

CONDITION REPORT and TECHNICAL EXAMINATION

TITLE	<i>Tancred Baptizing Clorinda</i>
ARTIST	Domenico Tintoretto, Italian (Venetian), 1560 - 1635
DATE	c. 1586–1600
DIMENSIONS	66 5/16 x 45 3/16 in. (168.4 x 114.8 cm)
MEDIUM	Oil
SUPPORT	Canvas, relined
FRAME	Carved and gilded wood
DISTINGUISHING MARKS	None apparent
ACCESSION	61.77
IDNUM	47417

SUMMARY

The painting is in stable condition. There is evidence of multiple past campaigns of restoration including lining, several cleanings, and repaired losses. Some surface wear is apparent in the foreground, but the painting surface is otherwise in good condition for a work of this age.

The figure in the center of the canvas is Tancred (1075-1112), Prince of Galilee, regent of the Principality of Antioch, and a leader in the First Crusade. He featured in fictionalized episodes of *Jerusalem Delivered*, a sixteenth-century epic poem by Torquato Tasso. The poem was first published in 1581, making the subject of the painting of contemporary relevance. In the poem, Tancred falls in love with the pagan warrior-maiden Clorinda, but unknowingly kills her during a nighttime battle. Just before she dies, she converts to Christianity and Tancred rushes to baptize her. The image represents the moment Tancred baptizes the dying Clorinda with river water gathered in his helmet.

The painting is characterized by a surprisingly limited palette. It is dark in tonality and opaquely painted, although glazes were also used in some areas. Several compositional changes have been detected, suggesting adjustments by the artist in the course of painting (Fig. 23). Technical imaging confirms that the painting method is perfectly consistent with documented practice in the Tintoretto workshop.



Figure 1. *Tancred Baptizing Clorinda*, recto in normal light. All images by Matthew Golden and the authors.

SUPPORT

The auxiliary support is a 20th-century wooden stretcher measuring 10 cm wide and 3 cm thick, with a 7 mm exterior-edge bevel on the verso. The corners are joined by bridle joints and there is a vertical and a horizontal crossbar joined to the stretcher with half-bridle joints. There is provision for 12 keys (eight at the corners and 4 at the cross-joins) and all are present. The secondary support is a 2/2 plain woven

(also called basket woven) lining canvas, likely linen or another bast fiber. The canvas is coarse but tightly woven, with approximately 12 z-spun thread-pairs per cm. The lining canvas is adhered to the original canvas with paste-glue type adhesive. The lining canvas is attached to the stretcher with metal tacks, and the edges are covered with blue craft paper. The weave of the lining canvas was impressed upon the paint layer during lining, likely due to the heat used.

The primary support is a canvas in three parts, with two seams running the height of the painting near the right and left edges (**Figs. 4, 5, 22**). The central section of canvas measures approximately 93 cm wide and appears to be a 2/1 twill weave, likely made of hemp or another bast fiber (**Fig.3**). The two flanking sections sewn to the main canvas make up the remaining width and are plain-woven. Cusping is present on all sides, and the original tacking edges are no longer present.

The composite canvas construction, together with the evident differences in the handling, tonality, and opacity of paint layers overlying the central twill canvas and those over the plain-woven additions suggests that the central canvas was painted before the lateral strips were added. This alteration to the canvas may have resulted from damage and subsequent trimming of the original canvas (in which case the additions would be considered replacements) or may have been to expand the image dimensions for display reasons (in which case the additions would be considered extensions). Although there are differences in structure between the central and lateral sections, all the materials have considerable antiquity, and it is possible that the intervention was not remote in time from the original execution.



Figures 4 and 5. Tancred Baptizing Clorinda with its current format (left) compared to the central composition without the lateral additions (right).

