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OF THE WALTERS ART MUSEUM

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> Corcoran, *Portrait Mummies*, 97–99.

> Pon, "Place, Print, and Miracle," 310–11

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A Corn Mummy Decoded

REGINE SCHULZ

As part of the reinstallation of the Renaissance and Baroque galleries of the Walters Art Museum in fall 2005, one room was created in the style of a Northern European aristocrat's chamber of wonders and another as his private study. The installation includes ancient Egyptian objects: bronze figures of deities, private sculpture, amulets, a Roman period female child mummy,[1] and a "corn mummy" in a coffin with the head of a falcon.

MUMMIES, SPURIOUS MUMMIES, AND CORN MUMMIES

Egyptian artifacts, especially human and animal mummies, were popular elements in princely chambers of wonders during the seventeenth and eighteenth centuries but also in the more focused study collections of artists, scholars, and physicians.[2] From the seventeenth century through the nineteenth century, Egyptian mummies were in great demand as exotica; in addition to genuine mummies, numerous spurious mummies came into collections. Not all, however, were contemporary products created for a credulous European market: spurious mummies were being produced centuries earlier by the Egyptians themselves. From the end of the Late Period through the Greco-Roman Period (ca. 380 B.C.– A.D. 395) donations of mummified sacred animals were a popular way of making merit. If the embalmers and priests did not have the requisite animal in stock, they often choose another and altered the exterior to simulate the appearance of the desired animal. Some "mummies" contained no body within the wrappings; they could nonetheless be magically transformed into "genuine" mummies through a ritual that secured the protection of the donor and ensured divine support.

Another kind of spurious mummy is the so-called corn mummy, also called "Osiris mummy" or "grain Osiris figurine."[3] All three terms describe a specific type of object: a three-dimensional humanlike figure,[4] made from a mixture of mud, sand, or clay, and grain or seeds, and wrapped in linen bandages or a shroud. The figures were moistened in a special ritual so that the grain would germinate and ensure the renewal of nature and resurrection in the afterlife.[5] Beginning in
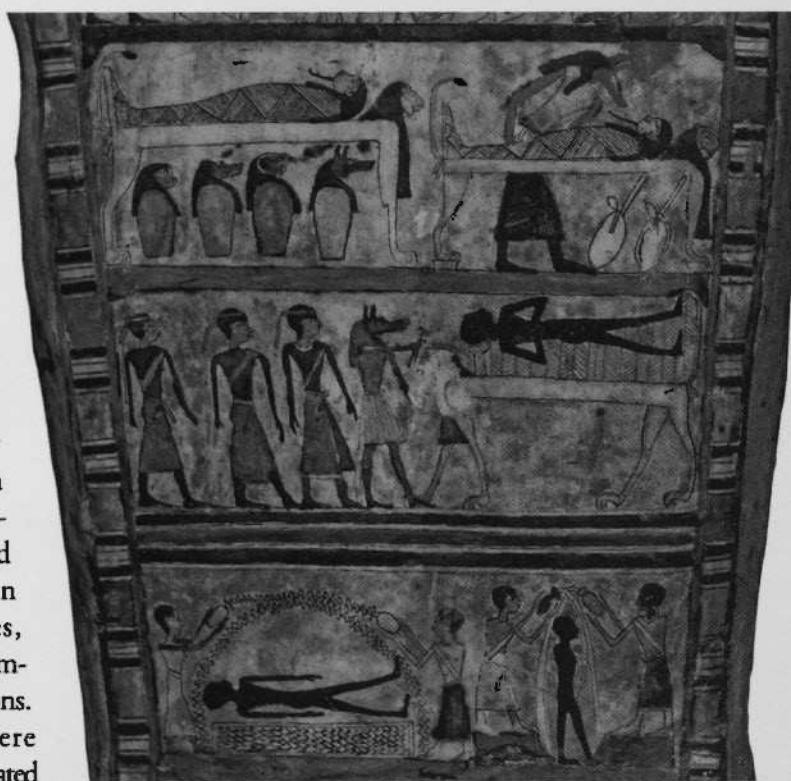
Fig. 1. Vignettes on the front of the coffin of Djed-Bast-iu-ef-ankh, ca. 2nd century B.C., Hildesheim, Roemer- und Pelizaeusmuseum (inv. no. 1954)

the late Third Intermediate Period (the second half of the eighth century B.C.) a specific subcategory of corn mummies emerged: figures placed in hawk-headed coffins. After the figure had been formed, a coating of oils, resins, wax, and gum was applied to the bandages or cover shroud to more closely simulate a genuine mummy. Elements such as faces, hands, the *Atef-* or *Hedjet*-crown, the divine beard, or royal insignia modeled in beeswax (which could be painted or gilded)[6] or, more rarely, in gold or silver,[7] were often attached to the figure. Some examples have an attached phallus formed from the same components as the mummy figure. Many of the wooden hawk-headed coffins terminate in plinths so that figure could be displayed upright during the ritual; some are supported by a back pillar. Inscriptions or vignettes with representations of deities appear in some examples. The mummy figures were sometimes accompanied by small figurines of the four Sons of Horus, or alternatively, four small balls bearing the names or wax faces of these gods, as well as names of other protective deities.[8] Scarabs and cobra serpents made of wax were also placed in the coffins.

Representations of and references to corn mummies have been found on coffins of genuine mummies (fig. 1), and the process of their manufacture during the *Khoiak* festival, as well as their subsequent burial, is described and depicted on temple walls.[9] The most extensive information about the ritual comes from the two late Ptolemaic roof chapels of the Temple of Hathor at Dendera,[10] as well as a shorter account in the Osiris chapel on the roof of the Temple of Isis at Philae.[11]

THE CORN MUMMY IN THE WALTERS ART MUSEUM

The corn mummy displayed in Walters Art Museum's chamber of wonders is a long-term loan (IL.2004.13) to the museum from a private collection in Maryland. The present owner purchased it in 1996 in Washington, D.C., as part of an estate; the deceased former owner reported that her husband "had brought it back into the United States in the 1940s, after doing work in the country of Egypt."[12] The circumstances and exact place of the acquisition in Egypt, however, are unknown. It is difficult, moreover, to determine the place of the object's manufacture due to a lack of comparable excavated material,[13] and the closest parallels also lack excavation records. Given the lack of information about the work's provenance, conclusions about the corn mummy's authenticity, origin, dating, and meaning can be established only by detailed investigation of the object itself and related examples.

Fig. 2a. Walters IL.2004.13: Interior of falcon-form coffin with corn mummy

Fig. 2b

Fig. 3

Fig. 4

Fig. 5

Fig. 2b. Walters IL.2004.13: Interior of falcon-form coffin with corn mummy. Fig. 3. Walters IL.2004.13: Front and back of wax mask.

Fig. 4. Walters IL.2004.13: Corn mummy with wax mask removed. Fig. 5. Walters IL.2004.13: Front and left side of wax-coated figure of Dua-mut-ef.

COMPOSITION, MANUFACTURE, AND CONDITION

The core of the Baltimore corn mummy (figs 2a, b) was formed of a mixture of clay, mud, and seeds and wrapped horizontally in linen bandages. Plant fibers were used to stabilize the face within the wrappings. A coating of oils, resins, wax, and gum was then applied to the entire figure. The figure's beeswax overlay (fig. 3) was formed in a mold, painted with blue and black pigment, and placed on the mummy. The height of the figure is 45 cm (equal to one small Egyptian cubit), the maximum width 13.5 cm, and the maximum depth 13.9 cm. The corn mummy itself is poorly preserved; most of the resinous coating is gone, as are portions of the beeswax attachments. The upper layers of the bandages have been partially removed, and the brittle coating is lost or shattered as a result (see fig. 4). Fragments of the coating are preserved on the chest and above the left shoulder; smaller fragments are visible between the remains of the wrapping underneath and beside the corn mummy in the coffin. The wax face-and-crown attachment has sustained damage, and later repairs are evident. The tip of the nose is crushed or deformed, and an irregular break runs horizontally across the face. The head of the *Uraeus*-serpent, the twofeathers that originally flanked the central part of the *Atef*-crown the beard,

as well as parts of the jaw and neck, are broken off. Parts of the feathers and of the beard were found in the debris beside and above the head. Some unidentified forms, perhaps made of wax, remain in the wrappings. Traces of green pigment (malachite) have been found on the surface of the mask; it is therefore likely that the mask was originally painted green.

The Sons of Horus figures were molded from the same clay or mud mixture as the corn mummy and coated with wax (see fig. 5). Their height ranges between 4.5 and 5 cm. One of the four figures (probably the baboon-headed Hapi) that would have accompanied the corn mummy in its coffin is lost. The feet of the human-headed figure of Imseti were broken off and had migrated to another area of the coffin; a fine horizontal hairline crack in the wax coating extends over the upper section of the leg, and a small hole is visible in the center of the back. The jackal-headed figure of Dua-mut-ef has one repaired break through the waist and cracks in the associated wax coating; the tip of the left ear and the left part of the figure's face, including the snout, are missing (fig. 5). The hawk-headed figure of Qebeh-senu-ef, located beneath the corn mummy, was not removed from the coffin; an x-radiograph indicates that it is intact.

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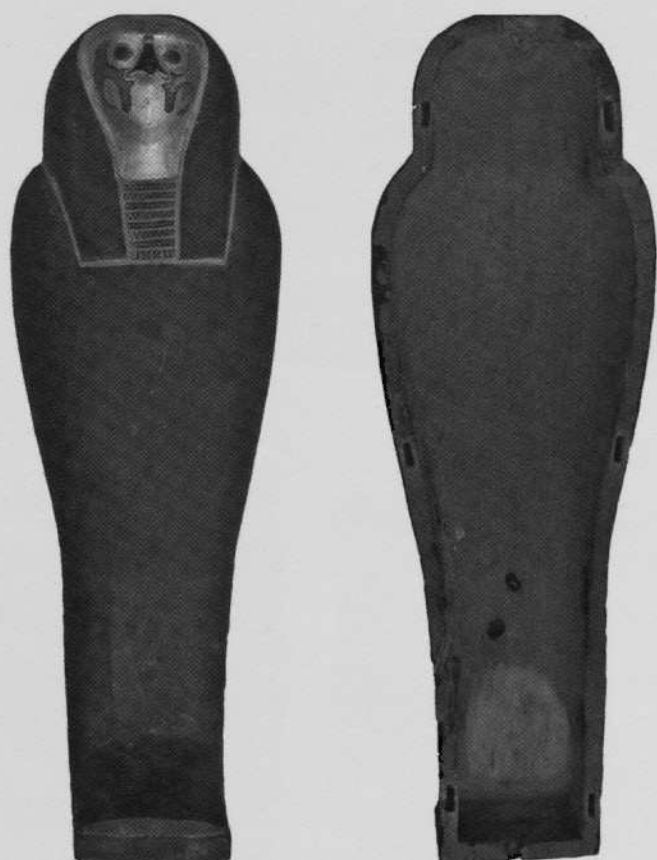
Fig. 6. Walters IL.2004.13: Exterior and interior of lid of falcon-form coffin

Fig. 7a. Walters IL.2004.13: X-radiograph of the corn mummy in its case.
Fig. 7b: Walters IL.2004.13: Computed tomography scan of the corn mummy in its case

The case and lid of the coffin itself were carved out of a single piece of wood (possibly sycamore), smoothed, painted with black, yellow, and blue pigment, and gilded. The lid (fig. 6) and the case are held together and aligned by six matching rectangular mortises (three on each side) that are joined by wood strips (see figs. 2a, b). The dimensions of the coffin are length 49.5 cm, width 15.2 cm, and depth 15.2 cm. The mummy itself fits comfortably in the coffin, with a space of 1.3 cm around it. The lid of the coffin is in good condition; minor surface losses and abrasions are evident, as is a large crack in the bottom of the plinth and another small one on the right side. Part of the blue paint of the hawk's mustachial band on the proper left cheek is lost, exposing the white ground. Minor losses have occurred in the black of the beak and the gilded face. Some dark spots are visible on the gilding in the outline around the beak, and the collar and borderlines of the upper wig are faded. It may have been a yellow or red (?) color (possibly orpiment).

The mummy figure and the coffin were evidently disturbed on several occasions. At an unknown date the coffin was opened and the coating,[14] and parts of the wrappings and wax attachments were damaged or destroyed.

Later, the damaged nose and the break across the figure's wax face were repaired, as was the break in the figure of Dua-mut-ef. (This probably took place in the 1930s or 1940s before the sale of the object in Egypt.) In 2005, the wax fragments of the lower side of the jaw and neck, as well as a major part of the beard, were reattached in the conservation laboratory of the Walters Art Museum, and Fourier Transform Infrared Spectroscopy and x-radiography analyses of the object were undertaken (fig. 7a).[15] More recently a computed tomography scan was done in the Department of Diagnostic Radiology of the University of Maryland Department of Medicine (fig. 7b).[16]

INTERPRETATION

1. Iconography, Colors, and Materials
The figure in the coffin represents a human mummy, with a conical extension on its head. The beeswax attachment forms the iconic elements of the head section[17]: the human face, the white Atef-crown,[18] with Uraeus-serpent and green plumes,[19] and the divine beard. The beard and beard straps, the lids of the eyes, and the brows are accentuated

with green pigment; the pupils of the eyes are highlighted in black. It is not possible to determine whether there were additional attachments, such as hands bearing regalia. Nevertheless, the human, mummiform shape of the body, the *Atef*-crown, and the divine beard, as well as the green color, which symbolizes renewal and resurrection,[20] clearly identify the figure as an image of the god Osiris.

The three surviving accompanying figurines of the Sons of Horus (see fig. 8) are identifiable by their heads. Each has a mummiform body, but Dua-mut-ef has a jackal head, Qebeh-senu-ef a hawk head (identifiable only on the x-radiograph above the mummy's right shoulder under a fragment of the resin layer [see fig. 7]),[21] and Imseti, a human head; the ape-headed Hapi is missing. The disposition of the figures around the corn mummy is not original; it was disturbed when the mummification coating was removed to search the wrappings. The figures were probably arranged in pairs and placed according to the cardinal directions observed in Egyptian human burials: Imseti and Dua-mut-ef near the feet (east), Qebeh-senu-ef and Hapi near the head (west). The function of this group of divinities (known also as the Sons of Osiris) was to protect the body of the deceased Osiris and to assist in his resurrection,[22] and as a consequence to care for the deceased.[23] The close relation between the mummification ritual for the human deceased and the corn mummy ritual for Osiris as part of the divine *Khoiak* festival accounts for the association of these figures with the corn mummy.[24]

The case and lid of the anthropomorphic coffin are black, as are the eyes and the beak of the hawk's head; the face is gilded, the outlines of the tripartite wig and the collar between the lappets are yellow (a substitution, probably as an economy, for gilding), and the mustachial/postocular stripe combinations on the hawk's cheeks are blue. The color black was associated with fertility and the resurrection of Osiris, as well as with magical power.[25] It was the color of night and the underworld, as well as of Anubis, protector of the deceased and god of mummification.[26] Gold or yellow represents eternal divinity and imperishability,[27] and blue both the heavens and the primaeval flood, and, by extension, life and rebirth.[28]

The design of the eight-row *Wesekh*-collar comprises four rows with dots, alternating with three rows in a zigzag motif, and at the bottom, a single row with a petal pattern. The collar's design may be more than simply decorative; the motifs may have associations with the sun, the flooding of the Nile or the primaeval flood, and, more broadly, renewal. The *Wesekh*-collar itself had a protective function, and is sometimes displayed on corn mummy coffins with hawk's head terminal.[29]
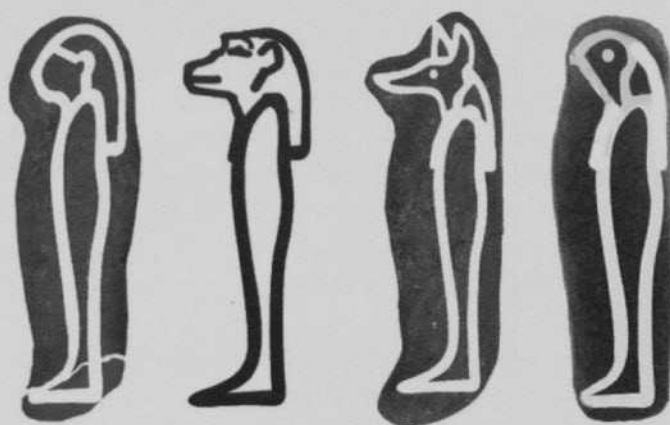
Fig. 8. Conjectural rendering of the Sons of Horus from IL.2004.13. The figure of Hapi (second from left) is missing from the case.

The combination of the hawk's head and the mummified "body" in this context alludes to the necropolis and afterlife deity Sokar or Sokar-Osiris. Inscriptions on other examples of hawk-headed corn mummy coffins strongly suggest this identification,[30] but the iconography may relate to other deities as well. Inscriptions on corn mummy coffins from Tehna el-Gebel do not mention Sokar but contain a part of spell 15b of the Book of the Dead with a hymn to Re-Harakhte-Khepri.[31] Although the absence of inscriptions makes certainty about the iconography elusive, the color of the coffin supports the identification with Sokar, as does the mention of the creation of a corn mummy together with a Sokar figure[32] as part of the annual *Khoiak* celebration.[33]

The materials that compose the corn mummy itself represent the fertile land, with its potential for annual renewal; they also allude to Osiris as god of fertility, vegetation, death, and resurrection, and ultimately to the transition from life to death.[34] The coating of resin, gum, wax, and other components was necessary for the preservation of the "mummy," but it also had a magical value,[35] protecting the connection between this world and the afterlife. The use of resin for the production of heart scarabs, which were believed to support the deceased in the Court of the Dead, had the same purpose, as did the use of wax for the attachment comprising the face, crown, and beard. Wax was understood as a supernatural material with creative power, related both to creation and to the sun.[36] All these materials, together with the combination of black and gold (respectively, fertility and divinity) for the coffin, strengthened the ritualistic and magical power of the corn mummy.

2. Typological Considerations

Despite extensive research on corn mummies, it remains difficult to determine the date and provenance of many examples because of missing or inadequate excavation records.

Typological comparison may be helpful in such cases. The noteworthy typological aspects of the corn mummy in the Walters Art Museum are: (1) the wrappings with a separate mummification layer; (2) the beeswax attachment, comprising a face, an *Atef*-crown, and a divine beard, with details painted in green; (3) the presence of figurines of the Sons of Horus; (4) the black coffin with a small plinth; (5) the gilded face of the coffin, and (6) the absence of inscriptions or representations on the coffin.

The excavated parallels closest to this combination of characteristics are from Tehna el-Gebel,[37] but most examples with this provenance have a yellow coffin (a few are black with yellow or white details) with a blue (rather than black) wig, and they carry texts and vignettes. The wrappings of the mummy figure are soaked with coating, and the mummies themselves are ithyphallic. A newly identified comparable group may originate from the Fayum region. It is characterized by a black coffin, a beeswax or gold mask, and an inscription with Pyramid Spell PT 368.[38] Examples from Thebes (Wadi Qubbanet el-Qirud) El Sheik Fadl, and Tehna el-Gebel differ markedly from the corn mummy at the Walters. However, neither the Tehna el-Gebel nor the so-called Fayum group seems to have sufficient points in common with IL.2004.15 to warrant classifying it in either of those two groups. Therefore, it seems likely that IL.2004.13 comes from another necropolis. Unfortunately, typological comparison does not help establish more precise dates because the comparative pieces themselves are not securely dated.

3. Style

The body of the corn mummy is a highly simplified form with areas corresponding to the head, torso, and legs rendered in balanced proportions. The wrappings are horizontally arranged, and what survives of the coating shows evidence of having been smoothed. The face of the beeswax attachment is round, with full cheeks and chin. The eyes have lids accentuated with color, long and slim eyeline extensions, as well as slightly downward-tilting inner corners. That the left eye of the figure is larger than the right one may be due to the instability of the wax and the repair of the horizontal crack. The long, color-accentuated brows begin high above the root of the nose and continue to the temples in a sloping line. The nose is small and has a slim bridge; the mouth is unpronounced with very slightly lifted corners. Green hatch lines, broadening toward the ears, define the beard straps; the beard itself is slender in comparison with the straps and has a green painted plait pattern. All green painted parts are defined by thin, black outlines (brows, lids, straps) or structure lines (beard). The center of the white painted *Atef*-crown is unusually large in comparison with the face and the broken-off, green-painted, flanking feathers. The head and shield of the cobra are raised in moderately high

relief and flanked by a double loop winding of the body; the slender tail undulates very slightly to the top of the crown.

The proportions of the slender coffin are well balanced. The gilded, oval face of the hawk is in low relief, the brows and beak more prominent, and the circular outlines of the eyes executed in raised relief with a small incision representing the inner corners. The eyes and beak are painted black; the outer corners of the beak end in fine curved lines. The mustachial/postocular stripe combinations are painted in blue, with fine black outlines. The zigzag structures of the upper ends of the postocular stripes were painted free hand, possibly to give them a more natural appearance. The slightly raised, yellow borders of the wig are very regular, unlike the pattern of the collar between the lappets, which is a little more irregular, especially the alignment of the row dividers and the dot pattern.

PARALLELS

Some parallels to the corn mummy on loan to the Walters have been documented,[39] as have three extremely close examples.

The first was acquired by the Museum of Fine Arts, Houston (acc. no. 2006.280, fig. 9). With the exception of recent changes in ownership, the provenance of the Houston corn mummy and coffin is unknown. From 1982 to 1995 the ensemble was in the Ernst Haas Collection and offered with Charles Ede Limited, London, in 1995. From 1995 to 2005 it was part of the Benson and Pamela Harer Collection in the United States and then offered by the Benson Harer Family Trust with Christie's New York, 9 December 2005, Sale 1691, Lot 25 (catalogue, 42–43). The Houston mummy-figure is made of mud, sand, grain, and linen, and has a beeswax mask, painted in green, white, and black, as well as a mummification coating. The coffin is carved wood, painted with black and yellow pigment, and partly gilded. The measurements of the coffin are as follows: length 48.9 cm, width 16.5 cm, and depth 14 cm.[40] The height of the mummy is about 45–46 cm.

The second example belongs to the Ägyptisches Museum und Papyrussammlung in Berlin and is on long-term loan to the Poznan Archaeological Museum (fig. 10). The ensemble was discovered in storage at the Ägyptisches Museum, lacking an inventory number or other records of its entry into the collection. The provenance is thus unknown, as is the date of its entry. An x-radiograph of the mummy figure taken in 2000 indicates that it is composed of mud or sand and wrapped linen. No coatings or attachments are preserved on the mummy figure, but remains of a black resinous substance are visible on at the bottom of the case's interior. The exterior of the coffin is painted with black and yellow pigment and partially gilded; the length of the coffin is 49.5 cm and the width 16.8 cm; the height of the mummy is 42 cm.[41]

The third example is a coffin of a corn mummy in the Staatliche Museen Kassel, inv. no. V125.41.[42] The provenance of the coffin is unknown; it was purchased by the museum in 1991 from the German art dealer Roswita Eberwein. The wooden coffin is painted with black and yellow pigment and partially gilded. The length is 49.5 cm, the width 17 cm. The corn mummy itself has been lost; an ancient falcon mummy that occupies the case is a modern replacement.

The fourth example is in the Museum der Brotkultur, Ulm, inv. no. 0-755.[43] The provenance of the coffins and corn mummy is unknown. The wooden coffin has a pitch coating and is decorated with yellow pigment; the hawk's face is partially gilded. The mummy figure is formed of earth, grain, and linen; its face is covered by a dark beeswax mask with *Atef*-crown, *Uraeus* serpent, and divine beard. The length of the coffin is 48 cm, the width 18 cm.

Several obvious similarities and differences among these five coffins and the four corn mummy figures are evident. The size of all five coffins is nearly identical, as is the size of the three mummy figures (the Berlin / Poznan figure, at 42 cm, is slightly smaller than the other two). The material and techniques used, especially the coatings of the Baltimore and Houston mummy figures, appear to be very similar. The cases and lids of the five coffins each have six slots of similar size and placement for plugs to fit them together. The coffins are slender, with balanced proportions, and terminate in a small plinth. They are black, without inscriptions or vignettes, and the hawk faces are gilded. The style of the hawk faces is very similar, but the foreheads of the Berlin / Poznan and Baltimore examples are high and arched, whereas the Ulm and Kassel examples are flatter, and Houston has a superciliary arch (see fig. 11). While the mustachial / postocular stripes differ in color (blue or black), the shape (including the free-hand painted upper ends) is quite similar. The yellow collars between the yellow-rimmed lappets of the wigs vary slightly: The Baltimore and Ulm examples have eight rows; Houston and Berlin / Poznan, seven; and Kassel, five. The patterns are the same, but the sequence varies slightly, and only the Kassel example is missing the petal pattern in the bottom row. The three mummy figures are similarly shaped (none is ithyphallic) and the wrapping techniques are similar. The crown of the Baltimore and Houston corn mummies is large relative to the face. The shape and long tail of the *Uraeus* serpent of the Baltimore, Houston, and Ulm corn mummies are very similar, and the slender flanking feathers broken off. The iconography of the face and crown wax attachments is nearly the same; only the colors differ. While the face of the Houston figure is painted green with black accents, the face of the Baltimore example is unpainted with the exception of the green accents (fig. 12). Moreover, the style of the features in both masks is nearly identical, with the round face, small nose and mouth, brows beginning

Fig. 9. Egyptian falcon-form coffin with corn mummy. Painted and gilded wood, grain, earth, linen, and wax; coffin: 48.5 x 16.5 x 14 cm; mummy: length 45–46 cm. Museum of Fine Arts, Houston, Museum purchase with funds provided by the Museum Collectors (2006.280)

Fig. 10. Egyptian Falcon-form coffin with corn mummy. Painted and gilded wood, grain, earth, and linen; coffin: 49.5 x 16.8; mummy: length 42 cm. Berlin, Ägyptisches Museum und Papyrussammlung, on long-term loan to the Muzeum Archeologiczne w Poznaniu (Poznan)

Fig. 11. Faces and collars of the Baltimore (left), Houston (center), and Berlin / Poznan (right) falcon-form coffins

high above the base of the nose, eyelids accentuated with color, and long, slim eyeline extensions. The only significant difference is the larger size of the wax mask in the Houston example, which covers not only the head but also part of the chest, while the mask of the figure at the Walters covers only the head and neck (possibly due to losses). The features of the wax corn mummy in Ulm differ slightly. The eyes and the mouth are larger than in the other examples. The face is painted black and the crown in its present state has a reddish cast. It is likely that it also was originally painted black.

The similarities between the corn mummies and their coffins strongly suggest that they were produced at the same time, in the same place, and by the same workshop. The correlation is even more likely given the differences between these examples as a group and other documented corn mummies.

CONCLUSION

The corn mummy IL.2004.13 and its falcon-form coffin were produced in ancient Egypt, and there is no evidence (either technical, material, or scholarly) to question the authenticity of the ensemble, even though the closest parallels are similarly bereft of excavation records. The ensemble and its direct parallels may come from a necropolis in Middle Egypt, given their similarities to excavated examples from Tehna el-Gebel,[44] but they are not close enough to securely assign that as their place of origin. The different proportions, the lack of texts and vignettes on the coffins, and a slightly different mummification technique (rather than soaking the wrapping, the coating was applied to the upper layers of the wrappings) are essential arguments against assigning it to the two groups, although some of the differences may reflect a temporal distance in the dates of their production. However, one might also consider hypothetically a possible origin of the five examples in another important site in Middle Egypt: for example, Abydos, the center of the Osiris cult. Beginning in the Ramesside period (with the cenotaph of Sety I [d. 1279 B.C.), Abydos was also

an important ritual place for Sokar, as a chthonic deity, and in the Late Period an important place of pilgrimage for Ptah-Sokar-Osiris. The high quality of the Baltimore corn mummy/coffin ensemble makes a more prominent place of origin plausible. However, corn mummies with a yellow or golden décor and beeswax mask are also thought to have come from the Faiyum.[45]

An exact dating of the ensembles must rely on typological and stylistic comparisons alone. The time frame for corn mummies in hawk-headed coffins extends from the late Third Intermediate Period to the Greco-Roman period, although the dating of both the earliest and the latest examples is a matter of some controversy. A more precise identification of the date and place of origin of each is hindered as well by the absence of inscriptions or vignettes, the inherent instability of the wax that composes the figures' face, and the dearth of stylistic research on Egyptian animal sculpture. Nevertheless, the slender profile of the coffin, the balanced proportions, and the muted colors preclude a late Ptolemaic or Roman date. The high quality of the gilded hawk face with its carefully modeled surface, and the human beeswax face with slim, less curved brows, pronounced eyelids, and long, slim eyeline extensions are characteristic of the Twenty-sixth Dynasty (664–525 B.C.), as are the *Uraeus*-serpent's shape and very long tail with subtle undulations.[46] However, the round face and the small unaccentuated mouth may point to a slightly later date.

One consistent and noteworthy feature of these corn mummy ensembles is the absence of inscriptions and vignettes on the coffins. Several possible explanations might account for this: (1) the figure, together with its coffin, was encased in an inscribed stone or pottery sarcophagus (as were several examples excavated in Tehna el-Gebel);[47] (2) the coffin was unfinished, used for an unknown but urgent reason; (3) the burial of the corn mummy took place in a special part of the necropolis with a chapel or another monument that contained texts or images (or both). No conclusion as to

Fig. 12. Face-and-crown attachments of the Baltimore (left) and Houston (right) corn mummies

the most likely explanation among these, however, can be made without further information on the archaeological context of similar examples. What is certain is that these corn mummies had a ritual function and that they were part of the annual *Khioak* festival. They were made to ensure the regeneration of nature and the renewal of gods and mortals in the afterlife. Magic was part of the ritual, as was the corn mummy itself: a miraculous tool that guaranteed continued existence.

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NOTES

1. The female child mummy (IL.1990.28.3) is a long-term loan to the museum by Goucher College, Baltimore.

2. See R. Germer, *Das Geheimnis der Mumien: Ewiges Leben am Nil* (Hildesheim, 1997), 95–115; R. Schulz, "Travelers, Correspondents, and Scholars: Images of Egypt through the Millennia," in R. Schulz and M. Seidel, *Egypt: World of the Pharaohs* (Cologne, 1997), 493–94; M.J. Raven and W.K. Taconis, *Egyptian Mummies: Radiological Atlas of the Collections in the National Museum of Antiquities at Leiden* (Brepols, 2005), 19–20. Of the extensive literature on chambers of wonders, see, for example, E. Sardo, ed., *Athanasius Kircher: Il museo del mondo*, exh. cat., Rome, Palazzo Veneto (Rome, 2001), 101–32.

3. The term "corn" in Egyptology (as in English biblical usage) designates grain in general. Botanical analysis of a group of corn mummies in a Polish collection has identified the grain used as emmer or barley, which formed the basis of the most important foods of the Egyptians: bread and beer. See K. Wasylikova and A. Jankun, "Identification of Barley from the Ancient Egyptian Corn-mummies in the Archaeological Museum in Cracow," *Materialy Archaeologiczn* 30 (1997): 13–15.

4. Similar terms are used in French and German: "Osiris figurine," "pseudo-momie d'Osiris," "Osiris végétant" (Fr.); "Kornmumie," "Osirismumie" (Ger.), etc. See C. Seeber, "Kornosiris," in W. Helck and W. Westendorf, eds., *Lexikon der Ägyptologie* 3 (Wiesbaden, 1980), 744–45; M.J. Raven, "Corn-Mummies," *Oudheidkundige mededelingen* 63 (1982): 7–38; M.C. Centrone, "Behind the Corn Mummy," *Current Research in Egyptology 2003*, ed. K. Piquette and S. Love (Oxford, 2005), 11. Although a variety of these pseudo-mummies are documented, others have been misidentified as genuine animal or child mummies.

5. This differs from the two-dimensional so-called Osiris beds placed in New Kingdom royal tombs. Raven, "Corn Mummies," 12–15. Compartmented pottery vessels used for the "ritual sprouting" of grain were likely Middle Kingdom precursors to corn mummies. See Centrone, "Behind the Corn Mummy," 24–25 (with references).

6. For painted examples, see Raven, "Corn Mummies," 18 ff. A gilded example is in Berlin, Staatliche Museen zu Berlin Preussischer Kulturbesitz, Ägyptisches Museum, SMBPK, 310207 [6/66], published in W. Kaiser, *Ägyptisches Museum Berlin* (Berlin, 1967), 84, no. 867. U. Fritz, "Kornmumien aus dem Fayum? Ein Kornosiris in falkenförmigem Holzsarkophag (Tübingen Inv. 1853a, b, c)," in *Studien zur Altägytischen Kultur* 35 (2006): 110–11, fig. 9.

7. Only a few examples with masks made of gilded silver are documented. See Raven, "Corn Mummies," 26, no. 3 (Budapest, Szépmüvészeti Múzeum, inv. no. 6022, illustrated in I. Nagy, *Collections of the Museum of Fine Arts Budapest*, 2: *The Egyptian Collection* [Budapest, 1999], 113, fig. 93); A. von Lieven, "Ein neuer Kornosiris im Abenteuermuseum Saarbrücken," *Bulletin de la Société d'Égyptologie (Genève)* 24 (2000–2001): 59–70; Centrone, "Behind the Corn Mummy," 13–14. U. Fritz, "Kornmumien aus dem Fayum? 103–24.

8. Centrone, "Behind the Corn Mummy," 23.

9. The vignettes on the coffin of Djed-Bast-iu-ef-ankh (Hildesheim, Roemer- und Pelizaeusmuseum, inv. no. 1954 (see B. Schmitz, "Sarg des Djed-Bast-iu-ef-ankh," in A. Eggebrecht, ed., *Suche nach Unsterblichkeit* [Hildesheim and Mainz, 1990], 28–29, no. T1) display the mummification process in several stages, including the motif of the germinated corn mummy. Additionally, the foot of the coffin shows two scenes, one with the figure of Sokar (mummiform with hawk head) and one of Khenti-Imentiu (Osiris, hominin with a feather crown), created during the Khoiak festival and mentioned in the mystery text in the roof chapels of the Dendera temple.

10. See: E. Chassinat, *Le mystère d'Osiris au mois de Khoiak*, 2 vols. (Cairo, 1966–68); S. Cauville, *Le temple de Dendera*, 10: *Les chapelles osiriens* (Cairo, 1997); Raven, "Corn Mummies," 27–29; M. Raven, "A New Type of Osiris Burial," in W. Clarysse, A. Schoors, and H Willems, eds., *Egyptian Religion: The Last Thousand Years—Studies Dedicated to the Memory of Jan Quaegebeur*, Orientalia Lovaniensia Analacta 84 (Leuven, 1998), 235–39.

11. G. Bénédite, *Le temple de Philae*, Mémoires publiés par les membres de la mission archéologique française au Caire (MMF) 13 (Paris, 1893), pl. xl.

12. Stated in a letter of 15 July 2006 from the present owner to the museum.

13. See Raven, "Corn-Mummies," 21–23.

14. The coating on the very similar corn mummy in the Museum of Fine Arts Houston (acc. no. 2006.280, see *infra*) is intact and conveys an idea of the original appearance of that layer.

15. Meg Craft, senior object conservator at the Walters Art Museum, and Jennifer Giaccai, conservation scientist, were responsible for the technical analysis of the object as well as its conservation treatment in 2005, and generously shared their findings with me.

16. The scan was undertaken in March 2008 at the University of Maryland School of Medicine, Department of Diagnostic Radiology. I am grateful to Barry D. Daly, M.D., professor of diagnostic radiology, F.R.C.R., who made this examination possible.

17. "Iconic" here designates a standardized image with specific meaning.

18. Remains of the feathers with blue-green paint are still visible on both sides of the crown; part of a feather is located above the head of the mummy-figure between fragments of linen wrappings and the resin layer. See fig. 4.

19. For the function and meaning of the *Atef*-crown in relation to other royal crowns, see S. A. Collier, *The Crowns of Pharaoh: Their Development and Significance in Ancient Egyptian Kingship* (Ann Arbor, Mich., 1996).

20. R. H. Wilkinson, *Symbol and Magic in Egyptian Art* (London, 1994), 108–9.

21. The mummy's fragility makes it impossible to remove the resin layer and the figure from the coffin. X-radiographic and computed tomography imaging (figs. 7a, b) shows only the shadow of the figure, but it is clearly placed on the back or front of the mummy, not on the side. The slenderness of the upper section suggests that the figure has the head of a hawk, not of a baboon.

22. For example, Pyramid Texts, Pyr. 1983e.

23. For example, Pyramid Texts, Pyr. 1333c; Book of the Dead, chap. 137A, 22–30.

24. See J. Assmann, "Ein Wiener Kanopentext und die Stundenwachen in der Balsamierungshalle," in J. van Dijk, ed., *Essays on Ancient Egypt in Honour of Herman Te Velde*, Egyptological Memoirs 1 (Groningen, 1997), 4.

25. G. Pinch, "Red Things: The Symbolism of Color in Magic," in W. V. Davies, ed., *Colour and Painting in Ancient Egypt* (London, 2001), 183.

26. T. DuQuesne, *Black and Gold God*, Oxfordshire Communications in Egyptology 5 (London, 1996).

27. Wilkinson, *Symbol and Magic*, 108.

28. Ibid., 107–8.

29. Book of the Dead, chap. 158; for the amuletic function, see C. Andrews, *Amulets of Ancient Egypt* (London, 1994), 96–97; for the ritual function, see R. Beaud, "L'offrande du collier-ousekh," in S. Israelit-Groll, ed., *Studies in Egyptology Presented to Miriam Lichtheim*, 2 vols. (Jerusalem, 1990), 1:46–62.

30. See, for example, Centrone, "Behind the Corn Mummy," 13; D. Kurt, "Einige Inschriften auf Särgen des Korn-Osiris," *Göttinger Miszellen* 166 (1998): 43–52; Raven, "Corn-Mummies," 31.

31. Raven, "Corn-Mummies," 31.

32. Raven, "A New Type of Osiris Burial," 231–39. The Sokar figure is mentioned only in the text; there is no archaeological evidence. Therefore it is possible that the "Sokar figure" represents the outer form of the corn mummy's coffin.

33. J. F. Quack, "Die rituelle Erneuerung der Osirisfigurinen," *Die Welt des Orients* 31 (2000/2001): 5–18.

34. M. Raven, "Magical and Symbolic Aspects of Certain Materials in Ancient Egypt," *Varia Aegyptiaca* 4, no. 3 (1988): 240–41.

35. See M. Raven, "Resin in Egyptian Magic and Symbolism," *Oudheidkundige Medelingen iut het Rijksmuseum van Oudheden te Leiden* 70 (1990): 7–22.

36. See M. Raven, "Wax in Egyptian Magic and Symbolism," *Oudheidkundige Medelingen iut het Rijksmuseum van Oudheden te Leiden* 64 (1983): 7–48; S. H. Aufrère, "Bees and Flowers in Ancient Egypt: A Symbolic Relationship within the Mythopoeic Concept of Light," in S. H. Aufrère, ed., *Encyclopédie religieuse de l'univers vegetal: Croyances phytoreligieuses de l'Égypte ancienne* 2, Orientalia Monspeliensia 11 (2001): 493–519.

37. Raven, "Corn-Mummies," 21–24; Centrone, "Behind the Corn Mummy," 19–20.

38. Fitz, "Kornmumien aus dem Fayum?" 116–18; C. Centione, "Choosing the Burial Place for Corn Mummies: A Random Selection," in R. J. Dann, ed. *Current Research in Egyptology* (Durham, 2005), 24–26, consider a Meidum area group.

39. For less similar examples, which may come from the same source, see B. Gessler-Löhr, "Das Tier in Religion und Kunst des Alten Ägypten," in *Antiken Welt* 22 no. 1 (1991), 60 (special exhibition at the Ibis Gallery, New York, March 1991); and a coffin formerly in the Museum of Fine Arts, Boston, acc. no. 2001.547.1–2 (William Stevenson Smith Fund; deaccessioned). For further references on comparable coffins and ensembles, see A. Felgenhauer, *Ägyptisches und Ägyptisierende Kunstwerke: Vollständiger Katalog* (Kassel, 1995), 192.

40. The coffin and mummy-figure are mentioned in two publications: W. Forman and S. Quirke, *Hieroglyphs and the Afterlife in Ancient Egypt* (London, 1996), 152–53; and D. C. Forbes, "Harer Collection of Egyptian Antiquities on View at California's Newest Museum," *KMT* 8, no. 1 (Spring 1997): 20–21.

41. The ensemble is published by A. Ćwiek, *Śmierć i Życi w Starożytnym Egipcie* (Poznan, 2006), 60–61, fig. 79. The length of the coffin as described in the publication (52 cm) should be amended to read 49.5 cm. I thank Dr. Ćwiek for his kind assistance and further information.

42. See Felgenhauer, *Ägyptisches und Ägyptisierende Kunstwerke*, 189–92, figs. 89a, b.

43. D. von Recklinghausen, in *Ägytische Mumien: Unsterblidikeit im Land der Pharaon* (exh. cat., Stuttgart, 2007), 212–13, no. 98.

44. These similarities are the single wax attachment with unitary face, *Atef*-crown, incorporated beard, the black coffin, and the gilded hawk face.

45. U. Fritz, "Kornmumien aus dem Fayum? Ein Kornosiris in falkenförmigem Holzsarkophag (Tübingen Inv. 1853a, b, c)," *Studien zur Altägyptischen Kultur* 35 (2006): 103–24.

46. For comparison with the head of an Osiris-figure, see B. V. Bothmer et al., *Egyptian Sculpture of the Late Period, 700 B.C. to A.D. 100* (New York, 1961), 57, no. 50, pl. 46, figs. 112 and 113.

47. Raven, "Corn-mummies," 24.

PHOTOGRAPHY CREDITS: Ägyptisches Museum und Papyrussammlung, Berlin: fig. 10; Christie's Images: fig. 9; Roemer- und Pelizaeusmuseum, Hildesheim: fig. 1; University of Maryland, School of Medicine, Department of Diagnostic Radiology: fig. 7b; R. Schulz: fig. 8; Walters Art Museum, Susan Tobin: figs. 2a, 2b, 3a, 3b, 4, 5a, 5b, 6a, 6b; Walters Art Museum, Conservation Division: fig. 7a

A *Madonna and Child* in the Collection of the Walters Art Museum and the *Praesepe* of Santa Maria Maggiore

SHELLEY MACLAREN

A *Madonna and Child* attributed to Arnolfo di Cambio (1240/50–1302) and workshop is one of the many objects that received much-deserved attention with the reinstallation of the Palazzo building of the Walters Art Museum in 2005. The *Madonna and Child* (acc. no. 27.561) entered the museum's collection in 1959 as the bequest of the collector Christine Alexander Long, widow of former U.S. ambassador to Italy and assistant secretary of state Breckinridge Long.[1] The Walters' *Madonna and Child* has only recently been the subject of in-depth study, and published comments have on the whole been restricted to remarks on style and attribution. Giovanni Previtali intended to feature the sculpture in a lecture on Arnolfo's use of polychromy; while there is no record of Previtali's findings, his interest in the sculpture led to the publication of a photograph of the Walters' *Madonna and Child* as the frontispiece to a 1991 posthumous collection of his essays.[2] Enzo Carli accepted the proximity of the sculpture to Arnolfo's style, but had reservations about the quality of certain parts of the work.[3] Enrica Neri Lusanna compared the Walters' Madonna to the figure of the Virgin in a relief *Annunciation* (ca. 1300) in the Victoria and Albert Museum, attributed to Arnolfo's workshop.[4] In 2005 the Walters' *Madonna and Child* was included in the international loan exhibition *Arnolfo: Alle origini del Rinascimento fiorentino*, curated by Neri.[5] An abbreviated version of the following argument, now modified by observations made in the installation, appeared in the exhibition catalogue.[6]

Beyond questions of attribution, the Walters' *Madonna and Child* is particularly intriguing because of two unusual iconographic features. These features allow us to imaginatively reconstruct the sculpture's setting in an Adoration scene. The evidence these features provide also has important implications for our understanding of the original appearance of one of Arnolfo's most significant monuments, the *Praesepe* of Santa Maria Maggiore.

THE SCULPTURE

The Walters' *Madonna and Child* (figs. 1a–c) is sculpted on three sides and is largely flat and unfinished at the back.[7] In photographs, the *Madonna and Child* has a monumental presence. In person, however, the statue, 78.4 cm high, gives an impression of remarkable delicacy. The Virgin inclines her head to her left and bends her left knee slightly. Her hair is elaborately bejeweled, with a pearl diadem and what appears to be a circular ornament with round jewels set on top of her head. The Virgin supports the Christ Child with both hands. Her left hand cradles him from underneath, while her right hand gently supports his back. The pose is at once reminiscent of both the affectionate embrace seen in representations of the Madonna of Tenderness and the more hieratic pose of the Nicopeia icon, or the Bringer of Victory, in which Mary holds Christ directly before her.[8] However, the Walters' Madonna does not touch her face to Christ's, as she would in a Madonna of Tenderness, nor is Christ presented frontally to the viewer, as in the Nicopeia icon. Instead Mary tips her head to her left, away from Christ, and directs her gaze outward. Rather than holding Christ close or facing forward, she presents him as if to a viewer slightly to her left. The chubby Christ Child looks upward at his mother, and raises his left arm. In his right hand he holds a small pot with a segmented lid and a tiny ball handle.

ARNOLFO DI CAMBIO AND WORKSHOP

The closest parallels for the Walters' *Madonna and Child* are not found in other sculptures of the Madonna and Child executed by Arnolfo di Cambio and his workshop, such as the *Madonna and Child* of Santa Maria del Fiore (ca. 1300).[9] Unlike that monumental sculpture, the Walters' *Madonna and Child* is rendered on an intimate scale, with a tender emotional tone. The sculpture more closely resembles

Figs. 1a–c. Arnolfo di Cambio and workshop, *Madonna and Child*, ca. 1291. Marble, 78.4 x 26.7 x 22.5 cm. Baltimore, Walters Art Museum, Bequest of Mrs. Breckinridge Long, 1959 (27.561)

other works attributed to Arnolfo and his workshop.[10] The fleshy cheeks situated low on the face, the soft rounded jaw, the large eyes, and small, delicate lips have several parallels: the scribe from the fountain of Perugia (1280s), the clerics from the tomb of Riccardo Annibaldi (d. 1289) (fig. 2), and the figure of San Valeriano from the ciborium of Santa Cecilia (1293).[11] The Virgin's protuberant eyes, their lids delineated by two curving lines, and the geometric treatment of the brow appear elsewhere in Arnolfo's work, again in the Annibaldi clerics, as well as in the portrait bust of Boniface VIII (ca. 1300) in the Palazzo Vaticano, Appartamento del Pontefice. The Madonna's profile and the massing of the flesh on her face (fig. 3) resemble the features of the effigy of Honorius IV (d. 1287) (fig. 4), attributed by Angiola Maria Romanini to a member of Arnolfo's workshop, the sculptor also given the figures of the two standing magi from the *Praesepe* at Santa Maria Maggiore. (1285/87–1291)[12] The rather squat proportions of the sculpture, particularly the shortness of the figure's lower leg relative to the rest of the body, resemble the proportions of the figures from the Santa Maria Maggiore *Praesepe* (see *infra* figs. 8a, b), the Annibaldi clerics, and those of Saint Peter and Saint Paul on the ciborium in San Paolo fuori le mura (1284). As Luciano Bellosi noted, the Child in the Walters' sculpture has affinities with the Child on Luca Savelli's tomb in Santa Maria in Aracoeli, a monument also given to Arnolfo's workshop.[13] The three folds that mark the bend in the Madonna's knee are similar to those at the knees of the Annibaldi clerics, and the repeated V-folds on Christ's garment are typical of Arnolfo's work. Neri noted similarities between the type of mantle and handling of the drapery in the Walters' Madonna and the Virgin in the Arnolfian *Annunciation* in the Victoria and Albert Museum.[14] The drapery of the Victoria and Albert Madonna, however, is more animated than that of the Walters' Madonna, and is less naturalistically convincing. Bellosi dated the Walters' *Madonna and Child* to the first half of the 1290s on the basis of the work's similarities to the figures of the ciborium of Santa Cecilia in Rome. The resemblance of the *Madonna and Child* to Arnolfo's earlier works, however,

especially the clerics from the Annibaldi tomb and the effigy of Honorius IV, suggests that the date of its composition may be pushed back to the late 1280s.[15] The strongest parallels for the sculpture are found in works produced in a Roman context.

When compared with other sculptures in Arnolfo's oeuvre, the Walters' *Madonna and Child* also has its weaknesses. Its finish is a little rough; chisel marks are visible on the Madonna's cheeks and *maphorion*, her pupils have not been carved, and the folds of her garment are not as crisp as those seen elsewhere in Arnolfo's sculptures. The chisel marks in particular, however, are magnified in photographs. Although its surfaces are slightly rough, the sculpture is not necessarily unfinished. There are areas of breakage: the Christ Child has lost his knee and the front part of his right foot, and there is evidence of a break in the marble at the Virgin's feet. Several areas may have been altered later in the life of the sculpture. It is possible that the Virgin's eyes have been recarved. The right foot in particular seems clumsily blocked out and may have been reworked. The hair just beside the *maphorion* on the figure's proper left side is more roughly articulated than the rest; the area may have suffered a loss and been subsequently recarved. These weaknesses, however, do not preclude an attribution to Arnolfo di Cambio and his workshop. The feet may not have been openly visible when the sculpture was installed in its original setting. Alternatively, the awkwardly blocked-out foot may be the result of a later intervention, perhaps after the breakage at the base. The rough surface of the Virgin's cheeks has parallels in the heads of the Annibaldi clerics and the cheeks of the portrait bust of Boniface VIII. The surface may also have been left slightly rough in order to be painted.[16] While no evidence of surviving polychromy has yet been found on the Madonna's face, examination of her tunic, which is stained slightly yellow, has revealed flecks of now-green pigment.[17] The pupils of the Madonna's eyes would likely have been painted, as were those of the acolytes in the de Braye monument.[18]

Most important is the overall impression conveyed by the sculpture. Despite its small size, the Walters' *Madonna and Child* has an emphatic and convincing volumetric presence. It also has emotional weight, for the two figures express a great deal of tenderness in their poses and features. The soft smile of the Christ Child as he reaches up to his mother, the gently solemn set of Mary's mouth, and the protective tilt of her head over the Child communicate the sense of "inner life" and emotional expressivity that characterizes Arnolfo's works.[19] The sculptor's attention to such details indicates that a strong sense of human interaction was particularly important for this commission.

