in the context of Sicilian Renaissance art.

Section: RESEARCH PAPER

Keywords: Antonio de Saliba; Sicilian Renaissance; Late Gothic; digital reconstruction; diagnostic analyses

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1. INTRODUCTION

This study focused on two Renaissance polyptychs produced by Messinese artist Antonio de Saliba (1466/7–*c.* 1535) roughly halfway through his career: the 1503–04 *Taormina Polyptych* (Figure 1) and the 1510–15 *Rabat Polyptych* (Figure 2). Whilst the earlier altarpiece in Sicily retains its Late Gothic gilded framework (though with many losses) and its eleven panel paintings, the later work on Malta was dismembered in 1785. Its framework was completely lost, and its seventeen paintings were dispersed and are today located in different public and private collections – only eight of these paintings are currently known to survive. A contemporary description of the *Rabat Polyptych*'s original format allows for these panels to be associated with this altarpiece; it does not, however, make any mention of its original framework or what it looked like [1].

The losses that both altarpieces sustained throughout their five centuries of existence make it difficult to understand two things: their original visual completion and their manufacturing techniques. Thus, through art-historical research, non-invasive diagnostic analyses, and invasive studies carried out in recent years, valuable data was obtained, leading to new insights into these two aspects.

For the issue of visual completion, it was necessary to study the Taormina altarpiece on site as well as secondary sources of information to create a digital reconstruction of the polyptych. This reconstruction served as the basis for a suggestive digital reconstruction produced for the *Rabat Polyptych*. Of the eight known panel paintings belonging to this altarpiece, the two central paintings have already been researched and published, whilst two predella paintings are the subject of the present research.

Figure 1. Antonio de Saliba (1466/7–*c*. 1535) and workshop, *Taormina Polyptych*, 1503–04, panel paintings and polychrome and gilded wooden framework, *c*. 230 × 195 cm, Cathedral of St Nicholas of Bari, Taormina, Sicily.

2. AIMS AND METHODOLOGY

The first objective of this study was to provide art-historical context to the two altarpieces on Sicily and Malta whilst providing new information about previously overlooked details pertaining to their manufacturing technique. The second objective was to present digital reconstructions of both altarpieces to generate new hypothetical visual information and to estimate their possible original dimensions. The last objective was to carry out non-invasive and invasive scientific analyses on two predella panels of the *Rabat Polyptych*, namely *The Resurrected Christ with St John the Evangelist and St Paul*, and *St Andrew and an Apostle*. The invasive analyses aimed to: i) characterise the pictorial layers of the paintings and identify the technique used by the artist; ii) confirm the stratigraphy of the materials and distinguish the original layers from overpaints; iii) identify possible deterioration products and materials applied in previous interventions; and iv) determine the type of wood used to make the panel supports.

The invasive analyses were carried out on extracted paint and wood samples. The paint samples were stratigraphically studied using stereoscopic microscopy (ST), optical microscopy with polarized reflected light on cross-section (MORL), selective staining tests on cross-section (SST), Fourier-transform infrared spectroscopy (FTIR), and X-ray fluorescence spectroscopy (XRF) [2]. The wood samples were boiled, and transverse, radial and tangential sections were studied under an optical microscope using transmitted light [3], [4].