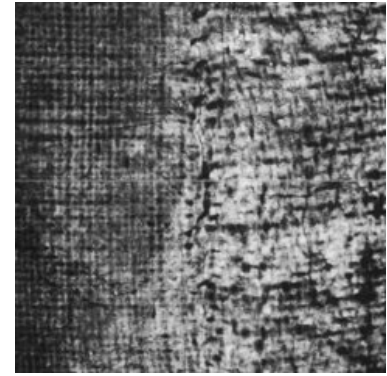
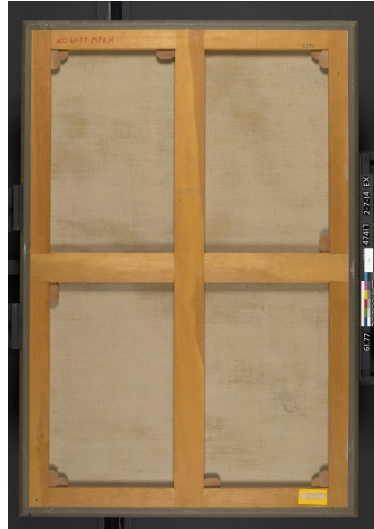


Figure 2. (left) *Tancred Baptizing Clorinda*, verso in normal light.

Figure 3. (right) Detail of x-radiograph. The left-side plain weave addition is visible on the left of the image, and the central twill weave canvas on the right.

It has been noted that if the additions have resulted in a broader format than was intended for the artist's original composition, that the dramatic forward thrust of the figures would have been originally even more dynamic and urgent within a more contained space.¹

GROUND and UNDERDRAWING

The ground layer is not easily visible by surface examination. X-ray fluorescence spectroscopy (XRF) suggests there is a lead white-rich ground or imprimatura layer, and beneath that, a calcium-rich gesso ground. Because infrared reflectography is so successful in identifying carbon in the paint layers underlying the surface, it is likely that the ground is fairly light and reflective and

¹ Wilson, C. 1993. Domenico Tintoretto's *Tancred Baptizing Clorinda* : a closer look. *Venezia cinquecento : studi di storia dell'arte e della cultura* 3 (6): 121-138.

GROUND and UNDERDRAWING cont.

does not contain a significant carbon black component. A light ground of this kind is consistent with apparent practice in the Tintoretto workshop,² although there are also many paintings by Tintoretto and his associates painted on dark grounds. Infrared reflectography records dark fluid lines not visible on the surface of the painting. The appearance of these lines is consistent with brush underdrawing in an oil or varnish-rich medium, and comparable to similar marks in unfinished works from the Tintoretto workshop (see Figs. 6 and 7).

In addition to the contours visible by IRR, it is also possible to detect a grid pattern used to maintain proportion when transferring figures from a smaller drawing onto canvas, panel, or wall for a full-size composition. Transfer grids have been identified on numerous paintings from the Tintoretto workshop³ (and on a great many drawings, particularly by Jacopo). With the information available from the recent IRR imaging it is now possible to suggest that the figure of Tancred in the MFAH was based on the two small drawings in the British Museum, currently attributed to Jacopo Tintoretto (Figs. 8 and 9).

The x-radiographic images of *Tancred Baptizing Clorinda* also reveal aspects of the painting method employed in the Tintoretto workshop. First, the x-radiographs show the use of a radio-opaque paint,

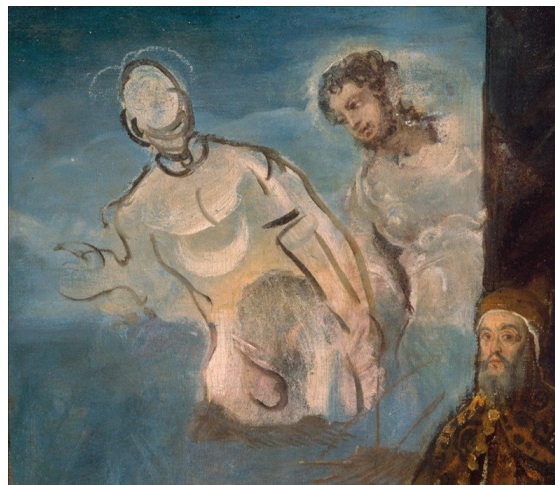


Figure 6. This detail from an unfinished area of Jacopo Tintoretto's *Doge Alvise Mocenigo presented to the Redeemer* (Metropolitan Museum of Art) shows the fluid brush underdrawing typical of Tintoretto studio technique.