Fig. 2. Arnolfo di Cambio, Fragment from the tomb of Riccardo Annibaldi (detail), ca. 1289. Rome, Basilica of San Giovanni in Laterano

Fig. 3. Arnolfo di Cambio and workshop, *Madonna and Child* (27.561), detail

Fig. 4. Arnolfo di Cambio and workshop, effigy of Honorius IV (detail) from the tomb of Vanna Savelli, ca. 1287. Rome, Church of Santa Maria in Aracoeli

Fig. 5. Tabernacle, French, fourteenth century. Ivory, overall (open): 27.9 x 15.7 x 5.3 cm; overall (closed): 27.9 x 6.9 x 5.1 cm. New York, The Metropolitan Museum of Art, bequest of Theodore M. Davis, 1915 (30.95.115)

THE POT

The pose and attributes of the Walters' *Madonna and Child* are unusual, and the singularity of these features provides specific clues about the sculpture's original setting. The Virgin tilts her head to her left, *away* from the Christ Child, opening up the relationship between Mother and Child to outside interaction. Her left knee is bent, also implying a slight turn to her left. Her pose not only animates the sculpture, but also suggests a larger narrative context.

This context must have been the episode of the Adoration of the Magi, as indicated by the small round pot held by the Christ Child. Sculpted representations of the Adoration were prominent features of Italian pulpits and lunettes in the twelfth and thirteenth centuries.[20] The pot, with its segmented lid and ball handle, is very similar to examples found in other representations of the Adoration of the Magi. Two of the magi from the twelfth-century west portal of Verona Cathedral proffer larger versions of such pots. On Nicola Pisano's Pisan Baptistery pulpit of 1260, the magi offer round pots with ball handles.[21] The dynamic pose of the Walters' *Madonna and Child* is best understood as a sign of the implied interaction with the first of the magi, whose gift Christ holds. The Virgin's pose and the iconography of the pot make sense only if the sculpture is imagined as having been part of a group that included the three magi approaching from the Virgin's left.

In most depictions of the Adoration, however, the Madonna is enthroned. To my knowledge, there is no extant Italian precedent for a standing Madonna in a monumental Adoration scene. There is, however, a French precedent.[22] Evoking the Adoration, a standing Virgin and Child appears on the trumeau of the right portal of the western façade of Amiens Cathedral (1220–30), while the magi appear on the left jamb.[23] At a miniature scale, portable French Gothic tabernacles (fig. 5) provide multiple examples. These tabernacles were fashionable by the late thirteenth century, and recorded in Italy at that time.[24] Whether of ivory or metal, they frequently contain at their centers a standing statuette of the Madonna and Child. Their folding wings depict scenes from Christ's Infancy: the Annunciation, the Visitation, the Nativity, the Presentation in the Temple, and the Adoration of the Magi. The Virgin is present in each of these scenes, with the noteworthy exception of the Adoration of the Magi. On the lowest tier of the left wing of these tabernacles, the magi proceed from left to right to offer their gifts to the standing Virgin and Child in the center. The Adoration is the sole narrative scene in these tabernacles to engage the central standing Virgin and Child.[25] In extant examples, neither Mary nor Christ looks toward the magi. Mary, however, holds Christ in the crook of her left elbow, so his body addresses them.[26] The translation of imagery from these tabernacles into monumental sculpture would be consistent with Arnolfo's practice. Previous scholars have discerned similarities between the architectural forms of Arnolfo's ciboria and those of contemporaneous ivory tabernacles and French Gothic goldsmith work.[27] This comparison reveals another way in which Arnolfo might have made use of French ivories in his search for new pictorial sources.

Fig. 6. Santa Maria Maggiore, Rome: Mosaic on triumphal arch over high altar, ca. 432–40

MARIA REGINA;
OR, WHAT'S IN A HAIRSTYLE?

The unusual, elaborately bejeweled hairstyle of the Virgin suggests that the sculpture was associated with a particular context. A mounted circular jewel appears immediately above the Virgin's forehead, and strings of pearls bind her hair in a wreath-like arrangement. A circular ornament with jewels set in its circumference and grouped in its center rests on the Virgin's head. Her mantle is drawn up over the back of her head.[28] This elaborate hairstyle defines Mary's elevated status, representing her in a courtly guise. As a marker of nobility, the Madonna's bejeweled hair would have been appropriate to a representation of the Epiphany, befitting someone receiving tribute.[29] The effect here, however, is entirely unlike that of the regal attributes of Arnolfo's sculpture of the Virgin for Santa Maria del Fiore, in which Mary wears a crown over her *maphorion*, and also unlike the crowned Virgins that appear in French Gothic tabernacles. Instead, the pearls of the Walters' Madonna recall her imperial attributes in certain Roman representations of the Virgin, such as the *Madonna della Clemenza* of Santa Maria in Trastevere, dated 705–7.[30] The Walters' *Madonna and Child* seems to have been deliberately archaizing; by the

thirteenth century, representations of the Virgin with a crown over her *maphorion* had replaced the earlier imperial type.[31] In fact, the hairstyle of the Walters' Madonna specifically recalls the earliest extant representation of Mary with noble attributes: the fifth-century triumphal arch mosaics of Santa Maria Maggiore.[32] The Virgin appears in these mosaics four times: in the *Annunciation* (fig. 6), the *Presentation in the Temple*, the *Adoration of the Magi*, and the *Flight into Egypt*. The Virgin's courtly appearance in the mosaics of the triumphal arch was most likely repeated in the same church's original apse mosaic.[33] The elaborate hairstyle of the Walters' Madonna may thus also have resembled the representation of the Virgin in the apse. In the extant scenes, Mary's head has a profile similar to that of the Walters' Madonna, with a roll of hair above her forehead, and a smaller shape on top. Like the Walters' Madonna, in these mosaics Mary wears a large, centrally placed jewel immediately above her forehead, and round jewels adorn the crown of her head.[34] The correspondence is not exact; in the mosaic, the Virgin is clothed entirely in court dress, with a jeweled collar and a golden garment. The Walters' Madonna instead combines the courtly hairstyle with the Virgin's more customary tunic and *maphorion*.
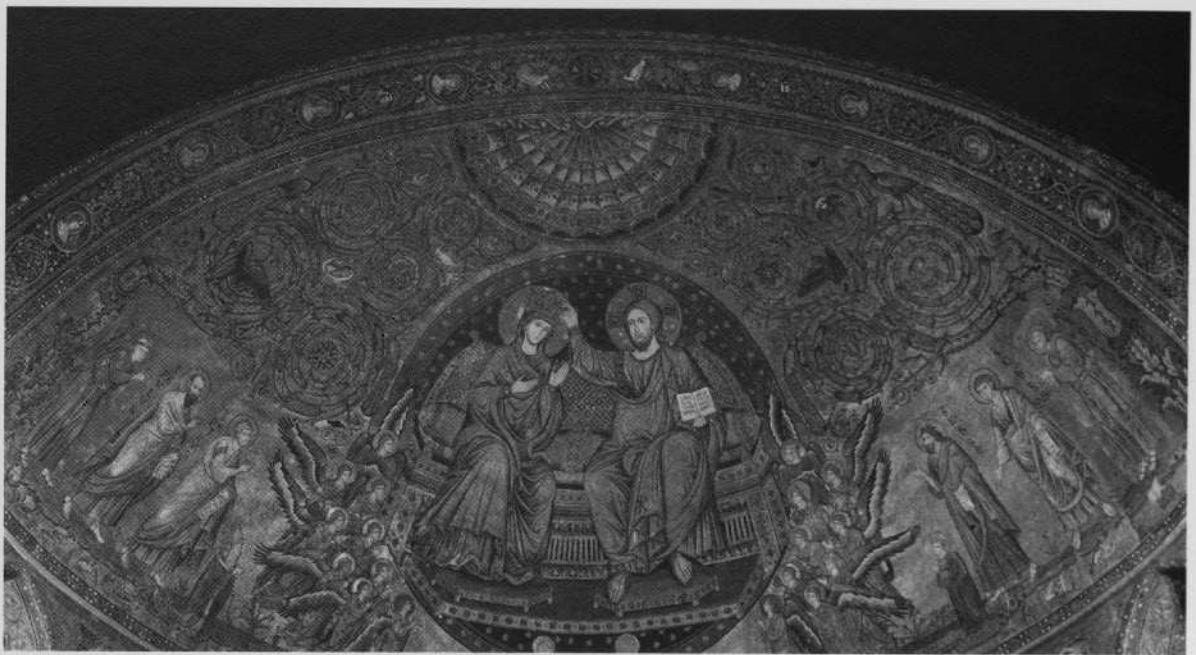
Fig. 7. Santa Maria Maggiore, Rome: Apse mosaic by Jacopo Torriti (active ca. 1270–1300), 1295

The representation of the Virgin in these fifth-century mosaics is exceptional.[35] She does not wear a crown, but her apparel is that of a princess or noblewoman. In subsequent representations of Mary in courtly guise, like the early eighth-century *Madonna della Clemenza*, she is clearly portrayed as queen.[36] Mary's fifth-century noble attributes would most likely have been understood by the thirteenth-century viewer as allusions to her familiar role as Maria Regina,[37] but the manner in which she is represented in these mosaics would have been unique.

Why would the Walters' Madonna echo the singular attributes of a fifth-century mosaic, and what might this resemblance mean? Images of the Virgin, of course, frequently evoked other images, especially important icons. The *Madonna della Clemenza* inspired other examples of the Maria Regina type, in particular the lost twelfth-century apse in the Chapel of Saint Nicholas in the Lateran Palace.[38] In another example, as demonstrated by Ernst Kitzinger, the features of the Virgin in the twelfth-century apse mosaic at Santa Maria in Trastevere were intended to evoke those of the seventh-century icon of the Virgin at San Francesca Romana.[39] The Walters' Madonna, however, would not have functioned in the same way; the mosaics of the triumphal arch, or even the apse, are not icons, and repeating their iconography does not carry the same weight.[40]

The apse mosaic representing the Coronation of the Virgin (fig. 7) was completed by Jacopo Torriti (active ca. 1270–1300) in 1295, after Pope Nicholas IV (r. 1288–92) had a transept and a new apse added to the basilica. The mosaic depicts Mary after her Assumption, at the moment when Christ crowns her Queen of Heaven.[41] Mary's crown joins elements of old and new; it is worn over the veil, but the pattern of the jewels in the crown recalls the earlier imperial style. The iconography of the coronation was new, but Torriti used late antique motifs in the apse mosaic, such as the acanthus scrolls inhabited by birds, and the river and its denizens below. These motifs, and the schema of the six figures approaching the throne, all might have appeared in the fifth-century apse.[42] The renovation thus seems to have established continuity with the previous mosaic.

The archaic hairstyle of the Walters' *Madonna and Child* may have been intended to evoke a similar continuity. An interest in establishing such a continuity has been observed elsewhere in Arnolfo's oeuvre. Enzo Carli suggested that the costume, especially the crown and its suspended pearl *pendoulia*, and the rather stiff archaic style of the figure of Saint Cecilia on the ciborium of Santa Cecilia in Trastevere might be explained as an effort to echo the female saints in the ninth-century apse mosaic.[43] In the case of the Walters' Madonna, the specificity of the resemblance is striking. Among all the representations of the Virgin in Roman churches, the Walters' Madonna most closely resembles the distinctive Virgin of the fifth-century mosaics in Santa Maria Maggiore. Given the singularity of this Virgin, the accoutrements of the Walters' Madonna may indicate a deliberate link to the site of Santa Maria Maggiore.
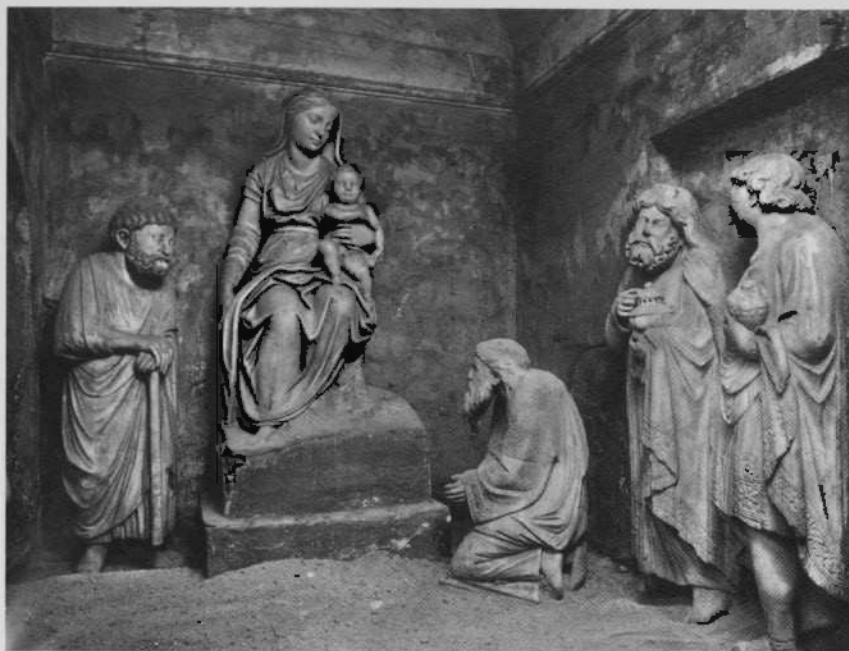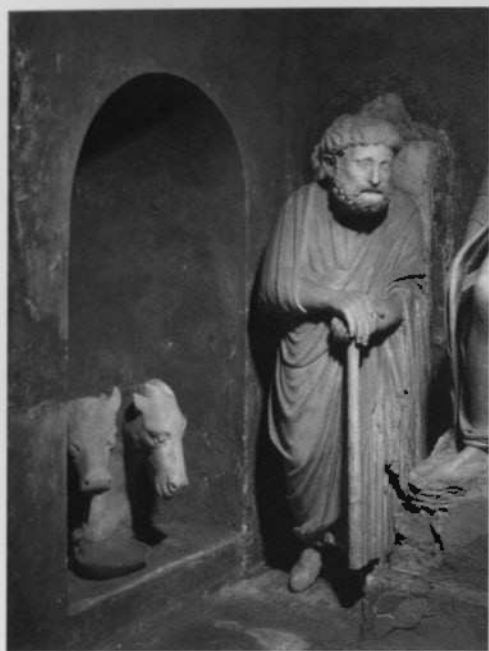
Figs. 8a, b. Arnolfo di Cambio and workshop, *Praesepe*. Rome, Santa Maria Maggiore

The attribute of the pot sets the Walters' *Madonna and Child* within a representation of the Adoration of the Magi, while the Virgin's elaborate hairstyle recalls a representation of the Virgin found only in Santa Maria Maggiore. An extant sculptural group by Arnolfo di Cambio and his workshop in Santa Maria Maggiore includes the Adoration of the Magi and is missing its original sculpture of the Madonna: the *Praesepe* (figs. 8a, b), dating between 1285/87 and 1291.[44] The visual parallels between the Walters' *Madonna and Child* and the Marian imagery of Santa Maria Maggiore's mosaics suggest a relationship between the Walters' statue and Arnolfo's *Praesepe*.

THE *PRAESEPE* OF
SANTA MARIA MAGGIORE

Beginning in the seventh or eighth century, a relic of the manger was kept at Santa Maria Maggiore in an oratory dedicated to the *Praesepe*.[45] Previous reconstructions of the group have assumed either that the original Madonna was enthroned, as she is in the sixteenth-century replacement, or that she was represented reclining, in keeping with the traditional iconography of a Nativity. Arnolfo's *Praesepe* was housed in a chapel located in the north aisle of the basilica, and was associated with Pope Nicholas IV's patronage of the basilica.[46] In the second edition of the *Lives of the Artists*, Giorgio Vasari mentions both the chapel and the work that Arnolfo completed there: "the marble chapel, wherein is the Manger of Jesus Christ, was one of the last

pieces of sculpture in marble that Arnolfo ever made; and he made it at the instance of Pandolfo Ippotecorvo, in the year twelve. . . ."[47] Onofrio Panvinio's description of the church, written before 1568, also refers to the chapel, with passing mention of the sculpture group: "the chapel of the praesepe is small and made entirely from stone inside and out, with a small altar; it is entirely covered with mosaics; there are the figures of the Birth and of the Magi."[48] In 1588, Domenico Fontana (1543–1607) relocated the chapel to the crypt of the Chapel of the Blessed Sacrament at the behest of Pope Sixtus V (r. 1585–90), and it has been further modified since.[49] The "marble chapel" was a small space, approximately 2.5 x 3.85 meters.[50] Fontana, writing in his account book, calls the space both *casa* (house) and *capella* (chapel), an indication that the setting for the group was intended to be understood as a house rather than a grotto or stable.[51]

Several pieces of Arnolfo's group have survived.[52] Joseph stands, turning to his left, with his hands resting on his walking stick. The heads of the ox and ass peer onto the scene from a niche in the wall. Two standing magi in elaborate dress approach from the Virgin's left bearing their gifts. The third magus kneels, gazing slightly upward with the palms of his hands pressed together. He has already given his gift. Joseph and the standing magi are rendered in high relief, attached to flat surfaces behind them and bases below. The kneeling magus, though not worked in the round, is not attached to a wall behind him. The back of the block was carved out, an indication that the figure once straddled an architectural feature.[53] Two spandrels, each carved in relief with figures of prophets holding scrolls, are also extant.[54]

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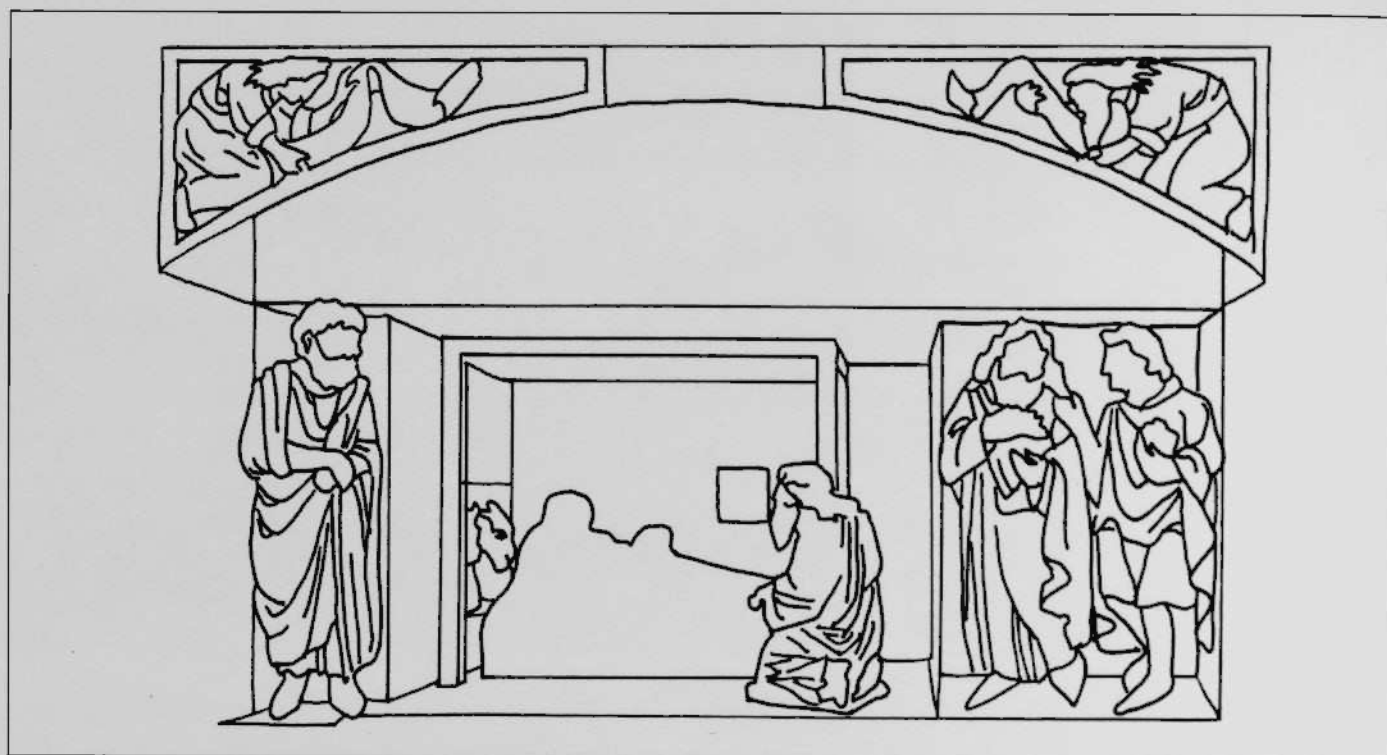
Fig. 9. Francesca Pomarici's proposed reconstruction of Arnolfo di Cambio's *Praesepe*

PREVIOUS RECONSTRUCTIONS

Reconstructing Arnolfo's *Praesepe*, and especially the pose and position of the Virgin, hinges on the question of whether the scene primarily represented an Adoration, as indicated by the surviving figures of the magi, or also specifically represented the Nativity. After all, the chapel housed the relic of the manger, and Panvinio's description of the chapel mentioned *signa* (figures) of both the Nativity and the Adoration.[55]

In 1975 Wilhelm Messerer proposed that the sculptures were originally placed close together in a relief-like arrangement, spanning the niche above the altar indicated on the sixteenth-century plan of the chapel by Bartolommeo de Rocchi (fl. ca. 1512). Positing an equal height for all of the components of the scene, Messerer placed the ox and ass above the kneeling magus. He also argued that the sixteenth-century enthroned Madonna was likely modeled on Arnolfo's original and similar in size. If so, Arnolfo's Madonna would have been much larger in scale than the other figures, while achieving a similar height in her seated position.[57]

In 1988 Francesca Pomarici proposed an alternate reconstruction (fig. 9).[58] She suggested first that the group was not located on the narrow eastern wall, but in a niche on the long northern wall, which would have accommodated a more expansive scene. Second, she adjusted the position of the ox and ass and of the kneeling magus according to the "principle of visibility." The ox and ass were not intended to be viewed frontally, but from the side; the kneeling magus would have been viewed from behind at an angle. Finally,

Pomarici argued that the original Madonna was represented reclining, as in a conventional Nativity, based on the chapel's dedication to a relic of Christ's crib, and on the assumption that the renovation was intended to make the oratory's function as a likeness of the site of the Nativity more "scenografico," that is, more like a stage set. As she observed, other examples combining the Nativity and the Adoration depict Mary reclining, such as Fra Guglielmo's pulpit for San Giovanni fuor Civitas, Pistoia (1270), and Giotto's predella Epiphany (ca. 1320), in the Metropolitan Museum of Art, New York.[59]

In Pomarici's reconstruction, Joseph and the standing magi constitute framing elements in the foremost plane; the kneeling magus leans into the scene, overlapping a baldachin-like structure under which the Madonna reclines with the Child. The ox and ass peer into the room from the left of the composition. The assumption of a reclining Madonna is quite plausible, and Pomarici's reconstruction has been widely accepted.[60]

Most recently, arguing that Pomarici's reconstruction was unsatisfactory in its "casual" arrangement of the figures, Gert Kreytenberg proposed an alternate arrangement in which Christ would have appeared in the manger in the center of the composition, immediately below the heads of the ox and ass. Kreytenburg accepted the assumption of a reclining Virgin, but reoriented the Madonna so that her head would be towards the center of the composition.[61]

The reconstructions by Messerer and Pomarici fall at opposing ends of the spectrum: the one posits a hieratic

Fig. 10. Author's conjectural reconstruction pairing the Walters' *Madonna and Child* with the Santa Maria Maggiore *Praesepe*

presentation; the other, a naturalistic enactment of the scene. Messerer's reconstruction assumes that the Madonna was depicted at a much larger scale than the other figures. In Pomarici's reconstruction, the Virgin is not hieratically set apart from the others by scale or position. Instead she reclines low to the ground, in a position below the other figures, including the ox and ass. The scene is enacted in a relatively deep space, and the Virgin does not occupy the center or front of the composition, but instead is placed to the left of the scene, at the back. Joseph's subsidiary role in the narrative is not represented by his placement; instead, he is placed in the foreground. Kreytenberg's reconstruction addresses this unsatisfactory arrangement, but the result was also unconvincing; the ox and ass are given the most prominent position in the composition, in the center and above the manger.

THE WALTERS' *MADONNA AND CHILD* AND SANTA MARIA MAGGIORE

A standing Madonna has never been proposed in reconstructions of Arnolfo's *Praesepe* at Santa Maria Maggiore. Nonetheless, the Walters' *Madonna and Child* clearly formed part of an Adoration scene, and the Virgin's archaizing hairstyle alludes to the fifth-century representations of the Virgin at Santa Maria Maggiore. The Walters' *Madonna and Child* is most likely not the missing Madonna from the *Praesepe*. The discrepancy between the slightly rough state of the surface of the Walters' Madonna and the higher state of finish of the figures at Santa Maria Maggiore suggests that they did not constitute a single group. The sculptures of the *Praesepe* have more polished surfaces, crisper folds in their

draperies, and the pupils of their eyes are represented by carved lines.[62] Nonetheless, in many ways the Walters' *Madonna and Child* is an extremely close fit with the *Praesepe*. The fit is close enough that the *Praesepe* clearly provides us with a specific model of the original setting for the Walters' *Madonna and Child*, while in turn the evidence of the Walters' Madonna argues that an alternative arrangement for the *Praesepe* should be considered (fig. 10).

The first and most practical issue is that of size. The scale of the Walters' *Madonna and Child* accords with that of the extant figures at Santa Maria Maggiore. The Walters' *Madonna and Child* is 78.4 cm high. Joseph is 85 cm tall, the standing magi are variously listed as 80 cm and 85 cm tall (the difference is due to the base on which they stand), and the kneeling magus is 53 cm high.[63] The slight difference in height between the Virgin and the other standing figures precludes a hierarchy of scale but is plausible if the figures were represented in naturalistic proportion to one another. In this reconstruction, the Christ Child sits in the Virgin's hands just above the eye level of the kneeling magus, who tilts his head up slightly.[64]

The interactions between the figures and their orientation in relation to one another are also entirely appropriate. The magi of the *Praesepe* move toward the Virgin and Child from the right, approaching her left side. The figures in the Walters' sculpture are positioned to receive the magi from this same direction; the Virgin nods to her left, and holds Christ to face the same direction. Though not unprecedented, the approach of the magi from the Virgin's left is unconventional.[65]

Another point of correspondence between the Walters' *Madonna and Child* with the Santa Maria Maggiore group is the fact that the Christ Child in the Walters' sculpture holds

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a pot, while the kneeling magus of the *Praesepe* has already given his offering, and prays empty-handed. At first glance, Christ's tiny pot seems insignificant in comparison with those of the standing magi, which are quite large and elaborate. Nevertheless, the pot is entirely proportional to Christ's size, and he holds it easily with one hand. The manner in which the Child holds the pot, cradled in one hand against his body, repeats on a reduced scale the manner in which the youngest magus holds the pot he brings in offering. The two also complement one another in their raised free hands and in the turn of their bodies toward the frontal plane of the scene. Despite the disparity in size, the two figures echo one another formally.

In several respects, then, the Walters' *Madonna and Child* accords with the remaining sculptures of the *Praesepe*. While a standing Madonna is less compatible with the iconography of a Nativity, this does not present an insurmountable objection to imagining a sculpture much like the Walters' Madonna as part of the original group. The presence of the relic of the manger and the dedication of the chapel would have been sufficient in the Middle Ages to make the chapel of the *Praesepe* a likeness of the site of the Nativity.[66] The chapel was represented as a "house" and not a grotto or stable, indicating that crafting a likeness did not require an exact match for the setting. The group also may not have been the only narrative representation within the chapel. Pomarici moved Arnolfo's group to the northern wall, proposing the presence of preexisting decoration in the semicircular niche above the altar. If so, that decoration might well have represented a Nativity.[67] With the exception of the ox and ass, the extant figures belong to an Adoration, and it is with these that the figure of the Madonna must primarily be reconciled. Further, Joseph's standing pose indicates that the Virgin of the *Praesepe* may not have been reclining. In Nativity scenes with a reclining Madonna, such as Nicola Pisano's Pisan Baptistery pulpit (completed 1260) and Fra Guglielmo's pulpit for San Giovanni Fuorcivitas in Pistoia (1270), Joseph sits low to the ground. In Adoration scenes where the Virgin is enthroned, such as those as at San Mercuriale in Forlì (twelfth century) and in the tympanum from San Marco (first half of the thirteenth century), Joseph stands. In the case of the Giotto predella (ca. 1320), which combines the Nativity and the Adoration, Joseph stands while Mary reclines, but she is placed above him on the panel, a composition that would not be feasible with separate, nearly three-dimensional sculptures placed on a level horizontal plane. Representational decorum argues against a reconstruction in which Joseph would assume too much visual emphasis in comparison with the Virgin.

What are the implications of the Walters' *Madonna and Child* for reconstructing the original composition of the *Praesepe* at at Santa Maria Maggiore? The incorporation of a standing Madonna like the Walters' sculpture into the *Praesepe*

suggests a reconstruction that occupies a middle ground between the Messerer and Pomarici solutions. The Madonna faces front, with only a slight emphasis to her left; maintaining a hieratic stance, but also participating in the narrative of the Adoration.[68] Her size is in keeping with a naturalistic rendition, while her frontal, standing position, and elaborate hairstyle accord with her status as Maria Regina. The Walters' *Madonna and Child* is carved on three sides, implying that those three sides were visible and that the sculpture would not have been deeply recessed in a niche. As Pomarici demonstrated, the kneeling magus overlapped a corner, suggesting that the *Madonna and Child* inhabited some kind of open architectural framework. Such a framework would have served to differentiate the figure of the Virgin from the other figures.[69] In a more hieratic presentation, and in keeping with his traditional role, Joseph ought to be moved back in the scene, a position that would diminish the visual impact of his greater size.[70] Such a spatial arrangement avoids removing the Madonna and Child from the viewer, and allows for the complex interactions across space indicated by the remaining figures of the *Praesepe*.

Finally, imagining a sculpture like the Walters' *Madonna and Child* alongside the extant figures at Santa Maria Maggiore provides a representation entirely consistent with the emotive and performative qualities attributed to Arnolfo's *Praesepe*.[71] Interaction between the gentle Virgin and Child and the kneeling magus, with his attitude of quiet adoration, befits Romanini's characterization of the Adoration as "one of the most intense and intimate dialogues" in Arnolfo's sculpture, as well as the "theatricality" of the group.[72] The manner in which Joseph would direct his worried gaze at the *Madonna and Child*, while their attention is directed to the magus to the left, would also be dramatically appropriate and moving.

Although the Walters' *Madonna and Child* likely did not appear within the *Praesepe* of Santa Maria Maggiore, features of the sculpture indicate that it must have appeared in a closely related group, of very similar style, scale, organization, and iconography. As such, the iconography of the Walters' *Madonna and Child* challenges us to reconsider the original configuration of Santa Maria Maggiore's *Praesepe*. The exercise of imagining the Walters' *Madonna and Child* alongside the figures of the *Praesepe* also provides a vision of the setting in which the sculpture once must have found its home. The Walters' *Madonna and Child* was the centerpiece of a precious object writ large; the core of a representation of the Adoration, and a powerful cue to viewers, prompting an affective response to a tender scene.

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NOTES

I would like to thank C. Griffith Mann, formerly the Robert and Nancy Hall Curator of Medieval Art at the Walters Art Museum, for his invaluable encouragement and interest in this project, as well as those scholars who generously took the time to examine photographs of the sculpture and respond with their opinions about its authorship. Responsibility for the conclusions drawn here is, of course, mine alone. I am also grateful to Danielle Ayers-Jones, exhibitions assistant at the Walters, for her patient manipulation of the photographs to create scaled comparisons. This research was made possible by the Carol Bates Fellowship at the Walters Art Museum. On Arnolfo di Cambio generally, see A. M. Romanini, *Arnolfo di Cambio e "lo stil novo" del gotico italiano* (Milan, 1969); H.M. Dixon, "Arnolfo di Cambio: Sculpture," Ph.D. dissertation, State University of New York, Binghamton, 1977; E. Carli, *Arnolfo* (Florence 1993); A. M. d'Achille, *Da Pietro d'Oderisio ad Arnolfo di Cambio*, (Rome, 2001); and E. N. Neri ed., *Arnolfo: Alle origini del Rinascimento fiorentino* (Museo dell'Opera del Duomo, Florence, 21 December 2005–21 May 2006) (Florence, 2005).

1. In 1940, while part of Mrs. Long's collection, the sculpture was shown in a loan exhibition of medieval objects at the Museum of Fine Arts, Boston. It was attributed in the exhibition catalogue to the workshop of Arnolfo di Cambio. Museum of Fine Arts, Boston, *The Arts of the Middle Ages: A Loan Exhibition*, 17 February–24 March 1940 (Boston, 1940), 49, no. 155a. It is dated there to the third quarter of the thirteenth century, and its provenance is given as "Castello Giubileo, Rome."

2. L. Bellosi, "Previtali e la scultura," *Studi sulla scultura gotica in Italia: Storia e geografia* (Turin, 1991), xxxii.

3. Specifically, what he saw as the "coldly classicizing" impression given by the head and the "rough and uncertain" pose of the Christ Child. Carli, *Arnolfo*, 249.

4. E. N. Neri, "Precisazioni sul bassorilievo arnolfiano del Victoria and Albert Museum di Londra," in *Studi di storia dell'arte sul Medioevo e il Rinascimento nel centenario della nascita di Mario Salmi: Atti del convegno internazionale, Arezzo-Firenze, 16–19 novembre, 1989* (Florence, 1992), 409.

5. Neri, *Arnolfo: Alle origini del Rinascimento fiorentino*. The sculpture was included in a portion of the exhibition devoted to works attributed to Arnolfo, with the purpose of first-hand comparison.

6. S. MacLaren, "3.3 Arnolfo e bottega, Madonna col Bambino," in Neri, *Arnolfo: Alle origini del Rinascimento fiorentino*, 372–75.

7. Some drapery is roughly carved out on the right side in the back, but it is unlikely that this carving ever would have been seen. A.M. Romanini argues that the angles of view for Arnolfo's sculptures were carefully calculated and that his sculptures were not worked beyond where they were visible, resulting in a "principle of visibility" that allows for reconstruction of their placement. The presence of carving in the back might indicate either that enough of the back edge was visible to require continuing the drapery folds, or, at the most extreme, may be an argument against attributing the sculpture to Arnolfo himself. For the "principle of visibility," see A. M. Romanini, "Nuove ipotesi su Arnolfo di Cambio," *Arte medievale*, first series, 1 (1983): 157–202.

8. See the thirteenth-century triptych in the Princeton University Art Museum (Pisan or Florentine, thirteenth century, acc. no. 1958-126) and a thirteenth-century Luccan domestic altar attributed to Berlinghiero (active 1228–74) in the Cleveland Museum of Art (*Virgin and Child with Saints*, ca. 1230, acc. no. 1966.237) for examples of this embrace in Madonna of Tenderness images. The eleventh-century *Nicopeia* icon in San Marco, Venice, shows the Virgin holding her head upright and presenting the Christ Child before her with one hand on his right shoulder and the other below him.

9. This is largely due to a difference in scale and intended location. The monumental *Madonna of Santa Maria del Fiore*, measuring 185 cm, was placed above the cathedral's central portal, at considerable remove from the viewer, to form the focal point of the facade's composition.

10. Without first-hand study of the other monuments, my observations here on stylistic comparisons must remain tentative. These comparisons are intended primarily to establish that the Walters' *Madonna and Child* can reasonably be considered among the sculptures executed by Arnolfo and his immediate workshop, not to claim that a particular "hand" (for instance, that of Arnolfo himself or the sculptor of the effigy of Honorius IV) was at work. On Arnolfo's workshop, see H. Keller, "Der Bildhauer Arnolfo di Cambio und seine Werkstatt," *Jahrbuch der Preuszischen Kunstsammlungen*, 55 (1934): 205–28 and 56 (1935): 22–43; Romanini also addressed the problem in her essay "Arnolfo e gli 'Arnolfo' apocriphi," in *Roma anno 1300: Atti del IV settimana di studi di storia dell'arte medievale dell'Università di Roma "La Sapienza" 19–24 maggio 1980* (Rome, 1983), 27–72. For characterizations of Arnolfo's style, see especially M. Salmi, "Arnolfiana," *Rivista d'Arte* 22 (1940): 9–177; and Romanini, *Arnolfo di Cambio e "lo stil novo" del gotico italiano*, but also A. Moskowitz, Italian *Gothic Sculpture, ca. 1250–ca. 1400* (New York, 2001), 44–67. Valentino Pace discussed Arnolfo and the antique in his "Questioni arnolfiane: l'Antico e la Francia," *Zeitschrifte für Kunstgeschichte* 54, no. 3 (1991): 335–73.

11. Bellosi ("Previtali e la scultura," xxxi) argued that the closest facial similarities, including the round cheeks and the delineation of the eyes, were to the figures in the ciborium of Santa Cecilia in Trastevere.

12. Romanini, *Arnolfo di Cambio e "lo stil novo,"* 182.

13. Bellosi, "Previtali e la scultura," xxxi.

14. Neri, "Precisazioni sul bassorilievo arnolfiano," 409. Neri reiterated the proximity of the two sculptures again in the exhibition catalogue, *Arnolfo: Alle origini del Rinascimento fiorentino*. She accepted the relation of the Walters' *Madonna and Child* to the Roman phase of Arnolfo's development, and a date for the work in the early 1290s. Neri, "Oltre la facciata: il contesto della scultura Arnolfiana tra Firenze e Roma," in *Arnolfo alle origini del Rinascimento Fiorentino*, 361.

15. That being said, Anita Moskowitz has commented that Arnolfo's work does not demonstrate a clear linear stylistic development, so we should not place too much dependence on style as revealing a date for the Walters' *Madonna and Child*. Moskowitz, *Italian Gothic Sculpture*, 67.

16. Bellosi, "Previtali e la scultura," xxxi.

17. Formal technical analysis of the Walters' *Madonna and Child* has yet to be completed. Julie Lauffenburger, senior objects conservator at the Walters Art Museum, discovered the paint. I would like to thank Ms. Lauffenburger for her preliminary examination of the sculpture under magnification in the museum's conservation laboratory and Terry Drayman-Weisser, director of conservation and technical research, with whom she examined the work under ultraviolet light. Rust spots are visible on the Virgin's head, particularly in the back, but these do not form a sufficiently coherent pattern to suggest any particular further adornment, such as a crown. Angiola Maria Romanini published studies of Arnolfo as a painter, going so far as to propose a possible identification with the Isaac Master. See her "Arnolfo pittore: Pitture e spazio virtuale nel cantiere gotico," *Arte medievale*, 2nd series, anno 11, nos. 1–2 (1997): 3–33; "Gli occhi dipinti degli accoliti De Braye," in F. Abbate and F. S. Santoro, eds., *Napoli, l'Europa: Ricerche di storia dell'arte in onore di Ferdinando Bologna* (Catanzaro, 1995), 35–40; "Arnolfo all'origine di Giotto: L'enigma del Maestro di Isacco," *Storia dell'arte* 65 (January–April 1989), 5–26; and "Gli occhi di Isacco. Classicismo e curiosità scientifica tra Arnolfo di Cambio e Giotto," *Arte medievale* I, nos. 1–2 (1987), 1–56.

18. See Romanini's discussion in "Gli occhi dipinti."

19. Moskowitz (*Italian Gothic Sculpture*, 44, 48, 58) characterizes Arnolfo's works generally, and the *Praesepe* in particular, as having a "dramatic" quality, including the expressive and emotional qualities of the figures. She sees in one of the scribes in the fountain at Perugia "that combination of stereometric design and palpitating inner life that will characterize the best of Arnolfo's sculptures throughout his career."

20. Twelfth-century Italian examples include the lunette of the Chiesa di San Mercuriale in Forlì; the west portal of the duomo in Verona (ca. 1139) by Niccolò da Ficarola; an architrave at Sant'Andrea in Pistoia (1166); Benedetto Antelami's Settentrionale Portal on the baptistery at Parma (1196); the relief on the duomo of Fidenza (formerly Borgo San Donino); and a bas-relief at Santa Maria della Pieve, Arezzo. A twelfth-century bas-relief *Adoration* was incorporated into the pulpit of the duomo in Fano. Thirteenth-century examples include a lunette from San Marco now in the Seminario Patriarcale in Venice (first half of the thirteenth century). The scene also appeared on Guido da Como's bas-relief at San Bartolomeo in Pantano (1250); Nicola Pisano's pulpit for the Pisan Baptistery (1260); the Siena Cathedral pulpit (1265); Giovanni Pisano's pulpits for the Pisan duomo (commissioned in 1302) and Sant'Andrea in Pistoia (1301).

21. This type of pot is found in contexts further removed from thirteenth-century Italy, for instance, on an eleventh- or twelfth-century English ivory plaque in the Victoria and Albert Museum (inv. no. 142-1866), published in M. H. Longhurst, Victoria and Albert Museum, Department of Architecture and Sculpture: *Catalogue of Carvings in Ivory*, 2 vols. (London, 1927), 1:87, pl. 67.

22. There are also monumental German examples. Hugo Kehrer reproduced an example from ca. 1270 from the Stiftskirche zu Wimpfen im Tal, which he identified as the first freestanding presentation of the theme of the Adoration. At the time of his writing, the extant figures—a standing Madonna with Child and two kings—were not grouped together but distributed on different pillars. He also reproduced an example with pillar figures of the kings and a standing Virgin on the tomb in the Mauritius-Kapelle of Münsters zu Konstanz, ca. 1300. H. Kehrer, *Die heiligen Drei Könige in Literatur und Kunst*, 2 vols. (Leipzig, 1909), 2:158, 169–71, figs. 176 and 194–96. For discussions of the iconography of the standing Virgin in Tuscan painting of the second half of the fourteenth century, see M. Meiss, *Painting in Florence and Siena after the Black Death* (Princeton, 1951), 42; E. W. Rowlands, "Sienese Painted Reliquaries of the Trecento: Their Format and Meaning," *Konsthistorisk Tidskrift* 48, no. 3 (1979): 122–38; and J. G. Czarnecki, "Giovanni del Biondo's Standing Madonna and Child: An Image of Mercy in the Late Trecento," in *Visions of Holiness: Art and Devotion in Renaissance Italy*, ed. A. Ladis and S. E. Zuraw, exh. cat., Georgia Museum of Art, University of Georgia (Athens, Ga., 2001), 93–100. Following Meiss's hypothesis of a changed "cultural and moral atmosphere" after the Black Death, Rowlands argued that standing Virgins were "visionary" and hieratic representations, derived from Byzantine representations of the Virgin *Hodegetria* and *Eleousa*, and specifically appropriate to reliquaries. Czarnecki associated images of the standing Madonna in fourteenth-century Tuscany, whatever their specific type, with her intercessory power and mercy.

23. The jambs include other figures. The Queen of Sheba, Solomon, and Herod appear on the left jambs; the right jambs depict the Annunciation, Visitation, and Presentation. The magi are the closest figures on the left to the Virgin and Child, and Christ's body is oriented toward the approaching magi. The trumeau sculpture is clearly implicated in the narrative of the Adoration. The narratives depicted on the right do not engage the Virgin and Child depicted on the trumeau.

24. Raymond Koechlin pointed to possible examples cited in the 1295 inventory of Pope Boniface VIII. R. Koechlin, *Les ivoires gothiques français*, 2 vols. and portfolio (Paris, 1924), 1:117. C. R. Morey argued that a group of these tabernacles might have originated in northern Italy, but his argument has not received much support. See his "Italian Gothic Ivories," in *Medieval Studies in Memory of A. Kingsley Porter*, ed. W. R. W. Koehler, 2 vols. (Cambridge, Mass., 1939), 1:181–203. These tabernacles seem to have originated in the late thirteenth century.

25. Locating the Virgin to whom the magi offer their devotion at the center of the tabernacle and outside the panel that frames the narrative opens that narrative to the participation of the viewer. Viewers facing the tabernacle in effect participate in the episode of the Adoration by offering their own devotion to the Virgin. Some of these tabernacles have enthroned Virgins at the center rather than standing ones. In these examples the magi on the wing also approach the central Virgin and include the central statuette in the representation of the Adoration.

26. See Koechlin, *Les ivoires gothiques français*, 2, nos. 125–41, 147–51, 153–58; portfolio, pls. 36–43, 46, and 51. Tabernacles with a standing Virgin and scenes of the Infancy constitute only one subset of these tabernacles. See Koechlin, *Les ivoires gothiques français*, 2:114–230. These tabernacles first appeared in the medium of metalwork. See M. S. Frinta "The Closing Tabernacle—A Fanciful Innovation of Medieval Design," *Art Quarterly* 30 (1967): 103–17.

27. This argument has been used both ways. Morey ("Italian Gothic Ivories," 188) compared the architectural details of Arnolfo's ciborium from Santa Cecilia in Trastevere with an ivory diptych in the Vatican to support his claim of an Italian origin for a group of ivory tabernacles. Moskowitz (*Italian Gothic Sculpture*, 55) discerned a relationship with French Gothic goldsmith work in the ciborium of San Paolo fuori le mura.

28. I have not found any specifically relevant sculptural models. The *palla* drawn up over the back of the head, leaving the front of the hair exposed is, of course, a common motif in Roman funerary reliefs. The pearls and even the large, rather schematic eyes have precedents in late antique and early Christian sculpture, such as the portraits of Empress Ariadne in the Musée du Louvre (illustrated in E. Aföldi-Rosenbaum, "Portrait Bust of a Young Lady of the Time of Justinian," *Metropolitan Museum Journal* 1 [1968]: figs. 13 and 14) and the Museo del Palazzo

dei Conservatori, Rome (inv. 865, illustrated in ibid., figs. 15 and 16), but the use of the pearls is entirely different. In these portraits the pearls are arranged in parallel lines in a net over material covering the hair, rather than appearing to be wound around and into the hair. In the portraits of Ariadne, no hair is visible under the headdress. The surface behind the roll of hair on the Walters' *Madonna and Child* is not patterned and seems to have been intended to be read as a cloth cap rather than hair. Formally, the Virgin's hair resembles a triumphal wreath. There is no particular reason why the hairstyle should have a specifically identifiable three-dimensional precedent. Arnolfo is known for his use of ancient models but also for transforming them. In the case of the de Braye *Madonna*, actually a reworked sculpture from the second century A.D., Arnolfo altered what would have been the figure's flat diadem, adorning it with jewels, and transformed the original patterns of her hair. For the de Braye *Madonna*, see A.M. Romanini, "Une statue romaine dans la Vierge de Braye," *Revue de l'art* 105 (1994): 9–18; and "La sconfitta della morte: Arnolfo e l'antico in una nuova lettura del monumento de Braye," in *Bonifacio VIII e il suo tempo: Anno 1300 il primo giubileo*, ed. M.R. Tosti-Croce (Milan, 2000), 24–50. On Arnolfo and Antiquity, see Pace, "Questioni arnolfiane: L'antico e la Francia," and Romanini, "Gli occhi di Isacco."

29. After the twelfth century, the Virgin was commonly represented with a crown in Italian Adorations. M. Lawrence, "Maria Regina," *Art Bulletin* 7 (1925): 156.

30. On the *Madonna della Clemenza*, see C. Bertelli, *La Madonna di Santa Maria in Trastevere* (Rome 1961). The features of the Walters' Madonna recall those of this icon, particularly the large, sharply delineated eyes and brows, the low placement of the apples of her cheeks, her tiny mouth, and the full curve of her chin. Given that these features are seen in other sculptures attributed to Arnolfo and workshop, the resemblance cannot be described as a specifically meaningful one. For a list of examples of Maria Regina and an early discussion of the topic, see Lawrence, "Maria Regina," 150–61. See also Bertelli, *La Madonna di Santa Maria in Trastevere*, 47–59; G.A. Wellen, *Theotokos* (Utrecht, 1961); C. Cecchelli, *Mater Christi*, 2 vols. (Rome, 1946), 1:80–86 and 309–12. On the political utility of images of Maria Regina, see U. Nilgen, "Maria Regina: Ein politischer Kultbildtypus?" *Römisches Jahrbuch für Kunstgeschichte* 19 (1981): 1–33. Nilgen argued that Maria Regina's regal attributes conflated her with Ecclesia, the symbolic representation of the church, and made her a politically useful symbol for the papacy, as seen both in the fresco in the Chapel of St. Nicholas in the Lateran palace and in the apse mosaic of Santa Maria in Trastevere.

31. Nilgen, "Maria Regina," 15.

32. The triumphal arch mosaics of Santa Maria Maggiore have been the subject of extensive scholarly discussion. See J. Wilpert, *Die römischen Mosaiken und Malereien der kirchlichen Bauten vom IV. bis XIII. Jahrhundert*, 2 vols. (Freiburg im Breisgau, 1917), 1:473–97; C. Cecchelli, *I mosaici della Basilica di S. Maria Maggiore* (Turin 1956); B. Brenk, *Die frühchristlichen Mosaiken in S. Maria Maggiore zu Rom* (Wiesbaden, 1975); J.D. Sieger, "Visual Metaphor as Theology: Leo the Great's Sermons on the Incarnation and the Arch Mosaics at Santa Maria Maggiore," *Gesta* 26, no. 2 (1987): 83–91. Suzanne Spain disputes the identification of this figure as Maria Regina. See her article "'The Promised Blessing': The Iconography of the Mosaics of S. Maria Maggiore," *Art Bulletin* 61 (1979): 518–40. G. Wilpert has argued that Mary's attributes in these mosaics reflect the affirmation of her status as Theotokos (Mother of God) by the Council of Ephesus in 431 (immediately before the papacy of Sixtus III [r. 432–44]). See his "La proclamazione efesina e i mosaici della basilica di S. Maria Maggiore," *Analecta Sacra Tarraconensia* 7

(1931): 197ff. The argument, however, has been questioned on the basis of iconography (in particular Mary's subordinate position in the Adoration scene), and on the grounds that Sixtus III's dedicatory inscription might postdate the mosaics. For discussion and further bibliography, see T. Klauser, "Rom und der Kult der Gottesmutter Maria," *Jahrbuch für Antike und Christentum* 15 (1972): 120–35.