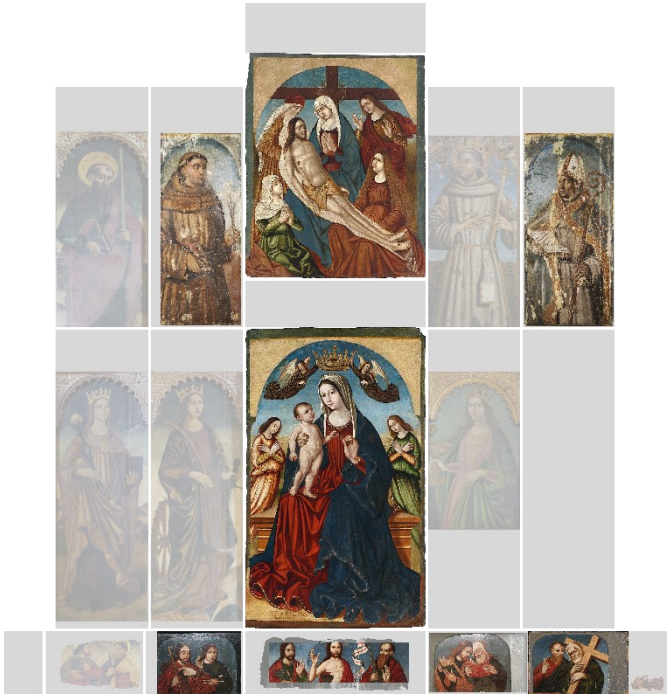

Figure 2. A hypothetical digital reconstruction of Antonio de Saliba's *Rabat Polyptych* based on the physical description of the work provided by Fra Giovanni Antonio Mercieca in 1730, including ghosted images of panels from other altarpieces by Antonio that match the description.

3. THE *TAORMINA POLYPTYCH*

Antonio de Saliba and his father, the *intagliatore* (wood-carver) Giovanni de Saliba (doc. 1461–1517?), were commissioned to produce the *Taormina Polyptych* in 1503 by the rectors of the Church of San Sebastiano in Taormina for the price of 18 *uncie* [5]. The altarpiece, today located on a side altar in the Cathedral of St Nicholas of Bari in Taormina, is composed of panel paintings representing a central *Pietà supported by Angels*, flanked on the left by *St Agatha* and on the right by *St Lucy* in the upper register; a central *Madonna and Child Enthroned* (or *Madonna of the Chain*), with *St Sebastian* and *St Jerome* on either side respectively in the middle register; and a predella consisting of five panels, together representing a central Christ Pantocrator flanked by the twelve Apostles. The polyptych is decorated with an elaborately carved Late Gothic gilded wooden framework.

The altarpiece was studied at close range and its components measured and photographed from different angles, thoroughly documenting the artwork [6]. This on-site study brought to light details about the work that were ignored in previous studies. By inspecting the left side of the polyptych, the edge of a recessed cross-bar attached to the back of the altarpiece was identified, as well as a half lap joint that connects the panels of the middle and upper registers [7]. The identification of the type of joinery is of particular significance since this is the only known altarpiece by Antonio to survive intact in its original polyptych format in a public collection. Several losses in the gilded fretwork decoration of the polyptych made it possible to examine the painted structures found behind them. A blue pigment was identified on the exposed thick vertical pieces of wood that separate one predella panel from another. Blue pigment was also observed on the narrower, long vertical pieces of wood that separate the panels of the upper and middle registers – the ones at the lower register being partially hidden behind the twisted columns, and

Figure 3. Antonio de Saliba's *Taormina Polyptych* before conservation. (Source: Fondo Archivio Ministero della Pubblica Istruzione, https://fotografia.cultura.gov.it/iccd/item/MPI6111380)

Figure 4. Digital reconstruction of the *Taormina Polyptych* (c. 245 × 195 cm).

the ones at the upper register being largely exposed. Additionally, a red pigment was observed behind gilded elements above the predella panels and at the extreme ends. This blue and red underlying polychromy would have been visible through the pierced nature of the overlying gilded fretwork.

Fortunately, two early 1920s photographs of the altarpiece taken pre- (Figure 3) and post-restoration, today located at the Istituto Centrale per il Catalogo e la Documentazione in Rome, describe the polyptych's framework as it survived in the early 20th century. They show more of the framework's elements that still survived at that time and provide a much better understanding of what the altarpiece originally looked like [8]. These photographs were fundamental to create a two-dimensional digital reconstruction of the altarpiece and its framework in its entirety (Figure 4). The reconstruction was created on Adobe Illustrator using two-dimensional shapes with the measurements that were taken on site to ensure a more accurate representation. Lost elements in the framework were reconstructed by referring to the mentioned photographs. Other elements that were lost even at the time these photographs were taken were reconstructed using minimal reinterpretation.