Figure 7. (upper left) Detail of infrared reflectography image. Notice fluid "drawing" lines in the leg, back, and arm with lines of the transfer grid.

Figure 8. (upper right) J. Tintoretto, *Figure Studies*, charcoal on blue paper, 135 x 292 mm, British Museum.

Figure 9. (right) J. Tintoretto, *Study of figure moving to left*, black chalk on paper, 146 x 235 mm, British Museum.



² Falomir, M., ed. 2007. *Tintoretto*. Madrid: Museo Nacional del Prado, p.172, fig.13.

³ Dunkerton, J. 2007. Tintoretto's underdrawing for *Saint George and the Dragon*. *National Gallery Technical Bulletin* 28: 26-35.

GROUND and UNDERDRAWING cont.



Figure 10. Detail of *Doge Alvise Mocenigo presented to the Redeemer*, oil on canvas, 97.2 x 198.1 cm, Metropolitan Museum of Art

probably white, to lay in a figure or to effect alterations to a pose in a previously drawn figure. This technique probably was exploited optically in the painting process, providing some light-reflecting components in the multiple paint layers. The kind of paint “underdrawing” visible in a detail of the unfinished *Doge Alvise Mocenigo presented to the Redeemer* in the Metropolitan Museum of Art (Fig. 10) has been detected in numerous works by Tintoretto and his workshop.⁴ In the MFAH painting, this feature is evident in various areas: Clorinda’s leg (Fig. 11), and in the zig-zag strokes indicating the placement of highlights on the drapery of her skirt at lower right of the figure. There are also light strokes defining the contours of Tancred’s form, particularly his raised leg and foot. Tancred’s foreshortened torso in the radiograph is formed by various brush strokes in opaque paint employed by the artist to define the desired shape for that compositionally key contour. Other areas, though less legible, indicate that parts of the composition were very much worked out on the canvas: the round, opaque shapes to the left and right of the final placement of Tancred’s head, for example, may relate to alternate ideas for the position either of his

head, or possibly of his helmet. Close examination of damaged areas indicates that in most of the radio-opaque areas, a light paint was used to explore compositional alternatives.

Taken together with evidence from IRR, showing alterations to the edge of sky and tree trunk above Tancred’s head, as well as numerous broadly applied strokes of underdrawing in the sky, these observations indicate that while the figures may have been drawn onto the canvas with the aid of a transfer grid, there was considerable working out of surrounding areas directly on the canvas. This is true as well of more detailed adjustments, such as the fingers of Clorinda’s hand, or the suppressed highlight at the lowest edge of her skirt.



Figure 11. Detail of x-radiograph

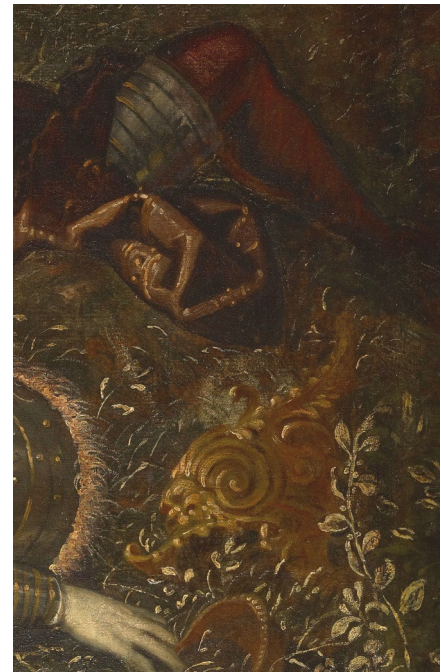


Figure 12. Detail of visible light image

⁴ Falomir 2007 and Dunkerton 2007.