33. Nilgen, "Maria Regina," 19.

34. R. von Delbrück discussed related fifth-century imperial hairstyles, especially on coins, and reproduced a bust from Trier closely related to the mosaics in his "Porträts Byzantinischer Kaiserinnen," *Mitteilungen des Kaiserlich Deutschen Archaeologischen Instituts, Römische Abteilung*, 28 (1913): 310–52, esp. 329–32. The hairstyle represented in the mosaics appears to have included plaits of hair gathered up the back of the head and onto the crown of the head. It might also include a fabric cap placed below plaits of hair gathered on top of the head, and above the diadem. Though similar in the use of pearls, and in the cloth cap above the diadem and underneath the upper hair-ornament, the Walters' Madonna does not resemble a three-dimensional rendition of this hairstyle because it lacks the plaits at the back of the head. The *maphorion* covers the back of the Virgin's head, and the object on top seems to be intended to be read as an ornament rather than as hair. The comparison depends on the matching profiles, the jewel at the center of the forehead, and the pearls. The fact that the hairstyle of the Walters' Madonna is not the same as a three-dimensional representation of that represented in the mosaics, however, does not refute the comparison; rather it reinforces the possibility that the sculpture was modeled on a two-dimensional rather than a three-dimensional precedent.

35. A fifth-century ivory diptych in the treasury of Milan Cathedral does represent Mary in scenes of the Infancy with her hair drawn up and clothed in comparable courtly garments. Her hair, however, is not adorned with pearls or jewels. Mary's head is veiled in those scenes where she appears as Christ's mother. See Brenk, *Die frühchristlichen Mosaiken in S. Maria Maggiore*, fig. 15 for a reproduction.

36. Carlo Bertelli (*La Madonna di Santa Maria in Trastevere*, 48) argued that the iconography of the scenes at Santa Maria Maggiore does not represent Mary as the Mother of God, as would be expected if the mosaics were associated with the Council of Ephesus. Beat Brenk (*Die frühchristlichen Mosaiken in S. Maria Maggiore*, 50) has argued that the absence of a crown militates against identifying her as Maria Regina, and suggests the more general reading of her representation in the mosaics as *femina clarissima*.

37. Nilgen, "Maria Regina," 19.

38. The appearance of the apse was recorded in an engraving of 1638. See Nilgen "Maria Regina," figs. 2 and 3. The resemblance between the fresco and the icon has been discussed by Cecchelli, *Mater Christi*, 1:310f; C. Bertelli, *La Madonna di Santa Maria in Trastevere* (Rome, 1961), 22f; and Nilgen "Maria Regina," 3f.

39. E. Kitzinger, "A Virgin's Face: Antiquarianism in Twelfth-Century Art," *Art Bulletin*, 62 (1980): 6–19.

40. Santa Maria Maggiore, of course, houses a very important icon of the Virgin, the *Salus populi romani*, described as *Regina*, and reputed to have a miraculous origin. The icon was likely adorned with a crown. See G. Wolf, *Salus populi Romani: Die Geschichte römischer Kultbilder im Mittelalter* (Weinheim: 1990), 125. Wolf also discusses the tradition of Maria Regina in Rome and, specifically, its relevance to Santa Maria Maggiore. Ibid., 119–30.

41. Planning for this mosaic may have begun as early as 1288. For Torriti's apse mosaic, see Cecchelli, *I mosaici*, 246–77; P. Verdier, *Le couronnement de la Vierge* (Paris, 1980), 153–65; W. Tronzo, "Apse Decoration, the Liturgy, and the Perception of Art in Medieval Rome: S. Maria in Trastevere and S. Maria Maggiore," in *Italian Church Decoration of the Middle Ages and Early Renaissance*, ed. W. Tronzo (Bologna, 1989), 167–93; and A. Tomei, *Iacobus Torriti pictor: Una vicenda figurativa del tardo Duecento romano* (Rome, 1990), 99–125.

42. Speculation on the appearance of the original mosaic has largely been based on the dedicatory inscription of Sixtus III, recorded in the late sixteenth century. This inscription read: "Virgo Maria tibi Xystus nova tecta dicavi / Digna salutifero munera ventre tuo / Tu Genitirix ignara viri te denique faeta / Visceribus salvis edita nostra salus. / Ecce tui testes uteri tibi praemia portant / Sub pedibusque iacet passio cuique sua / Ferrum, flamma, ferae, fluvius saevumque venenum / Tot tamen has mortes una corona manet." (I, Sixtus, have dedicated this new temple to thee, Virgin Mary, as a worthy gift to thy saving womb: You, mother not knowing any man and yourself born of a pure womb, are made our salvation. Behold the witnesses of thy motherhood carry rewards to thee, and under the feet of each stand the instruments of His passion: sword, flame, beasts, river and bitter poison, but one crown awaits all of these many deaths.) Quoted and translated in J. Snyder, "The Mosaic in Santa Maria Nova and the Original Apse Decoration of Santa Maria Maggiore," in *Hortus Imaginum*, ed. R. Engass and M. Stokstad (Lawrence, Kansas, 1974), 1–9. See also Christa Ihm, *Die Programme der christlichen Apsismalerei vom vierten Jahrhundert bis zur Mitte des achten Jahrhunderts* (Wiesbaden, 1960), 132–35; Wellen, *Theotokos*, 120–30; Cecchelli, *Mater Christi*, 91–114; Nilgen "Maria Regina," 16–19;

43. Carli, *Arnolfo*, 124.

44. On the *Praesepe* group, see A. Venturi, "Frammenti del presepe di di Arnolfo nella basilica romana di S. Maria Maggiore," *L'Arte* 8 (1905): 107–12; R. Berliner, "Arnolfo di Cambio's Presepe," *Beiträge für Georg Swarzenski* (Berlin, 1951), 51–56; G. Biasiotti, "La riproduzione della Grotta della Natività di Betlemme nella basilica di Santa Maria Maggiore," *Dissertazioni della Pontificia Accademia romana di archeologia*, 15 (1921): 95–110; F. Pomarici, "Il presepe di Arnolfo di Cambio: nuova proposta di ricostruzione," *Arte medievale*, 2nd series, no. 2 (1988), 155–75; W. Messerer, "Zur Rekonstruktion von Arnolfo di Cambios Praesepe-Gruppe," *Römisches Jahrbuch für Kunstgeschichte*, 1975, 25–35; A.M. Romanini, "Il Presepe di Arnolfo di Cambio," in *Santa Maria Maggiore a Roma*, ed. C. Pietrangeli (Florence, 1988), 171–87; G. Kreytenberg, "Arnolfo, Presepe," in Neri, *Arnolfo*, 190–93 (no. 1.13). On the possible influence of the group, see A.F. Moskowitz, "What Did Leonardo Learn from Arnolfo di Cambio?" in *Studi in onore di Angiola Maria Romanini*, 3 vols., Arte d'Occidente: temi e metodi, 1–3 (Rome, 1991), 3:1079–86.

45. See R. Krautheimer, *Corpus Basilicarum Christianarum Romae*, 4 vols. (Vatican City, 1930–70), 3:57. It is possible that the acquisition of the relic followed later. Sixteenth-century plans of Santa Maria Maggiore attributed to Bartolomeo de Rocchi in the Gabinetto dei disegni e delle stampe degli Uffizi show the location and plan of the chapel. Pomarici reproduces dis. arch. 4215 and 4216 ("Il Presepe di Arnolfo di Cambio," figs. 5 and 6).

46. In addition to his own commissions, Pope Nicholas IV encouraged others to embellish Santa Maria Maggiore, issuing an indulgence on 27 September 1288 for those who "manum porrexerint ad conservationem et reparationem basilicae Sanctae Mariae Majoris" (will have extended their hand to the preservation and restoration of the basilica of Santa Maria Maggiore). Quoted in Marina Righetti Tosti-Croce, "La Basilica tra Due e Trecento," in *Santa Maria Maggiore a Roma*, ed. Carlo Pietrangeli (Florence, 1988), 129. On Pope Nicholas IV's patronage of the basilica, see J. Gardner, "Pope Nicholas IV and the Decoration of Sta. Maria Maggiore," *Zeitschrift für Kunstgeschichte* 36 (1971): 1–50.

47. "[L]a capella di marmo, dove è il presepio di Gesù Cristo, fu dell'ultime sculture di marmo che facesse mai Arnolfo, che la fece ad istanza di Pandolfo Ipotecorvo l'anno dodici. . . . " G. Vasari, *Le vite de più eccellenti pittori, scultori ed architettori*, ed. Gaetano Milanesi (Florence, 1906), 278 n. 2. English translation from G. Vasari, *Lives of the Painters, Sculptors and Architects*, 2 vols., trans. G. du C. de Vere, (New York, 1912, repr. 1996), 1:58.

48. "Post capella Praesepis, parva et tota lapidea intus et foris, cum parvo altare; tota est vermiculata: ibi sunt signa partus Beate Virginis et Magorum. . . ." Translation from Berliner, "Arnolfo di Cambio's Praesepe," 51; Latin quoted in G. Biasotti, "La basilica di S. Maria Maggiore di Roma," *Mélanges d'archéologie et d'histoire* 35 (1915): 28. There are other primary references to the chapel. Giovanni Rucellai referred to the chapel in his *zibaldone*, but only to the relic contained within it, rather than to its form. "Item in detta chiesa in una cappelletta il *presepio* di del nostro signore yesu christo cioè la mangiatoia dove nacque." ([I]n the said church in a small chapel the presepio of Our Lord Jesus Christ that is the manger where he was born.) Quoted in Biasotti, *"La basilica di S. Maria Maggiore di Roma,"* 19.

49. See Fontana's *Della trasportazione dell'obelisco vaticano e delle fabbriche di Nostro Signore Papa Sisto V* (Rome, 1590), and K. Schwager, "Zur Bautätigkeit Sixtus V in S. Maria Maggiore in Roma," *Misc. Bibl. Hertzianae* (1961) 324ff. Pomarici ("Il Presepe di Arnolfo di Cambio," 163) suggested that the current arrangement is due to the nineteenth-century renovations of Pius IX.

50. Reported by Pomarici as calculated from Fontana's reported measurements, and from the extant sixteenth-century drawings by de Rocchi. Pomarici, "Il Presepe di Arnolfo di Cambio," 159.

51. Rudolph Berliner commented on the interchangeability of "chapel" and "house" in Fontana's description, leading him to conclude that the Adoration was set in a room in a house. See his "Arnolfo di Cambio's Presepe," 52. Romanini ("Il Presepe," 172) commented that the relief of the standing magi provides evidence that the original setting of the Praesepe was a house, including the painted designs on the wall fragment behind them, and the position of their feet, poised to step over a threshold.

52. For the debate over the attribution of the individual figures within the scene, see Romanini, *Arnolfo di Cambio e "lo stil novo" del gotico italiano*, 188 n. 252. The extant enthroned Virgin dates to the late sixteenth century and is attributed to Pietro Paolo Olivieri (1551–1599).

53. Pomarici, "Il Presepe di Arnolfo di Cambio," 170.

54. The prophet on the left holds a scroll that now reads, "INTROITE IN ATRIA EIUS ADORATE DOMINUM IN AULA SANCTA EIUS " (Come into his courts; Worship the Lord in the splendor of holiness) (Ps 95:8, 9). The other reads, "ET PANNIS INVOLUTUM RECLINAVIT EUM IN PRAESEPIO" (and wrapped him in swaddling clothes and laid him in a manger) (Luke 2:7).

55. "[I]bi sunt signa partus Beate Virginis et Magorum" (there are the figures of the Birth and of the Magi). As above, translation quoted from Berliner, "Arnolfo di Cambio's Praesepe," 51. Latin quoted in Biasotti, "La basilica di S. Maria Maggiore," 28.

56. With his 1905 publication of the group, Adolfo Venturi proposed that the extant Madonna was the original reworked and argued that the ox and ass would have appeared above Christ as he sat in Mary's lap, as in Fra Gugliemo's pulpit. Venturi, "Frammenti del Praesepe di Arnolfo nella basilica romana di Sta Maria Maggiore," L'Arte 8 (1905): 108–12. In 1934 Venturi published an enthroned Madonna and Child that he attributed to Arnolfo di Cambio, summarily proposing on stylistic grounds that the work might have belonged to the Praesepe group. Romanini, however, did not accept that this Madonna and Child were autograph, and argued that such an enthroned Madonna at a large scale would not have been appropriate. Venturi, "Madonna di Arnolfo di Cambio," L'Arte (1934) 382–83; Romanini Arnolfo di Cambio e "lo stil novo," 188 n. 252. A reclining Madonna in the Staatliche Museen, Berlin, has been linked since its first publication by Oskar Wulff to the Praesepe group at Santa Maria Maggiore, and proposed to be a copy of Arnolfo's Madonna. See O. Wulff, "Amtliche Berichte aus den königlichen Kunstsammlungen," Kaiser-Friedrich-Museum: Neuerwerbungen mittelalterlicher italienischer Plastik 33 (1911–12), coll. 261–80. The sculpture is also published in E. Frundt and M. Knuth, Deutsche und italienische Bildwerke des Mittelalters: Die Kunstwerke des Gröninger Saales (Berlin, 1980), 46–47. The Madonna and Child recline with their heads to their proper left. Christ holds a large vessel, one of the gifts of the magi. On stylistic grounds, the sculpture has been given to an early fourteenth-century follower of Arnolfo. However, more recently Pomarici has raised doubts about the sculpture's authenticity, arguing that its juxtaposition of elements of Arnolfo's works suggests that it was a product of the early 1900s. See her entry in Bonifacio VIII e il suo tempo: Anno 1300 il primo giubileo, ed. Marina Righetti Tosti-Croce (Milan, 2000), 193. In any case, at only 45.5 cm high, the sculpture is too small in relation to the size of the magi to be directly comparable. If authentic, it would provide evidence for a depiction of Mary that incorporated the iconography of both the Nativity and the Adoration. Rudolph Berliner argued that the figures would not have been arranged much differently than they are now and distributed them on two walls of the chapel. See his "Arnolfo di Cambio's Praesepe," 51–56. On the development of the custom of temporary representations of the Nativity at Christmas and on the ambiguities of the term "praesepe," see R. Berliner "The Origins of the Crèche," Gazette des Beaux-Arts 30 (1946): 249–78. Angelo Stefanucci (Storia del Presepio [Rome, 1944], 120) proposed that the missing Madonna would have been a reclining one as in the Byzantine tradition, like Arnolfo's Madonna of the Nativity from Santa Maria del Fiore.

57. Messerer, "Zur Rekonstruktion," 25–35.

58. A.M. Romancini formulated the "principle of visibility." See note 7 above. Pomarici, "Il Presepe di Arnolfo di Cambio," 155–75.

59. Ibid., 164–65.

60. Addressing my proposal that the Walters' Madonna and Child ought to be considered in relation to the Praesepe, Neri noted that the exhibition provided a good opportunity for comparison, but observed that a reclining Madonna would have been more appropriate to a Nativity. She also argued that the scene would have been one that had "la ricchezza dello spazio suggerito con gli espedienti della pittura" (the richness of space suggested by pictorial means), and that a reclining Madonna would have been more suited to this suggestion of space. Neri,"Oltre la facciata," 261.

61. G. Kreytenberg, "Arnolfo, Presepe," in Neri, Arnolfo, 190–93, no. 1.13

62. On the other hand, as mentioned above, polychromy may have played an important role in completing the effect of the Walters' Madonna and Child, while the difference in the crispness of the drapery may be due to something as simple as the representation of a thicker garment on the Virgin.

63. These measurements are taken from Messerer and Pomarici. Messerer lists all of the standing figures as 85 cm. Pomarici states that the magi are 80 cm tall, but with their base in the graphs she includes, they are 85 cm tall. The widths of the figures are also comparable. Together the standing magi are 60 cm wide, and the Walters' Madonna is 25 cm.

64. The top of the Christ Child's head is about 59.5 cm from the ground.

65. In the de Rocchi drawing (Gabinetto dei disegni e delle stampe degli Uffizi, dis. arch. 4216), the semicircular niche above the altar abuts the northern wall of the chapel, suggesting that the Adoration was oriented to have the magi approaching from the left because of the spatial restrictions. The standing magi could have approached along the wall, the kneeling magus transferring the action around the corner, and the Madonna and Child, Joseph, and the ox and ass could have inhabited the niche above the altar. However, Romanini ("Il Presepe," 172) argued that the figures would not have appeared in the niche above the altar because that space would have permitted only one point of view, when the figures were worked so as to be seen from multiple points of view.

66. On the power of relics and dedications, see R. Krautheimer, "Introduction to an Iconography of Medieval Architecture," Journal of the Warburg and Courtauld Institutes 5 (1942): 1–33.

67. Pomarici, "Il Presepe," 161.

68. Moskowitz's argument that Arnolfo's Praesepe was more narrative than its "iconic" precedents in lunettes would still hold true. Moskowitz "What Did Leonardo Learn?" 1082.

69. The architectural framing of a Madonna and Child smaller than the surrounding figures occurs on the façade of Siena Cathedral above the rose window, dating after ca. 1300. Further, the praying, bowed prophets on either side of the Sienese Madonna and Child recall Arnolfo di Cambio's kneeling magus. Moskowitz, Italian Gothic Sculpture, 96, 99 fig. 123.

70. Moskowitz (Italian Gothic Sculpture 59), assuming a reclining Madonna and a Nativity, noted that Joseph's forward gaze across the scene would put the Madonna and Child in the center of the composition. This gaze would also imply that he be moved back in the scene, behind or, at most, beside, the Madonna and Child. As Romanini made clear ("Il Presepe" 174), the carving of the ox and ass indicates that they would have been inserted in the left wall of the niche, likely above a manger.

71. A theatrical quality has been noted by several scholars. Berliner commented that "here was sculpture bordering on theater" in "Arnolfo di Cambio's Praesepe," 56. Romanini pointed out both the emotional "tension" of the group, and its "novità prospettica e scenica" (the novelty of its staging). Romanini, "Il Presepe," 176. Moskowitz has emphasized the "dramatic" qualities of Arnolfo's Praesepe, and sculpture in general, where "dramatic" is taken to mean both the expressive power of the figures enacting the scene, and the arrangement of his sculptures within space, "into which the viewer, theoretically or imaginatively, can enter." She argued that these qualities are especially evident in the Praesepe. Moskowitz, "What Did Leonardo Learn?" 1079–86, and Italian Gothic Sculpture, 44, 60. A letter written by Saint Cajetan on 28 January 1518 is often cited to evoke the affective power of Arnolfo's group. The saint describes his experience in the Chapel of the Praesepe on Christmas Eve.

He visited the chapel as if it were the site of the Nativity itself, and imagined that he took the "tender" Christ Child from the "timid little" Virgin's hand. The saint comments on the hardness of his heart, which did not melt at that moment, and explains how he repeated his visit at later feasts, including that of Epiphany. Whether or not the sculpture had its original home in the *Praesepe* of Santa Maria Maggiore, it is easy to identify with Saint Cajetan's vision when viewing the Walters' *Madonna and Child*. For the full text of the letter, see R. de Maulde la Clavière, *San Gaetano da Thiene e la Riforma cattolica italiana* (Rome, 1911) 49–53. The passage was quoted by Berliner, "The Origins of the Crèche," 249–78; idem, "Arnolfo di Cambio's Praesepe," and *Die Weihnachtskrippe* (Munich, 1955). Moskowitz ("What Did Leonardo Learn?" 1083) quotes this letter as support for the group's prompting of empathetic experience.

72. Romanini, *Arnolfo di Cambio e "lo stil novo"*, 185.

A Book of Hours for Anna Colonna in the Walters Art Museum

MARTINA BAGNOLI

In Italy, Books of Hours never enjoyed the popularity that they did north of the Alps.[1] Nevertheless, extant examples indicate that richly decorated Books of Hours were produced in Italy, particularly in those city-states geographically, culturally, and politically closest to France: the duchy of Milan and the kingdom of Naples. Both centers are well represented in the collection of the Walters Art Museum, which has a fine but relatively little-known selection of Italian Books of Hours.[2] One of these Italian books, W.322, warrants special attention by virtue of its picture cycle, provenance, and artist. The following pages present the results of a study of this small manuscript.[3]

THE PICTURE CYCLE

The illustrations of W.322 diverge in several respects from standard cycles as they were rendered in French and Flemish books of the fifteenth century. In these regions, the Hours of the Cross would be illustrated with a Passion cycle that, starting at Matins, included the Betrayal, Christ before Pilate, the Flagellation, the Way to Calvary, the Crucifixion, the Deposition, and the Entombment.[4] Some of the peculiarities found in W.322, such as the introduction of two images of the Crucifixion for the Hours of the Cross, one at Sext and the other at None, are common in Italian *horae* of this period. In Italy, the sixth and ninth hours of the day, respectively, marked the moments in the Passion when Christ was crucified and his flank pierced by a lance.[5] Following the Italian tradition, the prayers accompanying the sixth hour, in the Walters' manuscript, are introduced by an illustration of the nailing of Jesus to the cross (fig. 1). The choice of this scene as the subject of the illustration can be explained by the adjacent words of the hymn: "Hora sexta Ihesus est cruci conclavatus" (at the sixth hour Jesus was nailed to the cross, fol. 86v). The illustration of None similarly follows the tradition of commemorating the moment of Christ's death on the cross (fig. 2). Longinus approaches Christ from the left and pierces his side with a long lance. At the moment of Christ's death, sorrow and disorder spread through the crowd. The hymn that follows the response adds texture and detail to the visual narrative: "hora nona Ihesus expiravit. Hely clamans animam patri commendavit. Latus eius lancia milex perfora; terra tunc tremuit et sol obscuravit" (at the ninth hour Jesus died, crying "Eli" and commending his soul to his Father. A soldier pierced his side with a lance; the earth trembled, and a shadow passed over the sun, fol. 87r).

Illustrations of the episodes related to Christ's Crucifixion continue at Vespers with the Deposition, which usually illustrates the text of the hymn "De cruce deponitur hora vespertina" (at eventide he was taken down from the cross, fol. 87v). The Compline prayers are introduced by an image of the Pietà instead of the more usual Entombment. This choice of illustrations can be linked to the text of the Compline antiphon, which mentions the moment of burial and invites the reader to remember constantly the death of Christ and its redemptive significance: "hora completorii datur sepulture corpus xpi. Nobili spes vitae futurae conditur aromate compleretur scriptura. Iugis sit memoria mors hec michi cure" (at the hour of Compline the body of Christ is buried. Laid to rest with perfumes and in a noble manner so that the hope of future life shall be completed by scripture, it shall be my care to remember this death constantly, fols. 88r–88v). Thus, in W.322 hope for salvation and eternal life is found in contemplation of the suffering Christ. The images of his Passion follow a syncopated rhythm on rectos and versos of consecutive folios in an unfolding sequence that focuses on Christ's physical injuries at the moment of his death. This is typical of Italian Books of Hours, in which, as Bronwyn Stocks has observed, "the reader is urged throughout to identify compassionately with these sufferings precisely because they are the witness of Christ's love for the human race and source of hope."[6]

In W.322 the idea of salvation through the Resurrection is further explored in the Office of the Virgin. Here, the usual cycle of Christ's infancy stops at

Fig. 1. Italian, Book of Hours, ca. 1440. Parchment with ink, paint, and gold, folios: 10.5 x 7.4 cm. Baltimore, Walters Art Museum, bequest of Henry Walters, 1931 (W.322), fol. 86r: The Nailing to the Cross

Fig. 2. W.322, fol. 86v: The Crucifixion and Death of Christ

Sext and a post-Passion narrative begins with an illustration of the Resurrection (fig. 3) and continues with Ascension (Nones) and Pentecost (Vespers).[7] The cycle ends with the usual image of the Coronation of the Virgin to illustrate the Compline prayers.

The excursus into Christological material in the middle of the Office of the Virgin appears as well in other Italian Books of Hours, such as an example from Milan in the Biblioteca Estense, Modena, dating to the end of the fourteenth century (MS.α.R.7.3, Lat. 842).[8] The placement of the post-Passion scenes within the office of the Virgin was not fixed; indeed, there is little evidence of a pattern from one Book of Hours to the next. In the Estense Book of Hours, the Resurrection, Ascension, and Pentecost are associated, respectively, with Terce, Sexte, and Nones. Since the texts of the prayers of the Office of the Virgin were of general nature, artists could exercise considerable freedom in choosing subjects.[9] Therefore, it is hard to draw any direct relation between the Resurrection, Ascension, and Pentecost images and the prayers in W.322; rather, the

selection of these particular images should be understood as a desire to stress the idea of the salvific power given to mankind by Jesus through the Virgin.

THE ORIGINAL OWNER OF THE BOOK

W.322 is a luxurious book. The parchment is of very good quality with a smooth flesh side and a velvety hair side; it is lavishly illustrated, and gold foil is used extensively, indicating an important provenance.

The calendar points to the region of Puglia in southern Italy as a place of origin. In addition to the feasts common in the Roman calendar, a number of local saints specifically associated with Puglia are named in the calendar: Saint Cataldus, bishop of Taranto (10 May) is entered in red, as is the feast for the Translation of Saint Nicholas Bishop of Bari (9 May) and the Apparition of Saint Michael Archangel (8 May), which was celebrated in Mount Gargano. The book was clearly intended for a woman, as most of the prayers are conjugated in the feminine. In several prayers,
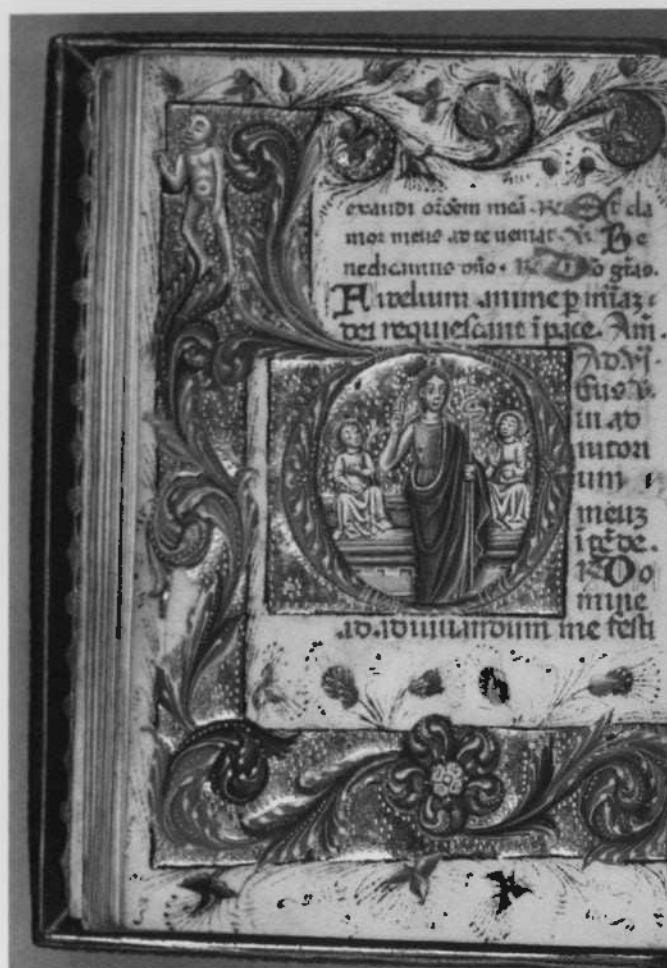
Fig. 3. W.322, fol. 45v: The Resurrection

Fig. 4. W.322, fol. 50r: The Ascension

the patron's name is abbreviated with the initial A.[10] In the last prayer of the book, A's first name is revealed as she invokes God's pity for "your humble servant Anna."[11] Finally, Anna's coat of arms is painted beneath the picture of the Ascension on the bottom of folio 50r (fig. 4). The appearance on this page of the red escutcheon emblazoned with a white column not only indicates Anna's ardent desire to imitate Christ and ascend to heaven but also tells us that she was a Colonna.

The Colonna were one of the most important aristocratic Roman families, but they were not royalty. Why, then, is Anna depicted in a book from Puglia, a region far from Rome and part of the domains of the king of Naples, kneeling in prayer before Saint Peter Martyr with a crown on her head (fol. 217, fig. 5)? This picture has been deliberately effaced, but the still-visible crown, together with the other evidence, identifies the patron as the wife of Gian Antonio Orsini, prince of Taranto. I therefore suggest that this book was made for Anna Colonna, who married Gian Antonio in 1419.

Sources describe Anna as "donna di statura colossale e di gran spirito" ([a] woman of colossal height and of strong spirit).[12] She was the niece of a pope (Martin V, r. 1417–31) and before marrying Gian Antonio had been betrothed to the son of Braccio da Montone; the sources do not say why the betrothal was broken. Her devout and fervent prayers at the end of the book tell us that she must have drawn much-needed comfort from it during times of conflict within and outside her home in Taranto. Her life must have been far from idyllic: we know that she was barren and that her husband had six children by another woman. Anna died in Rome in 1469, providing a terminus ante quem for the book's production. It is unlikely, however, that the manuscript was made after 1462, when Gian Antonio was murdered.

Although Gian Antonio was nominally a subject of the Aragonese king of Naples, the extent of his domains, stretching over much of Puglia, Calabria, and Basilicata made him a largely independent ruler and a powerful political presence within the kingdom. The prince's relentless policy

Fig. 5. W.322, fol. 217r: Saint Peter Martyr

Fig. 6. W.322, fol. 54v: Detail of border

of subjugating entire regions and drawing them into his possessions did not endear him to his subjects or to the Neapolitan court. After Gian Antonio's murder by poison in 1462, rebellion ensued, and his domains were divided among his offspring by the king of Naples. The upheavals following her husband's demise would necessarily have affected Anna. In 1463 she was granted a safe-conduct by King Ferdinand I to return to Rome, thus escaping the turmoil of the revolt against the house of Orsini.[13] These circumstances allow us to circumscribe the dating of the Walters' Book of Hours to between 1419 and 1463, when Anna resided in Puglia.

THE ARTIST

The identification of the principality of Taranto as the place of origin for W.322 is also supported by the style of the illuminations. The painter of W.322 created busy compositions, rich in narrative details and crowded by distinctive wiry figures with sharp features, protuberant

eyes, and small chins. They are dressed in flowing robes with long linear folds, boldly highlighted in white. The full-page miniatures at the end of the book convey a mixture of Gothic elegance and Italian monumentality.

The same characteristics distinguish the miniatures of a missal in Molfetta known as the Missal of San Corrado (Molfetta, Archivio Capitolare).[14] A comparison of the two works reveals close similarities in the treatment of borders, figure types, and compositions. The borders in the missal, with blossoming branches terminating in colored dots and hairy tendrils, so closely resemble those of W.322 as to be almost indistinguishable (figs. 6, and 7). The Adoration of the Magi in the missal shows tall elongated figures crowding around the Virgin, who holds the naked Christ Child on her lap (fig. 8). The magi wear elegant clothes and golden crowns with exaggeratedly prominent points. The same sartorial exuberance appears also in the Walters version of this scene. Here, too, the magi crowd around mother and child while the elder magus kisses the feet of Christ, who is again depicted naked on his mother's lap (fig. 9). In both
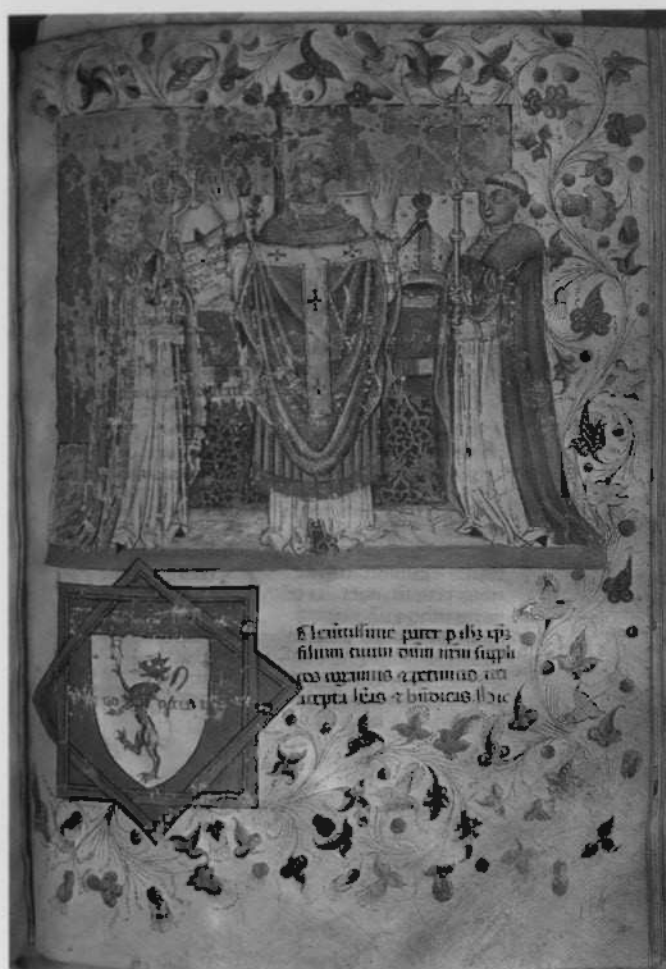
Fig. 7. Missal of San Corrado, Molfetta, Archivio Capitolare: detail of border

Fig. 8. Missal of San Corrado, detail: The Adoration of the Magi

Fig. 9. W.322, fol. 36, detail: The Adoration of the Magi

books, the Pentecost is organized around the massive triangular figure of the Virgin, her ample mantle falling to the ground in rich folds, while the apostles, with extremely long hands, are seated around her (figs. 10, 11). Above them, the face of God, with red cheeks and a benevolent expression, appears in the sky with a dove, the symbol of the Holy Ghost.

The Missal of San Corrado has been attributed to Giovanni di Francia (d. 1448), known for a signed panel of the Virgin and Child in the Museo Capitolare, Velletri.[15] This attribution however, must be re-examined in the light of recent scholarship. In an important article, Serena Padovani identified Giovanni with Zanino di Pietro (active from 1389), a painter known for his signed triptych with the Crucifixion now in the Museo Civico di Rieti.[16] Zanino, who was of French origin, began his career in Venice, moved to Bologna, where he resided for twenty years, and then returned to Venice.[17] On his return, Zanino's style changed dramatically when he came into contact with the works of Gentile da Fabriano (ca. 1370–1427),

who had also arrived in Venice during the first decade of the fifteenth century.

Zanino's paintings of his second Venetian period show the corporeal style of his Bolognese years tempered by an increasing sweetness in coloring and drapery and a more elaborate ornamental vocabulary, especially in the detailing of the figures' dress and in the decoration of backgrounds.[18] The stylistic similarities between Gentile and Zanino are apparent in such works as the *Madonna of Humility*, now in the National Gallery of Athens, and the

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Fig. 10. Missal of San Corrado, detail: Pentacost

Fig. 11. W.322, fol. 54v, detail: Pentacost

Fig. 12. Zanino di Pietro (Giovanni di Francia), *Madonna*. Tempera on panel. Velletri, Museo Capitolare

Fig. 13. Zanino di Pietro (Giovanni di Francia), Virgin and Child. Tempera on panel. Pinacoteca Giuseppe De Nittis, Museo civico di Barletta

Virgin and Four Saints in the Martello Collection in Fiesole, both of which have been attributed to Gentile.[19] Several years after the publication of Padovani's study, Andrea De Marchi further reexamined Zanino's career, situating the Velletri *Madonna* (fig. 12) at a late stage in Zanino's appropriation of Gentile's style.[20] This painting shows a loss of Gentile's emotionalism, here dissipated to the point of an almost stereotypical docility. A panel of the Virgin and Child in the Pinacoteca Giuseppe De Nittis di Barletta continues this trend in the painter's work and should be regarded as a touchstone of Zanino's activity in Puglia during the last years of his life (fig. 13).[21] The presence of works by Zanino in this southern region of Italy indicates that the painter had migrated southward along the Adriatic coast during the 1430s, possibly as a result of a fall from grace in his native city.[22] The miniatures of W.322 share many characteristic traits with the Barletta panel: the small heads, the protuberant eyes and the fleshy, pouting mouths. But whereas in Zanino's paintings these traits convey tenderness and intimacy, in those by the miniaturist of W.322 they result in an affected preciousness bordering on the comic.

The busy and agitated figures of the Molfetta Missal and of W.322 more closely resemble another panel in Barletta: a Trinity, once attributed to Zanino and recently ascribed to his workshop.[23] A comparison of the miniatures of W.322 with the Barletta Trinity is telling. Saint George's smiling features on fol. 215r (fig. 14) closely resemble those of the joyful angels surrounding the Trinity in Barletta (fig. 15). The Virgin in the Barletta Trinity shares certain features (a long nose and upward-curving mouth) with that in the Walters Book of Hours (fig. 16). It is therefore possible to assign the Walters' Book of Hours, the San Corrado Missal, and the Barletta Trinity to a close disciple and follower of Zanino di Pietro, here called the San Corrado Master, who continued Zanino's work in Puglia after his master's death. The emergence of this personality out of Zanino's workshop calls for a reevaluation of several monuments attributed to Giovanni/Zanino over the years but which cannot be satisfactorily ascribed to him and for which additional research is necessary. These include the panel of the Flagellation in the Cathedral of Barletta, the panel of the Man of Sorrows in the Church of Saint Peter also in Barletta, and the frescoes of the Lambertini tomb in the Cathedral of Trani.[24]

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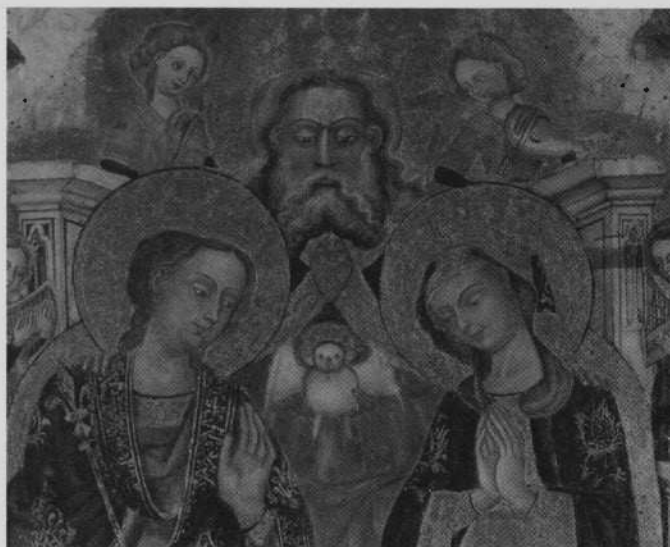Fig. 14. W.322, fol. 215r: Saint George and the Dragon, detail

Fig. 15. Workshop of Zanino di Pietro, *Trinity* (detail). Tempera on panel. Cathedral of Barletta

Fig. 16. W.322, fol. 213r: Sitting Madonna and Child, detail

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APPENDIX

Baltimore, Walters Art Museum, MS W.322

Italy, Puglia, mid-fifteenth century (before 1463)

Parchment, 231 leaves, 105 x 74 mm, 1 column of 68–54 mm x 38 mm, 15 lines of 4 mm (prayer text), 18 lines (calendar pages). Ruled with pale brown ink. In Latin, in *littera gotica rotunda*. The book is richly decorated with nineteen large historiated initials at major text divisions and six full-page miniatures of saints at the end; two-line initials decorated in red and blue penwork, and small capitals in blue, gold, and red throughout.

Use: Rome
Contents

   fols. 1–12v: calendar
   fols. 13–82v: Hours of the Virgin
   fols. 83–88v: Hours of the Cross
   fols. 88–91: Hours of the Holy Ghost
   fols. 91–96v: Office of Saint Catherine
   fols. 97–108v: the Seven Penitential Psalms
   fols. 108v–118r: a Litany with ten collects
   fols. 118v–166v: the Office of the Dead
   fols. 166v–184v: Prayers
   fols. 184v–185v: a Gospel sequence
   fols. 185v–204v: Orations
   fols. 205–210v : Suffrages
   fols. 221–231v: Prayers
   fol. 231: Seven Last Words of Christ.

Decorations

   fol. 13: Hours of the Virgin: Matins, Annunciation
   fol. 24: Lauds, Adoration of Christ Child and the
        Annunciation to the Shepherds
   fol. 36: Prime, Adoration of Magi
   fol. 41: Terce, Presentation in the Temple
   fol. 45: Sexte, Resurrection
   fol. 50: Nones, Ascension
   fol. 54v: Vespers, Pentecost
   fol. 62v: Compline, Madonna enthroned in a mandorla
   fol. 83: Hours of the Cross: Matins, Betrayal of Christ
   fol. 84v: Prime, Christ before Pilate
   fol. 85v: Terce, Christ carrying the Cross
   fol. 86: Sext, Christ nailed to the Cross
   fol. 86v: Nones, Christ dead on the Cross
   fol. 87: Vespers, Deposition
   fol. 88: Compline, Pietà
   fol. 88v: Hours of the Holy Spirit: Matins, Pentecost
   fol. 91: Office of Saint Catherine, Matins, Catherine kneels in
        prayers, the wheel of her martyrdom behind her
   fol. 97: Seven penitential psalms: David in the mire
   fol. 118v: Office of the Dead: Vespers, funeral scene
   fol. 213: Sitting Madonna and Child
   fol. 214: Stigmatization of Saint Francis
   fol. 215: Saint George and the Dragon
   fol. 216: Saint Anthony of Padua
   fol. 217: Saint Peter Martyr
   fol. 219: Saint Scholastica

Binding: Eighteenth-century red straight-grain morocco with gold tooling. Sewn on four single cords, edges full gilt.

Provenance: Bought in France by Peter Marié; Sale, N.Y., 1903, no. 574, to George H. Richmond; Purchased by Henry Walters from George Richmond, before 1931

NOTES

1. For general overviews of Books of Hours, see R.S. Wieck, *Painted Prayers: The Book of Hours in Medieval and Renaissance Art* (New York, 1997); R.S. Wieck, ed., *Time Sanctified: The Book of Hours in Medieval Art and Life* (New York, 1988). For a survey of French and Flemish Books of Hours in the Walters collection, see L.M.C. Randall, *Medieval and Renaissance Manuscripts in the Walters Art Gallery*, 3 vols. (Baltimore, 1989–97).

2. Two of these (W.328 and W.767) were shown in 1988 exhibition at the Walters Art Gallery; see Wieck, *Time Sanctified*, nos. 115 and 116, respectively. This article presents some results of the ongoing effort to catalogue and digitize the museum's collection of Italian manuscripts.

3. See the appendix for a complete description of the manuscript.

4. For the standard iconography of French and Flemish Books of Hours, see Weick, *Time Sanctified*, 60.

5. See B.C. Stocks, "The Illustrated Office of the Passion in Italian Books of Hours," in M. Manion and B. Muir, eds., *The Art of the Book: Its Place in Medieval Worship* (Exeter, 1998), 111–15.

6. Stocks, "The Illustrated Office of the Passion," 128.

7. See appendix.

8. F. Manzari, "'Cum Picturis Ystoriatum': Struttura e programmi iconografici di Tre Libri d'Ore Lombardi," *Bollettino d'Arte*, 6th ser. 79, fasc. 84–85 (1994), 29–70.

9. Weick, *Painted Prayers*, 51–78.

10. The abbreviation appears on fols. 191, 192r, 194v, and 195v.

11. "Domine qui inimiciis vincisti et omne genus de manu et potestate eius libera me famulam tuam Annam de omni tribulacione. " Fol. 227.

12. Conte Pompeo Litta, *Famiglie celebri italiane* (Milan, 1819–85), vol. 4, fasc. 59.

13. "1463, novembre 26, Ferdinando I re a VI Terlizzi. Ferdinando I D'Aragona, per la devozione mostrata nel darsi al sovrano dopo la morte di Giovanni Antonio del Balzo Orsini, accorda ai Leccesi le grazie richieste: che la principessa di Taranto e contessa di Lecce Anna Colonna possa restar libera e sicura finchè non vada a Roma con la sua famiglia e le sue robe." Quoted in M. Paone, "Libro Rosso di Lecce. Fonti per la storia della Puglia: Regesti dei Libri Rossi e delle pergamene di Gallipoli, Taranto, Lecce, Castellaneta e Laterza," in M. Paone, ed., *Studi di storia pugliese in onore di Giuseppe Chiarelli* (Galatina, 1973), 153–295 (248)

14. Archivio di San Nicola and Archivio di Stato di Bari, *I codici liturgici in Puglia*, ed. G. Cioffari and G. Dibenedetto (Bari, 1986), 377, cat. 41; A. Isabella, "Il Messale di S. Corrado dell'Archivio Diocesano di Molfetta: Analisi codicologica, paleografica, iconografica" tesi, Università degli Studi Bari, 1989–90.

15. M. D'Elia, ed., *Mostra d'arte in Puglia* (Bari 1964), 54–56, cat. 57. For the Panel of the Virgin and Child, see M. Natale, "Giovanni di Francia," in *Dizionario biografico degli Italiani* 24 (Rome, 1980), 378.

16. S. Padovani, "Una nuova proposta per Zanino di Pietro," *Paragone*, 419–23 (1985), 73–81.

17. Zanino's identity is attested by his signature on the triptych for the Franciscan convent of Fonte Colombo now in the Museo Civico di Rieti: "Hoc opus depinxit Zanini Petri habitator Venexiis in contrata sante Apollinaris." Extant documents allow us to track Zanino's sojourn in Bologna and in Venice and support the identification of Zanino with Giovanni di Francia as both names are used in documents pertaining to a painter "son of Peter" who resided in the area of Sant' Apollinare in Venice. "Giovanni" in the Venetian dialect is "Zuan" or "Zanino." For the documentary evidence, see Padovani, *Proposta*, 81 n. 13.

18. A. de Marchi, *Gentile da Fabriano: Un viaggio nella pittura italiana alla fine del Gotico* (Milan, 1992), 57–59. De Marchi contested an interpretation proposed by Keith Kristiansen, who saw in Zanino an important influence in the work of the younger Gentile. See his *Gentile da Fabriano* (Ithaca, N.Y., 1982), 7–11.

19. M. Boskovits, *The Martello Collection: Paintings, Drawings and Miniatures from the XIVth to XVIIth Centuries* (Florence, 1985), 148–49; C. Brandi, "A Gentile da Fabriano in Athens," *Burlington Magazine 120*, (1978), 81.

20. De Marchi, *Gentile*, 58.

21. The analysis of the last phase of Zanino's artistic career is complicated by the loss of several known works from the 1430s. For example, no trace has survived of the mural decoration executed by Zanino in the third decade of the fifteenth century in Venice and attested by contemporaneous documents, nor of the painted crucifix in the Duomo of Trani dated 1432, published by Shultz in 1860, but subsequently lost. See H. W. Shulz, *Denkmäler der Kunst des Mittelalters in Unteritalien*, vol. 1 (Dresden, 1860), 114.

22. Zanino's style seems to have lost favor with patrons in Venice at the beginning of the 1430s, when his commissions apparently diminished precipitously, with the noteworthy exception of the decoration of the Ca' d'Oro's façade in 1431. See Natale, "Giovanni di Francia".

23. A. Cucciniello, "La pittura del '400 in Basilicata e Giovanni di Pietro Charlier di Francia," in *Tardogotico e Rinascimento in Basilicata*, ed. F. Abbate (Matera, 2002), 35-97.

24. For a reevaluation of Giovanni's activity in Puglia and Basilicata, see Cucciniello, "La pittura del '400." For a complete list of works by Zanino, see Natale, "Giovanni di Francia."

Art Historical Context and Technical Analysis of an Italian Fifteenth-Century Double-Sided Processional Standard

SUE ANN CHUI

The Walters Art Museum's *Crucifixion; St. Michael* (acc. no. 37.406, figs. 1a and 1b) is one of four paintings in the United States by Lorenzo d'Alessandro da Sanseverino (1445–1501), an Italian painter who worked exclusively in his native Marches in central Italy.[1] Making the Walters' painting even more unusual is its form: it is a processional standard, a rare survival of an object type whose continual use has tended to make them uncommon today. This essay defines the context for *The Crucifixion; St. Michael* through a discussion of Italian Renaissance processional standards, including other examples by Lorenzo d'Alessandro, and a study of d'Alessandro's painting technique as observed during the conservation and restoration of the Walters' painting for its reinstallation in the Palazzo galleries in 2005. Recently published articles on Italian processional standards by Victor M. Schmidt and Michael Bury provide information pertinent to this study.[2]

A standard was one of many objects, including crosses, candles, and reliquaries, that were carried in Catholic and Orthodox religious processions during early modern times. Standards are unique, however, in that they were made almost exclusively for use in processions. Historically, the term "standard" has been used interchangeably with other terms (most frequently "banner") to describe an object, usually painted, carried in processions. The terms *stendardo*, *gonfalone, bandinella, insegna*, and *segno* are used in Italian to describe various forms of "standards." *Segno* is often used more narrowly than the other terms to describe an object that consists of a pole surmounted by a depiction directly related to the organization to which it belongs.[3] In this sense, the processional standard was both a symbol and an advertisement for the confraternity or company that was carrying it. In this essay, for the sake of consistency, "standard" will be used to describe the Walters' painting and similar objects.