4. THE *RABAT POLYPTYCH*

The *Rabat Polyptych* was commissioned from Antonio de Saliba in 1510 as the titular altarpiece for the Franciscan Observant Church of Santa Maria di Gesù (Ta' Ġieżu) in Rabat, Malta, for the fee of 50 *uncie*, making it worth almost 3 times as much as the Taormina altarpiece. The *Rabat Polyptych* no longer survives in its original polyptych format but in a disassembled state and completely lacks its original Late Gothic gilded framework. The eight known panel paintings associated with this work on Malta consist of: i) a *Madonna and Child Enthroned with Angels*; ii) a *Deposition*; two three-quarter length figures of Franciscan saints; iii) *St Anthony of Padua*; iv) *St Louis of Toulouse*; and four predella panels depicting v) *St James the Elder and an Apostle*; vi) *Two Apostles*, vii) *The Resurrected Christ with St John the Evangelist and St Paul*; and viii) *St Andrew and an Apostle*. The knowledge of the original format of the altarpiece and the respective positions of each of the larger panels survives through a historic document – a physical description of the work dated 1730, written by Fra Giovanni Antonio Mercieca. Although there are no details about the original framework of the Rabat altarpiece, it is likely to have bared some similarity to that decorating the altarpiece in Taormina. Giovanni was likely the woodcarver responsible for crafting and gilding the framework of the *Rabat Polyptych*, as he had done for the piece in Taormina [9]. This hypothesis is based on documentation that evidences Giovanni's ongoing collaboration with his son Antonio on at least fourteen commissions, with the commission of the Rabat work fitting within the period of collaboration, which started in 1497 and ended in 1514. It is thus plausible for this commission for Malta to have been an undocumented collaboration [5]. Giovanni's connection to Malta through familial descent further strengthens this hypothesis [10].

It is known that the *Rabat Polyptych* was dismembered in 1785 and transferred to the sacristy of the same church. Its panels were eventually dispersed for several possible reasons. A change in artistic taste that favoured a more updated and contemporaneous style may be one of the reasons, since the church was rebuilt in the Baroque style in 1752, three decades before the polyptych's dismemberment. It may also be the case that the polyptych in its original format was no longer structurally sound and that the decorative and structural wooden frameworks had possibly deteriorated and suffered from damage, leading to the polyptych's disassembly. Given that the same situation was assessed for several other polyptychs by Antonio, it is believed that the components of the *Rabat Polyptych* were dismantled to be

Figure 5. Digital reconstruction of the *Rabat Polyptych* (*c.* 380 × 350 cm).

used as a method of payment by the Franciscan friars who may not have had the money to pay for expenses.

The already discussed reconstruction of the *Taormina Polyptych* was thus an important initial step that eventually led to the hypothetical digital reconstruction of Antonio's *Rabat Polyptych*'s framework (Figure 5). The reconstruction was created exploiting the measurements of the lengths and widths of panels and by modifying, simplifying, and superimposing the reconstructed framework of the *Taormina Polyptych* onto photographs of the Rabat panels.

5. RESULTS

Through the scale digital reconstructions of Antonio de Saliba's polyptychs on Sicily and Malta, the original dimensions of the Taormina altarpiece are hypothesised to have been *c.* 245 × 195 cm, and those of the Rabat altarpiece are hypothesised to have been *c.* 380 × 350 cm.

The two predella panels from the *Rabat Polyptych* that were scientifically studied were the panel with *The Resurrected Christ with St John the Evangelist and St Paul* (Figure 6) and the panel with *St Andrew and an Apostle* (Figure 7). Through the histological study of the extracted wood samples, the genus was identified as *Tilia* spp. (Figure 8), more commonly known as Lindenwood or limewood – not to be confused with the lime fruit, the genus of which is *Citrus* sp. [3], [4].