PAINT

The paint layer consists of thin to moderately thick oil medium with a range of widely available artist's pigments used throughout Europe in the sixteenth century. XRF analysis suggests the pigments used include lead white, iron earth pigments, copper-containing blues and greens, and vermillion, as well as possibly red lead and carbon black (**see appendix**). In addition to the information about the laying-in of the composition discussed above, x-radiography provides evidence that some significant changes were made even when the execution was well advanced; for instance, painted foliage runs fully beneath Clorinda's lowermost arm suggesting that this was not the arm's initial placement (**Fig. 13**). The position of Tancred's head was adjusted, as well as Clorinda's right arm and the fingers of her right hand. Adjustments can be seen in the foliage and landscape as well.

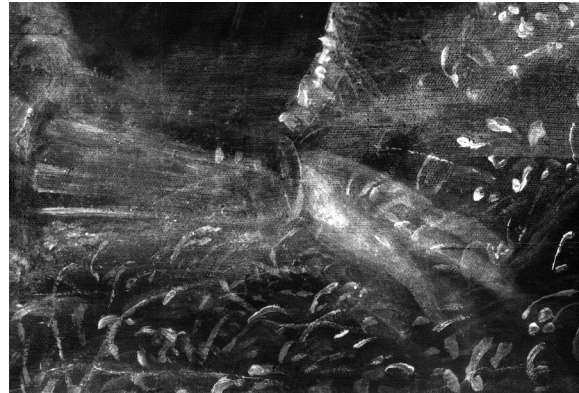
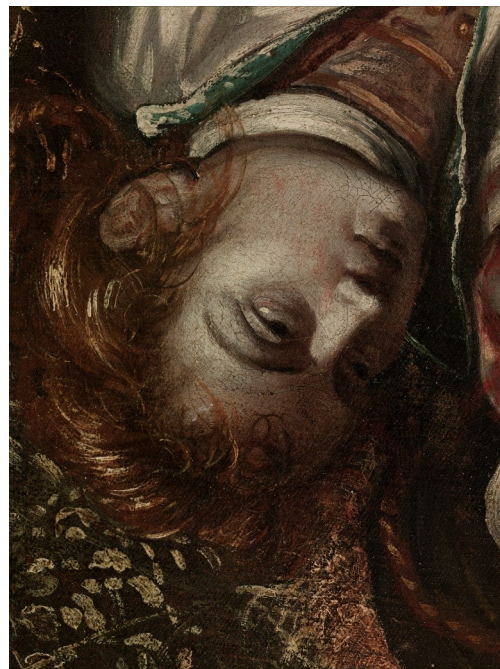


Figure 13. Detail of x-radiograph, showing foliage under Clorinda's hand

The handling of paint in *Tancred Baptizing Clorinda* is typical of works by Tintoretto and his close circle. Pigments were skillfully deployed to produce great richness and variety of effect. From areas of broader working, such as Tancred's orange tunic, where fairly wide brushes were used to build up and to blend the tones (**Fig. 14**), to more highly finished passages, such as Clorinda's face and hair, where the brushwork is closer, and the finishing touches were applied with finely pointed brushes (**Fig. 15**). Clorinda's white garment, a focal point to center the viewer's attention, was also constructed with carefully placed folds and highlights, an exacting process that would have required some drying time between stages of building up the finished paint surface. It is consistent with art theory in the post-Tridentine world that key figures would be more highly finished than secondary areas.

The painting has experienced several campaigns of restoration and cleaning, and many losses and abrasions are present. Though it appears quite opaquely painted, delicate glazes may have been lost during cleanings in the past, particularly in the foreground foliage, which appears in many areas to have



Figures 14 and 15. Details of visible light image showing broader areas of paint handling in Tancred's torso, and more areas more closely worked such as Clorinda's face and hair.

PAINT cont.

lost the original transparent green copper resin glaze that would have modified the brightness of the exciting brushwork used to create the varied forms of foliage (**Figs. 16 and 17**). The glaze layer is now either lost or left only in discolored remnants in the tiny concavities of the surface texture. A simulation of the overall impression of the balance and dramatic focus of the composition when the green glaze was in place is provided in **Fig. 19**.