Bernard Berenson was the first scholar to attribute *The Crucifixion; St. Michael* to the Italian Renaissance painter Lorenzo d'Alessandro da Sanseverino, an attribution subsequently accepted by Luigi Serra, Raimondo van Marle, and Federico Zeri.[4] As his name suggests, Lorenzo d'Alessandro da Sanseverino was from the town of Sanseverino Marche, located in the central part of the Marches. Born in 1445, Lorenzo d'Alessandro spent his entire life in and around his city of birth, where he worked as an artist and public official. Zeri and Raoul Paciaroni have noted that Lorenzo's artistic formation was informed by Marchigian painters of previous generations, especially Girolamo di Giovanni da Camerino (active ca. 1449–73).[5] Archival sources document that Lorenzo d'Alessandro worked not only on prestigious commissions but also, on a more modest scale, designing coats of arms, making scenes for sacred representations, and painting processional standards. He died in 1501.

The chronology of Lorenzo's oeuvre is based on four surviving signed and dated works: the triptych of Corridonia (1481); the frescoes of S. Maria di Piazza, Sarnano (1483); *Madonna del Monte*, Caldarola (1491); and *St. Anthony of Padua* (Pollenza), 1496.[6] An altarpiece in the National Gallery, London, *The Marriage of St. Catherine of Siena*, which was originally commissioned for the Church of S. Domenico in Fabriano, is signed but not dated. On the basis of style, scholars have dated the Walters' processional standard to between 1480 and 1490.[7]

On one side of the Walters' standard is the Crucifixion, with the body of Christ hanging slightly contrapposto. Standing on the left is Mary, her arms flung open, looking up toward her Son. St. John stands on the right with his head bowed and hands clasped near his face. Three mourning angels collect the blood that flows out of the wounds on Christ's hands and torso. The other side of the standard is dominated by the large figure of the Archangel Michael.

Figs. 1a, b. Lorenzo d'Alessandro da Sanseverino, *The Crucifixion; St. Michael Archangel* (before treatment), 1480–90. Tempera, gold on panel, 75.9 x 54.3 cm. Baltimore, Walters Art Museum, bequest of Henry Walters, 1931 (37.496)

Against a rich, yellow brocade cloth that hangs from a wooden rod, he stands in gentle contrapposto while trampling the devil beneath his feet. In his left hand, Michael delicately holds a scale weighing two souls, one heavier than the other. His right hand grips his sword, which pierces the devil's leg. Smaller figures dressed in white-hooded robes typical of flagellant confraternities are shown kneeling in prayer at the saint's feet. The devil's tail resembles the knotted whip chain that flagellants would have used to scourge themselves.[8] The young figure to the right of the saint, his face exposed, is most likely the painting's donor.

On the basis of its iconography, the Walters' standard can be associated with the confraternity of St. Michael Archangel. In his recent monograph on Lorenzo d'Alessandro, Raoul Paciaroni suggests that the Walters' panel originally belonged to the Church of Sant'Angelo, which by 1400 was the seat of an important confraternity dedicated to St. Michael Archangel in the town of Matelica.[9] This confraternity commissioned the painting *St. Ann, Madonna and Child, St. Sebastian, and St. Roch* from d'Alessandro for the Church of Sant'Angelo. It would not be unreasonable to suppose he had other commissions from this confraternity.[10]

Confraternities—religious organizations consisting of lay members of the church who promoted acts of devotion and charity—were an integral part of life during the Middle Ages and Renaissance, as can be attested in Florence, where, by 1450, almost every adult male citizen was a member of one of the nearly one hundred confraternities in that city. Confraternities met often for prayer and special feasts. They maintained altars, sponsored masses, and commissioned music and works of art. One of the most important and most widely recognized duties that they assumed was to perform the burial rites for their fellow citizens.[11]

Religious processions, in which double-faced painted standards, meant to be seen from both sides, played an important role, were a common activity of the confraternities. According to two early treatises on the rituals of the Roman Catholic Church, processions were commonly held on eight specific occasions—the Purification of the Virgin, Palm Sunday, Easter, Ascension, Pentecost, Corpus Domini, the dedication of a church or its anniversary, and the feast day of a patron saint—but the iconography of surviving standards does not necessarily correspond to these festivals.[12] The subjects depicted on the Walters' standard, the Crucifixion and St. Michael Archangel, suggest that the painting was carried during Holy Week and on the saint's feast day (29 September). The Walters' standard was thus used also as a *segno*, an emblem of the confraternity.

Small processional standards on panel, such as the one in the Walters' collection, were common in central Italy during the Middle Ages and the Renaissance.[13] Because of their periodic handling and exposure to the elements, however, comparatively few have survived. Many of those processional standards that do survive come from Umbria and the Marches.

THE MATERIALS, CONSTRUCTION, AND USE OF PROCESSIONAL STANDARDS

Surviving Marchigian processional standards (as well as many Umbrian examples) are typically composed on panels constructed with a pointed arch, although examples with rounded arches or wholly rectangular formats have been documented. Most processional standards on panel originally had engaged frames, but many of the frames have not survived, since they would have protruded from the painting and were usually the first parts of the object to be damaged. Standards generally contain single figures of saints, either standing or enthroned, to whom the confraternity was dedicated or who were protectors of the city. When narratives rather than single figures are depicted, they invariably depict scenes with Christ or the Virgin.[14] Arch-shaped panels are often divided, either by paint or by an element of the engaged frame, into a main lower field and a smaller one at the top within the arch, usually reserved for a depiction of God the Father, although other saints and the Annunciation scenes are also found.

The condition of the Walters' panel, remarkable for an object of its age, is due to its being painted on both sides, which protected the wooden support from environmental fluctuations and insect damage.[15] Traditionally, processional standards were painted on both sides, as is the Walters' standard, but examples survive in which only one side was painted. One such panel is Perugino's *Madonna della Confraternita della Consolazione* (Galleria Nazionale dell'Umbria), which served both as an altarpiece and as a processional standard.[16]

Canvas was used concurrently with wood panel as a support for such purposes throughout the fifteenth century. Over time, panels were gradually phased out, to the point that by the late fifteenth century, canvas had become the exclusive support for such objects, allowing the dimensions of the processional standards to expand without adding burdensome weight to an object that needed to be portable. During the period 1470–80, Umbrian processional standards on canvas imitated the form of those on panel, the best-known example being Niccolò Alunno's *St. Anthony Abbot, Sts. Giles and Bernardino da Siena* in the Pinacoteca Comunale, Deruta, painted in the third quarter of the fifteenth century (fig. 2).[17]
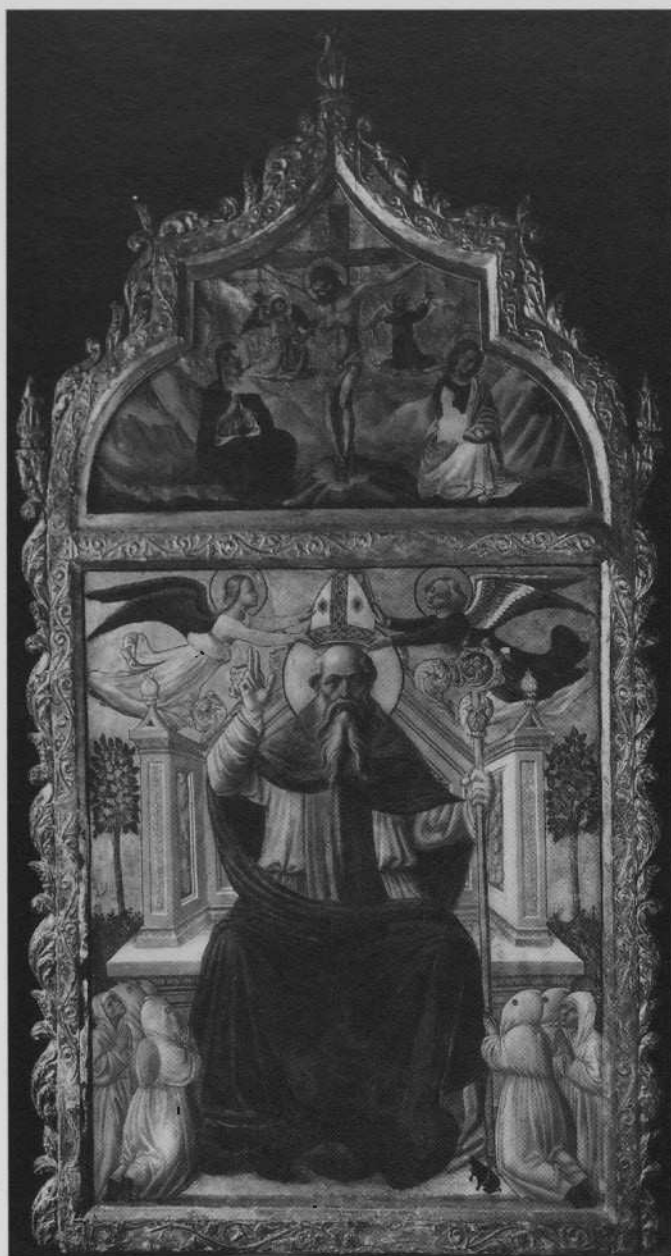
Fig. 2. Niccolò Alunno, *St. Anthony Abbot*, third quarter of the fifteenth century. Tempera on canvas. Pinacoteca Communale, Deruta

Fig. 3. (left) Matteo da Gualdo, *Madonna and Child Enthroned*, end 1490s. Tempera on linen, 88.3 x 39.4 cm. Baltimore, Walters Art Museum, bequest of Henry Walters, 1931 (37.691)

The Walters Art Museum also owns a rare, well-preserved example of a fifteenth-century Italian processional standard on linen. *The Madonna and Child Enthroned* (acc. no. 37.691, fig. 3) is thought to be a late work of Matteo da Gualdo (ca. 1435–after 1507), an Umbrian painter who may have been Lorenzo d'Alessandro's master.[18] Dated toward the end of the 1490s on the basis of the presence of numerous classical architectural elements in the throne and frieze in the foreground, the *Madonna and Child Enthroned* is contemporary with or slightly later than Lorenzo d'Alessandro's *Crucifixion; St. Michael*. The size, subject, and painted frame indicate that the painting, though single-sided, was intended as a processional standard. Processional standards on panel were usually painted on

both sides (the painting by Perugino noted earlier is an exception), whereas those made on canvas might be composed of two separate canvases instead of one. Two canvases could be joined to form a processional standard by nailing them to each side of a strainer or stretcher; an engaged frame was then constructed around the paintings. The canvas support thus did not hang loosely, but rather imitated the more rigid double-sided panel. Taking this into consideration, Matteo da Gualdo's painting is most likely one face of an originally double-sided standard.[19]

CONSTRUCTION OF *THE CRUCIFIXION; ST. MICHAEL ARCHANGEL*

The Walters' processional standard is painted on a wood panel, 2.3 cm thick, estimated to be poplar,[20] a common support for such paintings in the fourteenth and fifteenth centuries.[21] An assembled x-radiograph of the painting (fig. 4) reveals the painting's original construction and shows how the gilded engaged frame, an integral part of the painting, is attached. The panel consists of a single board from which the painted antependium is also formed. Four separate wood molding strips, mitered at the corners, are attached to each face of the panel with small, evenly spaced nails to create the engaged frame. The same construction was used for a processional standard by Nobile di Francesco da Luca (active 1490–1513).[22] The dentilated cornice in *The Crucifixion; St. Michael* was also nailed into the main support. Hidden by the cornice is a block of wood of horizontal grain attached to the panel with very long nails (about 12.5 cm from head to tip). This separate block of wood, which appears to be original to the structure, held the entire cornice construction in place.[23]

Other elements, now lost, were probably attached to the panel, as attested by the presence of empty nail holes and nail shafts in the panel. *Drappelone*, or fringes attached to the processional standard, were not unusual additions.[24] Another element was also probably attached to the top of the block inside the cornice, since the top surface is smooth and finished, creating an excellent join. The presence of nail shafts seen in the x-radiograph close to the top of the block suggests that another object had been previously attached and then removed, perhaps another painted scene or a candelabra.[25] Iron rings, probably used as candleholders, are found on the right and left sides of a large processional standard on panel by Venanzo da Camerino (active 1528–30) (*Madonna and Child; S. Venanzio*, Pinacoteca e museo civici, Camerino). There are in fact burn marks on the sides of this panel. In the Walters' standard, the loss of gilding and exposed darkened wood on one of the acanthus leaves might be the result of exposure to an open flame.

Fig. 4. X-radiograph of *The Crucifixion; St. Michael*

Fig. 5. Anonymous, *Madonna della Misericordia* (detail), fifteenth century. Detached fresco, Pinacoteca Civica, Ascoli Piceno.

Federico Zeri first proposed that the carved, gilded, and painted acanthus leaves attached on the sides of *The Crucifixion; St. Michael* might be later additions.[26] There are several reasons to support his theory. Stylistically, the acanthus leaves appear to be sixteenth century and must have been added very early in the painting's history.[27] In the construction of Renaissance mirror frames with decorative side elements like the Walters painting, these "ears" are usually elegantly dovetailed into the structure of the frame.[28] In the Walters' standard, however, the acanthus leaves are butt-joined to the panel with three large nails, a sign that they were an afterthought to the standard's construction. Finally, traces of red paint on the sides of the panel extend beneath the joins of the acanthus leaves. Preexisting paint, a slightly later style, and the method of the acanthus leaves' attachment indicate they are later additions.

Metal plates, estimated to be iron,[29] were built into the base of the antependium under the gesso preparation on both sides of the panel, evidently to reinforce the join of the painted panel to the now-lost carrying pole. The integral

construction of panel and carrying pole appears to be fairly common practice for processional standards, as attested by the earliest known surviving carrying pole, in the Museo dell'Opera del Duomo, Florence. In 1507–8 a new frame with accompanying carrying pole was made for the Sant'Agata processional standard, whose faces were painted in the thirteenth and fourteenth centuries. Radiographic analysis shows a U-shaped metal plate nailed into the panel to attach the carrying pole to the painting.[30] Though not executed at the same time as the Sant'Agata panels, this carrying pole corroborates the construction practice: the date is very close to that of the Walters' standard.

An alteration observed in the *Coronation of the Virgin* by Gentile da Fabriano (ca. 1370–1427) in the J. Paul Getty Museum, which is one face of a processional standard,[31] also supports the theory that metal reinforcement plates were normally built into the original structure of these processional standards. An x-radiograph of the Getty *Coronation* reveals a small rectangular section cut out of the center of the base of the panel that was later infilled.
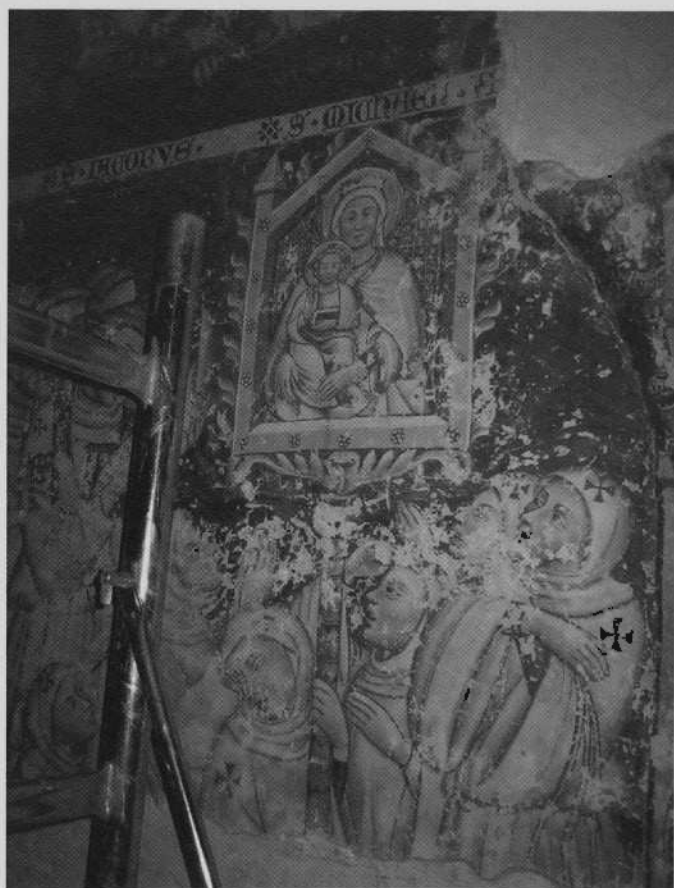
Fig. 6. Cola di Pietro da Camerino, *Processione dei Bianchi* (detail), 1401. Fresco. Church of S. Maria, Vallo di Nera

This missing area of the original panel corresponds to the area where a carrying pole would have been attached. But why was the carrying pole not cut flush to the bottom of the panel, eliminating the need to fill the loss later? A plausible explanation for the awkward cut is the presence of metal reinforcement plates like those in the Walters' painting, which would have been very difficult to cut through. Instead the carrying pole was more easily separated from the painting by cutting around the metal plates.

The only depiction known to this author of a processional standard in use in the Marches during Lorenzo d'Alessandro's lifetime is a small, detached fifteenth-century fresco depicting the Madonna of Mercy in the Pinacoteca Civica di Ascoli Piceno (fig. 5).[32] In the lower right corner of the painting, a kneeling man holds with both hands a tall pole with a standard bearing an image of the Madonna of Mercy. He appears to be associated with three other male citizens and a small group of kneeling confraternity members in traditional sackcloth robes. The *Madonna of Mercy* is rectangular, almost square, in format, surrounded by a thin decorative frame with a cross above it.

The clearest and most interesting representation of a standard in use is found in a fresco painting, dated 1401, by Cola di Pietro da Camerino showing the Processione dei Bianchi, in the Church of S. Maria, Vallo di Nera in Umbria (fig. 6). A section of the painting shows a group of men in white-hooded habits, one of whom is carrying a standard aloft. Remarkably, no detail of the processional object's decoration was neglected: even the carrying pole is completely covered in a multicolored pattern of horizontal lines and triangles. The practice of painting the carrying pole is documented even in the case of Titian's standard on canvas for the Compagnia del Corpus Domini of Urbino; payment was made expressly for painting the pole in June 1544.[33] A larger standard depicting the Madonna and Child and two figures in the Vallo di Nera fresco indicates that the carrying pole was also treated like the frame and was gilded. This evidence suggests that the Walters' standard not only had a carrying pole, but one that was also decorated. Larger and heavier processional standards might have been supported by two poles.[34]

When not in use, processional standards could be displayed in a purpose-built chapel, tabernacle, or cupboard that could be closed.[35] The processional standards that survive in Montefalco and Assisi are mounted on pedestals for a more-or-less permanent display.[36]

OTHER PROCESSIONAL STANDARDS BY LORENZO D'ALESSANDRO

In addition to the Walters' painting, three other panels by Lorenzo d'Alessandro are documented as having been used as processional standards. The one that most closely resembles *The Crucifixion; St. Michael* is in the Brooklyn Museum: *Christ on the Cross Adored by Sts. Thomas Aquinas and Catherine of Siena; St. Dominic and Worshipping Nuns with an Unidentified Saint and St. James Major* (figs. 7a and 7b). The other two paintings by Lorenzo d'Alessandro, his *Madonna del Monte* and *St. Anthony of Padua*, are not in the traditional formats of processional standards and may not have been conceived as such, but their use in processions was well documented and will also be described.[37]

In iconography, format, and dimensions, the Walters' standard resembles Lorenzo d'Alessandro's *Christ on the Cross; St. Domenic* dated by Paciaroni to about 1500.[38] While one side of the work depicts the Crucifixion, the other parallels the iconography of the Walters' panel with a large standing figure of St. Dominic and adoring nuns. Lacking an engaged frame, the Brooklyn panel has been trimmed on all four sides. The dimensions of both painted surfaces, not including the frame on the Walters' panel, are very similar. The width of the Brooklyn panel is slightly

Figs. 7a, b. Lorenzo d'Alessandro da Sanseverino, *Christ on the Cross Adored by Sts. Thomas Aquinas and Catherine of Siena; Saint Dominic with Saints and Worshipping Nuns*, ca 1490. Tempera on panel, 43.5 x 32.4 cm. Brooklyn Museum, gift of Mrs. Felix M. Warburg in memory of her husband (41.894a, 41.894b)

smaller than the width of the painted scenes of the Walters' processional: 32.4 cm versus 34.9 cm. The asymmetry of the composition, which would have been centered, suggests that approximately 2 cm has been trimmed from the side of the Brooklyn panel. The original width of the Brooklyn panel would almost be identical to that of the Walters' processional. The most notable difference between the two standards, besides the lost framing, is the thickness of the panels. At 0.8 cm, the Brooklyn standard is less than half the thickness of *The Crucifixion; St. Michael Archangel*, making it an unusually thin wooden support for an Italian painting of this period.

The rectangular format and framing of the Walters' standard are unusual. According to Vittorio Sgarbi, based on what has survived, both the Walters' and the Brooklyn paintings belong to a type particular to the Sanseverino area. Aside from the two by Lorenzo mentioned above, the only known examples from Sanseverino are those by Bernardino di Mariotto (1478–1566). One is divided between the Accademia Carrara and the Galleria nazionale d'Arte Antica di Palazzo Barberini, and the other is divided between the Pinacoteca Vaticana and the Museo Ca' d'Oro in Venice.[39]

The *Madonna with Child and Saints and Worshipers*, called *Madonna del Monte*, from Church of S. Maria del Monte, Caldarola, is one of the four works signed and dated by the artist, in this case 1491. Commissioned by Beato Francesco Piani, who founded a confraternity called the Compagnia di Maria that practiced public penitence and self-flagellation, the image quickly became venerated; devotion to it lasts even to this day. A municipal statute of 1586 prescribes that the painting be carried in procession every Easter Monday. The town's priests proceeded from the Church of S. Gregorio to the Church of the Madonna del Monte, where they received the painting from the members of the confraternity. The painting was carried back in an illuminated procession to San Gregorio accompanied by the local authorities and citizens. After mass, the painting was brought back to the Church of the Madonna del Monte.[40] The unpainted wood around the painting and lip of gesso indicate that an engaged frame (now lost) was once attached. To this day, the painting is still carried in procession (in a new frame) on Easter Monday.[41]

St. Anthony of Padua in the Church of Sant'Andrea Apostolo, Pollenza, is Lorenzo d'Alessandro's last signed

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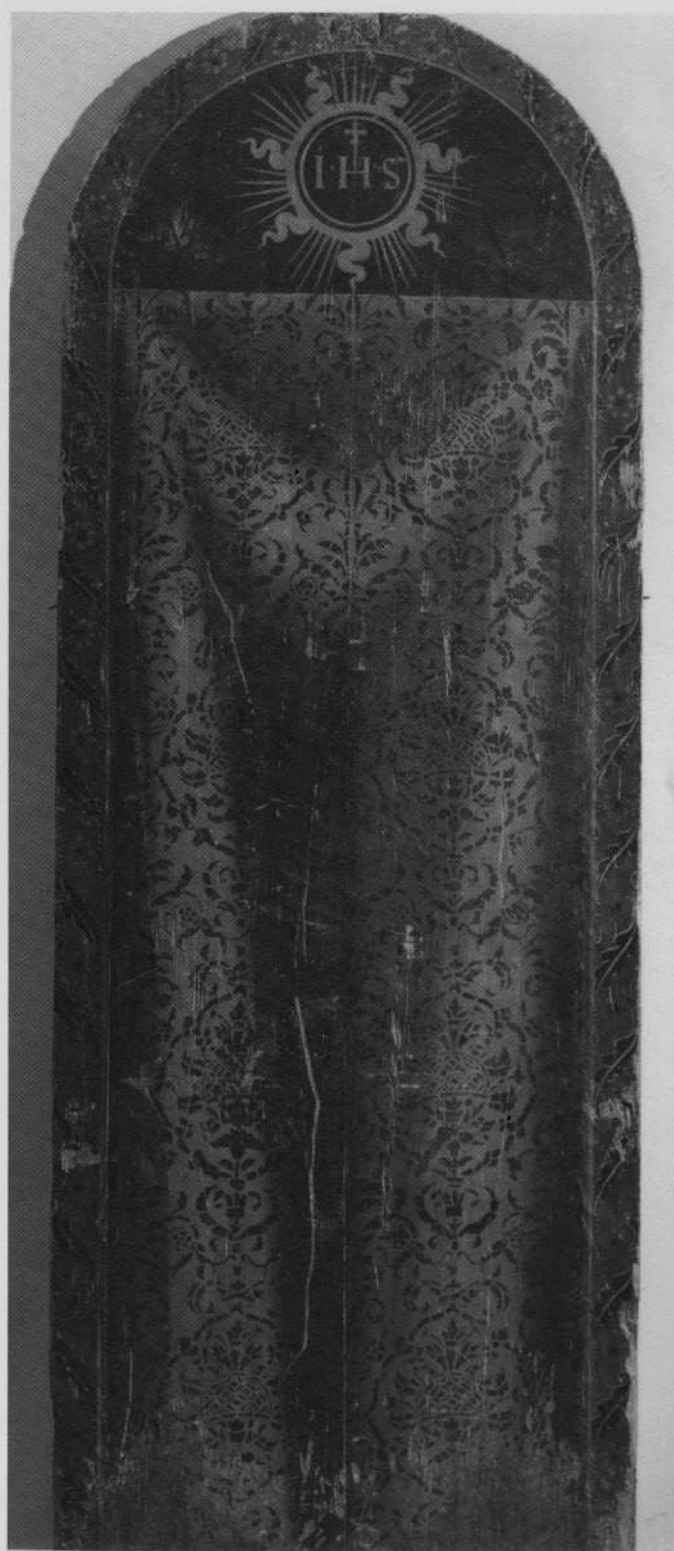
Fig. 8. Reverse of Lorenzo d'Alessandro da Sanseverino, *St. Anthony of Padua*,1496. Church of Sant'Andrea Apostolo, Pollenza

and dated work. Of the four signed and dated paintings by the artist, two are processional standards. After a plague devastated the Marches, Domenico Cioli and Mariotto Melchiorri, priors of the town of Monte Milone (today called Pollenza), commissioned the painting in 1496 after

St. Anthony had been chosen protector of the town in October of that year. According to local legend, as the painting entered Monte Milone, carried in solemn procession, the sick were miraculously healed. St. Anthony of Padua was carried in procession annually on 31 December until 1870.[42] A painted yellow curtain with the monogram JHS, an abbreviation for the name of Jesus Christ, on the reverse of the panel (fig. 8) is partial evidence that the panel was used in processions. The painting of both sides of the panel strongly indicate it was see from the front as well as from the back. Whether this was painted contemporaneously with the front is unknown.[43] The base of the panel is cut, forming two rounded protrusions that would have fit into a carrying device. Today a procession is still held in Pollenza in honor of the saint on 13 June, his feast day, but with a new figure of St. Anthony.[44]

THE PAINTING TECHNIQUE OF LORENZO D'ALESSANDRO DA SANSEVERINO

Lorenzo d'Alessandro's choice of materials is typical of fifteenth-century Italian painting practice. In the Walters' standard, he layered the paint in different ways to achieve specific effects, and employing an array of decorative gilding techniques that lend a rich effect, reminiscent of earlier works, to the surface. Appendix 1 summarizes some of the pigments characterized in the Walters' painting and in other paintings by Lorenzo d'Alessandro.

As was mentioned before, Lorenzo chose a poplar panel as the support of *The Crucifixion; St. Michael.* No fabric layer is present in the standard except for remnants at the bottom of the antependium by the metal reinforcement plates that probably served to isolate the metal and protect the paint layers from potential rust. A traditional gesso ground of calcium sulphate was identified through scanning electron microscopy (SEM) in conjunction with energy-dispersive spectometry (EDS).[45] SEM also revealed that the ground was applied in two layers, first a coarse gesso *grosso*, then a final layer of gesso *sottile* composed of very fine particles.

In *St. Michael*, incisions were made in the gesso to indicate the boundaries where metal leaf was to be laid: around the figure's head, collar, arms, chest plate, skirt, and sword. Incision marks were also made around the tops and sides of St. Michael's wings, but the brocade background was painted on, not gilded. The presence of these incision marks might suggest that the brocade was originally intended to be gilded; luxurious brocade was often imitated by glazing colors over a gold ground or sgraffitto, or both. Lorenzo made some adjustments to the original design when he painted the wings; they do not correspond exactly

to the incisions. The use of incisions to indicate forms in the composition is present in other works by Lorenzo d'Alessandro such as the folds of the Madonna's robe in the Yale University Art Gallery.[46]

The underdrawings in Lorenzo d'Alessandro's paintings appear to be executed in brush and ink. The lines swell in the center and taper toward the ends. This practice can be observed in many of his paintings, the lines defining contours and parallel marks indicating shadow. In *The Crucifixion* underdrawing is visible under normal light in the arms and body of Christ. With infrared reflectography, other areas of underdrawing become visible, such as parallel hatch marks indicating the shadows in the Virgin's pink robe. The contours of the folds of St. Michael's pink mantle beneath his right arm are underdrawn with parallel hatch marks indicating the shadow. A similar style of underdrawing can be observed in Niccolò Alunno's *Coronation of the Virgin* in the Pinacoteca Vaticana.[47] Here in Christ's red mantle, the outlines of folds are underdrawn, and parallel brush strokes indicate shadow. In the grand polyptich in Serrapetrona, Lorenzo used *spolvero* to lay out the architectural elements by pouncing pigment through a pricked cartoon.[48]

Lorenzo d'Alessandro's palette, consisting of earth and mineral pigments, is typical of the period. The binder is estimated to be traditional egg tempera.[49] The artist applied his paint thinly, usually in characteristic parallel, mostly short, diagonal brush strokes starting from the upper right and ending at the lower left. This manner of applying paint likely derives from the techniques of Niccolò Alunno and Carlo Crivelli. This style is particularly noticeable in the way that Lorenzo d'Alessandro paints flesh. Under the flesh tones, a green *verdaccio* layer was applied to give depth to all the faces and hands in *The Crucifixion; St. Michael*, except in the figure of Christ. The absence of a *verdaccio* layer gives Christ the rather pale appearance associated with the dying and lifeless.

Areas of flesh (faces, hands, and legs) are sharply defined by a dark, reddish brown line around the outer contours. This type of outlining can be seen in Lorenzo d'Alessandro's fresco painting as well—for example in *Madonna and Child with Musical Angels* in the chapel at S. Maria di Piazza Alta, Sarnarno. Sometimes a very lightly colored line is placed just inside the dark line to better model the form. Lorenzo sometimes represents shadows outside of his figures with sets of small, fine, parallel lines stacked on top of each other, creating a sort of outline. These marks are painted outside of Christ's proper left leg in *Christ Baptized by St. John*, Galleria Nazionale delle Marche, Urbino. This shadowing is also observed around halo of St. John in the *Pietà with Saints John and Mary Magdalene*, Galleria Uffizi, and around the staff of the
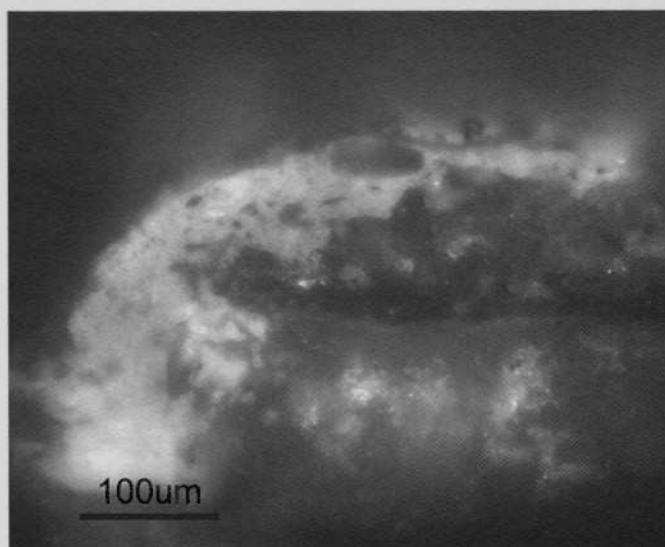
Fig. 9. Cross section taken from the background of *St. Michael* showing a black preparatory layer under azurite. The topmost layer is later overpaint.

bishop saint in the Cleveland *Madonna and Child with St. Anthony Abbot, St. Sebastian, St. Mark, and St. Severino*.[50]

The landscape of *The Crucifixion* incorporates a natural malachite pigment overlaid with copper resinate, undoubtedly to modulate and intensify the hue. In a cross section a few carbon particles constituting the underdrawing are present below the malachite. Copper resinate, now discolored to a dark brown, was also used by itself in the landscape overlapping the distant mountains. Traces of copper resinate were identified in areas where there were once green linings in the mantles of St. Michael and St. John.

Azurite is present in the blue backgrounds of the Walters' standard, but it was used in two different ways. In St. Michael, a black layer was laid under a pure azurite layer to create a dark, solid field of color (fig. 9). This practice of using a dark preparatory layer for blue areas is described by Cennino Cennini in his early fifteenth-century treatise on painting:

> If you wish to make a mantle for Our Lady with azurite, or any other drapery which you want to make solid blue, begin by laying in the mantle or drapery in fresco with sinoper and black. . . then, in secco, take some azurite. . . if the blue is good and deep in color, put into it a little size. . . .
> Mix it up well. . . apply three or four coats. . . .[51]

The blue background of the *Madonna and Child Enthroned with St. Ann*, in Matelica is built up in the same way as the background of *St. Michael*.[52] Following Cennini's advice to the letter, Lorenzo d'Alessandro used a dark preparatory layer in the drapery of the Madonna in the *Madonna del Monte*.[53]
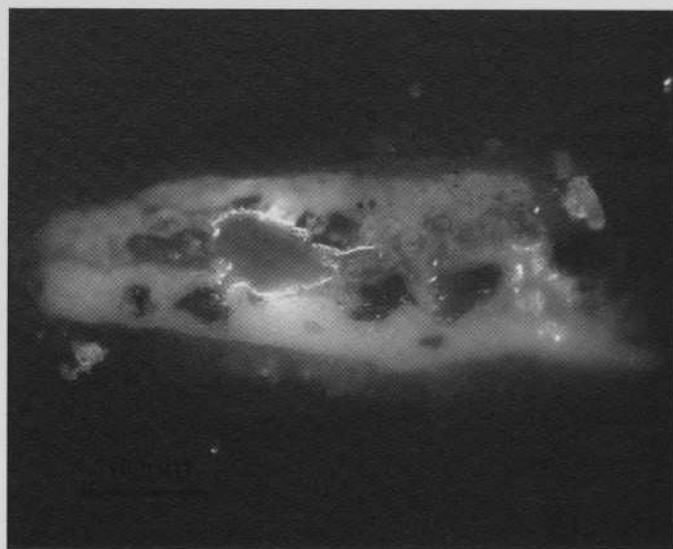
Fig. 10. Cross section taken from the background in *The Crucifixion* showing azurite and lead white mixed together. The topmost layer is later overpaint.

No black layer is present in the background of *The Crucifixion* because the effect of a solid field of blue was not intended. Instead, Lorenzo created a sky that modulates from darker blue at the top to a much lighter shade at the horizon by mixing azurite with increasing amounts of lead white (fig. 10). While this transition is obscured by overpaint in the Walters' painting, Lorenzo d'Alessandro's original intentions are evident in the Brooklyn *Crucifixion*. The sky in the Brooklyn panel has a distinctive horizontal orientation from the direction of the brushstrokes. Similarly painted skies are found in the *Madonna and Child*, Palazzo Barberini, and in *The Nativity*, Pinacoteca Civica "P. Tacchi Venturi," Sanseverino.

Lorenzo d'Alessandro employs the decorative effects of both gold and silver leaf in his paintings in a variety of ways. In *The Crucifixion; St. Michael* deep red bole was laid as a base layer before the application of the metal leaf with water. Gold is present on the engaged frame (with the exception of the antependium), in the figures' halos, and in St. Michael's collar. Fine gold stripes in Christ's perizoma, dots in St. Michael's wings and in the yellow textile behind St. Michael were mordant gilt. Traces of oxidized silver leaf are found in St. Michael's armor and sword.

In the halos of the *Crucifixion* figures, a simple single punch delineates the outside borders. Three or four incised concentric rings lie inside the punched boarder and each halo bears an inscription that stands out from a single punched gold ground. St. Michael's halo is simpler than those of the figures in *The Crucifixion*, consisting of four incised concentric rings on the edge of the halo, with incised rays radiating from his head. In some paintings of Lorenzo d'Alessandro the inscription is in *pastiglia*, lending a gentle three-dimensional effect to the halo like that of the *Madonna and Child with Angels, St. John the Baptist and St. Severinus*, Pinacoteca Civica "P. Tacchi Venturi," Sanseverino, and the *Madonna and St. Ann*, Pinacoteca Vaticana. Lorenzo d'Alessandro also used *pastiglia* in fresco such as his frescoed chapel in Sarnano where the bishop saint has a raised gilded crozier, mantle border, and stamped rays in his halo. While *pastiglia* was somewhat anachronistic in larger Italian art-producing centers by this time, it was still in use in the provinces.

Glazing over metal leaf, at times in combination with sgraffito, is another means by which Lorenzo d'Alessandro modulates this precious surface. In his *Madonna and Child Adored by Saints Francis and Sebastian*, Galleria Nazionale d'Arte Antica, Palazzo Barberini, Rome, short strokes of a red glaze, most likely a lake, were laid over gold leaf to give luminosity and a sense of richness to the Virgin's dress. Silver leaf covered with translucent glazes became a sumptuous brocade fabric in the dress of the Madonna and sleeve of St. Sebastian in the Cleveland Museum of Art's *Madonna and Child Enthroned with Sts. Anthony Abbot, Sebastian, Mark, and Severinus*. Silver leaf appears to be also used for a brocade effect in the *Madonna and Child with Saints Peter Martyr and Vincent Ferrer*, Yale University Art Gallery.[54] The lavender paint laid over the metal leaf in the Madonna's dress was broken through with small dash marks in the highlighted areas, exposing the metal leaf, now blackened, that must have made the dress sparkle. Silver leaf may also have been applied in the Serrapetrona polyptich for St. Peter's key and the sword of St. Michael. In the figure of St. Michael in the Walters' standard, a glaze, now gone, most likely was applied on top of the silver leaf to model the armor and sword. In addition, small comma-like marks, incised by hand rather than punched, were made in St. Michael's collar, upper left arm, and skirt in imitation of chainmail.

There is no confirmation of varnish used by Lorenzo d'Alessandro, nor, if he did use varnish, what type was chosen. Cennini recommends varnishing standards to protect them from the rain when they are carried outdoors.[55] In the restoration of the *Madonna del Monte*, a protein layer was discovered between the original paint and the oily residues of a *beverone* applied to spruce up the painting. This protein layer is estimated to be an egg-white varnish, and if not original, is certainly very old.[56]

The last major treatment of *The Crucifixion; St. Michael* was in 1946, when the painting was cleaned, inpainted with tempera, and varnished with mastic.[57] Although the panel has a slight warp and a few cracks from the restraint of the engaged frame, the standard is structurally stable. The painting's wooden support had been protected from environmental and insect damage by its encasement in gesso, paint, and gilding, but the standard was unexhibitable due to a discolored varnish and retouching that no longer matched the original. Furthermore, it was believed that restoration layers might have been covering original paint.

The flesh areas, confraternity figures, and architecture in the painting are in very good condition: the paint is not overly abraded and these elements have not been overpainted. The extent of the amount of overpaint did not become apparent until the varnish was being removed. The background of each side had been completely overpainted, and this layer had locally blanched, creating an even more unsightly surface. St. Michael's mantle, legs, boots, parts of the armor, the ground he stands on, and the robes of both St. John and the Virgin were all overpainted.[58] There were at least four kinds of restoration paint on *The Crucifixion; St. Michael*, distinguished by different solubilities. As these kinds of objects were used regularly, they were periodically "freshened up" like icons and furniture. An example of this practice can be found in Gubbio, where a processional standard on linen recently attributed to Raphael is currently undergoing conservation treatment. Originally from the Confraternity of Corpus Christi, it depicts Christ carrying the Cross, and Sts. Ubaldo and Francesco. Here both sides were almost completely overpainted, possibly only fifty years after the painting was completed.[59]

Generally when overpaint is found, an instinct is aroused to remove it because it hides the hand of the artist—because it is not original. But when the overpaint is very old, does it acquire any historical value deemed worth preserving at the expense of the artist? In the case of *The Crucifixion; St. Michael* it was decided, in consultation with the curator,[60] to remove as much of the overpaint as possible as it was clumsy, discolored, and not in keeping with Lorenzo d'Alessandro's precise style.

But most of the overpaint, including the blue backgrounds and St. Michael's mantle and legs, was insoluble in a wide array of cleaning materials. Cross-section analysis revealed two layers of overpaint on the blue backgrounds and a single layer of overpaint on the mantle. The presence of lead was confirmed in the most recent top layer of overpaint, and Fourier-transform infrared spectrometry (FTIR)

suggests poppyseed oil or similar natural ester oil as a possible binder, which explains the insolubility of the overpaint.[61] The earlier overpaint was discovered to be smalt of a rather fine particle size and grayish in tone. Smalt was also applied in the recessed area of the acanthus leaves as part of the original decoration, but here the particles are very large, creating an ultramarine hue. The difference in particle size indicates that the two smalts were not from the same batch and had been painted in two different instances.

The cross sections of paint also show damaged original surfaces, more so in the background of *St. Michael*, where the azurite particles are practically mixed in with the smalt overpaint. As much as we would have liked to uncover the original layers, there were several reasons for not removing some of the overpaint. One reason was that it was not possible to safely separate the overpaint from the original paint layers, as was true for the background of *St. Michael*. Another reason was the original paint was very damaged or completely missing, so in these instances there was little to gain from removing overpaint that was not visually intrusive. Time was also a limiting factor in carrying out the treatment.

The treatment began by consolidating loose paint and gilding in the painting and in the antependium with sturgeon glue. Cleaning commenced with a mild enzymatic detergent that not only lifted surface dirt, but also solubilized the green-colored restorations on *The Crucifixion; St. Michael*. Then a weak solution of ammonium citrate was used on the antependium, which was free of restoration varnish, to remove significant amount of surface grime, revealing a brighter and clearer faux-carved design. The area was then cleared with a mild enzymatic detergent. Wax residues from a previous consolidation campaign were reduced or removed with Shellsol 71 or a Shellsol 71/xylene gel.

The discolored mastic varnish was reduced with a 1:1 acetone/isopropanol mixture. More discolored retouchings were solubilized along with the varnish. Some small localized older retouchings required an ethanol gel or acetone gel with a little benzyl alcohol to remove them.

The lead white overpaint on St. Michael's mantle could be safely removed by thinning it first with a strong alkaline solution alternating with mineral spirits. The rest was mechanically and painstakingly removed with a scalpel under the microscope, uncovering a beautifully modeled pink drapery (fig. 11). Gray overpaint on St. Michael's legs was not as tough probably due to lower lead content in the paint, and was mechanically removed without chemical thinning. Some overpaint on the foreground around the devil was also mechanically removed, revealing delicate shadowing. The overpaint on the blue backgrounds; on

Fig. 11. Mechanical removal of white overpaint from pink mantle during treatment of *St. Michael*

St. Michael's wings, armor and boots; and on the garments of the Virgin and St. John were left on and integrated during the inpainting phase of the treatment.

The most compromised areas of the standard are the armor and the mantle lining of St. Michael. His arms and breastplate, which were covered in silver leaf, are overpainted. The chainmail of the saint's armor has traces of blackened, oxidized silver with much of the underlying red bole layer exposed. Silver does not necessarily degrade so severely in all of Lorenzo d'Alessando's paintings; in the Cleveland *Madonna and Child*, the silver leaf, protected by glazes, is well preserved. The overpaint on St. Michael's armor was left in place, and the bole was toned down with restoration colors to which a little mica pigment was added to knit together what remained of the armor.

The areas of green paint have greatly suffered in the Walters' standard, having discolored, been overpainted or disappeared altogether. Small islands of green paint found

in and around the lining of St. Michael's mantle indicate what was once there. Traces of green paint (copper resinate over a natural malachite base) were also found beneath the overpaint of St. John's mantle. One can assume that the same technique was applied to St. Michael's mantle. A harsh cleaning in the past might have damaged the copper resinate layer, which is more soluble than other paint because it is composed mainly of organic binder. Overpaint on the few remaining green areas could not be removed without affecting the original, softer copper resinate layer. In Lorenzo d'Alessandro's other depictions of St. Michael—the upper tier of the Serrapetrona polyptich, and the panel in Matelica—the lining of the saint's mantle is green. These were used as models in the reconstruction of the mantle in the Walters' painting.

Only a small area of background overpaint at the top edge was removed mechanically from the St. Michael side. Small islands of yellow paint were visible through losses in the overpaint to the left and right of the top edge of the cloth of honor. These yellow islands transformed into a pole, perfectly preserved under two layers of overpaint, from which the cloth hangs, now anchoring the cloth in the background, defining and rationalizing the space in which St. Michael stands. Even the pole is anchored in place by white ties.[62]

After cleaning, an MS2A isolating varnish was applied to *The Crucifixion; St. Michael*. Old fills were reused when possible, and new fills were composed of a traditional gesso made with animal glue. Inpainting of the losses was carried out by toning the gesso with inks and then applying Charbonnel restoration colors to unify the image.

Unlike the Walters' standard, the Brooklyn Museum's *Crucifixion; St. Dominic* panel is free of heavy, obscuring restoration, allowing us a unique opportunity to reconstruct the backgrounds of *The Crucifixion; St. Michael* that are covered by overpaint. In the Brooklyn *Crucifixion*, the sky, rather abraded, but intact overall, transitions from a dark blue at the top of the painting to almost white at the horizon. The background of *St. Dominic*, which is estimated to be azurite now darkened, is a solid, uniform color, a different type of background from *The Crucifixion*. The background of *St. Michael* was retouched a dark blue matching some exposed original azurite on the very edges of the painting.

The missing part of the cornice was replaced, even though it is a later restoration, to give a sense of completion to the object. A mold was taken of an intact edge of the cornice with a silicone rubber putty. Then a cast was made in place with a two-part epoxy putty, and inpainted with Liquitex acrylic paint to imitate the surrounding gilding.

Fig. 12. Lorenzo d'Alessandro's *The Crucifixion; St. Michael Archangel* in the renovated Italian galleries, 2007

Besides the removal of their engaged frames, the most extreme alteration to which double-sided processional standards have been subjected to must be the division of the panel into two halves to allow the two painted sides to be displayed next to one another on a gallery wall. Fortunately the Walters' *Crucifixion; St. Michael* was spared this severe treatment. This practice has also gave rise to the dispersion of once integral double-sided processional standards among different collections, as in the case of the J. Paul Getty Museum's *Coronation of the Virgin* by Gentile da Fabriano (ca. 1370–1427), whose other half, depicting St. Francis receiving the stigmata, is in the collection of a private foundation in Italy (see Appendix 2).[63]

Because the Walters' panel was not divided into two separate paintings and because it still retains its engaged frame, it is undoubtedly the best-preserved example of a processional standard on panel in the United States. The rectangular format is typical of the region in which Lorenzo d'Alessandro worked, but the survival of the engaged frame and antependium, is unique among existing processional standards on panel. Lorenzo not only created standards of typical format, but

also examples, such as his *Madonna del Monte* and *St. Anthony of Padua*, that are not normally thought of as standards because of their large size and usual one-sided display.

Lorenzo d'Alessandro's painting technique is traditional and follows practice recorded by Cennino Cennino. By combining a variety of the prescribed methods he was able to achieve different effects in his painting, though these may not be so distinct or obvious now due to the unkind passage of time. Careful study of his technique and the structure of the painting utilizing different analytical techniques has shed light on Lorenzo's desired effects, and comparison with similar works in his oeuvre and those of his masters and contemporaries has deepened our understanding of the physical composition and iconography of the *Crucifixion; St. Michael*. It was with this knowledge that a sensitive conservation treatment was devised so that the Walters' processional standard (fig. 12) could once again be appreciated by a wider audience.

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APPENDIX 1: SURVEY OF LORENZO D'ALESSANDRO DA SANSEVERINO'S PAINTINGS MATERIALS

PAINTING	LOCATION	GROUND	PREPARATION	METAL LEAF	PIGMENTS
Crucifixion; St. Michael	Walters Art Museum, Baltimore, Maryland	Calcium sulphate[3]	Charcoal black[1]	Gold Silver[2]	Vermillion[1] Azurite[1] Ultramarine[1]* Lead white[2]
Madonna and Child with Saints	Cleveland Museum of Art, Ohio	—	—	Silver[2]	—
Madonna and Child with Saints	Yale University Art Gallery, New Haven, Connecticut	—	—	—	Iron oxide red (estimated)[2] Green earth (estimated)[2] Azurite[2] Carbon black[2] Lead white[2]
Sant' Anna, la Vergine col Bambino e Santi	Museo Piersanti, Matelica	Gesso[4]	—	—	Azurite[4] Smalt[4] Lead white[4] Carbon black[4] Natural earths[4]
Battesimo di Cristo	Galleria Nazionale delle Marche, Urbino	—	—	—	Ultramarine[1]* Lead white[5]

Notes:

1. Polarized light microscopy (PLM), Walters Art Museum
2. X-ray fluorescence spectrometry (XRF), Jia-sun Tsang, SCMRE
3. Light microscopy, microchemical tests, scanning electron microscopy (SEM) and energy dispersive spectometry (EDS) and/or XRF

4. Istituto Centrale del Restauro, 1968-72
5. Carlo Giantomassi, Rome
* Only one particle of natural ultramarine was identified among pigment dispersion samples.