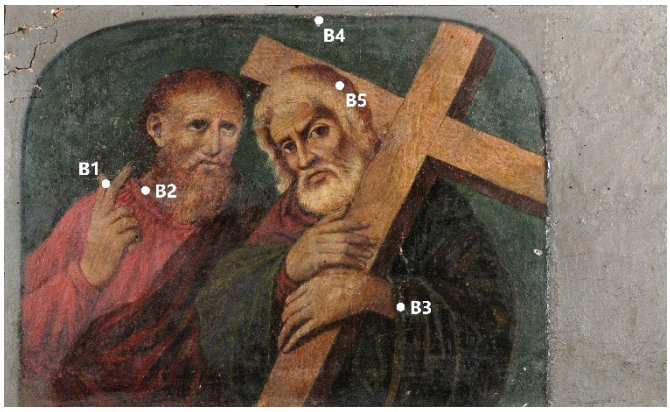

Figure 7. Antonio de Saliba (1466/7–c. 1535) and workshop, *Predella panel with St Andrew and an Apostle*, 1510-15, painting on lime panel, 31 × 49.5 cm, private collection, Malta (before conservation, indicating paint sample extraction points).

The invasive analysis of the pigments consisted of microscopic observations of cross-sections, which were integrated with chemical analyses by FTIR and XRF. However, because of the very small size of the samples and the low thickness of the layers, it was not possible to obtain reliable information on the nature of the binder of the paint layers. Based on the results of the selective histochemical tests, it is assumed that the original layers contain a protein binder whereas the overpainted layers contain a lipidic binder [2].

The analytical results allow the following to be established:

- in both panel paintings, the characteristic differentiation of the preparatory layer into *gesso grosso* (coarse gypsum) and *gesso sottile* (thin gypsum) is not clearly visible;
- on the surface of the preparatory layer a film of animal glue can often be observed, the purpose of which is to reduce the gypsum porosity and to prevent an excessive absorption of the binder of the paint layers;
- in many samples charcoal particles were observed between the preparatory layer and the overlying glue film, which can be assumed to be traces of a possible underdrawing;

Figure 6. Antonio de Saliba (1466/7–c. 1535) and workshop, *Predella panel with the Resurrected Christ with St John the Evangelist and St Paul*, 1510–15, painting on lime panel, 20 × 69.5 cm, private collection, Malta (before conservation, indicating paint sample extraction points).

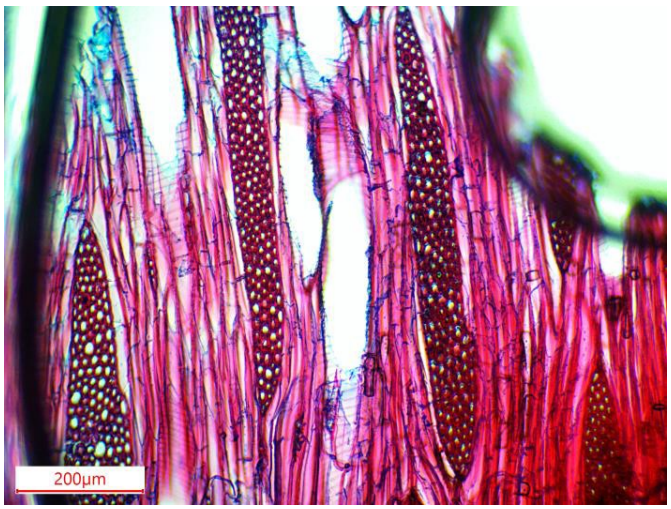

Figure 8. A micrograph of axial parenchyma from a wood sample taken from the *Resurrected Christ* predella panel of the *Rabat Polyptych*.

- chemical analyses carried out on the surface of all the samples always recorded a high amount of gypsum and a natural resin of vegetal origin, probably mastic or colophony.