Figure 16. Detail of foreground foliage

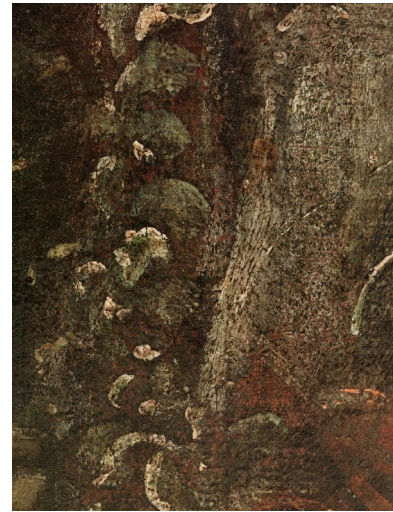


Figure 17. Detail of foliage on the left side of the painting



Figures 18 and 19. Visible light image (left), compared to false color image (right) showing a digital reconstruction of lost copper resin glaze in the foreground foliage.

SURFACE COATING

The painting has a fairly thick natural resin varnish which has darkened and yellowed with age. Some very dark residues of old varnish remain in the interstices of the weave and in the impasto. Restoration paint is present throughout the painting in and around losses and abrasion.

IMAGES

Figure 20. *Tancred Baptizing Clorinda*, recto in longwave ultraviolet radiation.

IMAGES cont.

Figure 21. *Tancred Baptizing Clorinda*, infrared reflectography image captured with an Osiris Infrared Imaging System (InGaAs array sensor) in six sections and composite image created in Adobe Photoshop CS6.

IMAGES cont.

Figure 22. *Tancred Baptizing Clorinda*, x-radiography image captured with Pantak-Seifert x-ray tube at the following parameters: 25kV, 3 μ A, 45 seconds, 40" distance from tube. Captured in 20 sections, composite image created in Adobe Photoshop CS6.

IMAGES cont.

Figure 23. *Tancred Baptizing Clorinda*, x-radiography image captured with Pantak-Seifert x-ray tube at the following parameters: 25kV, 3 μ A, 45 seconds, 40" distance from tube. Captured in 20 sections, composite image created in Adobe Photoshop CS6. Image digitally altered to minimize the appearance of stretcher bars and enhance the contrast.

MFAH / THE MENIL COLLECTION — Scientific Laboratory Report
X-ray fluorescence spectroscopy report**Accession number:** 61.77**Report Author:** Dr. Corina Rogge**Artist/Maker:** Domenico Tintoretto**Institution:** The Museum of Fine Arts, Houston**Title/Description & Date:** Tancred *Baptizing Clorinda* (c. 1586-1600)**People/Culture:** Italian (Venetian)**Project Serial Number:** Feb.2014.10**Analysis ID:** 61 77 XRF 1**Date of Report:** 26 March 2014Page 1

X-ray fluorescence spectrometry was used to identify pigments present on Domenico Tintoretto's *Tancred Baptizing Clorinda* (1586-1600). Results suggest a very limited palette of lead white, iron earth pigments, copper containing blues and greens, and vermilion. Red lead may also be present as high levels of lead with little attenuation of the lower energy lines (indicating a surface location) was found in an area of black blood. No phosphorus was detected suggesting that Domenico may have used carbon black rather than ivory or bone black. Confirmation of the identity of these materials would require sampling and microscopy, FTIR or Raman spectroscopy. No clear evidence for the use of ultramarine, smalt, orpiment, realgar or lake pigments was found, although ultramarine and lake pigments are often quite difficult to detect when used in low concentrations due to their low concentration of detectable elements.

The painting appears to contain a lead white rich ground given the high levels of lead detected in almost every area analyzed. However, in an area of abrasion where the lead levels were very low a brown layer rich in calcium and sulfur was present, suggesting that a gesso ground underlies the lead white ground, although sampling and embedding of cross-sections would be necessary to confirm this. Little analytical work had been done on Domenico's works, but it is known that Jacopo, his father, sometimes used two ground layers, and that the lowermost ground was a gesso that was occasionally colored with palette scrapings (Plesters, 1979, 1980).