APPENDIX 2: CENSUS OF SEPARATED ITALIAN PROCESSIONAL STANDARDS ON PANEL

1. Gentile da Fabriano (ca. 1370–1427)
Coronation of the Virgin, ca. 1420. Tempera and gold leaf on panel,
J. Paul Getty Museum, Los Angeles (acc. no. 77.PB.92)
St. Francis Receiving the Stigmata,
La Fondazione Magnani Rocca di Traversetolo, Parma

2. Niccolò Alunno (ca. 1430–1502)
Saint Anne and the Virgin and Child Enthroned with Angels,
The Metropolitan Museum of Art, New York (1975.1.107)
St. Michael Adored by Members of a Confraternity,
Princeton University Art Museum (acc. no. 65.266)

3. Luca Signorelli (ca. 1450–1523)
Flagellazione; La Madonna del latte
Pinacoteca di Brera, Milan (nos. 436, 437)

4. Giovanni Antonio da Pesaro (active 1462–1511)
Madonna and Child with Angels and Confraternity Members; Crucifixion with St. Lucy Galleria Nazionale delle Marche, Urbino (inv. 1990 D31, D32)

5. Luca di Paolo (active 1474)
Assunzione della Vergine; S. Sebastiano tra i SS. Antonio Abate e Domenico
Pinacoteca di Brera, Milan (Legato Pietro Oggioni, 1855, reg. cron. 750, 742)

6. Luca di Paolo
Pietà with Confraternity Members; Saint Sebastian with Confraternity Members
Galleria Nazionale dell'Umbria, Perugia (inv. nos. 1047, 1048)[1]

7. Bernardino di Mariotto (1478–1566)
Deposition, ca. 1510, Academia Carrara, Bergamo (inv. 948)
S. Lorenzo and Sant'Andrea, Galleria Nazionale d'Arte Antica di Palazzo Barberini (inv. 1654)

8. Bernardino di Mariotto
Madonna and Child with Saints Domenic and Severino, Pinacoteca Vaticana, Vatican City (inv. 40328)
Resurrection, ca. 1515–20, Galleria Giorgio Franchetti alla Ca' d'Oro, Venice (inv. 113)

Note:
1. The standard had been sawn in half to obtain two paintings; the two halves were reunited in 1964. F. Santi, *Galleria nazionale dell'Umbria: Dipinti, sculture e oggetti dei secoli XV–XVI* (Rome, 1989), 30.

NOTES

1. The fullest recent treatment of Lorenzo's oeuvre is R. Paciaroni, *Lorenzo d'Alessandro detto il Severinate: Memorie et documenti* (Milan, 2001). For the Walters' painting, see F. Zeri, *Italian Paintings in the Walters Art Gallery*, 2 vols. (Baltimore, 1976), 1:193–94 (no. 127), and bibliography therein. The other paintings by Lorenzo d'Alessandro in the United States are *Christ on the Cross Adored by Saints Thomas Aquinas and Catherine of Siena/St. Domenic and Worshipping Nuns with an Unidentified Saint and St. James Major*, Brooklyn Museum, acc. no. 41.894 (Paciaroni, *Lorenzo d'Alessandro*, 111–13; *Virgin and Child with St. Anthony Abbot, St. Sebastian, St. Mark and St. Severino*," Cleveland Museum of Art, acc. no. 16.800 (ibid., 113–15); and *Madonna and Child with Saints*, Yale University Art Gallery, acc. no. 1937.341 (ibid., 115–16).

2. V.M. Schmidt, "Gli stendardi processionali su tavola nelle Marche del Quattrocento," in I *Da Varano e le arti. Atti del convegno internazionale Camerino 4–6 ottobre 2001* (Maroni, 2003), 551–78; M. Bury, "Documentary Evidence for the Materials and Handling of Banners, Principally in Umbria, in the Fifteenth and Early Sixteenth Centuries," in *The Fabric of Images: European Paintings on Textile Supports in the Fourteenth and Fifteenth Centuries* (London, 2000), 19–30. Though mainly about standards on canvas, C. Villers, "Four Scenes of Passion Painted in Florence Around 1400," in *The Fabric of Images*, 1–10, has a relevant discussion of the classification, use, and storage of standards.

3. Schmidt, "Gli stendardi processionali," 554.

4. See bibliography in Zeri, *Italian Paintings*, 1:193.

5. Zeri (*Italian Paintings*, 1:193) also discerns the influence of Niccolò Alunno (ca. 1420–1502), who worked in Sanseverino from 1466 to 1468, and later Carlo Crivelli (ca. 1430–1495), who worked in the province of Ascoli Piceno.

6. Paciaroni, *Lorenzo d'Alessandro*, 50.

7. See Zeri, *Italian Paintings*, 1:193; Paciaroni, *Lorenzo d'Alessandro*, 110.

8. This was noted by Joaneath Spicer, James A. Murnaghan Curator of Renaissance and Baroque Art, the Walters Art Museum.

9. The painting was acquired by Henry Walters around 1915 from the Renaissance scholar Bernard Berenson. It was bequeathed to the City of Baltimore on Walters' death in 1931.

10. Paciaroni, *Lorenzo d'Alessandro*, 96, 110–11. The painting is now in the Museo Piersanti in the same city. This confraternity already owned a double-sided processional standard on panel attributed to the Maestro di San Verecondo depicting St. Francis and two flagellants kneeling at his feet. The Church of Sant'Angelo, where the confraternity was based, was destroyed in 1955 to make room for the construction of a new convent of the Frati Minori.

11. B. Wisch and D.C. Ahl, eds., *Confraternities and the Visual Arts in Renaissance Italy: Ritual, Spectacle, Image* (New York, 2000), 1–2; see also Christopher Black, *Italian Confraternities in the Sixteenth Century* (Cambridge, 1989).

12. Schmidt, "Gli stendardi processionali," 555–56. For the festivals associated with processions, see G. Durand, *Rationale divinorium officiorum*, I–IV (Turnhout, 1995), 280; *Liber sacerdotalis* (Venice, 1523), fol. 245.

13. *Pinacoteca di Brera: Scuole dell'Italia centrale e meridionale* (Milan, 1992), 85, 87.

14. Schmidt, "Gli stendardi processionali," 552.

15. The panel does have a slight warp, but remarkably there are no obvious signs of insect damage.

16. Schmidt, "Gli stendardi processionali," 560.

17. Ibid., 561–63; Bury, "Documentary Evidence," 22.

18. Zeri, Italian Paintings, 161–62 (no. 103). See also B. Berenson, *Italian Pictures of the Renaissance: Central Italian and North Italian Schools* (London, 1968), 222.

19. Sculptural elements can also be incorporated into processional standards. An unusual case of a processional standard done in polychrome relief, *The Coronation of the Virgin; Christ the Redeemer* (1453) by Battista di Baldassarre Mattioli (active 1443–74) in the Museo Capitolare della Cattedrale di S. Lorenzo, Perugia, consists of a coronation scene executed in tempera on panel on one side and on the other a painted bas-relief of Christ. A unique example of the use of stone in a fourteenth- or early fifteenth-century processional cross is in the Museo Diocesano di Ancona.

20. Gross examination by the author of the wood panel, together with polarized light microscopy (PLM) of small samples, suggests *Populus spp* as a genus.

21. In a technical study of fifteenth-century paintings from the Marches in the Pinacoteca di Brera, the species *Populus nigra* was identified in all of the paintings executed on panel with the exception of one painting by Pietro Alemanno (ca. 1430–1497 or 1498), in which *Tilia platiphyllos*, commonly known as limewood, was identified. A. Gallone Galassi, F.G. Albergoni, B. Basso, L.M. Recalcati, "Panneaux d'artistes des Marches du XVme siècle de la Pinacothèque de Brera: Etude des matériaux et des techniques," *ICOM Copenhagen* (1984): 84.1.15.

22. Don Marione kindly allowed me to examine *The Crucifixion with Mary Magdalen/Madonna of Mercy* in the Chiesa di Croce, Caldarola, a town about 12 kilometers south of Sanseverino.

23. Author's conversation with George Bisacca, conservator of paintings, the Metropolitan Museum of Art, New York. Ciro Castelli, a specialist in the structural conservation of panel paintings at the Opificio delle Pietre Dure, Florence, also believes the block to be original. Author's conversation, 5 April 2004.

24. Bury, "Documentary Evidence," 20–21.

25. Author's conversation with Matteo Ceriana, Soprintendenza per il Patrimonio storico artistico e demoetnoantropologico di Milano, 5 April 2004.

26. Zeri, *Italian Paintings*, 1:193.

27. Author's conversation with Franco Sabatelli, frame scholar, 19 March 2004. Sabatelli dates the acanthus leaves to between 1550 and 1580; he also observed that the profile of the cornice would not have an overhang.

28. Author's conversation with Marco Grassi, private paintings conservator, 19 March 2004.

29. The metal was not magnetic.

30. "Sant'Agata," *OPD* 8 (1996): 221. The sixteenth-century reframing and carrying pole is the work of Antonio Legnaiolo.

31. Keith Christiansen first hypothesized that the Getty painting was part of a processional standard. The other face, *St. Francis Receiving the Stigmata*, belongs to the Fondazione Magnani Rocca di Traversetolo, Parma. See Appendix 1 herein. Keith Christiansen, "The Coronation of the Virgin by Gentile da Fabriano" *J. Paul Getty Museum Journal* 6–7, (1978–79): 1–5. Andrea De Marchi, *Gentile da Fabriano: Un viaggio nella pittura italiana alla fine del gotico* (Milan, 1992), 112 and n 4.

32. "The fresco comes from the old oratory of the Church of S. Maria della Carità detta 'la Scopa' della Confraternità dei Battuti o Flagellanti, who looked after and comforted prisoners sentenced to death in the hours before their execution." Author's translation of museum label.

33. Bury, "Documentary Evidence," 25.

34. Ibid., 23–24.

35. Ibid., 26.

36. Schmidt, "Gli stendardi processionali," 560.

37. For the dating, see Carl Strehlke, unpublished manuscript dated 16 May 1992 in the curatorial files of the Brooklyn Museum, 2.

38. See Paciaroni, *Lorenzo d'Alessandro*, 113.

39. *I pittori del Rinascimento a San Severino: Lorenzo d'Alessandro e Ludovico Urbani, Niccolò Alunno, Vittore Crivelli e il Pinturicchio. Catalogo a cura di Vittorio Sgarbi, Stefano Papetti* (Milan, 2001), 202. Andrea de Marchi has listed numerous standards pertinent to the central Marches region.

40. Paciaroni, *Lorenzo d'Alessandro*, 64.

41. De Felice, *Problemi di tecnica*, 73.

42. Paciaroni, *Lorenzo d'Alessandro*, 73–74.

43. De Felice, *Problemi di tecnica*, 181.

44. Conversation with Signor Nardi, l'Assessore alla Cultura del Comune di Pollenza, 4 November 2003.

45. Scanning electron microscopy utilizes a beam of electrons to create an image that, unlike light microscopy, allows great magnification of the sample. Electron dispersive spectrometry measures x-rays emitted by the sample as it is bombarded by electrons to characterize the elements present in the sample. All SEM-EDS analysis in this study was carried out by Roland H. Cunningham, senior paintings conservator/analytical support group, Smithsonian Center for Materials Research and Education (SCMRE).

46. This was observed by the author.

47. This was observed by the author.

48. This was observed by Romeo Bigini, who recently restored the polyptich. Author's conversation with Michele de Felice, 5 November 2003.

49. FTIR analysis was carried out by Walter Hopwood, organic chemist, SCMRE. The results of the binder analysis in the original paint layers were inconclusive.

50. This was observed by the author. For the Cleveland painting, see also N. Coe Wixom, *The Cleveland Museum of Art: European Paintings Before 1500; Catalogue of Paintings, Part 1* (Cleveland, 1974), 86–88.

51. Cennino d'Andrea Cennini, *Il libro dell'arte*, chapter 83: "To make a drapery, or a mantle for Our Lady, with azurite or ultramarine blue," in *The Craftsman's Handbook: The Italian "Il Libro dell'Arte,"* trans. Daniel V. Thompson, Jr. (New York, 1960), 54–55.

52. De Felice, *Problemi di tecnica*, 211.

53. De Felice, *Problemi di tecnica*, 175.

54. The presence of silver has not been analytically confirmed.

55. C. Villers, "Paintings on Canvas in Fourteenth Century Italy," *Zeitschrift für Kunstgeschichte* 3 (1995): 355–56; Cennini, *Il libro dell'Arte*, 104. In this translation the term "banner" is used, but in the Italian text there is reference to "stendardi" and "gonfaloni"; Cennino Cennini, *Il libro dell'arte: Commentato e annotato da Franco Brunello* (Vicenza, 1982), 173–75.

56. As described by Osvaldo Pieramici, who restored the painting in 1978, to Michele de Felice. De Felice, *Problemi di tecnica*, 177.

57. Treatment record, 37.496, conservation division of the Walters Art Museum.

58. Roberto Bellucci suggested that the Walters' standard might have been repainted for devotional purposes as early as the seventeenth century. Author's conversation with Roberto Bellucci, paintings conservator, Opificio delle Pietre Dure, 5 April 2004.

59. Author's conversation with Tiziana Monacelli, private paintings conservator, 13 May 2005. The overpaint is being mechanically removed with scalpels.

60. Morten Steen Hansen, at the time, the Walters' assistant curator of Renaissance and Baroque Art,

61. Lead was identified through SEM, microchemical testing, and x-ray fluorescence spectometry (XRF). XRF was carried out by Jia-sun Tsang, senior paintings conservator, SCMRE.

62. These rods are not unusual in the paintings of Lorenzo d'Alessandro's contemporary Carlo Crivelli. See, for instance, his *Madonna and Child*, 1470, San Diego Museum of Art (acc. no. 1947:3); *St. Roch*, Wallace Collection, London (acc no. P527).

63. There are also numerous examples of processional standards on canvas that were separated to create two paintings; for example, Luca Signorelli's *Crucifixion* and *Pentecost* (respectively, inv. 1990 D 60 and 61), displayed side by side in the Galleria Nazionale delle Marche, Urbino, was commissioned by Filippo Geroli and painted in the summer of 1494 for the Confraternita dello Spirito Santo di Urbino. The two canvases were separated in the eighteenth century. P. Dal Poggetto, *La Galleria Nazionale delle Marche e le altre Collezioni nel Palazzo Ducale di Urbino* (Urbino and Rome, 2003), 175–76. A fuller discussion of processional standards on canvas is beyond the scope of this essay; see Villers, "Paintings on Canvas in Fourteenth Century Italy," 338–58.

The Reemergence of a Rare Ferrarese Altarpiece

GILLIAN COOK

The Walters Art Museum has in its collection a large and rare early sixteenth-century altarpiece by the Ferrarese artist Michele Coltellini (ca. 1480–after 1543). The painting (acc. no. 37.880, fig. 1) entered the collection in 1912, purchased by Henry Walters, but until its installation in 2005 in the museum's renovated Italian galleries, there is no record of it being formally displayed as part of the permanent collection. Questions about the authenticity of a substantial addition to the top of the painting have circulated since its acquisition.[1] In July 2003 it was taken from storage to the Walters' conservation laboratory for examination and treatment prior to its installation. At this time, an investigation into the authenticity of the addition was undertaken. Scientific analysis and research have shed light on why and when this addition was attached, and more important, on the addition's authenticity.

The painting was executed for the Church of Sant'Andrea in Ferrara and is signed and dated in the bottom right corner *Michaelis Corillinis, MCCCCCIIIIII.* It is one of only four signed and dated works by the artist and the only documented painting by Coltellini in North America. The other three signed works are a *Death of the Virgin* (1502) at the Pinacoteca in Bologna, the *Risen Christ with Four Saints* (1503), and a *Circumcision* (1516), both in the Staatliche Museen, Berlin.[2] There are somewhere in the region of thirty other works attributed to the artist that consist of unsigned paintings and fresco fragments.

Very little has been written about Coltellini, but he is known to have been active in Ferrara from around 1480 to 1543. During that time, both local and internationally renowned painters, including Giovanni Bellini, Raphael, Titian, Dosso Dossi, and Garofolo, were recruited by the court of Alfonso I d'Este, duke of Ferrara, to expand the ducal collection of fine arts.[3] Coltellini was probably trained within the circle of Ercole de' Roberti (ca. 1455–1496) and Dosso Dossi (ca. 1486–1542).[4]

The Walters' *Virgin and Child with Saints*, dated 1506, reflects a marked change in the artist's style when compared with Coltellini's less naturalistic *Risen Christ with Four Saints* of 1503 (fig. 2). Federico Zeri, seeing the
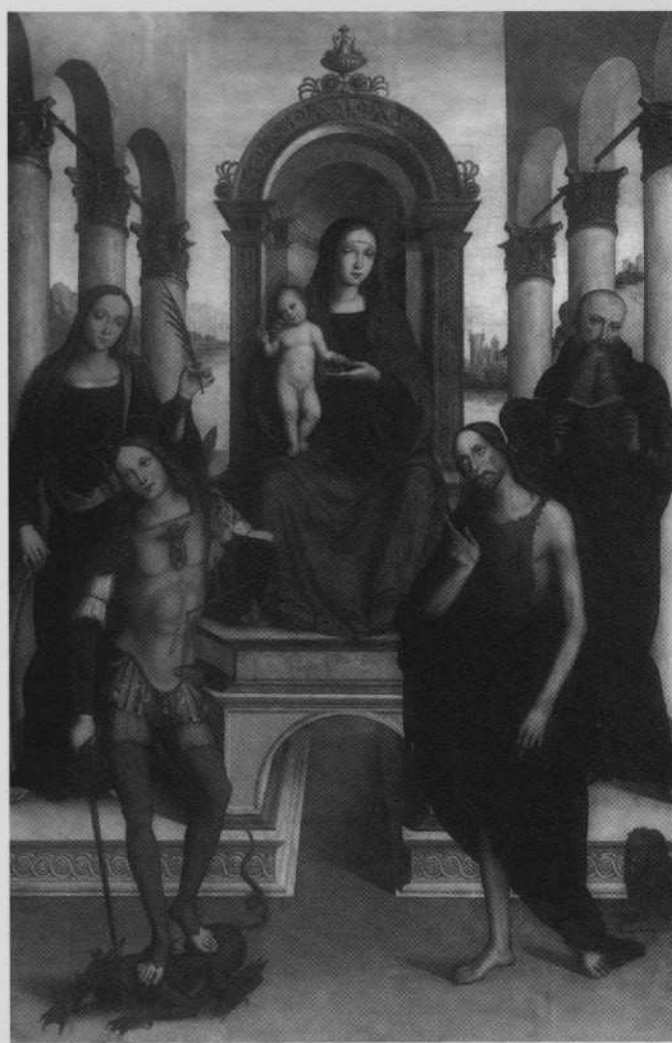
Fig. 1. Michele Coltellini, *Madonna and Child with Saints*, 1506. Oil on panel, 247.3 x 166.4 cm. Baltimore, Walters Art Museum, bequest of Henry Walters, 1931 (37.880). Before treatment
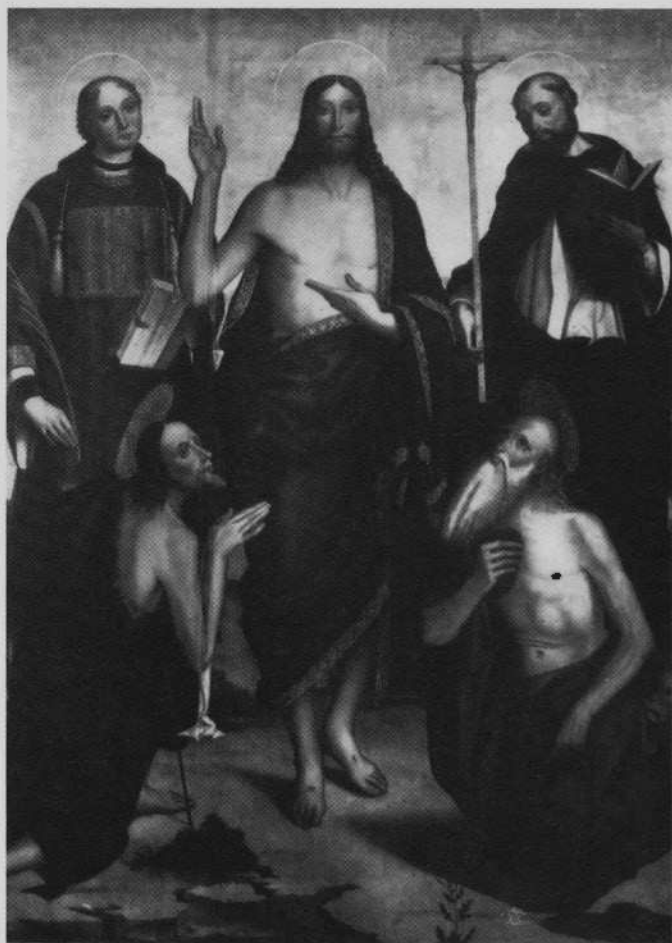
Fig. 2. Michele Coltellini, *Risen Christ with Four Saints*, 1503. Oil on panel, 164 x 120 cm. Berlin, Staatliche Museen, Gemaldegälerie (inv. 1115A)

Fig. 3. Pietro Perugino, *Madonna and Child in Glory with Archangel Michael, St. Catherine, St. Apollonia and St.John the Baptist*, 1497. Oil on panel. 273 x 211 cm. Bologna, Pinacoteca Nazionale (inv. 579)

influence of Perugino (ca. 1450–1523) in the Walters' panel, surmised that Coltellini probably visited Bologna between 1503 and 1506.[5] Indeed, Perugino's *Madonna and Child in Glory with Archangel Michael, St. Catherine, St. Apollonia, and St. John the Baptist* (fig. 3), dated 1497, in the Pinacoteca Nazionale, Bologna, resembles the Walters painting in many ways and would have been on display in the Vizzani Chapel of the Church of San Giovanni in Monte, Bologna during the early sixteenth century.[6] The similarities between Perugino's *Madonna and Child in Glory* and the Walters' work are quite striking: most obvious is the figure of the Archangel Michael, as well as the postures of the saints. The artists' palletes are also similar; the combination of colors used in Perugino's St. John is almost identical to that of Coltellini's *St. Jerome*, as are those of the two *St. Catherines* and the two *Virgins*.

Very little of Coltellini's later work is known or survives. His *Virgin Enthroned with Saints and Two Donors*, datable within the 1520s and now in the Pinacoteca Nazionale di Ferrara, shows a move away from Perugino's style toward that of artists such as Domenico Panetti (ca. 1460–before

1513).[7] All three artists were commissioned to paint altarpieces for the Church of Sant'Andrea in Ferrara during the first half of the sixteenth century.[8]

Although now in ruins, during the sixteenth century the Church of Sant'Andrea was one of the city's most noteworthy structures.[9] In 1501 the church, administered by the Augustinian brothers of the Congregazione di Lombardia, was expanded to three naves, divided by pilasters, with nine chapels on either side.[10] The painting is recorded as being on the altar of the third chapel on the right, commissioned by the Libanori family after the 1501 expansion.[11] In 1796 the church was removed from the Augustines' control and began to fall into decline, following the suppression of religious orders in Italy and throughout Europe after the Napoleonic revolution. In 1866 the church was closed and the building converted into military barracks; it was then converted into a warehouse that over time fell into ruin.[12] In 1866 the paintings, including Coltellini's altarpiece, were transferred to the local pinacoteca; the Walters' painting is documented in the gallery's catalogues from 1866 to 1875. From there it moved to the Santini Collection in Ferrara,

Fig. 4. Treatment of the Coltellini panel in the 1930s; *left:* Walters registrar Winifred Kennedy; *right:* conservator John Carroll Kirby.

where it was sold in 1902 to the antique dealer Tavazzi of Rome, who in turn sold it to Henry Walters in 1912.[13] When the painting was in situ in the church, there was a lunette above it painted with four seraphim heads. This was documented in the pinacoteca from 1869 to 1875, but there is no subsequent record of it.[14]

Prior to May of 2003 the Coltellini altarpiece was in paintings storage at the Walters, wrapped in protective plastic. It was shown in a 1996 Walters' exhibition titled *To Arrest the Ravages of Time* as an example of a painting in poor condition and in need of extensive conservation. Records indicate that in 1957 the panel was brought into the museum's conservation laboratory for examination and treatment. It appears that cleaning tests were carried out in the sky to the left of the top of the throne, but there is no record of the tests in the conservation files. At this time questions were raised as to the authenticity of the top section of the painting, a 34-cm extension of the entire width of the painting, made up of the same width of five planks. However no further research was carried out at that time. The painting received structural treatment in the same

year and was returned without a cleaning to storage until the 1996 exhibition. There is no documentation of any treatment carried out before 1957, but an undated photograph found in the archives of the museum's conservation department shows the surface of the panel being consolidated to adhere flaking paint (fig. 4); clothing styles date the photograph to the 1930s.

Before its treatment in 2003–2005, the painting measured 246 cm x 165 cm on a support of five vertical wooden planks (probably poplar) joined with wooden dowels and animal glue; 34.3 cm were determined to be a later addition, extending the overall height of the panel. The addition was composed of five planks of the same dimensions as those of the main panel. It was painted and blended in with the main section of the painting. The join was not visible from the front. It was connected to the original with a lap join and secured on the reverse by a wooden batten. The addition was a result of a very skilled restoration. During the initial examination of the painting in 2003, it became apparent that the addition was probably made after 1866, when the painting was removed from the

Fig. 5. Photograph showing the join in the planks of the addition lining up exactly with those of the original

Church of Sant'Andrea. This is corroborated by the altarpiece's nineteenth-century Renaissance-style frame. The frame, together with the addition, would have given the painting the appearance of a complete and marketable work of art as opposed to a section of an altarpiece. A more thorough examination, however, was required to confirm and clearly demonstrate that the painting had been altered in size and composition. The painting's provenance—in particular, its entry onto the art market—suggests that the treatment occurred after it left the church in 1866 and before it entered Henry Walters' collection in 1912. The support of a nearly contemporary painting, Garofalo's *Virgin and Child with Saints William of Aqutaine, Clare(?), Anthony of Padua, and Francis*, dated 1517, now in the collection of the National Gallery of London, is structurally very similar to that of the Walters' painting and has undergone an almost identical radical restoration. The Garofalo also has a nineteenth-century addition that was added to the top of the panel. It is connected to the original with a lap join in exactly the same way as on the Walters' panel. Both paintings (without the additions) are the same height and are formed of the same number of identically sized planks. This suggests a format for the original paintings that were later altered to make the paintings more sellable. The restoration of the Garofalo was undertaken around 1861 by a Milanese painter and restorer, Giuseppe Molteni (1800–1867),[15] only five years before the Coltellini panel was removed from the church. This suggests that the treatment of the Walters' painting might have been undertaken at around

the same time and possibly by the same restorer.

Close examination of the Walters' panel suggests that much attention was given to presenting the work as a complete composition. The addition is composed of five wooden planks identical in width and thickness to the original planks (see fig. 5). The join was hidden by a batten attached to the reverse of the panel. The appearance of the wood used for the addition—its dark, rich color and general wear and tear—suggests that it is much older than the estimated nineteenth-century date of the addition. It is likely that an older piece of wood was intentionally used in order to replicate the aged appearance of the original. The wood used for the addition, however, has a grain very different from that of the original, resembling walnut, whereas the grain of the main panel is typical of poplar.[16] An x-radiograph of the panel documents worm channels in both the original panel and the added panel; in the addition they are very white in appearance, which shows they are greater in density than the surrounding areas. This suggests that they have been filled. As they are not visible from the reverse they must have been filled before the addition was painted. The worm channels on the original panel appear dark in the x-radiograph. This shows that they are less dense than surrounding areas and suggests that they are hollow, which typically indicates that the insect damage occurred after painting and preparation. The presence of exit holes by the insects on the front of the original, through the paint and gesso layer, are clear indicators that the worm damage occurred after the painting was completed (there
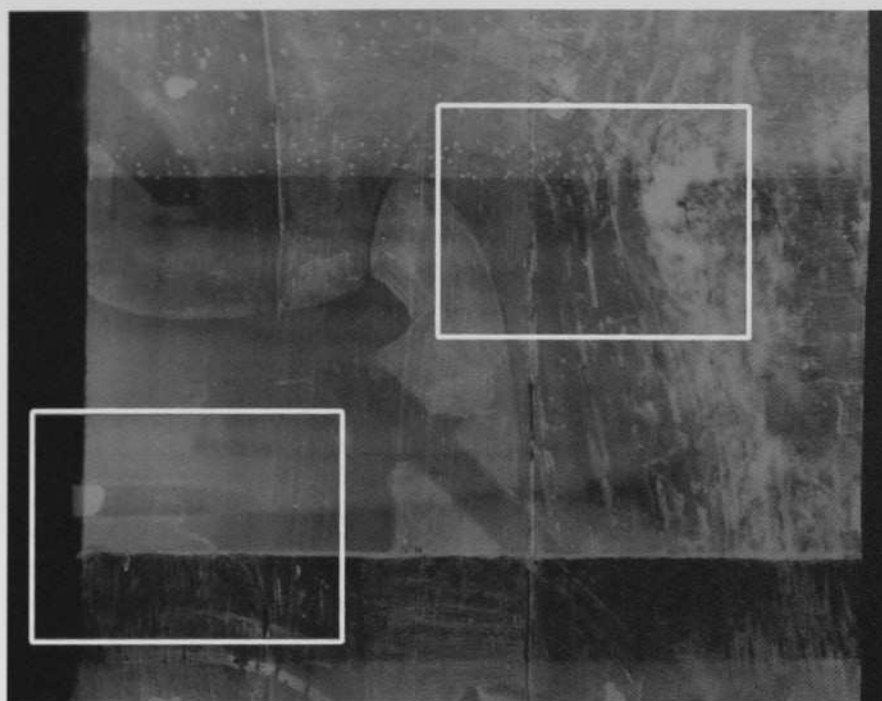
Fig. 6. X-radiograph of the top left corner of the addition. The upper box highlights the filled worm channels, the lower clearly shows the empty dowel hole plugged with wax at the edge of the addition.

were no exit holes on the addition). The x-radiograph shows evenly spaced wooden dowels down each join in the original panel. This was a traditional carpentry technique used to hold the planks together. In the x-radiograph there were no dowels visible on the joins of the addition. A single dowel hole, plugged with wax, is visible in the x-radiograph on the left edge of the addition. This does not serve any purpose and clearly indicates that the addition was created by re-using a section of an old panel (fig. 6)

The painting has incision work throughout, visible in raking light. This technique, whereby lines describing the painting's basic design were inscribed into the ground, was used by artists to lay out the main architectural elements of the composition. The vertical incisions on the original panel are very precise, stopping abruptly at the join, and do not extend onto the addition. In contrast, the incision work on the addition is very loose and sketchy. The use of incision work to describe the faces on the tops of the columns on the addition does not correspond with the faces on the tops of the columns below the join, in the original they are completely void of all incision work. Close visual inspection revealed that the technique of the incision work on the addition is very different from that of the original.

The texture of the paint on and below the addition differed greatly in appearance. The sky below the join is rendered with a very distinct brush texture, and an accumulation of discolored varnish and dirt was visible in the interstices. The paint above the join, in contrast, has a very smooth texture and appears more fluid, with little to no impasto. The x-radiograph

confirmed differences in both the preparation and the paint layers. The x-radiograph of the paint and ground above the join appears very white, indicating a much denser ground and paint layer, probably laden with lead white. The application of the paint and ground also appeared very fluid in the x-radiograph, as if applied in thin, fairly liquid layers. The original panel's paint, though similar in color and shade in normal light, has a very different appearance in the x-radiograph: it appears much darker, possibly suggesting a less dense chalk base, with clear, sharp brush marks.

Before the 2003 treatment, the paint on the addition appeared to match the color of the original panel, but cleaning tests revealed that the addition had been painted to match the color of the dirty and discolored original panel. These tests also indicated that overpaint had been applied to the top of the original panel to mask a darker blue sky and better integrate the addition. The overpaint was extended down nearly 13 cm to blend with the original lighter blue paint below. The top of the arches had clearly been altered to accommodate the design of the addition: Each arch had been extended so that all the tops crowned above the join. Cleaning tests revealed that the curve of the two inner arches originally began below the join. After removal of the overpaint, the architecture of the original no longer complemented the architecture of the addition.

It was decided to clean the addition to determine whether the two sections should remain joined after treatment. Test removal of dirt revealed that the paint on the addition was highly sensitive to moisture; this may explain the halt to

Fig. 7. Antonio Boldini (1799–1872), after Michele Coltellini, *Madonna con Bambino in trono con San Girolamo, San Giovanni Battista, San Michele Arcangelo e Santa Caterina d'Alessandria*. Pinacoteca Nazionale di Ferrara

was very different, both in composition and in the technique of its application, from that of the original panel.

After removal of grime, the varnish layer was carefully removed using solvent gels, which prevent the solvent from penetrating into the paint layer. This allowed for a more controlled cleaning and made it possible to remove the numerous overpaints without compromising the original paint layers. During this process, it became apparent that the Coltellini's original panel was in exceptional condition. Most of the original glazes—thin translucent modulating layers applied by an artist to original paint to highlight form and tonality—including the rich red glazes in the robes of St. John and St. Catherine, are still intact, having been protected for many years under numerous layers of dirt, overpaint, and discolored varnish. Surprisingly, the uppermost layers of paint, which were often lost during restoration campaigns, have survived in the Walters' *Virgin and Child with Saints*. One curious feature was a dark glaze applied over the green paint throughout the painting; cross-section analysis revealed this to be a later addition, possibly done during the nineteenth-century restoration. The cross sections, taken to confirm that this was not a darkened original layer, clearly show an accumulated dirt layer between the original paint and the dark brown glaze layer. There was also evidence of the glaze filling age cracks in the green

the treatment in the 1950s. Cross sections were taken to compare the blue paint above and below the join. The sample below the join was taken in an area of original paint; it was important to ensure that no overpaint was present so as to get an unadulterated example of the original paint layer. In this sample there was a very distinct ground layer with one thick layer of a blue and white paint mixture, a paint structure consistent with Italian paintings of the late fifteenth and early sixteenth centuries.[17] The sample from the blue sky above the join was very different, revealing multiple layers of paint, with an isolating layer between each. Such a technique, unusual even for a nineteenth-century restoration, would be very laborious and time-consuming. Other colors were also sampled, all of which showed multiple layers above the join and a simple basic paint structure below. This clearly demonstrated that the paint on the addition

layer, which confirms that the darker glaze was applied after the paint had aged considerably. A large overpainted area of damage on the chest of St. Catherine was masked by this layer, supporting the premise that the glaze had been applied at a much later date. During an early treatment of Bramantino's *Adoration of the Magi* (ca. 1498) in the National Gallery of Art, London, a similar glaze layer was detected; it was noted that a "toning preparation which reduced the brilliance of the picture quite [sic] 25% was removed during a surface cleaning."[18] The Milanese restorer Giuseppe Molteni treated this painting,[19] as he did the Garofalo, before its acquisition by the National Gallery. The similarities among the treatments of all three paintings, all undertaken at around the same time, might suggest that Molteni was also the restorer of the Walters' panel.

After the varnish and overpaint removal of the Coltellini altarpiece was complete, it was evident that the design of the

addition no longer matched the original. Inconsistencies between the two panels confirm that the topmost panel is not contemporary with the rest of the painting.[20] Consideration was given to the possibility that it could have been a later replacement of a lost or damaged passage, but if the panel's top had been so ruined that it needed to be replaced with an addition, it is likely that some evidence of damage, such as splits in the wood or paint loss, would be present near the top edge of the existing panel. Examination revealed very minor damage to the top of the original panel, which would be expected of a panel of this date. The top of the lower panel, with accumulated varnish and dirt, appears to be the painting's original upper edge. The abrupt cropping of the throne might seem an unusual composition by today's standards, but numerous examples of altarpieces from the same period by northern Italian artists have similar architectural designs.[21] The painting, moreover, was not originally intended to be a stand-alone work of art; it would have been set in an altar with framing elements, a lunette (now lost), and other elements typical of a sixteenth-century chapel setting

In 1846—twenty years before the removal of the Walters' panel from the Church of Sant' Andrea—a painting by the artist Antonio Boldini (1799–1872) titled *Madonna con Bambino in trono con San Girolamo, San Giovanni Battista, San Michele Arcangelo e Santa Caterina d'Alessandria* entered the pinacoteca in Ferrara (fig. 7).[22] It is an exact copy, to scale (211 x 163 cm), of the Coltellini painting, but the Boldini painting does not include the addition, and the composition ends precisely at the join of the Walters' panel and its nineteenth-century addition. When the image of the Boldini painting is superimposed on the Walters' panel, moreover, the paintings are identical, down to even the smallest detail. This suggests that the artist traced the original to create an exact copy and that this was done before the attachment of the addition and before the Walters' painting left the church.

After varnish removal, filling and inpainting was carried out to compensate for the isolated areas of loss. Following discussion among the museum's curators, the paintings conservators, and the director of the Walters, it was decided

Fig. 8. Michele Coltellini, *Madonna and Child with Saints*, 1506. Oil on panel, 212.8 x 165 cm. Baltimore, Walters Art Museum, bequest of Henry Walters, 1931 (37.880). August 2005. After treatment

that it was not possible to exhibit the painting in its original format of 1506 while retaining the nineteenth-century addition. Therefore, the addition was carefully removed along the join between the panels and is currently hanging in storage. The nineteenth-century frame was altered to fit the panel since the painting's height had been reduced by 34.5 cm as a result of the removal of the addition.[23] The painting (fig. 8) is now exhibited in the museum's Italian galleries in a setting reminiscent of an altar. The extensive two-year treatment and research has unveiled the original true splendor of this altarpiece.

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Treatment and research on the painting was also carried out by Eric Gordon, head of paintings conservation at the Walters Art Museum; Irina Dolgikh, former third-year intern; and Sue Ann Chui, former Andrew W. Mellon Fellow in the museum's conservation division. I would like to thank them for all their hard work along with Karen French and Heather Smith in the paintings laboratory and the entire staff of the Walters' conservation division for their assistance. I would also like to thank Morten Steen Hansen, former assistant curator of Renaissance and Baroque Art at the Walters Art Museum, Alessandro Ballarin of the University of Padua, and Stephen Campbell of the Johns Hopkins University.

1. F. Zeri, *Italian Paintings at the Walters Art Gallery*, 2 vols. (Baltimore, 1976), 2:367 (no. 244) (condition notes by Elisabeth C. G. Packard).

2. S. Zamboni, *Pittori di Ercole I d'Este; Giovan Francesco Maineri— Lazzaro Grimaldi—Domenico Panetti—Michele Coltellini* (Milan, 1975), 80 fig. 24, 79 fig. 49, and 75 fig. 55.

3. P. Grendler, ed., *Encyclopedia of the Renaissance*, 2 vols. (New York, 1999), 2:344–46.

4. J. Turner, *The Dictionary of Art* (New York, 1996), 641.

5. Zeri, *Italian Paintings*, 2:367.

6. Information taken from the label of the painting at the Bologna Pinacoteca, where the painting is currently on display.

7. Turner, *Dictionary of Art*, 642.

8. A. Ballarin, *Dosso Dossi: La pittura a Ferrara negli anni del ducato di Alfonso I* (Padua, 1994–95), 121.

9. C. Brisighella, *Descizione della pitture e sculture della città di Ferrara* (Ferrara, 1990), 476 n. 1.

10. G. Medri, *Chiese di Ferrara nella cerchia antica* (Bologna, 1967), 472.

11. Ballarin, *Dosso Dossi*, 121.

12. Brisighella, *Descrizione della pitture*, 476 n.1

13. Ibid., n. 3.

14. *Da cartelli alla Pinacoteca Nazionale di Ferrara: La grande officina del quattrocento* (Ferrara, n.d.).

15. J. Dunkerton, N. Penny, and M. Spring, "The Technique of Garofalo's Paintings at the National Gallery," *National Gallery Technical Bulletin* 23 (2002), 20–41.

16. The wood of the panels that compose the Walters' *Virgin and Child with Saints* has not been formally identified. Lime wood was used for the addition on the Garofalo *Virgin and Child with Saints William of Aquitaine, Clare(?), Anthony of Padua, and Francis* (1517–18) in the National Gallery, London (NG 671); the original panel is poplar.

17. The painting techniques of this period have been well documented, including various National Gallery Bulletins that have listed similar cross sections from various contemporary paintings throughout Italy, including volumes 11, 14, 16, 17, 19, 22, 23, 24, and 25.

18. J. Dunkerton, "The Technique and Restoration of Bramantino's *Adoration of the Kings*," *National Gallery Technical Bulletin* 14 (1993), 43–61.

19. Ibid.

20. Alessandro Ballarin at the University of Padua, who has written extensively on Ferrarese art of the late fifteenth and early sixteenth century, agreed that the top portion of the Walters' painting was a later addition. Personal correspondence from Dr. Ballarin to the author dated 3 December 2003.

21. Examples of numerous paintings from this period with similar architectural rendering can be found in Zamboni, *Pittori di Ercole I d'Este*. See, e.g., pl. 15 (Panetti, *La Vergine col Bambino e i Santi Girolamo e Caterin d'Alessandria*), pl. 9 (G. F. Maineri, *La Vergine col Bambino in trono e i Santi Tommaso e Nicodemo*).

22. J. Bentini, ed., *La pinacoteca nazionale di Ferrara: Catalogo generale* (Bologna, 1992), 171.

23. The treatment to remove the addition is reversible. In the future, should the museum decide to integrate the nineteenth century addition back onto the sixteenth-century painting, it can be easily reattached along the same edge without losing any paint.

An "Antique" Brass *Candlestick in the Shape of Hercules* by Peter Vischer the Younger and Workshop

JOANEATH SPICER

The reinstallation of major portions of the Walters Art Museum's Renaissance and Baroque collections, opened in October 2005, necessitated the reevaluation of many of the Renaissance bronzes acquired by Henry Walters before his death in 1931. One that had previously received little attention is a figure in brass of a bearded, athletic nude man—surely Hercules—whose outstretched arms originally supported candleholders (probably in the shape of torchères), secured to a separately cast, triangular plinth (fig. 1).[1] A version of this piece (including a nearly identical base) is in the Frick Art Museum, Pittsburgh (fig. 2)[2] and another (again including the base) was in the Eugen Felix collection, Leipzig, in the 1880s (fig. 3).[3] The model has been associated with the workshop of the Nuremberg bronze sculptor and founder Peter Vischer the Younger (1487–1528) since 1880, the first modern published reference to one of the versions. Nevertheless, research revealing how a fourth version of this piece (present location unknown) was interpreted in the late 1600s resulted in the installation of the Walters, figure in a recreation of a seventeenth-century collector's private study as a "Roman antiquity."

Not only the figure but the plinth, the latter appearing at first glance to be Paduan in style, are probably based on designs by Peter Vischer the Younger, one of the principal personalities, along with his father Peter the Elder (ca. 1460–1529), in the large family workshop and foundry in Nuremberg,[4] known first of all for prestigious commissions such as the *Tomb of St. Sebaldus* (completed 1519) in the church dedicated to the saint in Nuremberg. The body of small-scale work specifically associated with Peter the Younger includes portrait medals, plaques depicting mythological themes—for example, the splendid *Orpheus and Eurydice* of ca. 1515 (fig. 4)[5]—statuettes, and *all' antica* furnishings for the scholar's desk in the manner Peter the Younger had learned in Padua, during sojourns datable to 1507–8 and perhaps 1512–14, possibly in the shop of Severo Calzetta da Ravenna (active by 1496, dead by 1534),[6] whose production of small bronzes, along with those of Andrea Briosco, or

Riccio (1470–1532), was so profoundly shaped by the classical interests of humanists at the university there. In like manner, humanists in Nuremberg—especially those who had studied in Padua—among whom Vischer, like his contemporary Albrecht Dürer (1471–1528), counted close friends, also provided a market for classically inspired accompaniments to the scholar's labors such as Vischer's *Inkpot with the Figure of Fortune* (fig. 5)[7] or the present *Candlestick*. On the other hand, the actual conception of the figure of Hercules is Vischer's. The slender proportions he favored owe more to Dürer than to Riccio, while Hercules' squared stance, with straight knees and no shift of weight, would be unlikely in Padua. In Vischer's work, the proportional type is epitomized by Orpheus in the plaque noted above, while Vischer's drawings of Hercules, as a bearded, muscular but slim nude, made to illustrate *Histori Herculis* (1515),[8] a poem by his friend the humanist Pankraz Schwenter, make clear the intended identity of the male figure, as Jeffrey Chipps Smith suggested in his insightful entry on the piece in 1983. The slim, elongated Düreresque proportions, so different from those favored by Riccio, Severo, and other identified North Italian contemporaries with whose works Vischer became acquainted in Padua, are, however, remarkably similar to those of an elegant *Amphora Bearer* in Klosterneuburg (fig. 6) that has been associated, unconvincingly, in my view, with Vittore Gambello and Francesco da Sant'Agata, or simply "Padua or Venice." The squared but trim facial features, like the slim hips, bear comparison to Vischer's Orpheus and Hercules. If this elegant *Amphora Bearer* cannot be satisfactorily associated with any Italian master, could it be that the artist was not Italian but a young German working in Padua, bringing to his Italian sojourn a sense of form nurtured in Dürer's Nuremberg?[9]

In the past, scholars have left unaddressed the character of the Walters' piece as a candlestick, a type of functional object produced as a sideline by most large foundries such as that of the Vischer family.[10] However, by the 1520s, the Paduan workshops of Riccio and others had lent a new status to such table furnishings through the introduction of types

Fig 1. Peter Vischer the Younger and Workshop, *Candlestick in the Shape of Hercules*, 1515–30. Brass, height of figure: 23 cm; height of base: 10.8 cm. Baltimore, Walters Art Museum, bequest of Henry Walters, 1931 (acc. no. 54.29)

Fig. 2. Peter Vischer the Younger, *Figure of a Man as a Candelabrum*, 1515–30. Bronze, height 35.5 cm. Pittsburgh, Collection of The Frick Art Museum, Gift of Miss Frick (acc. no. 1970.73)

derived from Roman models. *Candlestick in the Shape of Hercules* can best be understood as a humanist-inspired updating of a type of brass double candlestick popular in Germany in the fifteenth and sixteenth centuries—a standing male figure, generally one implying strength such as a soldier, hunter, or wildman, who grasps the bases of candle sockets in each of his outstretched hands.[11] Points of comparison with the fifteenth-century example illustrated here (fig. 7) include the unaffected, square stance, and slim proportions associated with late Gothic sculpture in Northern Europe, and the tripod base, while the sixteenth-century example (fig. 8), formerly collection of J. J. Ludwig, Regensburg, exhibits similar, curved handles into which the actual candle sockets—here suggestive of drinking vessels (?)—are screwed.

The functional role of the Walters' *Candlestick* is reflected in its manufacture, which was most likely carried out by journeymen assistants in the workshop. No final chasing, as one might expect in a prestige piece, is visible. Traces of fire gilding are visible on the back of the legs; similar traces are found on a statuette *Hercules and Antaeus* from the workshop, and in that case Jennifer Montagu posited that the gilding was intended to cover the crude finishing.[12]

The existence and characteristics of multiple copies of this candlestick with only slight variations point toward an indirect method of casting from an initial wooden model, a process associated with the Vischer foundry and common in Northern Europe.[13] Until a direct comparison can be made between the candlesticks in the Walters and Frick collections, it remains impossible to confirm that both come from the same casting process. As demonstrated by the x-radiograph, the Walters' sculpture is hollow, cast in one piece with an intact core.[14]

The bronze plinth, conceived in a style reminiscent of Padua and assumed by some scholars to be unrelated, was designed so that the circumference and flat surface of the upper drum coordinate with the circular plate, distinctive through its curiously punched edge, upon which the figure stands. The use of indirect casting for the plinth can be confirmed by

Fig. 3. Workshop of Peter Vischer the Younger, *Candlestick in the Shape of a Naked Man*, 1515–30. Bronze, height 34 cm. Reproduced from A. von Eye and P. E. Börner, *Die Kunstsammlung von Egen Felix in Leipzig: Katalog* (Leipzig, 1880; 2nd ed., 1883), pl. ix.2

Fig. 4. Peter Vischer the Younger, *Plaquette with Orpheus Losing Eurydice at the Gates of Hades*, ca. 1515. Bronze, 19.3 x 14.9 cm. Washington, National Gallery of Art, Samuel H. Kress Collection (acc. no. 1957.14.565)

the presence of wax-to-wax joins on the underside.[15] While the foliate legs ending in lions' paws are common to the Baltimore and Pittsburgh bases, variations in detailing found in the upper parts of the Frick cast include tiny rosettes rather than simple punch marks around the drum, a little lizard disporting himself at one corner, but much cruder fluting.[16]

A dramatic twist of fortune that would surely have delighted Vischer came to my attention in 2004 when I discovered a further version of this candlestick with details of the head altered to create a beardless nude male athlete with a victory wreath in his hair. This piece was in the famous collection of Greek, Roman, and Egyptian antiquities formed by the Amsterdam collector Jacob de Wilde (1645–1721), as established by its depiction on plate XVII (fig. 9) of *Signa antiqua e museo J. de Wilde* (Antique images from the museum of J. de Wilde), a catalogue illustrating de Wilde's sculptures, largely statuettes, made by his daughter Marie de Wilde and published in 1700.[17] The sixty etched plates represent fifty-nine works (one is represented twice). All include an indication of the material—here, *AEs* (copper, copper alloy). In addition, all but the last four plates are accompanied by verses from Roman poetry; in this instance:

"Vesper dest, juvenes consurgite vesper Olympo. Expectata diu vix tandem lumina tollit. Catull. *Epigr.* 63" ("Vesper [the evening star] is here: youths arise; for Vesper at last has borne aloft to Mount Olympus [in the heavens] his long-awaited light," from Gaius Valerius Catullus [84–54 B.C.], *Carmina*, poem 62). In his prefatory "to the visitor" de Wilde describes these verses, which he apparently sought out himself, as illustrative of the sculpture's meaning.[18] The candlestick was in the collection at least by 1697; it is just barely visible in an etching depicting the visit in that year of Czar Peter I (the Great) of Russia in the midst of the row of statuettes displayed on the top of the cabinets behind the seated figure of the proud host.[19]

The candlestick is not the only illustrated piece to be questionable as an antique; over twenty percent can be identified as Renaissance designs, largely from Padua,[20] although the candlestick is the only piece identifiably of Northern European origin. Did de Wilde know this? From the prefatory texts by the collector and the customary laudatory poems from well-wishers—as well as reports of the cultured visitors who came to admire and discuss this famous collection[21]— it appears that de Wilde indeed believed these sculptures to be ancient.[22]

Fig. 5. Peter Vischer the Younger, *Inkpot with Figure of Fortune*, ca. 1516. Brass, height 16.7 cm. Oxford, Ashmolean Museum, Fortnum Collection (acquired 1899), no. 1085

Fig. 6. Paduan, Venetian, or possibly Peter Vischer the Younger, *Amphora Bearer*, ca. 1514. Bronze, height 26.5 cm. Klosterneuburg, Stift Klosterneuburg (inv. no. KG 2)

The particular appeal of the candlestick may have been as a type of Roman lighting, to complement the three "Roman" (actually Paduan) oil lamps in the shapes of a sphinx (fig. 10), foot, and acrobat that precede it in the etched catalogue (pls. XIV–XVI), all known in examples extant today and all among the shapes of "Roman" oil lamps celebrated in the massive study of Roman lighting published by F. Liceti, *De lucernis antiquorum* (Udine, 1652), that de Wilde, with his considerable library, most likely owned. Liceti produced careful, enlarged illustrations of examples of Roman objects from grand collections all over Europe (though not de Wilde's), ranging from simple, undecorated terracotta oil lamps to more elaborate bronze candlesticks and candelabra; the majority of these bronze pieces, decorated with figures and reliefs, were actually—as we know today—produced in Padua during the mid-1500s.