5.1. The predella panel with the *Resurrected Christ with St John the Evangelist and St Paul*

In correspondence with Christ's left elbow (sample A1), St John's mantle (sample A2) and with St John's tunic collar (sample A3) the original paint layers are preserved. The flesh tone (A1) consists of a paint layer containing lead white and subordinate amounts of red ochre, red lead and carbon black. The red colour of the mantle (A2) is composed of a red resin layer (possibly dragon's blood) containing probable very fine glass fragments (Figure 9) (their presence, however, should be confirmed in future by chemical analysis under the scanning electron microscope (SEM)). The green colour of the tunic (A3) consists of a copper green glaze applied on a yellow underlayer of lead white and lead-tin yellow (Figure 10). The background in the lower right-hand corner (sample A4) only has a repainting.

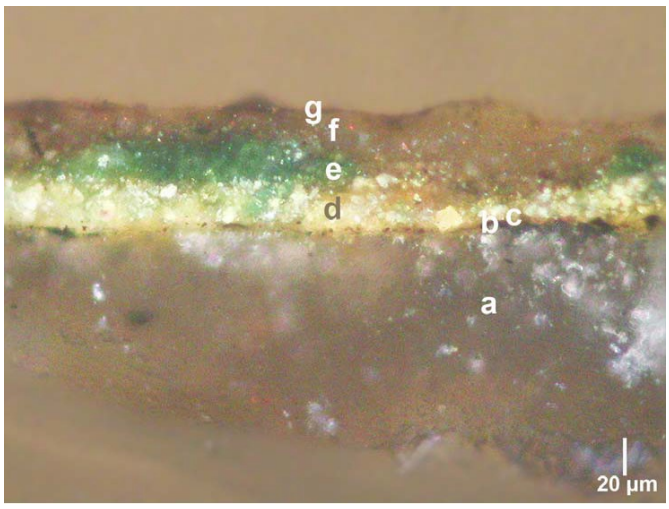

Figure 10. A cross-section micrograph of paint sample A3 (St John's green tunic collar) with an indication of the stratigraphy. The original layers include: (a) a white preparatory ground layer composed of gypsum and animal glue; (b) a black layer of carbon particles indicating a possible underdrawing;(c) a translucent layer of animal glue film; (d) a yellow layer of lead-tin yellow and lead white; (e) a green layer of copper green glaze; and (f) a brown-yellowish varnish film. Carbon black deposits (g) were also observed.

5.2. The predella panel with *St Andrew and an Apostle*

Original paint layers were found on the tunic collar of the Apostle on the left (sample B2), on the right sleeve of St Andrew's mantle (sample B3) and on the background (sample B4). The red colour of the tunic (B2) is rendered by two layers of a red resin (possibly dragon's blood) in which the presence of ground glass is also suspected; the underlying resin layer also contains some lead white. On the green mantle of St Andrew (B3) a copper green glaze rests on a light green underlayer of lead