Lead white was the primary white pigment detected, and was used in both the ground and in the highlights and flesh tones. Some areas in the light colored foreground foliage were found to contain high levels of zinc. Zinc was not commonly used in oil paints until the middle of the 19th century, so these locations likely represent restoration campaigns. It should be noted that these restorations underlie the current varnish and therefore were not visible under UV illumination.

The warm colors of red, yellow and orange are largely created using iron earth pigments although there is some use of vermilion in the bright red passages of blood and in the rosy cheeks of the cherubs. No evidence was found for the use of lead tin yellow, orpiment or realgar. This contrasts strongly with the typical palette of Jacopo who typically used these pigments in his paintings (Plesters, 1980). The area of dark blood on Clorinda's breast may also contain red lead, as low mercury levels, but high lead levels were detected. Red lead has been found in works by Jacopo (Plesters, 1984) and therefore it may be that Domenico deliberately chose different red pigments to depict thin and thick blood. As stated previously, no evidence was found for the use of red lakes although they were commonly used in glazes during this time period and have been identified in Jacopo's works. However, XRF is not the most sensitive method for identifying red lakes and it is possible that they have gone undetected in this analysis. Alternatively, Domenico might not have chosen to use them, or the glazes might have been removed during prior cleaning campaigns. To resolve this issue, samples of areas likely to contain glazes would need to be sampled and subject to surface enhanced Raman spectroscopy, a technique much more sensitive to organic species.

There is a limited use of blue in this painting, with a dull blue-gray sky and some blue used on the inner collar of Clorinda's shirt. Both of these areas contain high levels of copper, suggesting the use of azurite or blue verditer. Jacopo Tintoretto used azurite as well as smalt and natural ultramarine in his works (Plesters, 1980) so his son evidently chose to limit his palette. He may have chosen to use azurite/blue verditer because its specific color, but additional factors may have been the relative expense of ultramarine and the poorer handling properties of smalt.

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Purple occurs in the lacings of Chlorinda's shirt, and appears to be a mixture of red pigments, including vermilion and iron earth - perhaps an umber, and a copper based blue.

The green colors, ranging from the still relatively bright green of Tancred's tights to the dark greens of the foliage, have been created using iron earth pigments and copper containing pigments such as malachite, green verditer, verdigris and/or copper resinate. The foliage includes passages that are primarily iron-based, while others contain high levels of both iron and copper. Jacopo used malachite, verdigris and copper resinate glazes, and his landscapes often involved one or two opaque layers covered with a copper resinate glaze (Plesters, 1980). If his son utilized a similar working method, the iron earth pigments may derive from the opaque layers and copper from either the opaque layers or transparent glazes. The absence of copper in certain areas may reflect an intended color difference, but as copper resinate glazes age they discolor and become difficult to distinguish from aged varnish and are sometimes removed during cleaning so it is possible that original paint material has been lost in certain areas. Clorinda's cloak also appears to have been painted with a combination of iron earth and copper pigments, although it is very abraded and contains areas of modern retouching using chromium pigments. In contrast to the foliage and cloak, the green of Tancred's tights appears to be largely due to copper based pigments as very little iron is present. Tancred's belt may also have been intended to have a green coloration. The areas around the yellowish highlight areas that now appear black contain a great deal of copper and were likely once meant to be green. This green coloration would have provided contrast to the darks of the belt which were primarily painted using iron earth pigments. The now yellowish highlights may also once been a light green; a dark material is very evident in the impasto of the brushstrokes and this may be a discolored copper resinate glaze.

Thus, this analysis suggests that Domenico used a much more limited palette than his father, Jacopo Tintoretto but the overall painting structure and methodology is similar.

References:

Plesters, J. (1979) Tintoretto's paintings in the National Gallery, National Gallery Technical Bulletin, 3, 3-24.

Plesters, J. (1980) Tintoretto's paintings in the National Gallery. Part II: materials and techniques, National Gallery Technical Bulletin, 4, 32-48.

Plesters, J. (1984) Tintoretto's paintings in the National Gallery. Part III: technical examination of the four remaining works attributed to or associated with Tintoretto, National Gallery Technical Bulletin, 8, 24-35.