As a curious parallel, in the first half of the 1800s, as the archaeology of prehistoric cultures in Central Europe became increasingly a popular subject of study, numbers of broken, late medieval candle figures of the type represented by the Munich example (often broken at the vulnerable point of the wrists, leaving the appearance of a simple statuette with arms raised), were dug up and identified by eager scholars as "house idols" of primitive Slavic peoples in the region. Only in 1873 was this Romantic folly put to rest.[23]

In its style, function, aspirations, and adaptation for workshop production, *Candlestick in the Shape of Hercules* exemplifies the multifaceted conflation of Northern traditions and Italian humanist values that characterized Nuremberg in the decades before the deaths of both Albrecht Dürer and Peter Vischer the Younger in 1528. One can well imagine that a humanist in Nuremberg such as Schwenter would have taken great pleasure in lighting his writing table with a clever *all'antica* updating of a traditional Northern European candlestick type and would have savored the subtlety of its Paduan style base, a type associated in Italy with the display of ancient as well as modern statuettes. At this point there can have been no misconception as to the object's origin, only appreciation of its attempt to embody ancient principles.[24] No information has come to light on the location or interpretation of Vischer's candlesticks in the later sixteenth and early seventeenth centuries; thus it is difficult even to speculate on the point at which the historical repositioning took place, whether innocently or at the instigation of an unscrupulous dealer. If, however, by the 1690s de Wilde considered his to be an antiquity, I would suggest that this is more likely a reflection of the limited knowledge of a collector who showed himself in other ways to be eager to distinguish the genuinely ancient artifact, rather than of an informed characterization of a modern piece as an "antiquity," by virtue of its embodying an ancient type.

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Fig. 7. *Candlestick in the Shape of a Man*, Middle Rhine, ca. 1450. Brass. Munich, Bayerisches Nationalmuseum

Fig. 8. *Figural Candlestick*, German, 16th century. Bronze, height 24.5 cm. Formerly Regensburg, J.J. Ludwig Collection

Fig. 9. Maria de Wilde, "Roman Candlestick in the Shape of an Athlete." *Signa Antiqua, e Museo Jacobi de Wilde* (Amsterdam 1700), pl. 17. Washington, National Gallery of Art Library

NOTES

1. Walters Art Museum, acc. no. 54.29. The condition of the figure, as ascertained by my colleague Julie Lauffenburger, senior objects conservator at the Walters, is generally good, although there are small repairs. There is a crack at the figure's right wrist and a lead solder join and pin visible at the arch of the handle into which the absent candle socket would screw. The handle itself is a slightly different density and appears to be a later replacement. At some point, the surface of the Walters' piece was fire gilded, traces of which remain on the back of the legs. This having been stripped, a lacquer coating was applied. Published references to this piece: E.P. Bowron, *Renaissance Bronzes in the Walters Art Gallery* (Baltimore, 1978), fig. on p. 16; J.C. Smith, *Nuremberg: A Renaissance City, 1500–1618* (exh. cat., Archer M. Huntington Art Gallery, University of Texas at Austin; Austin, 1983), no. 118; C. Avery, *Renaissance and Baroque Bronzes in the Frick Art Museum* (Pittsburgh, 1993), under no. 36. When the publication of this volume was delayed, I addressed some of the issues in this article in a paper "A Roman Antiquity among Henry Clay Frick's Renaissance Bronzes? Assessing Issues of Historicity" at the College Art Association 2007 meeting in the session *Renaissance and Baroque Bronzes: Art History, Science, Collecting, and Display*, chaired by Denise Allen and Betsy Rosasco. Conversations with the participants in that wonderful session and also with Julie Lauffenburger, Nicholas Penny, Allison Luchs, C.D. Dickerson, and Alex Nagel have been very illuminating in trying to understand this curious piece.

2. See Avery, *Renaissance and Baroque Bronzes in the Frick Art Museum* (1993), no. 36, who refers more generally to the authorship as "German, Nuremberg, first third of the 16th century, attributed to Peter Vischer the Younger (1487–1528) or to Peter Flötner (1486/95–1546)."

3. A. von Eye and P.E. Börner, *Die Kunstsammlung von Eugen Felix in Leipzig: Katalog* (Leipzig, 1880; 2nd ed., 1883), 20 (no. 413), from the Pulszky collection, pl. ix; H.R. Weihrauch, *Europäische Bronzestatuetten 15.–18. Jahrhundert* (Braunschweig, 1967), 281, fig. 329. The head leans slightly to his left, while the heads of the other two lean slightly to
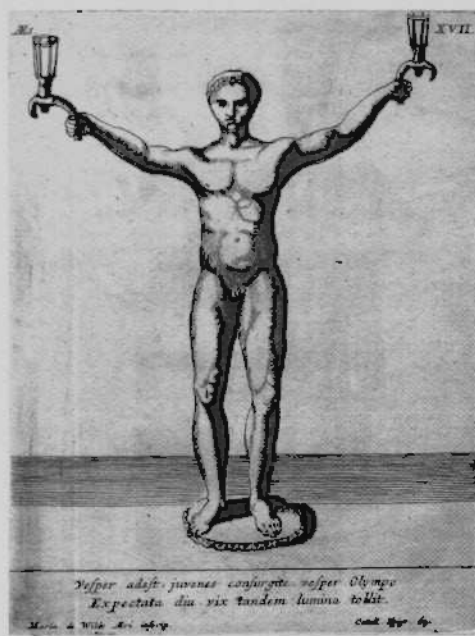

Fig. 10. Maria de Wilde, "Roman Oil Lamp in the Shape of a Sphinx." *Signa Antiqua, e Museo Jacobi de Wilde* (Amsterdam 1700), pl. 14. Washington, National Gallery of Art Library

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their right. From the illustration, it appears that the muscles of the chest are slightly more articulated. Weihrauch notes that he has seen other poor variants in the trade, including ones he considered to be modern aftercasts. An undated photograph of a very crude version without a base, with a reference to the Munich dealer Böhler as the source, is in the file of Walters 54.29.

4. For Vischer and Nuremberg, see J. C. Smith, *German Sculpture of the Later Renaissance, c. 1520–1580* (Princeton, 1994), ch. 9, "Small Collectible Sculpture: A Study in the History of Taste," esp. 275–80, 403–5; also Smith, *Nuremberg* (1983); *Gothic and Renaissance Art in Nuremberg 1300–1550* (exh. cat., New York, Metropolitan Museum of Art/ Germanisches Nationalmuseum, Nuremberg, 1986), 382– 407; W. Wixom, "Peter Vischer (ii)," in *Grove Art Online* (2006) with earlier literature; and also the older. H. Stafski, *Der jüngere Peter Vischer* (Nuremberg, 1962). For an analysis of alloys of works in Europe associated with various members of this workshop, see J. Riederer, "Metallanalysen an Erzeugnissen der Vischer-Werkstatt," in *Berliner Beiträge zur Archäometrie*, vol. 8 (Berlin, 1983), 89–99.

5. *Gothic and Renaissance Art in Nuremberg* (1986), no. 193, with earlier literature; the plaque is in Douglas Lewis's forthcoming volume on plaquettes in the National Gallery of Art's systematic catalogue as no. 539.

6. The proposed association with Severo is based on the similarities in casting techniques. For the most recent publication on his casting techniques, see Richard Stone, "Severo Calzetta da Ravenna and the Indirectly Cast Bronze," *The Burlington Magazine*, December 2006, 810–19. I thank both Richard Stone and Denise Allen for pointing out the connection.

7. *Gothic and Renaissance Art in Nuremberg* (1986), no. 195.

8. Berlin, Kupferstichkabinett; Stafski, *Der jüngere Peter Vischer* (1962), fig. on p. 90, "The Dream of Hercules."

9. For previous assessments of this piece and a later cast in Berlin, see V. Krahn, *Von Allen Seiten Schöen, Bronzen der Renaissance und des Barock* (Skulpturensammlung Staaliche Museen zu Berlin, Preussischer Kulturbesitz, 1995), no. 35; V. Krahn, *Bronzetti Veneziani* (Berlin 2003), under no. 9; M. Leithe-Jasper in the exhibition catalogue *Rinascimento e passione per l'antico. Andrea Riccio e il suo tempo*, no. (Trento 2008), no. 43. My great thanks to the latter for sharing a draft of his entry.

10. For another figural candlestick attributed to the Vischer workshop, see the *Wildman* (various versions) who originally grasped the base of a candle socket in his left hand and his club in the right (*Gothic and Renaissance Art in Nuremberg* [1986], no. 191. Compare also the *all'antica Doorknocker in the Shape of a Nereid* discussed by H. R. Weihrauch in "Ein Turklopfer aud der Werkstatt Peter Vishers d.J.," in *Münchner Jahrbuch d. Bild. Kunst* 3, F. I (1950), 212–13. The popularity of the *all'antica* (Paduan style) Nereid in southern Germany is reflected in a similar *Candlestick in the Shape of a Nereid* (Paris, Musée des Art Décoratifs). K. Jarmuth, *Lichter leuchten im Abendland* (Braunschweig, 1967), fig. 130.

11. For an overview on this type of candlestick, see Jarmuth, *Lichter leuchten*; V. Baur, *Kerzenleuchter aus Metall; Geschichte, Formen, Techniken* (Munich, 1977); K. Schmotz, "Spätgotische Keuchtermännchen: Bemerkungen zu einer vermeintlich bekannten Denkmälergruppe," *Deggendorfer Geschichtsblätter* 21 (2000), 97–145; and the website *Medieval and Renaissance Domestic Lighting: Candlesticks, Candelabras, and Chandeliers* (www.larsdatter.com/candleholders.htm), with early relevant examples from the Kunstgewerbemuseum in Cologne. For the Munich example (brass, 23.4 cm high), see Jarmuth, *Lichter leuchten*, 117 (ill.), L. Seelig, "Meisterwerke der Metallkunst, II," *Weltkunst* 61 (1991): 259

(ill.); Schmotz, "Spätgotische Keuchtermännchen," 100 (ill). My thanks to Lorenz Seelig for directing me to the Schmotz article. The candlestick from the Ludwig collection was sold by Nagel Auktionen (Stuttgart), 27–28 February 2008, no. 318 (24.5 cm.)

12. J. Montagu, *Bronzes* (London, 1972), caption to fig. 67 (Munich, Bayerisches Nationalmuseum).

13. Vertically oriented seam lines on the sides of the torso and continuing under the arms were initially thought to result from a piece molding process (as have comparable seam lines on the Frick figure [Avery, *Frick* (1993), under no. 36]); however, their significance remains under discussion as these lines are not raised but recessed and not perfectly straight. In this regard, Julie Lauffenburger has suggested (after discussions with Ann Boulton) that they look almost as if they represent areas where two pours of metal interfaced, indicating a horizontal position during casting. In addition, striations on the backs of the legs are reminiscent of wood grain, causing us to speculate that a wood model (common in the early 1500s in Germany) was involved. Richard Stone, conservation scientist at the Metropolitan Museum of Art has suggested the technique of loam casting rather than the more familiar technique of lost-wax casting as the technique used to cast this bronze (See L. Seelig et al., *Modell und Ausführung in der Metallkunst: Austellung im Bayerischen Nationalmuseum München, 17. März bis 11. Juni 1989* [Bayerischen Nationalmuseum, Munich, 1989; *Bildführer*, 15]). This is a close relation to sand casting, in which the models were often of wood, and it was used by the Vischer foundry. Research is ongoing.

14. The x-radiograph was taken at 290 kv, 2.2 ma for 5 minutes using lead filters. The evidence provided by the x-radiograph has been the subject of extended discussion with Julie Lauffenburger and is generally consistent with an indirect method of casting. Other notable features include a vertical iron armature that extends from mid torso directly through the head, used to support the core and an iron pin across the hips used as a core pin and left in place. The arms are solid and the legs, though originally solid, have been hollowed from the base of the foot to just past the knees. The edges of this void are not smooth like the walls of the original core, but jagged as if reamed or drilled. If the legs were originally supported by iron wire armatures, they were removed before casting. A pourable core material was then put into the legs and the figure cast. After casting, the exposed core at the base of the feet was partially hollowed out, rendering it less dense than the intact core of the torso. The hollows at the base of the feet were then used to fix the circular platform to the figure by inverting the figure and pouring molten metal through holes in the platform corresponding to holes in the underside of the figure. Evidence of the molten metal is visible in the x-radiograph of the right calf. The small circular platform plate was cast separately from the figure and from the threaded bolt on its underside by which the figure and platform were secured to the plinth.

15. Wax-to-wax joins are visible between each of the legs and the platform, indicating that decorative elements were cast separately in wax, joined in the wax, and cast in a single bronze pour.

16. My thanks to Tom Smart and Andrea Gillian at the Frick Art Museum for having obliged me with digital photographs of the base, upper body, and head. Rosettes and a lizard are also visible on the base of the version illustrated in the catalogue of the Felix collection in 1880.

17. In the context of an informative article in part on the collection of Jacob de Wilde, Frits Scholten briefly draws a connection between the Frick statuette and the type represented in de Wilde's collection ("Bronze Sculpture in the Netherlands," in F. Scholten and M. Verber, eds., *From Vulcan's Forge: Bronzes from the Rijksmuseum* [exh. cat., Daniel Katz Limited, London, 2005], 13). Further on de Wilde, see I.H. van Eeghen, "De verzameling van Jacob de Wilde of het Museum Wildeanum op Keizergracht 333," *Jaarboek Amstelodamum* 51 (1959), 72–92; E. Bergvelt and R. Kistemaker, eds., *De wereld binnen handbereik, Nederlandse kunst- en rariteitenversamelingen, 1585–1735* (Amsterdams Historisch Museum, 1992), *Catalogus*, nos. 201–11. For Maria de Wilde and the plates, see C. Schuckman and J. de Scheemaker, *Hollstein's Dutch and Flemish Etchings, Engravings and Woodcuts 1450–1700*, vol. 52: *Nicolaus de Wees to Hendrick Winter* (Rotterdam, 1998), 105–32. De Wilde published three volumes of his antiquities: coins (*Selecta numismata antiqua. . .*) in 1692, sculpture in 1700, and gems (*Gemmae selectae antiquae. . .*) in 1703. Most of the collection was auctioned in 1740. I have not been able thus far to locate this *Candlestick in the Shape of an Athlete* (or any other version of Vischer's candlestick) in an earlier collection.

18. De Wilde's expression of pride in having found verses of ancient poetry to serve as explanations for his ancient gems, published in 1703, was noted by Conrad van Uffenbach, a visitor in 1711 (van Eeghen, *Jacob de Wilde* [1959], 76), particularly notable among the more than seven hundred visitors to the collection recorded between1690 and 1720 because his notes taken at the visit were later published.

19. *Signa Antiqua* (1700), unnumbered plate following introductory poems (*Hollstein*: de Wilde, no. 3, ill.). The difficulties of collecting authentic ancient bronze statuettes is highlighted by a comparison of de Wilde's collection with the collection of Roman sculpture belonging fifty years earlier to the Reynst brothers in Amsterdam, for which see *Signorum veterum icons, Afbeeldingen der oude beelden bij een vergadert door de heer Gerard Reÿnst* (Amsterdam, 1671) and A.-M.S. Logan, *The Cabinet of the Brothers Gerard and Jan Reynst* (Amsterdam, 1979). Essentially life-size marble sculpture, the pieces known today are all ancient with the exception of "modern" replacement parts.

20. Volker Krahn, *Bronzetti Veneziani: Die venezianischen Kleinbronzen der Renaissance aus dem Bode-Museum Berlin* (Cologne, 2003), 14–15, and esp. nos. 10, 18, 26, and 76.

21. Van Eeghen, *Jacob de Wilde* (1959), 76.

22. For example, J. Vollenhove's poem refers to them as "eerbeelden van 't afgodendom" (pagan idols); van Uffenbach also refers to them as authentic ancient sculpture (Van Eeghen, *Jacob de Wilde* [1959], 76).

23. See Schmotz, "Spätgotische Keuchtermännchen," with many illustrations, including from nineteenth-century publications.

24. C. Wood, "Maximilian I as Archeologist," *Renaissance Quarterly* 58, no. 4 (2005): 1128–74. However, the appreciation of objects as embodiments of antique principles did not preclude the wish to be able to discern the truly ancient.

PHOTOGRAPHY CREDITS: Bayerisches Nationalmuseum: fig. 7; © The Collection of the Frick Art & Historical Center, Pittsburgh, Pennsylvania (photo Harold Corsini): fig. 2; Photo courtesy Stifts Klosterneuburg (Inge Kitlitschka): fig. 6; Photo courtesy Nagel Auktionen, Stuttgart: fig. 8; © Board of Trustees, National Gallery of Art, Washington: figs. 4, 9, 10; Copyright © University of Oxford, Ashmolean Museum: fig. 5; Walters Art Museum, Susan Tobin: fig.1

Production and Date of the Walters' *Kitab-i Bahriye*

PAUL HEPWORTH

In the early sixteenth century, a body of maps of the Mediterranean Sea, along with notes about currents, winds, and other nautical matters, was compiled by the Ottoman naval commander Piri Reis (ca. 1465–1554/55). In 1521, in the hope of obtaining imperial attention and favor, he organized all of this information into a portolan atlas, the *Kitab-i Bahriye* (Book on Navigation), which he presented to Sultan Süleyman I ("the Magnificent") (1495–1566). A few years later, in 1526, Piri Reis completed an expanded and refined version of the atlas, also intended for presentation at court. Copies of both editions of the *Kitab-i Bahriye* were made in the two centuries following, reflecting an enduring Ottoman fascination with map-making and geography.[1] These later manuscripts were often supplemented with new maps that incorporated advances in contemporary cartography while also developing their potential as luxury products for the Ottoman elite.[2]

The *Kitab-i Bahriye* in the collection of the Walters Art Museum (W.658) is one of the most sumptuous and abundantly illustrated examples of these portolan atlases to survive. It derives from the second, 1526, version of the manuscripts prepared by Piri Reis and is similar to two others in Turkish public collections.[3] On the basis of the contents of the maps contained in these three atlases and their manner of execution, it has been suggested that all three may have been produced in the same atelier,[4] located either at the palace or in one of the map-making workshops in the Galata area of Istanbul mentioned by the traveler Evliya Çelebi in 1638.[5] None of the three bears a date of copying, but they have been dated, on stylistic evidence, to the late seventeenth century, a dating supported by the recent location of a fourth related copy, which contains a colophon giving the date of its transcription as 1682.[6]

Doubts about the dating of the Walters' *Kitab-i Bahriye* have been raised by Thomas Goodrich, however, because two of its maps contain cartographic information not available until the early eighteenth century. It has been proposed that these maps were later additions to the

Walters' manuscript,[7] and the research presented in this paper was initially undertaken to confirm or challenge that proposition. The first part of the paper considers the evidence relating to production of the Walters' manuscript, its planning and execution, the number of people engaged in the project, and the division of responsibilities in the workshop. The second part of the paper reexamines the questions regarding its date.

PRODUCTION OF THE ATLAS

The Walters' *Kitab-i Bahriye* comprises 379 folios—a table of contents on three leaves, followed by interspersed pages of text and maps. The manuscript, 24.2 cm wide and 34.2 cm high, is executed on thin, sized, and highly burnished ivory laid paper, with eleven to twelve laid lines per centimeter and chain line intervals between 2.6 and 3.0 cm. The leaves, almost all conjoint bifolia, are organized into forty-one gatherings.[8]

Of the 239 maps contained in the Walters' *Kitab-i Bahriye*, a handful show world views or full-page cityscapes, but the vast majority are of a particular type: the coastline is drawn with a scalloped line, highlighted with gold and colored paints; miniature cities and ships are drawn with varying degrees of detail and painted embellishment, and such features as mountains, trees and fields are also painted (figs. 1, 2).

A phase of careful planning and layout must have preceded execution of the manuscript so that a correct and harmonious sequence of images and text would be created when the leaves were assembled into gatherings. Faint impressions in the paper support of the textblock show that text pages were prepared using a ruling frame with nineteen lines per page. The text was then copied in a single hand and the leaves foliated. The similarity of the hand and of the ink used for the writing and for most of the foliation indicates that the same scribe was responsible for both tasks.
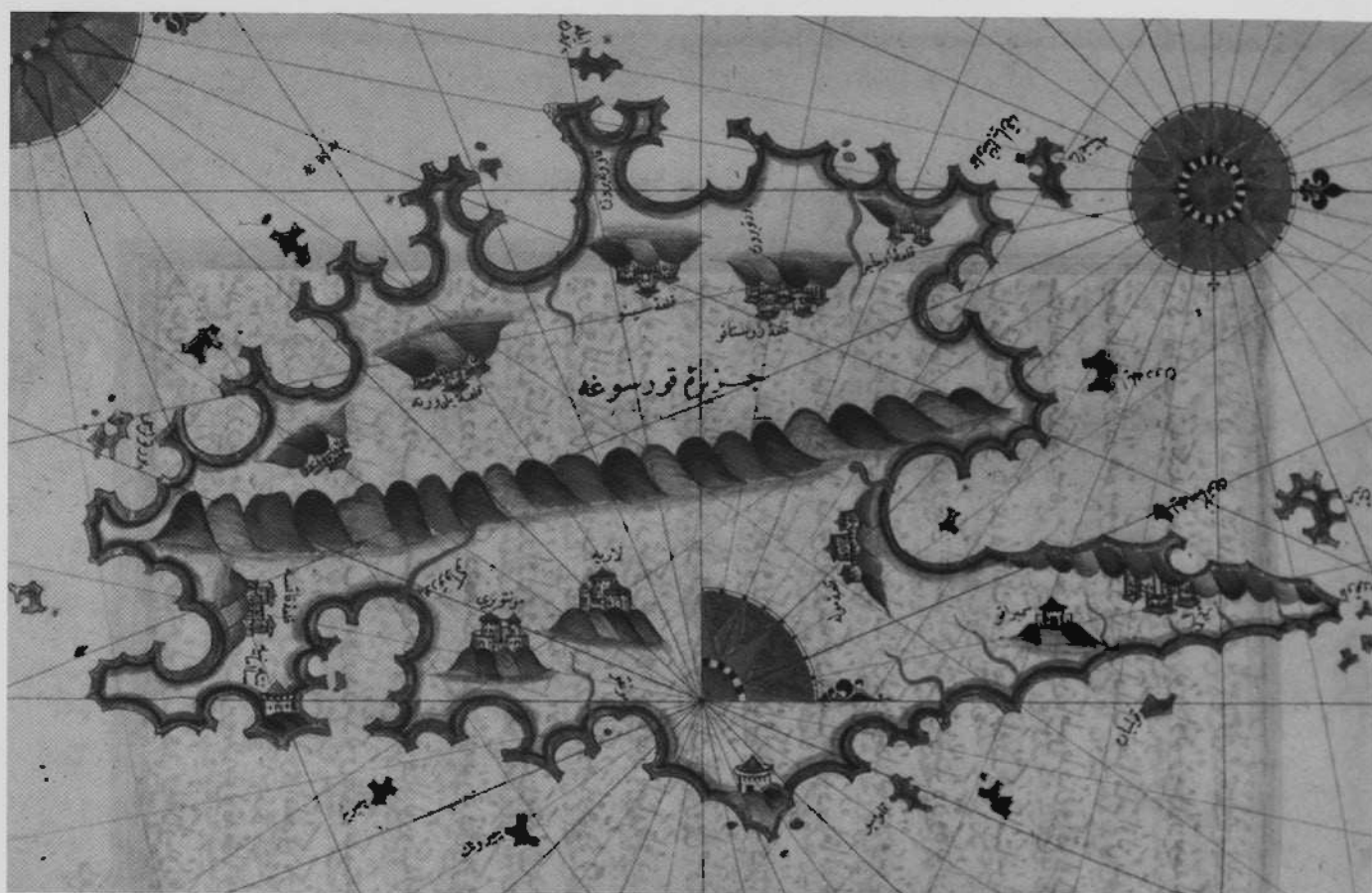
Fig. 1. *Kitab-i Bahriye*, fol. 229. Tempera, gold, and ink on paper; sheet 35.8 x 65.6 cm. Baltimore, Walters Art Museum, bequest of Henry Walters, 1931 (W.658). A representative map of the type with scalloped coastlines and painted cities and mountains

Illustration began after foliation, as demonstrated on folio 298/305a,[9] where the number of the leaf is partially obscured by the map. Two consecutive leaves are numbered 335 (fols. 344 and 345), the kind of error common when one is momentarily distracted while numbering a large series. The bulk of the leaves were foliated at once, but perhaps not the entire manuscript: the last eight leaves are numbered in a different hand, indicating that they may have been foliated at a different time.

The final operation on the text pages was the framing of the text panels with a series of ruled lines; in many instances the framing lines are interrupted so as not to obscure any of the writing when it extends beyond the intended edge of the text panel. Moving outwards from the text, this series is composed of a very narrow black line, a gold line of medium thickness, two very narrow black lines, a narrow red line and an outermost narrow blue line.[10]

There also seems to have been a regular sequence of operations in the creation of the maps with scalloped edges.[11] In contrast to the text pages, the creation of map pages began by framing the space intended for illustration with the gold ruled line of medium thickness. Subsequently, in the first stage of the actual illustration,

the colored rhumb lines were ruled; these are the lines radiating from a central point of what would later become compass roses on the map. The artist then moved to ink in the second stage of map production: the black rhumb lines were ruled, followed by the drawing of the coastlines and cities. Finally, in the third stage, paint and gold were added: the coasts were outlined in gold and colors, architectural elements in the sketches of the cities were also embellished with gold and colors, and mountain ranges and vegetation were painted. Whether the ink and colored ruled lines needed to complete the series of ruled framing lines were added separately when each particular medium was being used or all at once near the end of a map's composition cannot be determined.

In making the maps in the manuscript, the artists had to have worked from another atlas or some type of reference set of maps, but how the information was transferred from prototype to copy remains an open question. Freehand copying is unlikely given the precision and complexity of the maps. The liveliness, individuality and multiplicity of styles apparent in the drawing and decoration of these maps belie any mechanical tracing. Nor is it likely that the outlines of the land masses were traced and the embellishment of the

Fig. 2. W.658, fol. 324a. Detail showing rendering of coastlines, cities, and mountains

Fig. 3. W.658, fol. 180b. The rhumb lines are interrupted so as not to obscure the drawing of the city.

maps then left to the individual artist, since the drawing of the cities is fully integrated with that of the coastlines. On some maps intersecting rhumb lines would have created a sort of grid system that may have facilitated copying. Also some kind of preliminary sketch may have been used: near the center of folio 181b, the first couple of mountains in the range are sketched faintly with a metallic point, perhaps to provide the artist with position and scale when he proceeded to paint in this topographical detail. These traces may inadvertently have escaped erasure when the map was completed.

The initial existence of a preliminary sketch is suggested also by the maps on folios 177–183. In many of these maps the rhumb lines were interrupted during ruling so as to leave space for the later insertion of the cityscapes. The intent was clearly to avoid having the rhumb lines cross the large and elaborate city drawings and thus mar their appearance. Thus before the artist began drawing a map, he had to have known with considerable precision not only the location of all the features on the map, but also

the complex shape and size of the architectural elements he would include in his city drawings—knowledge most easily obtained by reference to a prior sketch. (fig. 3)

The interruption of the rhumb lines, the scale and complexity of the drawing of the cities, and a distinctive palette stylistically characterize this particular group of maps in the album. As they involve all three stages in the production of the maps, their correlation also implies that the same individual was responsible for the entire production of this group. The artist's responsibility seems even to have extended to ruling the framing lines around the map. An unusual tone of blue observed in the ruled line on a particular map sometimes correlates with the presence of the same color in the map itself. A distinctive blue-green, for example, found in the maps on two conjoints, folios 187/196, and 188/195, is also used for ruling the outermost blue framing line on the maps on these leaves.

In general, a single artist seems to have been responsible for the entire production of a particular map, and the individual styles of the artists involved in production of the

album are distinguished by aggregates of stylistic features appearing in different groups of maps. These different styles are identified by the size, degree of complexity, and similarity with which the coastlines, cities and ships are drawn; a characteristic emphasis within a group on particular features, such as cities, mountains or ships; the way the mountains are modeled and shaded; and the palette of colors used.

Some of these styles are so distinctive and internally consistent that it is probably safe to attribute them to a particular hand. In other cases, however, variants within a particular style may point to more than one artist working in that manner. A large group of maps towards the front of the manuscript, for example, are characterized by a palette of bold colors and mountain ranges in the form of a series of single humps with shading applied in narrow, fine lines. In some instances, however, the shading is applied horizontally to give roundness to the mountain form; in others it is applied vertically to elongate the form. Varying degrees of care taken in the application of both types of shading may also indicate the hand of different artists.

Moreover, within this group of maps, at least two styles are apparent in the rendering of the ships. Some maps contain highly detailed ink drawings of ships from a variety of perspectives, with no paint added. Others have ships sketched summarily in ink from a side view, with paint added to the drawing, especially to the sails. More research is necessary to establish clear correlations between styles of ships and the styles of the maps on which they appear, since the ships are a relatively extraneous element in the composition of the maps and could have been added later, conceivably by another artist.

The clustering of styles in these maps corresponds to some degree to the structure of the book. Maps of a particular style often correlate with all or conjoint parts of a gathering. The maps on folios 157–166, for example, exhibit an identifying style and also form a single quinion. Another style is found in two clusters, folios 187–188 and 195–196, separated by a different style on folios 189–194. This arrangement manifests the structure of that particular gathering: folios 187/196 and 188/195 are conjoints and make up the outer two leaves of the gathering, while folios 189/194, 190/193, 191/192 are the conjoint inner three leaves of the gathering. On the other hand, in many instances a single map in a gathering is executed in a style that differentiates it from any stylistic groupings in that gathering. These single maps, moreover, are usually different in style from one another.

There are at least eight different groups of maps with scalloped coastlines in the manuscript that probably characterize the work of different artists.[12] This count does not include the scribe, the artists responsible for the handful of maps of world views and full-page cityscapes, nor those

responsible for the several scalloped coastline maps that fall outside the stylistic groupings enumerated above. It is possible, of course, for a single individual to have played more than one role in the project or worked in more than one style. Since the atlas was produced over a period of time, the artists counted also need not have been working in the atelier simultaneously: some styles are confined to a specific section of the manuscript while others appear at scattered points throughout the atlas. Nonetheless, a rough idea of the number of people involved in the manuscript's production gives some insight into the size and organizational complexity of the workshop. If it were an atelier outside the palace, of necessity it would have been a fairly large commercial enterprise, with a steady source of patronage and sufficient commissions to engage so many workers.

DATING THE MANUSCRIPT

The late seventeenth-century dating of the Walters' manuscript has been questioned on the grounds that at least two of its maps contain information available only in the eighteenth century. The first is a world view (fol. 40b), based on a map produced in Europe by Guillame de L'Isle and published in 1724.[13] The other map (fol. 374a) is of the Caspian Sea, based on a survey made in 1700 with the earliest printed versions appearing in 1712.[14]

Physical evidence that these maps are later additions to some original conception of the atlas is unequivocal. Three types of paper were used in the manuscript, identified by three different watermarks and one countermark. The three types are very similar: all are ivory-white laid papers, of comparable thickness and chain and laid line spacing. The first type of paper has a watermark, which always appears near the center of a folio, featuring the letters AP with a small trefoil underneath. This watermark is associated with a countermark of a lion rampant, always appearing near the middle of the conjoint folio.[15] The second type shows almost the same watermark, the letters AP and trefoil, but surmounted by a scroll motif. This watermark always appears on the side of a folio. The third watermark is an oval cartouche with an interior design, which appears near the center of the folio. The conjoints of all the leaves with the second watermark are blank. The third watermark is present on only one leaf, which lacks a conjoint, as a small extension of the leaf serves to hook it into the gathering.

The use of these three types of papers is revealing. The first type constitutes the bulk of the manuscript; only five bifolia are formed of the second type and a single leaf of the third. Of the two maps in question, the worldview is on the third type of paper and the map of the Caspian Sea on

the second type. Their presence on supports different from the original provides evidence for their later insertion.[16] It also follows then that the thirteen other maps on the second type of paper are later additions as well.[17]

Examination of the foliation of the manuscript confirms that the leaves made of the second and third types of papers are indeed later insertions. The first four leaves in the volume, including the table of contents and first page of text are unnumbered. Then, beginning with the next leaf, numbered 4, all those on the first type of paper are foliated sequentially at the center fore-edge margin on side a of each leaf, in a single hand, through folio 360. However, those maps on the second and third types of papers interspersed within the first 360 leaves are all unnumbered and were surely inserted after the initial foliation.

The situation grows more complex, however, after folio 360, in the last nine leaves of the manuscript. The first five—a blank leaf and four leaves with map illustrations—are on the second type of paper, added later; the last four—a blank leaf and three leaves with text—are on the original first type of paper. In this sequence, the first blank leaf is unnumbered while all the rest are numbered, but in a smaller hand and closer to the fore-edge than in the preceding part of the manuscript. Though many of these smaller folio numbers are partially trimmed, this second numbering begins with folio 361, where the earlier numbering left off.

The change in the foliation raises several questions. Why were the text pages on the first type of paper not numbered as they are in the rest of the manuscript? Did the scribe simply forget, and then some years later, when additions were made at the end of the manuscript, both the additions and these text pages were numbered sequentially? Or could the additions have been made while the manuscript was still in production, before the first numbering had been completely finished? In the latter case, the additions incorporated into the textblock after that point could be foliated in order, as is observed here. The two scenarios suggested by these questions lead to very different conclusions about the dating of the manuscript. The manuscript may have been completed in the late seventeenth century and some maps added thirty to fifty years later, or the manuscript may have been commissioned in the second quarter of the eighteenth century and additions made to it as it neared completion.

Dating information provided by the watermarks is not conclusive. No close parallel has been found for the third watermark. A watermark with AP and trefoil, referenced in Edward Heawood's *Monumenta Chartae Papyraceae*,[18] is from a Venetian paper dated 1693–96, a plausible place of origin for the paper given the many commercial contacts between Venice and the Ottoman Empire. Although the date of the reference watermark accords with a late seventeenth-
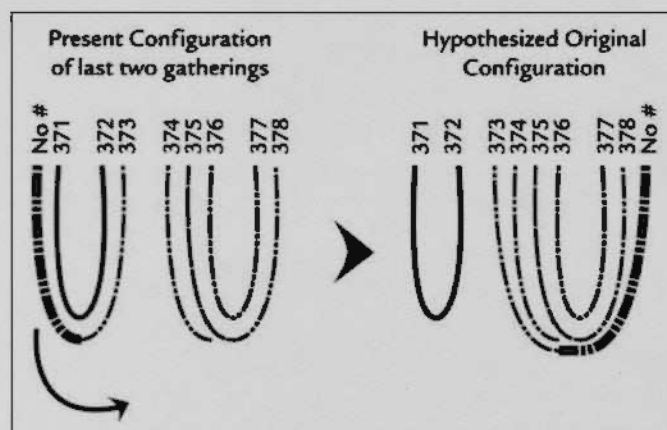
Fig. 4. The present configuration of the last two gatherings in the manuscript is compared with a posited original configuration of these gatherings. The difference requires only the rotation of a single leaf about its foldline.

century date for the Walters' manuscript, it does not preclude the possibility of the paper's manufacture and the manuscript's production in the second quarter of the eighteenth century. Papermaking workshops were conservative; after a lapse of only thirty to fifty years, it would have been possible to find artisans in the same workshops producing paper on the same types of moulds with the same types of watermarks.

In the first scenario, in order to incorporate additional maps after the atlas was completed, the codex would need to have been entirely taken apart and rebound. Rebinding is evidenced by the manuscript's present binding, probably Safavid Persian in origin.[19] Although roughly contemporary with the manuscript, it is not the manuscript's original binding; rather than being cut flush to the edges of the textblock, as is invariably the case in original Islamic bindings, the covers extend about a centimeter past the edges of the textblock.[20] Despite the lack of material clues to indicate when the present binding was joined to the textblock, it is unlikely that this event would have occurred only thirty to fifty years after the manuscript was completed. Recycled bindings are not uncommon on Islamic manuscripts because the textblock and binding are relatively weakly attached in Islamic binding structures. Nonetheless, in the Ottoman milieu of the late seventeenth and early eighteenth centuries, such an important and sumptuously illustrated manuscript would have merited its own binding, made to size. The present binding is likely, therefore, to have been added to the book at a much later date, probably to compensate for the loss of, or damage to, its original binding.

Further evidence for rebinding comes in the form of five wormholes at the back of the manuscript. In characteristic fashion, the worms ate through the pages creating a conical hole, wider at their entry point and narrower as they penetrated the textblock. Starting with the last leaf of the
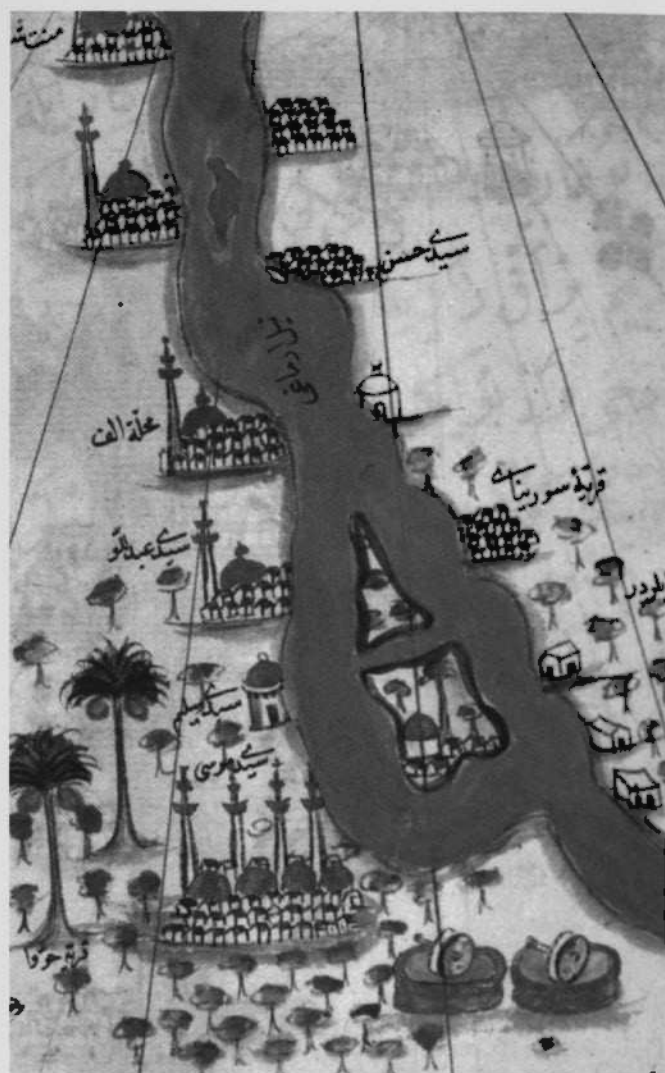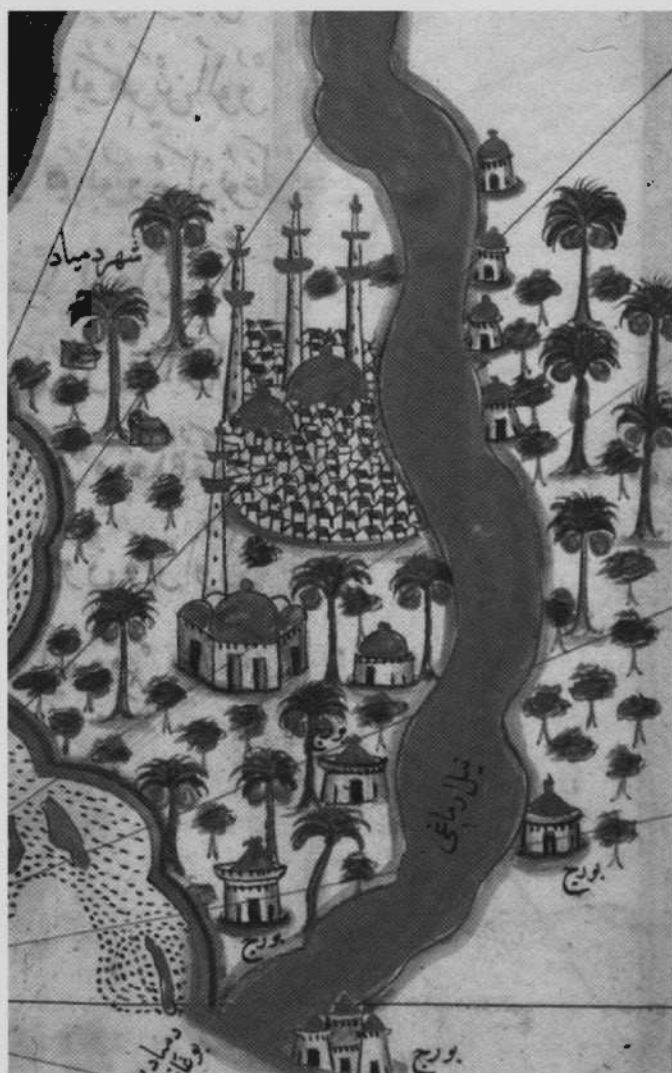
Figs. 5a, b. W. 638, fols. 308b and 310a. Similar details on folio 308b—an original map (left)—and folio 310a—an added map (right)—are illustrated.

manuscript, folio 378, these holes can be followed through the leaves as they grow progressively smaller. Four of these holes stop at folios 372 and 371, a conjoint bifolium, and a small wormhole through these two leaves appears in a new location. However, on the blank folio preceding folio 371, all five of the original wormholes reappear, larger in diameter than previously seen, with no trace of the new wormhole on folios 372/371. The unique wormhole on these latter leaves can be explained if the paper had been eaten before it was put into the manuscript, but worms could not have eaten holes on each side of a leaf without eating the leaf between. The explanation for this anomaly lies in a reconfiguration of the last two gatherings by the movement of one leaf (fig. 4). In its present configuration, the blank folio with the largest wormholes and its conjoint, folio 373, form the outer bifolium of the second-to-last gathering. If the last two gatherings are taken together and

the blank folio with the wormholes is rotated around its foldline, it and its conjoint now become the outer bifolium of the last gathering. This change in the position of the blank leaf aligns the wormholes both by size and position and makes the foliation sequence continuous. Yet for the blank leaf to have been rotated into its present position, the gatherings would have had to be disengaged from the textblock, presupposing that they were removed from their binding at the time. By the time of its rebinding, however, the maps on the second and third types of paper had already been added since the wormholes appear in both the original type of paper and the added paper.

Because of the variety of palettes used in the creation of the original maps, no significance could be ascribed to any differences in the paint of the added maps. However, the palette used throughout the atlas for the ruled lines was much more restricted and a consistent difference in the

outermost blue ruled line on the original and added maps was discernable when these lines were viewed with a stereo binocular microscope. Under magnification, the pigment particles in these lines on the original maps generally vary from very pale to medium blue and seem sparkly and clearly defined. By contrast, on the added maps the pigment particles in these blue ruled lines cannot be easily differentiated and exhibit a distinctive grayish or brownish cast. In both the original and added maps, the blue colorant was identified as smalt, a cobalt-containing blue glass.[21] The grayish or brownish quality of the blue paint in the ruled line on the added maps may be due to smaller pigment size[22] or to some small difference in filler or binder in that batch of the paint. This result confirms that the maps on the second and third types of paper were ruled at a time different from those on the original paper, commensurate with their having been added later. And the use of the same paint in both cases tends to support the hypothesis that a relatively small amount of time elapsed between the making of the original and later maps.

The identification of smalt in this album is noteworthy since, to the author's knowledge, smalt has been reported in only one other analysis of paints carried out on Islamic or Near Eastern miniatures.[23] It has been identified in Byzantine wall paintings, which offers one mechanism by which Ottoman artists might have become aware of it.[24] On the other hand, it was also used widely as a pigment in Europe during this period. Its presence in this manuscript might indicate that Ottoman curiosity about the geographic information contained in Western maps extended also to Western artistic technical innovations. Venice, the source of the manuscript's paper, was also a major center of glass production and glass technology. To further emphasize that connection, only four illustrations in the entire manuscript extend across facing pages: one of these is a striking view of Venice.

As described earlier, clusters of consecutive maps often display the same palette and stylistic features that point to the responsibility of a single artist for all the maps in that group. While most of the added maps fall outside these stylistic groupings, in one cluster—those relating to the Nile River (fols. 303–310)—the uniformity of the palette and style on both original and added maps is significant. With the exception of one conjoint, folios 307/310, all of the leaves in this group are original. Although technical analysis was not performed on the paints, the tonal qualities of the paints on the original and later maps in this section (with the exception of folio 305, discussed below) are indistinguishable. Moreover, these maps share many other virtually identical details: the way the mountains are shaded and the villages sketched, the green outline along the river, and the depiction of the date palms (figs. 5a, 5b).

These same details can be compared with similar features on other original maps, on folios 302a and 305a, thematically linked to this cluster but falling outside its stylistic grouping. On the former, the date palms and buildings are treated very differently and the river is much smaller in scale and lacks a broad outline. On folio 305a, the city of Cairo is depicted, and again, the manner in which the date palms and buildings are drawn as well as the use of a different palette indicates that the artist for this map was probably not the same person who produced the rest of the Nile maps in this section.

From these observations it can be seen that no effort was made to use the same style in all the original maps in this thematic grouping. Nor is there any indication elsewhere in the atlas that importance was placed on stylistic uniformity. On the contrary, stylistic differences among its maps clearly reflect the many hands involved in production of the atlas. So if the maps on folios 307/310 were inserted many years after the original was finished, why would extraordinary efforts have been made only in this one section on the Nile to make the additions identical in both palette and style? The remarkable similarity of the original and later maps in this section is better explained by their having been produced by the same artist using the same paints.

CONCLUSION

Eleven leaves, identifiable by their different supports and by absent or different foliation, were added to the atlas after the bulk of it had been produced. Among these later additions are maps so similar in style to those contained in the original manuscript that they must have been the work of the same artist, separated in creation by a relatively short amount of time. The interruption and change in foliation at the end of the manuscript may indicate the moment in the atlas's production when the decision was made to incorporate these additional maps. Since two of the additions bear cartographic information that dates them to the early eighteenth century, the manuscript itself, which seems to have been in production when the additions were made, must also be assigned this date. The impact of this change in the dating of the Walters' manuscript on the dating of other closely related copies of the *Kitab-i Bahriye* should now be considered, as should the larger genealogical framework of these fascinating and complex documents.

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NOTES

1. Svat Soucek, "Islamic Charting in the Mediterranean," in *The History of Cartography*, vol. 2, book 1, *Cartography in the Traditional Islamic and South Asian Societies*, ed. J.B. Harley and D. Woodward (Chicago and London, 1992), 265–79.

2. Thomas D. Goodrich, "Supplemental Maps in the Kitab-i Bahriye of Piri Reis," *Archivum Ottomanicum* 13 (1993–94): 118.

3. Deniz Muzesi, MS 988; Istanbul University Library, MS T. 6605

4. Goodrich, "Supplemental Maps," 120–21. Dimitris Loupis, "Piri Reis's Book on Navigation as a Geography Handbook: Ottoman Efforts to Produce an Atlas during the Reign of Sultan Mehmed IV (1648–1687)," *The Portolan* 52 (Winter 2001–2002): 13.

5. Dimitris Loupis, "Ottoman Nautical Charting and Miniature Painting: Technology and Aesthetics," *M. Ugur Derman Festschrift*, ed. Irvin Cemil Schick (Istanbul, 2000), 384.

6. Ataturk Kitapevi, Muallem Cevdet Collection, MS 30

7. Goodrich, "Supplemental Maps," 122.

8. Of these forty-one gatherings, twenty-five are quinions (ten leaves), two others are quinions completed by the addition or subtraction of a single leaf (eleven and nine leaves, respectively) and another two were quinions to which a single leaf or bifolium was added later. Of the remaining twelve gatherings, four are at the very beginning of the book and three at the very end. One of the other five (fols. 124–136) seems to have been formed in response to some kind of production error: some of the original foliation numbers are out of sequence and many of the leaves are no longer conjoints, as if they had had to be separated and rejoined in a new configuration so as to get the text in the proper order. The present collation of these folios, given with modern foliation in regular typeface and original foliation in italics, is 124/*120*, 125/*121*, 126/*122*, 127/*123*, 128/*124*, 129/*unfoliated (added later)*, 130/*unfoliated (added later)*, 131/*125*, 132/*129*, 133/*130*, 134/*illegible: probably 126*, 135/*127*, 136/*128*.