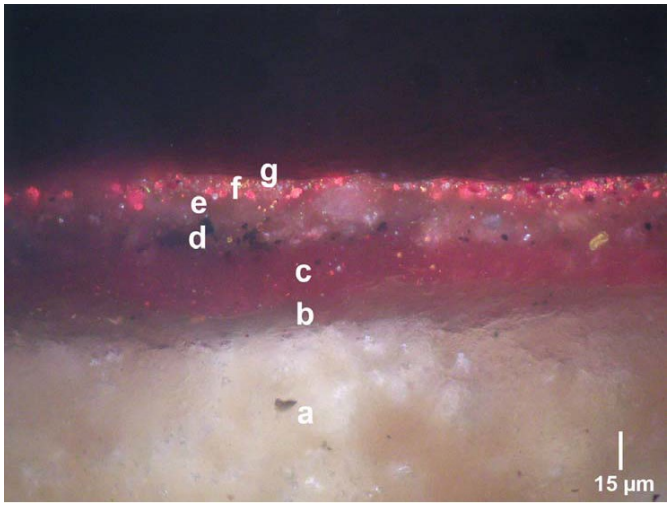

Figure 9. A cross-section micrograph of paint sample A2 (St John's red mantle) with an indication of the stratigraphy. The original layers include: (a) a white-yellowish preparatory ground layer composed of gypsum and animal glue; (b) a translucent layer of animal glue film; (c) a layer of red resin (possibly dragon's blood) with possible embedding fragments of finely pulverised glass; and (d) a greyish varnish film with carbon particle deposits. Layers from later interventions include: (e) a translucent varnish film; (f) a red layer containing lead white, cinnabar and scarce red lake; (g) and a translucent-grey varnish film.

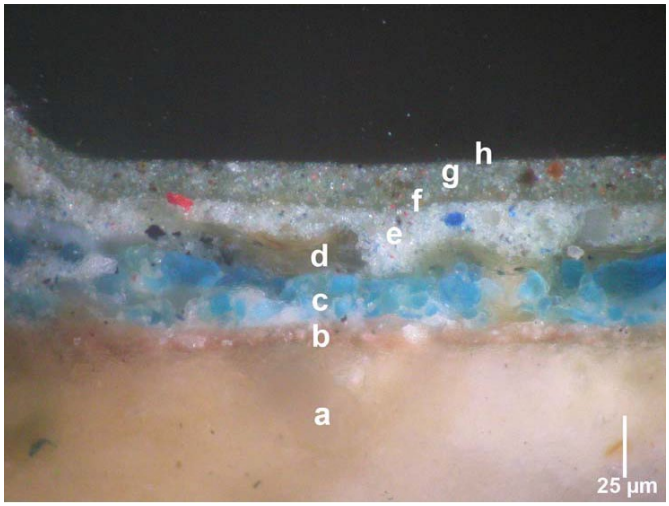

Figure 11. A cross-section micrograph of paint sample B4 with an indication of the stratigraphy. The original layers include: (a) a white-yellowish preparatory ground layer composed of gypsum and animal glue; (b) a thin pink layer of lead white and finely ground red ochre; (c) a blue layer of azurite and lead white; and (d) a translucent varnish film with carbon particle deposits. Layers from later interventions include: (e) a light grey-blue layer of lead white, artificial ultramarine blue and baryte; (f) a translucent varnish film; (g) a grey layer of lead and zinc white, some artificial ultramarine blue, yellow ochre and brown earth; and (h) a translucent varnish film .

white and verdigris (copper acetate). The original colour of the background (B4) is composed of a blue layer of azurite and lead white applied on a thin pink underlayer of lead white and red ochre (Figure 11). On the thumb of the left hand of the Apostle on the left (sample B1) and on St Andrew's hair (sample B5) only repainting was identified.

6. CONCLUSIONS

The digital reconstructions created for the two altarpieces we studied, that were produced in the Early Cinquecento in Messina, Sicily, are comprehensive tools that aid in the understanding of their visual completion. This is especially the case for the *Rabat Polyptych* since no photographic documentation nor contemporary sketches are known to exist. Emphasis is also placed on Giovanni de Saliba's exceptional skill at producing such high-quality, elaborate and intricate Late Gothic style carving that is combined with the Renaissance style of the paintings produced by his son Antonio.

The results obtained from the pigment profiling and wood identification of the two Rabat predella panels provide insight into Antonio's painting and manufacturing techniques. Antonio used a combination of organic and inorganic pigments, the presence and sequence of which is consistent to results obtained from analyses carried out on related paintings by the same artist. The inconclusive nature of the results obtained for the paint binder demands that future analyses should be carried out on the panels that have not yet been scientifically studied, namely the other two known predella panels depicting pairs of Apostles, and the larger *St Anthony of Padua* and the *St Louis of Toulouse* panels.

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