9. Folio numbers written in italics indicate original foliation; regular typeface indicates modern foliation.

10. This same series of ruled lines is also used to frame the maps, but the rulings on the maps seem to have been made at a different time than those on the text pages. On folios 266–273, for example, the individual responsible for the ruling of the maps used a green paint instead of blue for the outermost line. Yet the text pages on these same folios are all ruled in the standard blue.

11. The sequence was elucidated by looking at areas of the map where different media overlap—the media applied first perforce lying under the media applied later.

12. Representative examples of these styles are seen on folios 52b, 68b, 158a, 170a, 188a, 200a, 267b, and 290a.

13. Goodrich, "Supplemental Maps," 123.

14. Ibid., 120.

15. The countermark could be associated with the first of the watermarks by determining the conjoint leaves in the gatherings. As the sewing threads identify the inner leaf of each gathering, successive leaves on either side of the sewing could then be matched as possible conjoints. Not only was there almost a one-to-one correspondence in the number of lion countermarks and the first AP watermarks, but their positions relative to each other stayed constant. When the lion appeared upright on one leaf, the watermark on its conjoint always pointed downward, and vice versa, as would be expected given that the sheets were inserted into the textblock with the mould side of the paper randomly placed either face up or face down.

16. The color and mould line traces in both the second and third types of paper closely resemble the original paper. The world view is the only one among the added maps which is not of the type with scalloped coastlines and also the only one added as a single leaf. However, it is not clear that these differences account for why it is the unique addition executed on the third type of paper.

17. The added leaves are folios 24/31, 40, 129/130, 307/310, 371/374, and 372/373.

18. Edward Heawood, *Watermarks, Mainly of the Seventeenth and Eighteenth Centuries*. Monumenta chartae papyraceae historium illustranta 1 (Hilversum, Holland, 1950), no. 3102.

19. Zeren Tanjndj, chair, department of art history, Uludag University, Bursa, Turkey, in a personal communication with the author.

20. Bosch Gulnar, John Carswell, and Guy Petherbridge. *The Materials, Techniques, and Structures of Islamic Bookmaking* (Chicago, 1981), 58.

21. The pigment was identified by fiber optic reflectance spectroscopy, scanning electron microscopy, and polarizing light microscopy.

22. Bruno Muhlethaler and Jean Thissen, "Smalt," *Artists' Pigments: A Handbook of Their History and Characteristics*, vol. 2, ed. Ashok Roy (Washington, D.C., 1993), 115.

23. Josephine Darrah, "Connections and Coincidences: Three Pigments," *Historical Painting Techniques, Materials, and Studio Practice: Preprints of a Symposium, University of Leiden, the Netherlands, 26–29 June 1995*, eds. Arie Wallert, Erma Hermens, and Marja Peek (Los Angeles, 1995), 73–76.

24. Muhlethaler and Thissen, "Smalt," 128.

An Examination of the Renaissance Jewelry Collection of the Walters Art Museum

TERRY DRAYMAN-WEISSER AND MARK T. WYPYSKI

In 1978 over a thousand drawings attributed to Reinhold Vasters, a nineteenth-century silver- and goldsmith from Aachen, Germany, were discovered in the archive of prints and drawings at the Victoria and Albert Museum in London. At the time, decorative arts scholars were stunned when they realized the implications of these drawings, which had gone unnoticed since they entered the museum's collection as a gift in 1919. The donor had purchased the drawings the previous year from London dealer Murray Marks' sale, where they were described as "A set of designs in paint, colour and pen and ink, representing cups, crucifixes, ecclesiastical ornaments, flagons, dishes in crystal, onyx, &c with designs of gold and enamel mounting for the same by Vosters [sic] and others—on cardboard, seven parcels."[1] The initial supposition was that these drawings were Vasters' records of spectacular Renaissance objects. What came as a surprise was that some drawings included instructions on color and execution, notations more in keeping with designs intended for creating new objects in an older style.

Charles Truman, then the Victoria and Albert Museum's assistant keeper of ceramics, was the first to bring the implications of the Vasters material to the attention of the art world. In an article published in the March 1979 issue of *The Connoisseur* he cautioned, "in the light of present knowledge those pieces which do occur in the Vasters collection should be treated with the utmost skepticism."[2] In reaction, many museums with European decorative arts objects from the sixteenth and seventeenth centuries, including the Walters, focused anew on their collections, seeking to confirm or deny any relationship with Vasters' drawings. A number of previously unquestioned Renaissance objects in these collections, including jewelry, were immediately considered dubious, sometimes resulting in their removal from view. To this day, scholars are dealing with questions raised by these drawings.[3]

In 1986 Yvonne Hackenbroch, at the time curator emeritus of European sculpture and decorative arts at the Metropolitan Museum of Art, published an extended article

in which she matched Vasters' designs with objects thought to be Renaissance in the Metropolitan Museum of Art's collection and in those of other (primarily American) collections, including that of the Walters Art Museum.[4] It is interesting that Hackenbroch's *Renaissance Jewellery*, published in 1979 and written just before the revelation of Vasters' drawings, does not question the authenticity of the jewelry. The discovery of the drawings subsequently led Hackenbroch and others to completely reevaluate their understanding of the jewelry of this period. Since mentioned in Marks' sale inventory, many of the drawings depicted Renaissance-style "jewels," small objects of personal adornment made of precious materials.[5] Many of the jewels were in the form of gold pendants incorporating miniature sculptural and architectural elements embellished with colorful painted enamel, gems such as rubies, emeralds, and diamonds, as well as asymmetrical baroque pearls. A number of Vasters' drawings appeared to relate directly to jewels catalogued as Renaissance in major collections. Two appeared to correspond to works in the Walters: a pendant with a personification of Fortitude (44.622, figs. 1a–c), and an unusual double-sided jewel depicting David and Goliath on one side and Judith and Holofernes on the other (44.424, figs. 2a–c).[6]

In 1991, pursuant to in-house discussions about the Walters' jewelry, Joaneath Spicer, the James A. Murnaghan Curator of Renaissance and Baroque Art at the Walters, invited Hugh Tait, then deputy keeper of medieval and later antiquities at the British Museum and a specialist in Renaissance jewelry, to examine the collection. During his examination, Tait questioned the authenticity not only of the two pieces related to Vasters' drawings, but also of a number of other jewels previously identified as Renaissance in the 1979 catalogue of the Walters' jewelry collections, *Jewelry, Ancient to Modern*.

Further complicating the ongoing reevaluation of Renaissance jewelry in many collections, Rudolf Distelberger, then director of the Kunstkammer and the Schatzkammer of the Kunsthistorisches Museum in Vienna, revealed in 1993

that Alfred André, a well-known and highly regarded Parisian goldsmith and restorer of ancient, medieval, and Renaissance objects active in the late nineteenth and first decade of the twentieth century, was also making new objects in the Renaissance style.[7] The following year the *Art Newspaper* alerted the wider art world to Distelberger's disconcerting discovery: "A new faker has been unmasked and works on display in major museums are now revealed to be fabrications of the nineteenth century."[8]

Distelberger reported that Alfred André's living descendants possessed hundreds of models and casts relating to the pieces he had produced. Some of the models retained notes on the type of enamel, the number of pieces required, and the gems to be used.[9] Distelberger divides the models into three groups:

1. Casts of old originals. . . ; labeled as such and kept in small individual boxes.
2. Models for restoration, or for additions to old pieces . . . [and]
3. Models for new productions.[10]

In 2000 Distelberger published photographs of a small portion of André's casts and models.[11] In the caption to a photograph of one of André's models, he points out its relationship to one side of the Walters' double-sided pendant, the side depicting Judith and Holofernes (see fig. 6d).[12] In the 1993 publication he had already noted other André models for a front and reverse that relate directly to another Walters' jewel known as the Diana Pendant (44.442) (figs. 3a–c).[13]

Interestingly, although Vasters (in Aachen) and André (in Paris) lived and worked more than 250 miles apart and may not have shared a common language, they appear to have had a working relationship through Frédéric Spitzer (1850–1890), a well-known Viennese collector and dealer. Spitzer is described in the literature as a charming, cosmopolitan figure with prosperous clients and highly developed business acumen.[14] It was through Spitzer that many of Vasters' and André's nineteenth-century creations entered collections as genuine Renaissance jewels. Truman reports that "no less than twenty-one pieces from the Spitzer Collection appear in part or in whole in the Vasters drawings."[15]
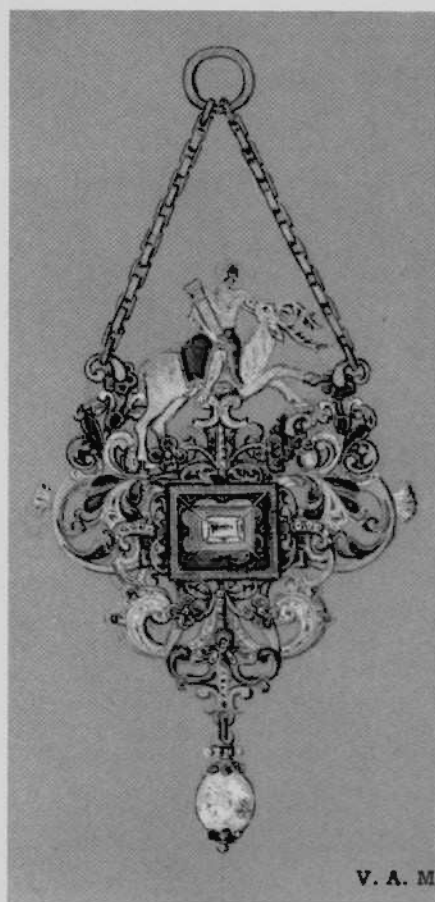
Fig. 1a. Reinhold Vasters, German, 1827–1909. Drawing for Fortitude pendant, Victoria and Albert Museum, London (E.2801-1919)

Fig. 1b. Personification of Fortitude pendant. Enamel, gold, pearls, diamonds, and ruby, height 12.7 cm. Baltimore, Walters Art Museum, Presented by the Trustees of the Pierpont Morgan Library, New York, 1951, in memory of Belle da Costa Greene (44.622), obverse, current state

Fig. 1c. Personification of Fortitude pendant (44.622), reverse, showing repairs
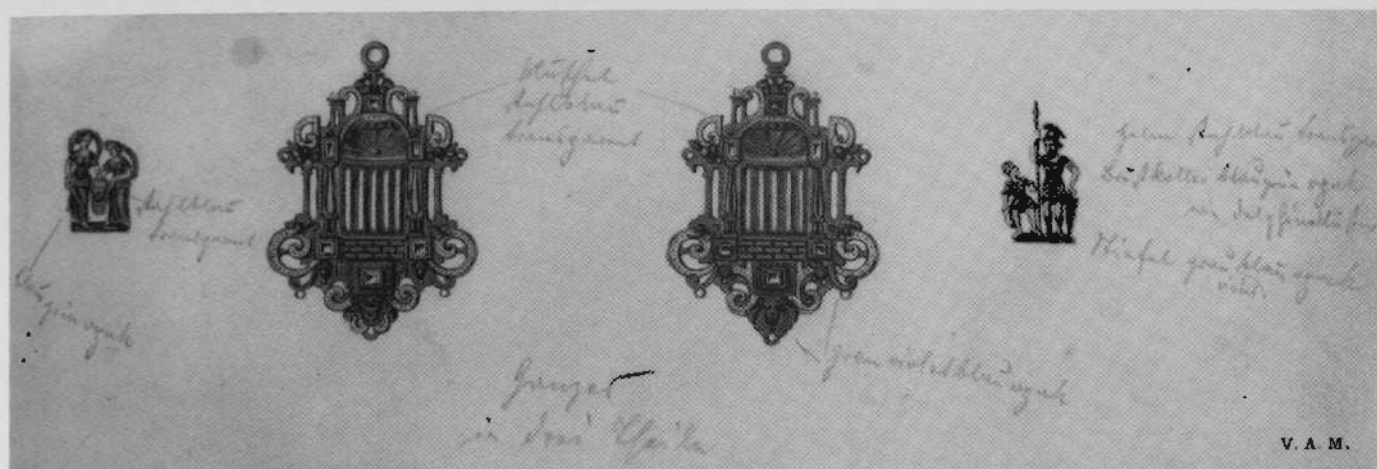
Fig. 2a. Reinhold Vasters, German, 1827–1909. Drawing for Double-sided pendant, Victoria and Albert Museum, London (E.2487-1919)

Fig. 2b. Double-sided pendant with David and Goliath. Gold, enamel, pearls, rubies, diamonds, height 5.3 cm. Baltimore, Walters Art Museum, bequest of Henry Walters, 1931 (44.424), current state
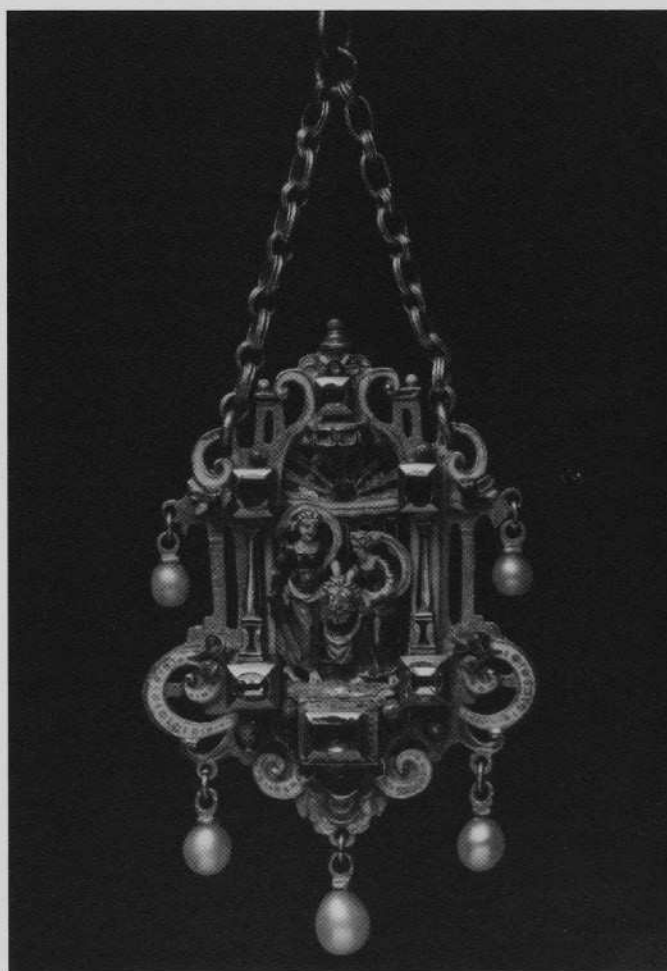
Fig. 2c. Double-sided pendant with Judith and Holofernes (44.424), current state

Fig. 3a. Diana pendant. Gold, enamel, pearls, rubies, and diamonds, 6.67 x 5.24 cm. Baltimore, Walters Art Museum, bequest of Henry Walters, 1931 (44.442), obverse, current state
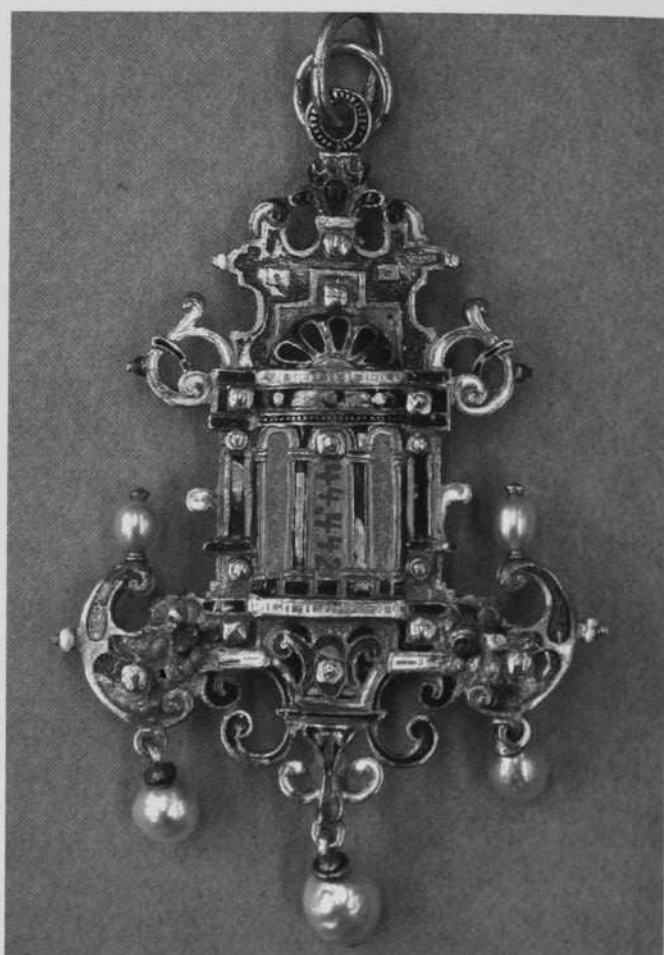
Fig. 3b. Diana pendant, 44.442, reverse, current state

Fig. 3c. Alfred André, French, 1839–1919. Models for front and reverse of Diana pendant (right) and another pendant with the same central figure and a different mount (left). Private collection

MAKING "OLD THINGS" IN THE NINETEENTH CENTURY

The nineteenth century was a period of social upheaval, both in Europe and America. Inspired by the French Revolution (1789–99), popular uprisings throughout Europe at mid-century sought to replace absolute monarchies with constitutional governments. At the same time, with the rise of nationalism, liberalism, and, especially, anticlericalism, the Roman Catholic Church was forced to undergo restructuring as it lost its political and economic clout. In some cases, church property was confiscated. The disruption that followed in the wake of these events led to the break-up and dispersal of great aristocratic and ecclesiastical collections that previously had rarely been seen on the market. Demand for these items was heightened during the reign of Emperor Napoleon III (r. 1852–70) with the revival of court balls and Renaissance-style costumes and pageantry (see fig. 4). In America, collectors like William and Henry Walters and J. Pierpont Morgan, whose wealth derived from the nation's rapid industrialization, emerged as important buyers in European markets, attracted by the glittering treasures being dispersed from some of the princely houses in Europe. The demand for these rarities apparently was so great that shrewd and unprincipled businessmen provided eager buyers with new precious objects in older styles.

It seems likely that Spitzer, with offices in both Aachen and Paris, recognized the talents of Vasters and André, and perhaps others as well, for creating convincing objects in older styles and that he played a major role in the sale of their works. A number of André's jewelry creations were based on designs by Vasters, and Spitzer had many pieces by both craftsmen in his collection.[16] Many of these objects were sold to wealthy American collectors as sixteenth- and seventeenth-century originals. In Dresden in 1909, the year of Vasters' death, Stephan Beissel published a book on art forgeries in which he named Spitzer as the employer of top-quality artists in Aachen, Paris, and Cologne who had been engaged in the manufacture of "old things" for almost fifty years.[17]

Vasters, André, and Spitzer were not the only individuals involved in making "old things" during the nineteenth century,[18] but they are the ones about whom significant material has been brought to light. A review of their working practices, to the extent that it can now be outlined, is essential to an assessment of the complicated and sometimes conflicting evidence that has been developed during the study of the Renaissance jewelry in the collection of the Walters Art Museum.

Fig. 4. Eugène Lami, French, 1800–1890. Study for a painting of a costume ball given by the princesse de Sagan, 1883. Watercolor on paper, 53.4 x 38.1 cm. Baltimore, Walters Art Museum, museum purchase, 1983 (37.2607)

REINHOLD VASTERS, ALFRED ANDRÉ, AND THEIR RELATIONSHIP WITH FRÉDÉRIC SPITZER

REINHOLD VASTERS

Vasters was born in 1827 in the town of Erkelenz near Aachen, Germany.[19] The son of a locksmith, Vasters' talents as a silver- and goldsmith were recognized early on. In 1853, at the age of only 26, he entered his maker's mark as a goldsmith in Aachen and in that same year was appointed restorer to the Aachen Cathedral treasury.[20] Vasters, among other goldsmiths, was employed not only to restore but also to replace damaged liturgical objects for an exhibition of the cathedral's treasures in 1860.[21] In the context of the revivalist tastes of the time and the restoration ethic of making new parts indistinguishable from the original, Vasters' assignment would not have been unusual. As a result of such work, Vasters developed

a fine reputation specializing in liturgical objects in the style of the Middle Ages. That he moved several times between 1861 and 1870 to progressively more affluent residential locations indicates that he was prospering.[22]

Although Frédéric Spitzer had established himself as a successful collector and dealer in Paris, in 1855 he also opened an office in Aachen, the same city where Vasters had taken up residence. According to Hackenbroch, there were stories circulating in Aachen about Spitzer's duplicitous nature. It was said that he "induced the local clergy to let him have old liturgical objects, arguing that in a damaged condition these had lost most of their value. Moved by deep-rooted antiquarian concern, he was nevertheless willing to acquire such objects and to replace them with new ones, made to serve their specific liturgical purposes even better, while preserving the appropriate 'medieval' style."[23] The damaged old objects that Spitzer collected in Aachen may have served him well in his antiquarian business in Paris.

Vasters' reputation for work with old liturgical objects undoubtedly attracted Spitzer's attention. In Vasters, Spitzer would have found a craftsman who could skillfully integrate damaged parts of old objects into new settings, creating works that could be sold as convincingly complete old objects. We know that Vasters did restoration for Spitzer since a note in the inventories of the Victoria and Albert Museum refers to Vasters and a sixteenth-century German enamel relief belonging to Spitzer: "Restored by Vasters. See photo with alternative setting shown by Murray Marks."[24]

That Vasters remained in residence in Aachen likely gave Spitzer greater freedom to carry out his deceptions successfully in Paris, since there would be no contact between Spitzer's clients and Vasters'. It may also have limited Vasters' knowledge of Spitzer's duplicitous activities. Vasters continued to prosper, amassing an art collection that was included in exhibitions in Dusseldorf in 1880 and 1902. A remark by Edmund Renard regarding the 1902 exhibition is the only known concrete, contemporary reference to a relationship between Vasters and Spitzer: "Among the smaller private collections, that of the Aachen goldsmith Reinhold Vasters offers a highly characteristic picture; throughout one notes the specialist and technician. Several decades of cooperation with the greatest genius among nineteenth-century collectors, Spitzer, have had a distinct influence on the formation of the collection."[25] Vasters was living in retirement by 1895. He died in 1909, and his effects were sold in 1912, including the drawings purchased by Murray Marks.

ALFRED ANDRÉ

Much less is known about the life of Alfred André. He was born in Paris in 1839 and by the age of 20 had opened his own shop.[26] Where he trained as a goldsmith is not clear. It is known that he studied and reproduced earlier enameling techniques, and like Vasters, specialized in the restoration of medieval objects, as well as those of the Renaissance.[27] According to Distelberger, "André's reputation as a restorer of gold and enamel work was unsurpassed in all of Europe."[28] He must have been quite successful in his business since in 1880 he bought a large house in a fashionable district of Paris where he devoted the house's left wing to workshops in which he employed other goldsmiths, hardstone carvers, and ceramists.[29]

In what must have been a highlight of André's career, he was commissioned to restore a Milanese rock crystal casket in the Escorial. Distelberger speculates that "André received this commission because of his international reputation as a restorer with a great sensitivity to various styles."[30] André traveled to Madrid in 1885 to deliver the restored casket in person, and the queen was so pleased with the result that she bestowed upon André the "croix de chevalier de l'Ordre de Charles III." At the queen's request, André inscribed the bottom of the casket, identifying himself as the restorer.[31]

Distelberger's revelation in 1993 that André had also been in the business of creating new jewelry in the Renaissance style came as a disquieting surprise. Major museums and collectors had used André's restoration services, and he had been responsible for the treatment of many significant works of art. Those who knew of André's skills and reputation as a master restorer were loath to believe that he might also have been a forger.

It is not known when André met Spitzer, but the latter moved his headquarters from Vienna to Paris in 1852 and employed André to work on objects in his collection. We know that a number of André's works, many based on Vasters' designs, appeared in an 1893 Spitzer sale catalogue. Truman has suggested that Vasters was not a jeweler and that "it seems likely that his designs for goldsmith's work and jewelry were executed by the Paris workshops of Alfred André."[32] According to Distelberger, Spitzer "apparently commissioned André and Vasters to produce objects in the style of the Renaissance, then presented them in his collection as originals of the sixteenth century."[33] André began turning over his restoration business to his son, Leon, in 1905 and had fully retired by 1907.[34] He died in 1919, the year that Vasters' drawings entered the Victoria and Albert Museum's collection.

It is stated or (more often) implied in the current literature that Vasters and André were "forgers" or "fakers." [35] If those labels are defined by intent, we must ask: Did Vasters and André know that Spitzer was selling their works as sixteenth- and seventeenth-century originals? Hackenbroch suggests that Vasters initially "may not even have fully realized that objects executed by him or from his designs were to be passed off as rare survivals of medieval or Renaissance art." [36] The note in the Victoria and Albert Museum's inventories referring to Vasters' restoration of Spitzer's sixteenth-century German enamel relief, moreover, indicates that an alternate setting had been designed. This may indicate that the creation of new settings during restoration was considered acceptable practice, in which case Vasters and André may have been innocent of deception. They might simply have been responding to what they believed to be legitimate requests from Spitzer and others for jewels celebrating earlier styles in the prevailing spirit of historicism. Or they may have been carrying out what they considered restoration services, providing new parts for damaged Renaissance jewels, or embellishing or updating older pieces with new, more fashionable settings. That Vasters was embellishing existing pieces is suggested by his notations on a drawing giving details on the rim of a lid. Truman quotes the translation from the German: "This gold surface very thin but I think I can enamel this design into it." [37]

Certainly restorations known to have been done by André seem deceptive by today's standards, but at the time his much-sought-after restorations were considered masterful, returning objects to their original glory. Heavily restored objects were not considered fakes, a fact that is illustrated by André's restoration of the Escorial casket, mentioned previously, for which he was honored by the queen of Spain. According to Distelberger, André's restoration of the casket (figs. 5a, b) included the following additions: "four satyrs on the base, the four caryatids at the corners, the four sirens on the lid, eleven old and four new cameos together with their settings, one hundred ornaments made of enameled gold, and many gold ornaments in the spaces in between." [38]

In considering nineteenth-century attitudes toward restoration, it is instructive briefly to review the practices of Salomon Weininger, who was active in Vienna at the same time as Vasters and André, although Weininger died in prison in 1879 while serving time for his fraudulent activities. Weininger's general mode of operation was to offer his services as a restorer to such august Viennese institutions as the Geistliche Schatzkammer of the Austrian Empire and the museum of the dukes of Modena. He would agree to restore an object from the collection but instead created a copy, which he returned in place of the original; he would then sell the restored original to a collector for a large sum of money. Weininger was able to get away with this, according to the noted art historian John F. Hayward, because it was the fashion to restore works of art using drastic methods. "The fact that the pieces returned by Weininger looked new—which they were—was presumably accepted as proof of the effectiveness of the restoration." [39]

Among Vasters' drawings in the Victoria and Albert Museum are designs for an ebony house altar decorated with enameled gold mounts in the style of the sixteenth century—the only drawings with French (rather than German) annotations. [40] The object that corresponds to these drawings was in the collection of the Paris branch of the Rothschild family. The notations may be instructions to a French craftsman who was working from Vasters' designs, or the drawings may have been executed by a French designer—perhaps even André himself; after all, the dealer Murray Marks described the drawings as by Vasters *and others*. There is also a possibility that the Rothschilds requested a house altar in sixteenth-century style, and that the drawings were annotated in French for their approval and therefore were not intended to deceive.

Vasters and André might well have known that Spitzer was passing off their new works as old. Certainly, there were suspicions in the contemporary art world about Vasters' creations. In 1912, only three years after Vasters' death, Edward Strange, keeper of engraving, illustration, and design at the Victoria and Albert Museum, commented that Vasters' drawings were, "designs for goldsmiths' work, many pieces of which . . . have been placed on the market as old work. A few of the designs are genuine old 16th century Italian work; and it is curious to note how Vasters has developed the themes thus supplied to him into compositions of similar nature." [41]

One piece of evidence initially suggests that even if Vasters was unaware of the deception at the beginning, he eventually must have known. A six-volume illustrated catalogue of Spitzer's collections was produced between 1890 and 1892 (Spitzer died in 1890 and never saw the final version). When Spitzer's collection was sold in 1893, a two-volume catalogue was published using the entries from the six-volume set, along with plates showing objects in the collection. [42] Many of the designs for the objects in the catalogue were by Vasters, but they were labeled as authentic pieces of an earlier date. [43] Certainly it could be argued that Vasters, whose extensive library contained copies of both catalogues, [44] would have recognized his own pieces in these volumes and would have been aware of the deceptive entries. However, according to Hackenbroch, by

COFFRET DE L'ESCURIAL.
Avant la restauration.
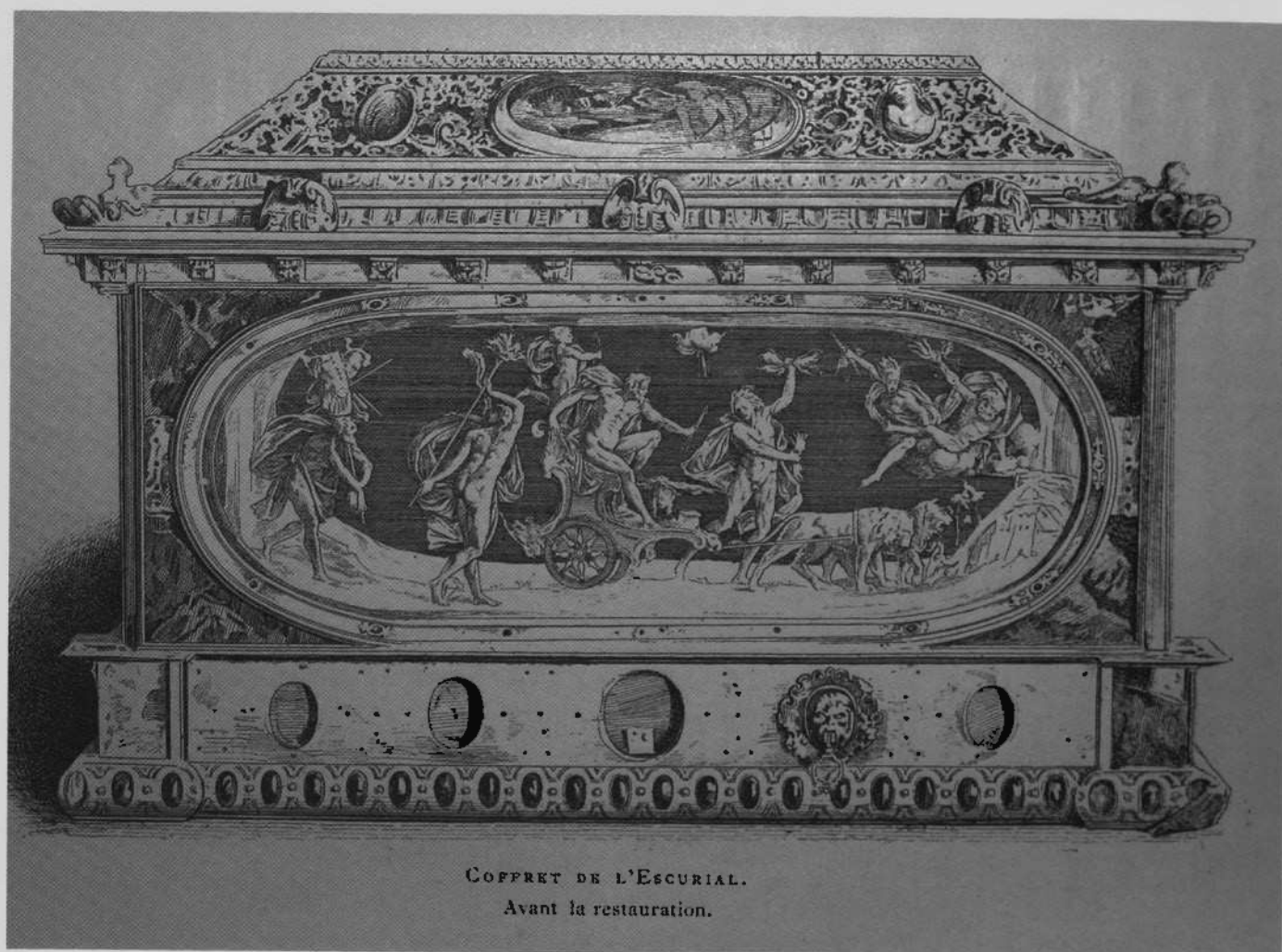
5a. Italian casket, before 1593, from the Escorial collection, Madrid, before restoration. Engraving by C. E. Wilson, from Edmond Bonnaffé, *Le coffret de l'Escurial* (Paris: Imprimerie de l'Art, 1887), 23

1895 references to Vasters described him as a retired person, or a man of private means (Marc Rosenberg states that Vasters retired in 1890),[45] indicating that he could not have seen the catalogue entries until around the time he retired. Since André's business was in Paris, where Spitzer was a well-known dealer, and since André also did restoration work for many of the buyers who were deceived by Spitzer, André is more likely than Vasters to have been aware of Spitzer's deceptive claims of authenticity.

Vasters and André, as well as other nineteenth-century goldsmiths working in older styles, had access to and took inspiration from sixteenth- and seventeenth-century engravings and drawings depicting designs for jewels for the wealthy by notable craftsmen such as Virgilius Solis (1514–1562), Matthis Zündt (ca. 1498–1572), Hans Collaert the Elder (ca. 1530–1581), Theodor de Bry (1528–1598), and Erasmus Hornick (d. 1583). Another likely source during this period were the sixteenth-century designs submitted as part of the test for acceptance into

the guild of goldsmiths, such as the drawings in the Spanish *Llibres de Passanties del Gremi d'argenters de Barcelona* (Arxiu Historic de la Ciutat de Barcelona).

A STUDY OF THE WALTERS ART MUSEUM'S RENAISSANCE JEWELRY COLLECTION

With the above history in mind, a technical study of the Walters' Renaissance jewelry collection began in 2001 in preparation for the reinstallation of the museum's Palazzo galleries. One-hundred and twenty pieces of jewelry in the Walters' collection are catalogued as sixteenth or seventeenth century in *Jewelry, Ancient to Modern* (New York and Baltimore, 1979). Thirty-seven are documented as being purchased by Henry Walters through various dealers, the earliest recorded in 1893. Only twelve are documented as entering the collection after Henry's death in 1931. We may assume that seventy-one pieces with no recorded history were acquired before 1931, since thereafter a professional

5b. Italian casket from the Escorial collection after restoration in 1885 by Alfred André. Engraving by C. E. Wilson, from Edmond Bonnaffé, *Le coffret de l'Escurial* (Paris: Imprimerie de l'Art, 1887), 25

registrar began systematic documentation of the collection. At least two pieces, the double-sided pendant depicting Judith and Holofernes and David and Goliath (44.424) and a pendant with a personification of Fortitude (44.622) are documented as originally part of Spitzer's collection.[46]

Although it was known that some pieces in the Walters' collection had been restored, the dating of the jewelry had not been questioned until the publication of Vasters' drawings and images of models and casts from André's workshop production came to light. Due to the questions raised by these discoveries and by the Renaissance jewelry specialist Hugh Tait, Joaneath Spicer supported a technical study of the museum's Renaissance jewelry collection. Generous funding for the study was provided by the Richard C. von Hess Foundation. What separates this research on our collection from that of the past is the use of chemical analysis and the availability of comparative analytical data from studies of Renaissance-period and later enameled objects in other collections, e.g., from enameled objects in

the Metropolitan Museum of Art,[47] providing a degree of certainty not previously possible.[48] Being able to date objects more securely with analytical data, moreover, allowed us to train our eyes to make more subtle visual distinctions with a greater degree of confidence.

Many of the Walters' Renaissance jewels are in the form of gold pendants, crucifixes, hat badges, dress ornaments, and chain links lavishly embellished with gemstones, pearls, and enamel, the last valued for its color and visual complexity. It was not until well into the seventeenth century that elaborate faceting of gem stones was fully mastered and that enamel began to play a more subsidiary role to the sparkle of the gems. The extensive presence of enamel on the jewelry in this study permitted the use of chemical analysis to help determine the date of manufacture. Mark Wypyski, research scientist at the Metropolitan Museum of Art, having previously created a database of comparative enamel compositions, agreed to participate in this study.

THE NATURE OF ENAMEL AND ITS INTERPRETATION

Before addressing the differences seen in Renaissance and later enamels, we will briefly review the general nature of enamel, a glassy material fused in place on a metal or glass substrate. Glass used to produce enamel is composed mainly of silica (silicon oxide) with the addition of compounds such as soda (sodium oxide) or potash (potassium oxide) to reduce the melting temperature. Metal-based compounds (e.g., metallic oxides of copper or iron) are added to produce the final color in the glass. Crystalline compounds, called opacifiers, sometimes are added to block the transmission of light through the glass, making it opaque.

Studies of other collections, such as that of the Metropolitan Museum of Art, have shown that the compositions of sixteenth- and seventeenth-century enamels differ from those used in the eighteenth and nineteenth centuries.[49] Thus, chemical analysis can help identify modern objects made in the style of an earlier period. Nevertheless, interpreting the results of enamel analysis is not straightforward. One may encounter repairs or updating to reflect changes in fashion, and re-enameling was not uncommon to remedy damage and chipping. Even jewels that have remained in royal collections or whose history can be traced until they entered museum collections may have been repaired over the centuries. One need only consider André's restoration of the Escorial rock crystal casket to appreciate the extent to which objects of the period may have been altered, adding later enamel compositions to authentic sixteenth- and seventeenth-century works. Finally, it can not be excluded that earlier enameling materials might have been available and used in some nineteenth-century workshops, complicating the interpretation of the results.[50]

THE COMPOSITIONS OF RENAISSANCE-PERIOD AND LATER ENAMELS

What follows is a brief description of the characteristics of enamel from the Renaissance period and of enamel from later periods, against which we can compare the data from the Walters' jewels. Generally, Renaissance-period enamels can be characterized as soda or mixed-alkali-based compositions (that is, large amounts of both sodium and potassium are added to the major component, silicon) with little if any lead, except in the opaque enamels.[51] Opaque enamels, as they had for centuries, contained white crystalline tin oxide, usually present at close to or greater than twenty percent by weight in white enamels, and under twenty percent in other colors such as opaque blue or turquoise. The tin oxide is associated with a large amount of lead oxide, with the percentage of tin usually in excess of the lead, with a ratio as high as about two to one. Colored enamels during this period are generally translucent, and the colors were produced by adding metal oxides. Red was made with copper oxide, generally with minor amounts of tin and lead oxides. Blue was made with cobalt oxide, generally associated with iron, nickel, arsenic, and bismuth. Black, actually a very dark purple-blue, was made with a mixture of manganese oxide, which by itself can produce purple, and cobalt. Green was produced by a mix of copper and iron oxides, and the less commonly found opaque green was made by adding copper oxide to a glass containing yellow opacifiers—either lead stannate, lead antimonate or a mixture of both.

Beginning in the eighteenth century, changes occurred in the opacifiers and colorants used in the manufacture of glass and enamels. Opaque enamels from the second half of the eighteenth century and the nineteenth century have been found to contain significant amounts of arsenic, mainly in the form of a new type of opacifying agent, lead arsenate, which for the most part replaces the tin oxide used in earlier enamels. Blue enamels from this period are still colored with cobalt oxide, but usually do not contain large amounts of iron or the other cobalt-associated metallic oxides found in the earlier enamels. Beginning in the late eighteenth century, there appears to have been a change in the colorant used in red enamels. Red was now colored with antimony oxide instead of copper. During the nineteenth century, green enamels began to be made using chromium oxide as the colorant, often mixed with some copper as well, while earlier enamels had used a mix of copper and iron oxides to produce the desired shade of green. In the nineteenth century, opaque green was for the most part produced by using chromium green and the white opacifier lead arsenate.

METHODOLOGY

Forty-one pieces of jewelry in the Walters' collection were examined and their enamel analyzed during this project. For this article we report our observations and analytical results on eight of the jewels traditionally dated to the Renaissance. The jewels included in this study were selected because of a known relationship to Vasters, André, or Spitzer; because their authenticity had been questioned by Tait; or because there are models or drawings similar to the object that could have inspired a nineteenth-century forger.

Fifty-six enamel compositions from the selected objects are presented in this study (Table 1). Quantitative chemical analysis of the different color enamels was carried out to determine the relative amounts of the elements present, to characterize the overall compositions, and to identify the colorants and the associated elements for the different color enamels. In this way the results for the enamels could be compared with each other and with other published data.

To aid in selecting enamel-sampling sites and in interpreting the results, each piece was carefully examined under a stereomicroscope to determine condition and to identify evidence of restoration or alteration. The construction and the method of manufacture were also reviewed to identify characteristics that are not typical of the Renaissance period. Each object also was viewed in ultraviolet light using both the short and long wavelengths, noting locations and color differences of any fluorescence. Added gems and embellishments were identified to the extent possible.

Using the microscope for magnification, damaged edges of enamel were selected and a tiny flake of each color was removed with a steel scalpel for analysis. Areas of repair or possible re-enameling were avoided during the sampling process.[52] The compositions of all enamel samples were analyzed in the x-ray microanalysis laboratory at the Metropolitan Museum of Art, with energy dispersive x-ray spectrometry (EDS) to determine the major and minor elements. Wavelength dispersive x-ray spectrometry (WDS) was used to determine trace amounts down to approximately 0.01 percent by weight.[53] Weight percentage concentrations of the elements detected were calculated in comparison with a range of well-characterized reference glasses and glass standards.[54]

ANALYTICAL RESULTS

The enamel compositional data from this study, with a few exceptions, fall into one of two basic groups: enamels resembling the overall compositions found in recent studies of securely dated enamels from the Renaissance period (here called Type 1) and those more like the later compositions (Type 2). Quantitative results of analyses of the compositions of enamels are listed by object and color in Table 1.

VISUAL EXAMINATION

Upon separating the enamels into Type 1 (corresponding to Renaissance-period enamel compositions) and Type 2 (corresponding to nineteenth-century enamel compositions) groups based on the analytical results, certain visual characteristics were noted that were unique to each group. Most notably, the red enamel in the Type 1 group has a dark, cherry red appearance, and under magnification a white halo is visible at its edges (see fig. 10b). Type 2 red tends to have an orange-red appearance with no white halo. In addition, under short-wave ultraviolet light, the Type 2 red fluoresces a cool white, while Type 1 red does not fluoresce. These unique visual characteristics could be used to help distinguish Renaissance composition from nineteenth-century composition on objects where red enamels were present but had not been analyzed.

Another observation, but one that is less definitive, is that the jewels with Type 1 enamels are usually constructed from several parts assembled with mechanical joins, usually gold rods through holes, sometimes secured with small hand-made gold nuts. The later jewels are often joined with solder. However, this information alone is insufficient to distinguish between Renaissance-period and nineteenth-century jewels, as some later jewels, or those that combine old and new parts, have been reconstructed using mechanical techniques. In addition, some joins and repairs on older objects may have been carried out with solder.

TABLE 1. EDS/WDS ANALYSES OF ENAMEL COMPOSITIONS (WEIGHT %)

	Acc. no.	Enamel color	Na₂O	MgO	Al₂O₃	SiO₂	P₂O₅	SO₃	Cl	K₂O	CaO	TiO₂	Cr₂O₃	MnO
1.	44.424 *David/ Judith*	Red	5.3	0.02	0.22	50.3	0.16	0.15	0.14	13.0	0.44	0.01	nd	0.06
		Blue	2.0	0.04	0.24	50.4	0.04	0.23	0.11	14.9	0.39	0.01	nd	0.13
		Blue Opaque	4.7	0.04	0.20	39.5	0.33	0.38	0.13	4.2	0.68	0.02	nd	0.54
		White Opaque	1.5	0.03	0.11	36.3	0.06	0.08	0.11	6.5	0.30	0.01	nd	0.02
		Green	3.8	0.02	0.17	55.8	0.17	0.10	0.18	12.9	0.08	nd	0.71	0.01
2.	44.622 *Fortitude*	White Opaque 1	11.5	0.29	0.28	37.6	0.07	0.30	0.63	1.2	0.97	0.01	nd	0.17
		Green 1	16.2	0.47	0.49	64.6	0.12	0.42	0.83	2.3	1.4	0.02	nd	0.38
		Red 1	10.6	2.5	1.3	60.5	0.32	0.18	0.76	15.2	5.8	0.07	nd	0.09
		Blue Opaque	11.4	1.4	0.58	44.0	0.17	0.32	0.54	2.0	4.5	0.02	nd	0.02
		Blue	4.6	0.03	0.17	52.3	0.10	0.11	0.12	11.4	0.89	0.02	nd	0.29
		White Opaque 2	1.8	nd	0.15	34.7	0.09	0.11	0.09	6.8	0.02	0.03	nd	nd
		Red 2	6.0	0.07	0.23	52.6	0.14	0.35	0.15	11.5	1.8	0.02	nd	0.05
		White Opaque 3	1.3	nd	0.16	34.5	nd	nd	0.07	5.4	0.67	0.01	nd	nd
		Green 2	6.0	0.06	0.28	47.6	0.06	0.32	0.15	6.5	3.9	0.02	0.94	0.07
		Red 3	7.2	0.06	0.23	52.2	0.12	0.32	0.29	11.6	2.0	0.02	nd	0.07
3.	44.442 *Diana*	White Opaque 1	14.4	0.11	0.36	36.2	0.08	0.34	1.0	2.2	0.43	nd	nd	0.01
		Light Blue Opaque	16.6	0.12	0.38	48.8	0.08	0.53	1.1	3.6	0.44	0.01	nd	0.05
		Red 1	8.8	1.6	1.8	53.6	1.3	0.45	0.30	18.0	10.2	0.10	nd	0.08
		Blue 1	13.6	0.36	1.2	63.8	0.29	0.44	0.41	10.8	3.5	0.04	nd	0.47
		Blue 2	3.5	0.03	0.16	55.2	0.12	0.25	0.10	11.5	0.68	0.02	0.07	0.14
		White Opaque 2	1.2	nd	0.07	34.5	nd	0.08	0.07	5.3	0.58	nd	nd	0.35
		Red 2	9.0	0.06	0.26	54.0	0.08	0.18	0.13	10.2	2.9	0.02	nd	0.07
		Green	5.0	0.05	0.18	52.2	0.05	0.11	0.08	10.0	1.7	0.02	0.55	0.07
4.	44.266 *Adam & Eve*	Green 1	16.4	0.55	0.76	60.8	0.27	0.16	1.1	4.9	1.4	0.05	nd	0.32
		White Opaque 1	11.2	0.33	0.27	39.5	0.19	0.16	0.47	2.3	1.8	0.02	nd	0.51
		Red 1	12.5	1.8	2.5	59.6	0.91	0.06	0.78	10.2	7.3	0.12	nd	1.6
		Amber	13.5	1.5	1.0	57.6	0.58	0.23	0.61	9.4	5.8	0.07	nd	3.7
		Green 2	5.2	0.06	0.24	54.0	0.06	0.11	0.09	10.3	1.7	0.01	0.72	0.05
		Red 2	6.0	0.01	0.20	51.0	0.09	0.14	0.08	11.3	0.53	0.02	nd	0.04
		Blue Opaque	1.5	nd	0.13	33.2	0.06	0.21	0.22	5.4	0.48	nd	nd	0.01
		Black	3.7	0.06	0.33	46.8	0.06	0.12	0.09	9.2	0.74	0.02	0.10	4.4
		White Opaque 2	1.7	0.10	0.07	31.8	0.98	0.77	0.23	4.8	1.3	0.01	nd	0.27
		Green Opaque	1.8	0.07	0.15	35.5	0.05	0.26	0.25	6.2	0.77	0.02	0.57	0.26
5.	44.464 *Ship Pomander*	Green	16.2	0.44	0.70	64.3	0.15	0.37	0.95	2.8	1.4	0.02	nd	0.29
		White Opaque	8.4	1.4	0.71	39.2	0.28	0.05	0.97	2.2	4.4	0.02	nd	0.17
		Blue Opaque	9.8	0.14	0.54	40.0	0.05	0.19	0.69	1.4	0.75	0.02	nd	nd
		Red	14.6	1.5	2.6	63.0	0.45	0.11	1.1	7.2	4.8	0.13	nd	0.86
		Blue	15.5	0.18	0.69	70.6	0.05	0.40	1.2	3.2	0.49	0.02	nd	0.01
		Black	11.5	2.5	1.7	56.5	0.39	0.24	0.59	2.4	8.5	0.10	nd	2.7
6.	44.475 *Ship Pendant*	Green	8.0	0.06	0.30	57.2	0.18	0.22	0.10	10.8	4.3	0.03	1.0	0.03
		White Opaque	3.0	nd	0.37	34.0	0.24	0.09	0.21	4.0	0.42	0.02	nd	nd
		Red	4.2	0.03	0.18	49.3	0.14	0.13	0.14	13.0	0.49	0.02	nd	0.04
7.	44.309 *Dolphin I*	Green	5.7	0.03	0.22	52.6	0.58	0.12	0.10	10.2	2.0	0.01	0.58	0.04
		Black	2.6	0.04	0.24	45.4	0.09	0.29	0.37	10.2	0.18	0.02	nd	5.0
		Blue-Green	4.2	0.01	0.13	51.8	0.10	0.17	0.28	11.2	0.73	0.02	0.20	0.20
		Red	3.9	0.02	0.15	49.2	0.14	0.31	0.12	13.2	0.30	0.01	nd	nd
		White Opaque	1.6	0.03	0.07	34.4	nd	0.09	0.07	5.2	0.55	nd	nd	0.34
8.	44.443 *Dolphin II*	Blue 1	15.8	1.0	1.0	64.6	0.14	0.34	0.72	3.7	3.7	0.04	nd	0.57
		Red 1	7.7	1.4	2.0	55.3	0.22	0.10	0.70	5.3	2.5	0.23	nd	0.49
		Blue Opaque	8.8	0.66	1.3	40.2	0.22	0.14	0.78	2.4	2.0	0.07	nd	0.41
		White Opaque 1	11.5	1.4	1.1	40.4	0.22	0.11	0.72	2.6	3.1	0.03	nd	0.11
		Green 1	12.8	2.7	2.5	58.2	0.32	0.22	0.57	5.2	8.2	0.10	nd	1.5
		Red 2	8.9	0.06	0.28	54.2	0.07	0.20	0.13	10.3	2.9	0.02	nd	0.05
		White Opaque 2	1.4	0.02	0.07	35.0	0.02	0.07	0.06	5.9	0.69	nd	nd	0.37
		Green 2	9.5	0.09	0.48	63.3	0.03	0.25	0.06	9.7	4.0	0.04	0.80	0.19
		Blue 2	4.3	0.02	0.13	50.8	0.08	0.16	0.25	11.7	1.1	nd	nd	0.24

Notes: nd = not detected. Enamels are translucent unless otherwise noted.

Fe$_2$O$_3$	CoO	NiO	CuO	ZnO	As$_2$O$_2$	SrO	SnO$_2$	Sb$_2$O$_3$	BaO	PbO	Bi$_2$O$_3$	Sample location
0.11	nd	nd	nd	nd	0.18	nd	0.29	2.4	0.09	27.2	nd	Side with 2 male figures
0.39	0.43	nd	0.61	nd	0.79	nd	nd	nd	0.51	28.8	nd	Side with 2 male figures
0.13	0.72	0.04	0.36	nd	2.8	nd	4.6	nd	0.01	40.5	nd	Side with 2 male figures
0.07	nd	nd	0.16	0.07	5.0	nd	nd	nd	nd	49.8	nd	Side with 2 female figures
0.14	nd	nd	3.3	nd	0.02	nd	nd	nd	nd	22.6	nd	Side with 2 female figures
0.17	nd	nd	0.33	nd	0.05	nd	29.8	nd	0.03	16.5	nd	Center
4.7	nd	nd	8.0	nd	0.02	nd	0.02	nd	0.01	nd	nd	Center
0.67	nd	nd	0.72	0.02	nd	0.04	1.4	nd	0.02	nd	nd	Center
1.1	1.1	0.24	0.09	nd	2.1	nd	15.2	nd	0.01	14.5	0.92	Diamond Bezel
0.05	0.68	0.06	0.21	nd	0.49	nd	nd	nd	0.05	28.4	nd	Chain
0.04	nd	nd	nd	0.11	5.0	nd	nd	0.04	0.01	50.9	nd	Chain
0.14	0.01	nd	0.02	nd	0.18	nd	0.22	2.8	0.02	23.8	nd	Chain
0.03	nd	nd	nd	nd	5.4	nd	nd	nd	nd	52.4	nd	Mount
0.16	nd	nd	3.2	0.02	0.16	0.03	nd	0.03	1.4	29.2	nd	Mount
0.13	nd	nd	nd	0.02	0.20	nd	0.20	2.4	0.02	23.0	nd	Mount
0.34	nd	nd	0.06	nd	0.02	nd	29.8	nd	0.02	14.6	nd	Column, PR of figure
0.26	0.03	0.02	3.3	0.02	0.05	nd	15.6	nd	0..01	9.0	nd	Figure, PR leg
0.67	nd	nd	1.0	0.02	nd	0.03	1.0	0.15	0.03	1.0	nd	Figure, PR leg
2.8	0.58	0.44	1.3	0.02	0.02	0.03	nd	nd	0.01	0.07	nd	Figure, PR leg
0.07	0.75	0.04	2.2	0.05	0.28	nd	nd	nd	0.01	24.8	nd	Mount, rear surface
0.25	nd	nd	0.39	nd	6.2	nd	nd	nd	nd	51.0	nd	Mount, rear surface
0.08	nd	nd	0.02	0.03	0.25	nd	0.33	2.9	nd	19.4	nd	Mount, rear surface
0.08	nd	0.02	4.2	0.01	0.15	nd	nd	0.05	nd	25.4	nd	Mount, rear surface
6.8	nd	nd	6.2	0.27	nd	nd	0.10	0.02	0.03	nd	nd	Medallion
0.82	nd	nd	0.10	nd	nd	nd	20.8	nd	0.05	21.6	nd	Medallion
0.77	0.01	nd	0.36	nd	nd	0.02	0.69	nd	0.07	0.67	nd	Medallion
5.8	0.02	nd	0.06	nd	nd	0.03	0.04	nd	0.18	nd	nd	Medallion
0.06	nd	nd	3.4	0.05	0.20	nd	nd	0.07	0.02	23.6	nd	Frame
0.11	nd	nd	nd	nd	0.24	nd	0.35	2.6	nd	27.4	nd	Frame
0.07	1.2	0.06	0.22	nd	5.6	nd	0.02	nd	nd	51.6	nd	Frame
0.28	1.5	0.06	4.6	nd	0.12	nd	0.03	0.08	0.08	27.5	nd	Frame
0.25	nd	nd	2.2	0.10	4.6	nd	nd	0.04	nd	50.8	nd	Frame
0.12	nd	nd	2.2	nd	5.2	nd	nd	nd	nd	46.4	nd	Frame
4.6	nd	0.02	7.6	nd	0.04	nd	0.06	nd	0.02	nd	nd	Rear
0.30	nd	nd	0.09	nd	0.43	0.02	25.0	nd	0.02	16.2	nd	Rear
0.88	1.0	0.32	0.48	nd	0.85	nd	19.2	nd	nd	21.6	2.0	Front
1.0	nd	nd	0.67	nd	nd	0.04	1.0	nd	0.03	0.84	nd	Front
0.59	0.82	0.24	4.1	nd	0.54	nd	nd	nd	nd	nd	1.4	Front
1.9	1.8	1.2	0.23	nd	4.3	0.05	0.28	nd	0.07	0.48	2.6	Front
0.09	nd	nd	6.4	nd	0.12	nd	nd	nd	0.02	11.0	nd	Ship
0.04	nd	nd	0.12	nd	4.0	nd	11.5	nd	0.02	41.8	nd	Ship
0.08	nd	nd	0.01	0.02	0.14	nd	0.32	2.7	nd	29.0	nd	Ship
0.09	0.07	0.01	3.0	0.07	0.16	nd	nd	0.02	0.02	24.4	nd	Dolphin
1.1	1.5	0.16	4.8	0.12	0.11	nd	nd	nd	0.02	27.6	nd	Dolphin
0.10	0.34	0.12	1.7	0.07	0.19	nd	nd	nd	0.02	28.5	nd	Dolphin
0.07	nd	nd	0.04	0.02	0.12	nd	0.30	2.5	nd	29.6	nd	Dolphin
0.26	nd	nd	0.01	nd	5.8	nd	nd	nd	0.01	51.5	nd	Chain
1.5	0.50	0.24	1.3	0.03	0.22	0.03	2.0	nd	nd	2.2	0.33	Dolphin
0.82	nd	nd	1.1	0.06	nd	0.02	2.0	nd	0.05	20.0	nd	Dolphin
1.4	1.6	0.39	0.59	nd	1.9	nd	19.0	nd	0.02	16.8	1.5	Dolphin
0.33	nd	nd	0.29	nd	nd	0.03	28.4	nd	0.01	9.6	nd	Dolphin
3.8	0.04	0.14	3.0	0.01	0.04	0.03	0.22	nd	0.07	0.26	nd	Dolphin
0.07	nd	nd	nd	0.03	0.24	nd	0.33	2.9	nd	19.5	nd	Chain
0.26	nd	nd	nd	nd	6.0	nd	nd	nd	nd	50.5	nd	Chain
0.11	nd	nd	4.1	0.03	0.14	nd	nd	nd	nd	7.2	nd	Chain
0.30	1.1	0.17	2.2	0.04	0.32	nd	nd	nd	0.04	27.0	nd	Chain

DISCUSSION OF THE OBJECTS IN THIS STUDY

Combining the analytical results and the visual characteristics with what we know of the work practices of Vasters and André, conclusions can be drawn about the eight objects in this study.

1. Double-sided jewel with David and Goliath and Judith and Holofernes (44.424, figs. 6a, b; see also figs. 2a–c)

Materials: Gold, enamel, pearls, rubies, diamonds

Enamel colors present: Green, red, blue, opaque white, opaque blue, (sampled for analysis); black, opaque turquoise (not sampled)

History: Illustrated in Spitzer's 1890–92 six-volume catalogue. Purchased by Henry Walters at Spitzer estate sale in 1893.

Analytical results: All samples analyzed are consistent with Type 2 enamels.

Visual examination: All red enamel is visually consistent with Type 2 enamel. The construction is more typical of the nineteenth century in that the parts are soldered together. There are no indications of repairs or re-enameling.

Discussion: Vasters produced annotated designs relating to all parts of both sides of this jewel, including both sets of figures and both sides of the architectural mount (see fig. 2a). The architectural mounts in Vasters' design appear to be identical to the Walters' piece, except that the design shows a single suspension loop at the top in the center, while the Walters' pendant and Spitzer's catalogue image have no suspension loop at the top center, but instead have two attachment points for suspension on either side of the mount. The architectural mounts for another double-sided pendant with Neptune and marine deities now in the collection of the Metropolitan Museum of Art (14.40.665) (fig. 6c) appear to be based on the same Vasters design. Although the Metropolitan Museum of Art's pendant has a single suspension loop at the top as in Vasters' design, it differs in the placement of the lower set of pearls. The Walters' pendant shows them as in Vasters' drawing (suspended from the bottom of the large side-projecting scrolls), while the Metropolitan Museum of Art's pendant shows them suspended from the sides of the scrolls. André's plaster model of the Judith and Holofernes side of the Walters' pendant, which appears to be an impression taken from the completed object, shows the two suspension attachments on the bottom of the scrolls (see fig. 6d). Another of André's models (fig. 6e) is almost certainly the unadorned architectural mount for the Metropolitan Museum of Art's pendant, showing the single suspension loop at the top and location of the pearls on the sides of the scrolls. This indicates either that Vasters designed more than one variant for the mount or that André altered Vasters' original single suspension design during production of the Walters' piece, perhaps to avoid creating two identical pendant mounts.

Left: Fig. 6a. Double-sided pendant with David and Goliath (44.424). Height 5.3 cm. Current state. Right: Fig. 6b. Double-sided pendant with Judith and Holofernes (44.424). Current state

Left: Fig. 6c. Pendant with Neptune and Marine Deities. Gold and enamel, height 6.7 cm. View of back, showing marine deities. New York, The Metropolitan Museum of Art. Bequest of Benjamin Altman, 1913 (14.40.665). Right: Fig. 6d. Alfred André, French, 1839–1919. Model for double-sided pendant with Judith and Holofernes. Private collection

Fig 6e. Alfred André, French, 1839–1919. Model for double-sided pendant with Neptune and marine deities. Private collection

Conclusion: Although Henry Walters purchased this pendant from the Spitzer collection as a sixteenth-century jewel, it is clearly the product of the nineteenth century, perhaps a collaboration between Vasters and André.

2. Pendant with the Personification of Fortitude (44.622, figs. 7a, b; see also figs. 1a–c)

*Materials:* Gold, enamel, pearls, ruby, diamonds

Enamel colors present: Green, red, blue, opaque white, opaque blue (sampled for analysis); black (not sampled)

History: Included in Spitzer's 1890–92 collection catalogue. Presented as a gift to the Walters in 1951 by the Trustees of the Pierpont Morgan Library in memory of Belle da Costa Greene. Location between 1893 (Spitzer estate sale) and 1951 unknown.

Analytical results: Both Type 1 and Type 2 enamels are present. The chain has only Type 2 enamel. The white, green, and red enamels on the mount near the stag are Type 2 compositions. White, green, and red enamels from behind the stag and directly under the stag's hooves are Type 1 enamels. Although the enamel on the stag was not analyzed, the stag is continuous with parts found to have Type 1 enamels. Enamel on the diamond's bezel is consistent with Type 1.

Visual examination: The red enamel is visually consistent with Type 2 enamels on the following parts: the chain, the floral embellishments on either side of the mount that extend from the chain attachment points to the down-turned elements just below the level of the stag's feet, and four small projections that emerge from behind the bezel-set diamond. The red enamel areas on Fortitude's garment and on the rest of the mount are consistent with Type 1. The figure of Fortitude on the stag and the diamond's bezel are attached to the mount with gold rods extending from their backs that project through the mount, secured on the back of the mount with hand-made gold nuts. Some chipped white enamel areas on the stag's legs appear to be re-enameled, indicating that damage had occurred in the past and a restoration was carried out. In addition, the punch work on the surfaces of the gold mount in the parts decorated with Type 1 enamels differs from that with Type 2 enamels. Those with Type 1 enamels have overlapping circular depressions. Those with Type 2 enamels have depressions made with a square-tipped tool.

There are indications of damage and repair on the reverse of the pendant. The ends of the floral embellishments with Type 2 enamels at the top of the mount are secured on the reverse by added bent-over gold straps. Breaks in the mount are bridged with flat gold straps attached with silver solder. Gold balls are soldered in place to help support the parts
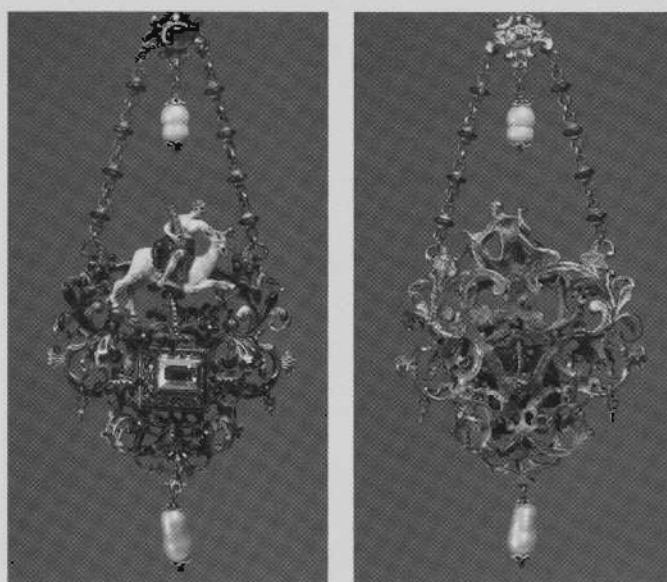
Left: Fig. 7a. Personification of Fortitude pendant (44.622). Height 12.7 cm. Obverse, current state. Right: Fig. 7b. Personification of Fortitude pendant (44.622). Reverse, showing repairs

that were added separately to the top of the mount. These attachment techniques are not found on other pendants confirmed by analysis to be of Renaissance manufacture. There are also indications of the gold melting on some edges, perhaps from overheating during soldering repairs.

Discussion: Vasters' drawings include an image of this pendant (see fig. 1a) in a state very similar to its current configuration, although there are some notable differences. The figure of Fortitude on the Walters' pendant leans forward, and the stag's body is in a horizontal position, while the drawing shows the figure in a more upright position, and the stag appears to be rearing slightly on its hind legs. The suspension chains in the drawing are simpler than the elaborate chains currently on the Walters' jewel, which has an additional decorative element at the top from which a baroque pearl is suspended.[55] There are wires for attaching additional pearls (now missing) from the sides of the mount at the same height of the large bezel-mounted gem on the Walters' pendant; these side pearls are not represented in the drawing. There are additional more subtle differences in the mount, but overall the Walters' jewel is fairly close to the image in the drawing, and there is little doubt that Vasters' drawing relates to the Walters' piece.

An illustration of this pendant appears in Spitzer's 1890–92 catalogue, where it is shown with the more elaborate chains and a decorative element with a suspended baroque pearl, as well as the side pearls now missing from the Walters' piece. However, the catalogue illustration also shows the angle of the stag and figure of Fortitude in a posture closer to that in Vasters' drawing. Thus, the changes to the chains must have been carried out before the pendant entered Spitzer's
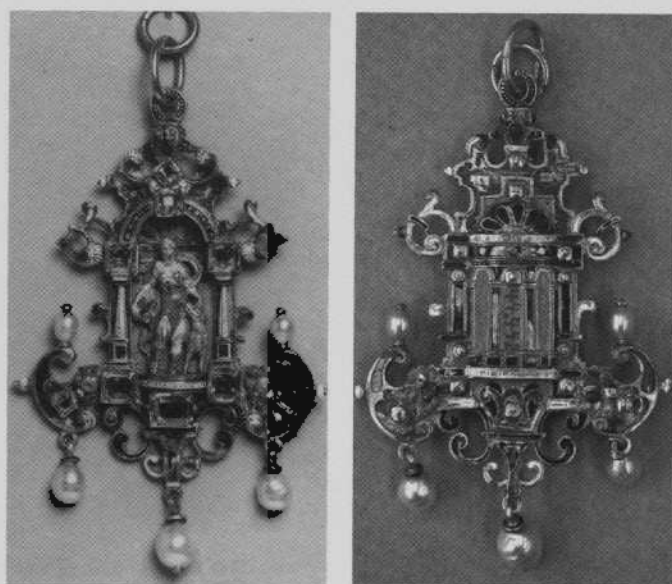
Fig. 8a. (left) Diana pendant (44.442). 6.67 x 5.24 cm. Obverse, current state. Fig. 8b. (right) Diana pendant (44.442). Reverse, current state

collection, and the loss of the side pearls and the alteration in the positions of the stag and Fortitude occurred after the pendant was sold from Spitzer's estate.

It has been assumed, on the basis of Vasters' drawing and the illustration in Spitzer's 1890–92 catalogue, that this pendant was designed and executed by Vasters and sold deceptively as a sixteenth-century original from Spitzer's collection. From the analysis and examination of this jewel, however, it now appears that the Fortitude figure on the stag, the diamond-set bezel and most of the mount, are consistent with a Renaissance date. The piece was damaged and repaired, resulting in the position of Fortitude on the stag being bent forward. The only confirmed nineteenth-century additions to the piece are the parts mentioned above with Type 2 enamel. Vasters' drawing of this object thus appears to be either a design for or documentation of the restoration and/or embellishments.

Conclusion: This jewel for the most part is of the Renaissance period, and was repaired and/or embellished by Vasters in the nineteenth century. It was subsequently damaged and repaired after its sale from Spitzer's estate.

3. Diana Pendant (44.442, figs. 8a, b; see also figs. 3a–c)

Materials: Gold, enamel, pearls, rubies, diamonds

Enamel colors present: Center section (figures and columns):
Blue, red, opaque white, opaque blue (sampled for analysis); green, opaque lavendar (not sampled); *Mount:* green, red, blue, opaque white (sampled for analysis); yellow, black, yellow-green, medium green, opaque green, opaque lavender (not sampled)

History: No acquisition documentation, but assumed to have entered the collection before Henry Walters' death in 1931.

Analytical results: Both Type 1 and 2 enamels were found. The central, figural portion of the jewel and the columns are Type 1 compositions. The enamels on the mount have Type 2 compositions.

Visual examination: There is evidence of re-enameling on the figure of Diana. The opaque light blue enamel of Diana's garment below the waist is chipped, revealing dark blue translucent enamel beneath. The opaque light blue enamel on Diana's boots is also damaged, exposing translucent cherry red enamel beneath with a white halo at its edges— a visual confirmation of a Type 1 red. The figures, columns, and gems are attached with gold rods from the backs of the parts extending through holes in the mount. They are secured on the back of the mount with hand-made gold nuts, or alternatively the ends of the rods are burnished over the reverse side of the mount. The flat, almost two-dimensional quality of the mount is not typical of Renaissance manufacture, which tends to vary in thickness and relief.

Discussion: André's painted plaster models for the front and reverse of the Diana Pendant survive, showing the mount with the figures, columns, and arch in place, but before the gems were set and pearls attached (see fig. 3c, right). The model for the reverse differs from the Walters' Diana Pendant, but the differences are minor and can be accounted for by changes made in working the gold after casting the mount. Complicating the understanding of this piece is the presence of another version of the Diana pendant among André's models (see fig. 3c, left), one that appears to be in its complete state with gems and pearls in place. The mount differs significantly from the Walters' version; however, the central figural group appears to be identical. This raises the question of whether André produced a second pendant with a different mount but an identical central element, or whether he was in possession of a Renaissance pendant from which he removed the central element for use in the Walters' pendant. If the second scenario is correct, it would explain the re-enameling observed on Diana. It is possible that the original Renaissance mount was reused with a different central figure, creating two jewels with a mixture of Renaissance and nineteenth-century parts, lending some authenticity to both. Another possibility is that André produced two models of the Diana pendant for presentation to a client, and in the end he produced only the Walters' version.

Conclusion: The results of the analyses and visual observations indicate that the figures and columns were made during the Renaissance period, while the mount and chains are products of André's workshop.

4. Adam and Eve Hat Badge (44.266, figs. 9a, b)

Materials: Gold, enamel, rubies, diamonds

Enamel colors present: Medallion: Green, red, amber, opaque white (sampled for analysis); black (not sampled); *Frame:* Green, red, black, opaque green, opaque blue, opaque white (sampled for analysis); blue (not sampled)

History: Purchased by Henry Walters through Seligman & Co., New York, in 1905.[56]

Analytical results: All colors tested from the medallion are Type 1; all enamels tested on the frame are Type 2.

Visual examination: Visual characteristics of the red enamel on the medallion are consistent with the chemical analysis as Type 1 and the frame as Type 2. The construction of the central medallion is of interest. It is made from two layers of sheet gold that together form the image seen from the front. The lower layer is a flat circular disk that is grooved at its periphery. The upper layer fits within the grooved edges of the lower layer. Before the assembly of the two layers, the upper layer was decorated with a scene of Adam and Eve in the Garden of Eden. This image was either pushed out from the reverse using the repoussé technique or the gold sheet was worked over a relief model. The details were then chased from the front. To complete the design, the negative spaces around the image elements in the upper layer were cut away in order to reveal the lower layer of gold when the two layers were joined. The two layers were held together with butterfly clips in the following way: flat gold strips were folded in half across their midpoint and were attached at the fold, probably with gold solder, to the back side of the upper layer; the ends of the strips were kept together and passed through slits in the lower layer of gold sheet and splayed out like butterfly wings on the reverse of the lower layer (see fig. 9b), securing the two layers of gold to each other. A bezel-set diamond in the lower center of the medallion also has a butterfly clip attached that passes through slits in both layers of gold and opens out on the back of the lower layer. Finally, the lower layer of gold, visible from the front through the cut-away negative spaces of the upper layer, was worked with a chasing tool to create a matte texture around the figures (see figs. 9a, b). The frame is held in place with gem-set bezels with posts that pass through holes in the medallion. The bezels are secured on the back of the frame with hand-made nuts. Four attachment rings are soldered to the edges of the frame.

Discussion: This work was studied because of questions raised by Hugh Tait in 1991. The analysis of the enamel and construction of the central medallion argue in favor of a Renaissance date. Hackenbroch in *Renaissance Jewellry* describes the butterfly clip attachment technique as typical of

Fig. 9a. Adam and Eve hat badge (44.266). Diameter: 5 cm. Obverse, current state

Fig. 9b. Adam and Eve hat badge (44.266). Reverse, showing construction method

Netherlandish Renaissance goldsmiths' work.[57] She includes images of other examples where butterfly clips are clearly visible on the reverse, as are wire loops for attachment to fabric. These loops are soldered at equidistance around the periphery of the badges. If the Walters' hat badge had such attachment loops, they are now missing, and their attachment points are covered by the decorative enameled-gold frame.
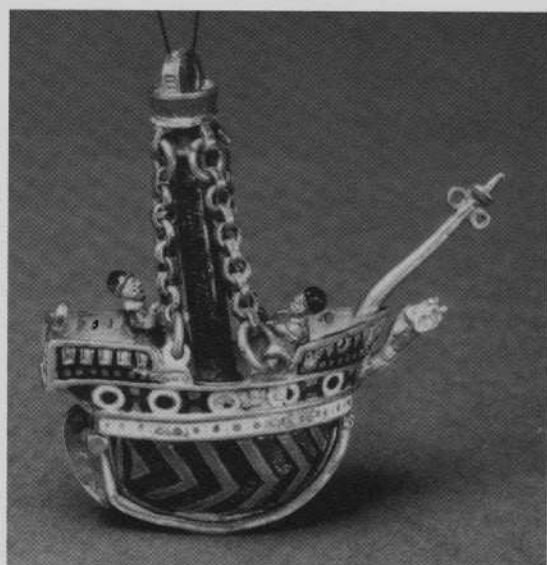
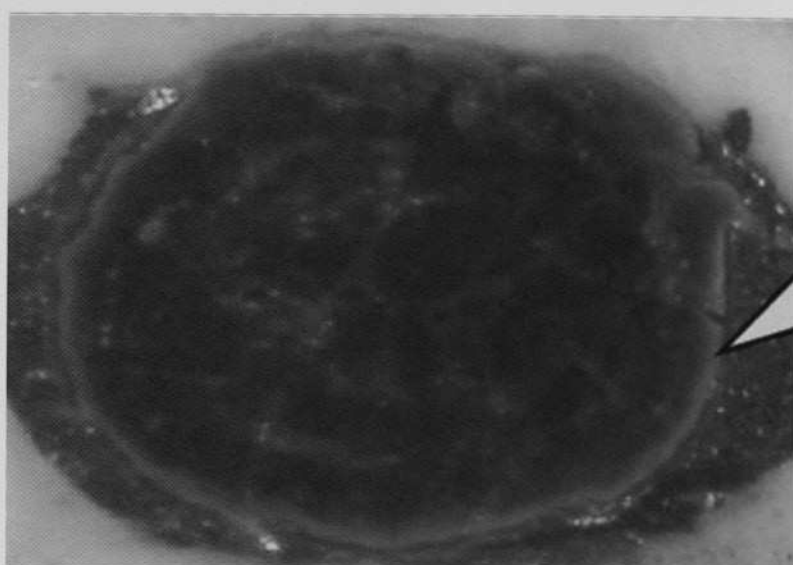Fig. 10a. Ship Pomander pendant (44.464): 4.1 x 4 cm. Current state

Fig. 10b. Ship Pomander pendant (44.464), photomicrograph showing white halo at edge of red enamel

The reverse of other hat badges depicted in Hackenbroch's book also show similar techniques of texturing the lower layer of gold sheet that correspond to the areas cut away in the top image layer, as in the Walters' badge.[58] There is a distinct difference in the enamels between the central medallion and the frame encircling the Walters' piece, suggesting that the frame is a later addition.

Conclusion: On the basis of the analysis of the enamel, the visual characteristics, and the method of manufacture, we can conclude that the medallion is of Renaissance date. The frame was added in the nineteenth century, perhaps because the edges of the medallion were damaged, and thus was likely considered a restoration at the time it was added.

5. Ship Pomander (44.464, fig. 10a)

Materials: Gold, enamel

Enamel colors present: Green, red, blue, black, opaque white, opaque blue (sampled for analysis)

History: No acquisition documentation, but assumed to have entered the collection before Henry Walters' death in 1931.[59]

Analytical results: All of the enamels tested on the ship pomander are consistent with Type 1 compositions.

Visual examination: Visual characteristics of the red enamel are consistent with the analytical result (see fig. 10b). The object is made primarily in parts that are held together mechanically, except for the two figures, which appear to be gold-soldered in place. The masts and chains were attached separately. Two holes at the upper edge near the bow of the ship on both sides indicate that something was once attached there. The bottom section of the ship is secured with a gold strap hinged at one end and pinned at

the other. The strap may be holding closed a part of the ship that opened to create a container.

Discussion: There are models by André of this type of ship, but none of his published models matches this piece. The figures may have been soldered originally, or they may have come loose and been soldered at a later time. In 1991 Tait proposed that this ship was produced by the same workshop as 44.475 below. This seems unlikely, however, since the compositions of the enamels and workmanship differ significantly.

Conclusion: On the basis of the analytical data and visual examination, we can conclude that the ship pomander is entirely of Renaissance date.

6. Ship Pendant (44.475, fig. 11)

Materials: Gold, enamel, pearls, rubies, emerald, diamonds

Enamel colors present: Green, red, opaque white (sampled for analysis): blue, black, opaque blue (not sampled)

History: In the collection of Ernest Guilhou de Bayonne; purchased through Canessa, New York, in 1917.[60]

Analytical results: All of the enamels analyzed are consistent with Type 2 compositions.

Visual examination: Visual characteristics of the red enamel are consistent with the analytical results. The method of manufacture is not definitive and includes both mechanical and soldered joins. The piece is composed of numerous parts: The flags and rudder are separate, and the sails are secured with twisted gold wires; the masts are gold-soldered into the body of the ship. A curious detail is that the sails are set backwards and billow toward the stern of the ship. This may be due to a lack of understanding of

Fig. 11. Ship pendant (44.475). 6.8 x 5.2 cm. Current state

Fig. 12. Dolphin pendant (44.309). 9 x 6.5 cm. Current state

ships by the original goldsmith or, more likely, an error by someone who repaired the ship at a later time.

Discussion: Models for similar ship jewels were in André's possession, although no published model appears to be directly related to this object. Some ship pendants of this type were reported by Truman to be eastern Mediterranean in origin, made in the seventeenth or eighteenth century with later additions, or to be nineteenth century, probably made by Vasters or André.[61] The analysis of the Walters' ship pendant shows that the colorant in the green enamel is chromium, which was not used until the nineteenth century.

Conclusion: Although this type of ship pendant was produced from the seventeenth to the nineteenth century, the use of chromium in the green enamel places this pendant firmly in the nineteenth century.

7. Dolphin Pendant (44.309, fig. 12)

Materials: Gold, enamel, pearls, rubies, diamonds (one eye of the dolphin unidentified stone or glass)

Enamel colors present: Green, red, black, opaque white, blue-green (sampled for analysis); yellow (not sampled)

History: No acquisition documentation, but assumed to have entered the collection before Henry Walters' death in 1931.[62]

Analytical Results: All samples analyzed on the pendant and chains are consistent with Type 2 compositions.

Visual Examination: Enamel has nineteenth-century characteristics. The dolphin and rider are cast separately and joined by a gold rod extending from between the legs of the rider through a hole in the body of the dolphin. A separately cast piece set with a diamond is attached to the forehead of the dolphin with gold solder.

Discussion: Sixteenth-century images of similar pendants could have served as inspiration for a nineteenth-century forger (see fig. 13c), and Tait questioned the authenticity of the pendant in 1991. The compositions and visual characteristics of the enamels support a nineteenth-century date for the Dolphin Pendant; however, the method of manufacture is not inconsistent with the Renaissance period. There is no enamel present on the rider, so no analysis of this part was possible.

Conclusion: The enamel composition indicates a nineteenth-century date. The rider may be nineteenth century or an earlier element added to a nineteenth-century jewel as in the Diana Pendant.

8. Dolphin Pendant (44.443, figs. 13a, b)

Materials: Gold, enamel, pearls, emeralds (one unidentified green stone)

Enamel colors present: Green, red, blue, opaque white, opaque blue (sampled for analysis); black (not sampled)

History: Purchased by Henry Walters through A. Seligman, Paris, in 1929.[63]

Analytical Results: All of the enamels analyzed from this pendant are consistent with Type 1 compositions, except for those on the chains, which are consistent with Type 2 compositions.

Visual examination: Visual characteristics accord with the analytical results for both the pendant and the chains. The dolphin and rider were cast separately and attached with a gold pin. One end of the pin can be seen at the waist of the rider on the proper left side. The head of the pin has been worked into the surface design. The other end of the pin is visible on the bottom of the dolphin. The tongue of the dolphin was added separately and moves slightly. A

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Left: Fig. 13a. Dolphin pendant (44.443). Height 9.2 cm. Current state. Center: Figure 13b. Dolphin pendant (44.443), reverse. Right: Fig 13c. Design for a dolphin pendant, 1586, from the *Llibres de Passanties del Gremi d'argenters de Barcelona*.

gold pin in the proper right hand of the rider was added through a hole in the grip of the hand. There is evidence of silver solder in this area that is probably from a repair. Two holes, one on each side, flank the top of the dolphin's head near the proper left elbow of the rider. These holes probably once secured separately attached reins. There is evidence of silver solder at the point where the proper left hand and upper left arm of the rider touch the dolphin. This solder was probably added later to stabilize the loose parts. Silver solder can also be seen at the join for the rings that attach the chains at the nose and tail of the dolphin and the ring that suspends the pearl under the dolphin's belly. There are indications of repairs at the nose of the dolphin with displaced flakes of white enamel lodged inside the mouth, suggesting that changes or repairs were made after the enamel was fired. The ring on the front of the mouth is formed from one end of a pin that extends back through the mouth and upward, exiting behind the top of the mouth and in front of the top fin. At the spot where the pin exits, surface file marks are visible, indicating a possible later change. The chain elements are flat and of even thickness, atypical of Renaissance goldwork.

Discussion: Tait questioned the authenticity of this piece in 1991, but the results of the analysis argue for a Renaissance date. It is possible that a 1586 drawing from the *Llibres de Passanties*, or one similar to it, is the original design for the Walters' dolphin pendant (see fig. 13c).[64] Interestingly, the 1586 drawing shows the attachment point for the chain at the same spot on the Walters' dolphin, where file marks

now can be seen. This observation, combined with evidence of alterations to the mouth of the Walters' dolphin, supports the possibility that the original site of attachment on the Walters' dolphin matched that in the 1586 drawing.

Conclusion: Although the chain is certainly a nineteenth-century addition or replacement, the enamel compositions, visual characteristics, and method of manufacture for the dolphin and rider are consistent with a Renaissance date.

SUMMARY OF FINDINGS

All of the jewels discussed here had been questioned or were thought to be nineteenth century before this study began. Our results indicate that only three are definitively nineteenth century (Double-sided Pendant, 44.424; Dolphin Pendant, 44.309 and Ship Pendant, 44.475). Four are Renaissance (Ship Pomander, 44.464; Adam and Eve Hat Badge, 44.266, except for frame; Dolphin Pendant, 44.443, except for chain; and Fortitude Pendant, 44.622, repaired in the nineteenth century, when some minor elements were also added). One is a combination of a Renaissance central element set in a nineteenth-century mount (Diana Pendant, 44.442).

Since the conclusions are based primarily on the enamel compositions, certain caveats apply when presenting interpretations in a study such as this. Renaissance jewels may have been re-enameled, giving a false nineteenth-century date for an object created in the Renaissance. Old stock of some enamel may have survived into the nineteenth century,

and its use could lead to incorrect dating of the object. Also, parts of an object with Renaissance-period enamel may have been assembled from more than one object, making it a deceptive modern pastiche. In the future, compositional analysis of the gold may give us additional data that can be used to more conclusively separate Renaissance and nineteenth-century jewels.

Finally, while the results of the analysis and technical observations may help identify objects made in the nineteenth century in an older style, the scientific data cannot discern intent. We must still view these objects in the context of nineteenth-century historicism and restoration practice, with an understanding that not all nineteenth-century works in Renaissance style were created out of a desire to deceive collectors for monetary gain.

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NOTES

1. C. Truman, "Reinhold Vasters—'The Last of the Goldsmiths'?" The Connoisseur, March 1979, 154. Truman also notes the public sale of Vasters' effects in 1909, including 743 photographs and reproductions, and suggests that these are likely the core of the Victoria and Albert Museum's collection. In 1912 Murray Marks offered to sell 980 drawings by Vasters to the museum, but they were declined. When the drawings were given as a gift in 1919, the number had increased, bringing them to the current number of 1,079. The drawings came to light in the course of research on Murray Marks. H. Tait, "Reinhold Vasters: Goldsmith, Restorer and Prolific Faker," in M. Jones, ed., *Why Fakes Matter* (London, 1992), 117.

2. Truman, "Reinhold Vasters," 161.

3. For a comprehensive discussion of Vasters and his drawings, obtained by the authors as this essay was going to press, see Miriam Krautwurst, "Reinhold Vasters—Ein niederrheinischer Goldschmied des 19. Jahrhunderts in der Tradition alter Meister. Sein Zeichnungskonvolut im Victoria & Albert Museum, London," Inaugural-Dissertation zur Erlangung des Grades eines Doktors der Philosophie am Fachbereich

III der Universität Trier (March 2003); available by download (as pdf) through http://deposit.ddb.de/

4. Y. Hackenbroch, "Reinhold Vasters, Goldsmith," *Metropolitan Museum Journal* 19/20 (1986): 163–267.

5. *Renaissance Jewellery* (London and New York, 1979).

6. The pendants were published in the 1979 catalogue of the museum's jewelry collections as nos. 517 (44.424) and 518 (44.622). Walters Art Gallery, *Jewelry, Ancient to Modern* (New York and Baltimore, 1979), 189–90 (entries by D. Scarisbrick). See also Krautwurst, "Reinhold Vasters," 148–49 (44.622), 170–71 (44.424).

7. Distelberger wrote about André's heretofore-unknown activities in a 1993 catalogue of Western decorative arts in the collection of the National Gallery of Art, Washington. R. Distelberger et al., *Western Decorative Arts, Part I*, Collections of the National Gallery of Art Systematic Catalogue (Washington and Cambridge, 1993), 282 ff.

8. "Master Faker's Cache of Evidence Revealed," *Art Newspaper*, 3 January 1994.

9. Distelberger, *Western Decorative Arts*, 283.

10. Ibid., 284.

11. A. Kugel, *Joyaux Renaissance: Une splendeur retrouvée* (Paris, 2000)

12. Ibid., pl. X (a)

13. Distelberger, *Western Decorative Arts*, 286; see also Kugel, *Joyaux Renaissance*, pl. X (j) and (k). The Diana Pendant is no. 515 in *Jewelry, Ancient to Modern*.

14. Hackenbroch, "Reinhold Vasters," 171; C. Truman, "Nineteenth-Century Renaissance-Revival Jewelry," in *Renaissance Jewelry in the Alsdorf Collection, Museum Studies* [The Art Institute of Chicago] 25, no. 2 (2000): 82–83.

15. Truman, "Reinhold Vasters," 158.

16. Distelberger, *Western Decorative Arts*, 284.

17. S. Beissel, *Gefälschte Kunstwerke* (Freiburg im Breisgau, 1909), 152 ("Er beschäftigte bekanntermaßen seit fast so Jahren eine Reihe vortrefflicher Künstler zu Paris, Köln, Aachen, usw., die ihm 'alte Sachen' machten"). See also Hackenbroch, "Reinhold Vasters," 172, and H. Tait, "Reinhold Vasters: Goldsmith, Restorer and Prolific Faker," in Jones, *Why Fakes Matter*.

18. On nineteenth-century forgers and forgeries, see generally Beissel, *Gefälschte Kunstwerke*.

19. Hackenbroch, "Reinhold Vasters," 164.

20. Ibid. He was appointed by the canon of the cathedral, Franz Bock.

21. Ibid., 163.

22. Ibid., 164–65.

23. Ibid., 169.

24. Truman, "Reinhold Vasters," 154.

25. E. Renard, "Die kunsthistorische Ausstellung Düsseldorf 1902," *Rheinlande: Monatsschrift für deutsche Kunst und Dichtung* (Düsseldorf, 1902), 41–42, quoted and translated in Hackenbroch, "Reinhold Vasters," 166.

26. Distelberger, *Western Decorative Arts*, 286.

27. Ibid., 282.

28. Ibid., 286.

29. Ibid., 282.

30. Ibid.

31. Ibid.

32. Truman, "Nineteenth-Century Renaissance-Revival Jewelry," 91.

33. Distelberger, *Western Decorative Arts*, 284.

34. Ibid., 282.

35. See generally T. Hoving, *False Impressions* (New York, 1997); Distelberger, *Western Decorative Arts*, 282 ff; Hackenbroch, "Reinhold Vasters"; Tait, "Reinhold Vasters"; and Truman, "Nineteenth-Century Renaissance-Revival Jewelry."

36. Hackenbroch, "Reinhold Vasters," 172.

37. Truman, "Reinhold Vasters," 158, quoting translation by Vera Kaden of the National Art Library.

38. Distelberger, *Western Decorative Arts*, 282.

39. J. F. Hayward, "Salomon Weininger, Master Faker," *The Connoisseur*, November 1974, 170.

40. Truman, "Reinhold Vasters," 158.

41. Ibid., 154.

42. The catalogues are titled, respectively, *La Collection Spitzer: Antiquité, Moyen âge, Renaissance*, 6 vols. (Paris 1890–92); and *Catalogue des objets d'art et de haute curiosite? antiques, du moyen-âge et de la renaissance, composant l'importante et pre?cieuse Collection Spitzer*, 2 vols. (Paris 1893).

43. Hackenbroch, "Reinhold Vasters," 172.

44. Ibid.

45. Ibid., 167 and 164 n. 4; see also M. Rosenberg, *Der Goldschmiede Merkzeichem*, 3d ed., 4 vols. (Frankfurt-am-Main, 1922–28) 1:12 (no. 42).

46. See Walters Art Gallery, *Jewelry, Ancient to Modern* (New York and Baltimore, 1979), nos. 517 and 518, pp. 189–90 (entries by D. Scarisbrick).

47. M. T. Wypyski, "Renaissance Enameled Jewelry and 19th Century Renaissance Revival: Characterization of Enamel Compositions," *Materials Research Society Symposium Proceedings* 712 (2002): 223–33.

48. In 1996, M. Weldon, J. Carlson, S. Reedy, and C. P. Swann reported the results of PIXE analysis on three Walters Renaissance jewels ("Application of PIXE to the Study of Renaissance Style Enamelled Gold Jewelry," in *Nuclear Instruments and Methods in Physics Research Section B*, vol. 109); however, they did not have adequate reference data for comparison at that time to draw definitive conclusions.

49. Wypyski, "Renaissance Enameled Jewelry."

50. The use of the earlier material likely was not intentional, since it is doubtful that a forger could have foreseen the future capabilities of scientific analysis.

51. Wypyski, "Renaissance Enameled Jewelry."

52. In order to prevent new damage in an intact enamel area, if no damaged edge was found, no sample was taken. The sample areas were recorded with digital photographs, and numbers were assigned for future identification of sample sites.

53. The enamel samples were analyzed using an Oxford Instruments INCA analyzer equipped with an energy dispersive X-ray spectrometer (EDS) using a Link Pentafet SATW X-ray detector, and a Microspec WDX-400 wavelength dispersive X-ray spectrometer (WDS) equipped with LIF, PET, TAP and LSM 80 crystals, one flow proportional counter and one sealed proportional counter X-ray detectors. The X-ray analyzers are attached to a LEO Electron Microscopy model 1455 variable pressure scanning electron microscope (VP-SEM). All analyses reported here were performed under high-vacuum conditions in the SEM, at an accelerating voltage of 20 KV, with a beam current of approximately 1nA used for EDS analysis, and 50 nA for WDS analysis. The samples were prepared before analysis by embedding them in epoxy and grinding with silicon carbide paper to expose the sample interiors, polished with cerium oxide, and given a high-vacuum carbon coating for conductivity. Weight percentage concentrations of the elements detected were calculated in comparison with well-characterized reference glasses and glass standards, including Corning A, B, C, and D and Society of Glass Technology standards 5 through 11. The relative variation in the calculated percentages for the major element oxides using EDS has been estimated to be less than 2 percent for silicon, less than 5 percent for sodium, potassium, and calcium, and about 10 percent for magnesium, aluminum, copper, and iron. The minimum detection limits (MDL) for most elements with EDS were found to be about 0.1 percent by weight, however, the MDL for certain elements such as lead, antimony, and tin were found to be even higher, about 0.5 percent, mainly due to peak overlap problems. The WDS detector was used to analyze for elements present or possibly present in very small amounts close to or below the EDS MDL. The MDL with WDS under these operating conditions was estimated at about 0.01 percent for most of the oxides searched for here, with strontium and antimony oxides slightly higher, at 0.02 percent, and lead and bismuth oxides estimated at about 0.05 percent.

54. M. Verità, R. Basso, M. T. Wypyski, and R. J. Koestler, "X-ray Microanalysis of Ancient Glassy Materials: A Comparative Study of Wavelength Dispersive and Energy Dispersive Techniques," *Archaeometry* 36, no. 2 (1994): 241–51.

55. Another of Vasters' designs shows the more elaborate chain with the decorative elements currently on acc. no. 44.622. See Krautwurst, "Reinhold Vasters," 148, Abb. 2.

56. The badge is no. 485 in *Jewelry, Ancient to Modern*.

57. Hackenbroch, *Renaissance Jewellery*, 227.

58. Ibid. Illustrations of examples of this technique can be found on p. 227, figs. 614 A and B, and on p. 280, figs. 750 A and B and 752.

59. The Ship Pomander is no. 515 in *Jewelry, Ancient to Modern*.

60. The Ship Pendant is no. 530 in *Jewelry, Ancient to Modern*.

61. Truman, "Nineteenth-Century Renaissance-Revival Jewelry," 89–90.

62. The pendant is no. 528 in *Jewelry, Ancient to Modern*.

63. The pendant is no. 527 in *Jewelry, Ancient to Modern*.

64. See Hackenbroch, *Renaissance Jewellery*, 326, fig. 864A.

The Long-Lost Cuttings from a Fifteenth-Century Austrian Prayerbook in the Walters Art Museum

KARL-GEORG PFÄNDTNER

A fifteenth-century Austrian prayerbook in the Walters Art Museum, W.764—written in German and illuminated by the painter known as Master of the Maximilian School-books[1]—has a long history in the art trade. It first turned up in London in a 1910 Quaritch catalogue[2] and was subsequently sold in Leipzig in 1912[3] and again in Munich in 1928 and 1929.[4] Its tenure in private hands came to an end in 1959, when it was acquired by the Walters Art Gallery (as the museum was then known) from H. P. Kraus in New York.[5] During its career on the market, the manuscript lost twelve of its full-page illuminations. When the manuscript entered the Walters' collection it preserved only three miniatures from its original program: a Madonna and Child on folio 13v at the opening of the Prime of the Hours of the Virgin (fig. 1),[6] Christ Carrying the Cross on folio 66v, illustrating the Terce of the Office of the Passion (fig. 2),[7] and the Deposition of Christ on folio 76v, illustrating the Compline (fig. 3).[8] One of the missing miniatures, illustrating the

Fig. 1. Master of the Maximilian Schoolbooks, Vienna, active ca. 1445–70. *Virgin and Child*, late 1450s or early 1460s. Tempera and gold on parchment, sheet: 17.1 x 12.5 cm. Baltimore, Walters Art Museum, museum purchase, 1959 (W.764), fol. 13v

Fig. 2. Master of the Maximilian Schoolbooks, *Christ Carrying the Cross*, W.764, fol. 66v

Fig. 3. Master of the Maximilian Schoolbooks, *The Entombment*, W.764, fol. 76v

Fig. 4. Master of the Maximilian Schoolbooks, Vienna, active ca. 1445–70. *Christ Nailed to the Cross* (miniature from a prayerbook), late 1450s or early 1460s. Tempera and gold on vellum. Cleveland Museum of Art, The Dudley P. Allen Fund (1959.40)

Sext of the Office of the Passion, was identified by Dorothy Miner in 1966/67 as a cutting depicting Christ Nailed to the Cross (fig. 4) at the Cleveland Museum of Art.[9]

Other miniatures can now be identified. Research on the oeuvre of the Master of the Maximilian Schoolbooks—the most important Viennese illuminator of the 1450s and 1460s, who worked exclusively for the University of Vienna, the canons of Klosterneuburg, King Mathias Corvinus of Hungary (1443–1490), and the imperial court of Frederick III (1415–1493)—has revealed the existence of another nine cuttings from this manuscript, in the Musée Bonnat in Bayonne, France. The cuttings, published in color in December 2002 in the exhibition catalogue *Le Moyen Âge dans les collections du Musée Bonnat* as "neuf miniatures allemandes du XIVe [siècle]," illustrate the Annunciation (inv. 1244, fig. 5), the Visitation (inv. 1245, fig. 6), the Adoration of the Magi (inv. 1246, fig. 7), the Circumcision (inv. 1247, fig. 8), the Agony in the Garden (inv. 1249, fig. 9), the Mocking of Christ (inv. 1250, fig. 10), the Descent from the Cross (inv. 1251, fig. 11), Saint Christopher (inv. 1248,

fig. 12) and the Dormition of the Virgin (inv. 1252, fig. 13). The nine leaves have been trimmed to approximately 13.4 x 9.5 cm so that the miniatures are now centered on the page, but the dimensions of the Bayonne miniatures themselves match the measurements of the Walters' miniatures with minimal variations.[10] The bright colors, the elaborately ornamented backgrounds representing the heavens, the stylization of the doll-like figures with large heads and relatively compact bodies, the rendering of the folds in the drapery, and the gold frames with designs imitative of punched ornamentation, in addition to actual punchwork, are stylistic evidence that the Bayonne miniatures once formed part of the Walters' prayerbook.

Two further points confirm this provenance even more persuasively. The miniature with the figure of Saint Christopher has blank rulings on its verso that match the dimensions and number of lines of the prayer to Saint Christopher in the Walters' manuscript on fol. 200r.[11] The missing leaves in the Walters' manuscript, moreover, would have contained almost the same iconographic compositions as the Bayonne cuttings, as suggested by another Latin

Fig. 5. Master of the Maximilian Schoolbooks, Vienna, active ca. 1445–70. *The Annunciation* (miniature from a prayerbook), late 1450s or early 1460s. Tempera and gold on vellum, sheet: 13.4 x 9.9 cm. Bayonne, Musée Bonnat, Collection Bonnat (inv. 1244)

Fig. 6. *The Visitation*, sheet: 13.4 x 9.9 cm. Bayonne, Musée Bonnat, Collection Bonnat (inv. 1245)

prayerbook illuminated by the Master of the Maximilian Schoolbooks for Johann Siebenhirter nearly ten years later, slightly before 1469. This manuscript, MS A 225 at the Royal Library in Stockholm, has many comparable Latin texts and depicts the same parts of the Hours of the Virgin and the Hours of the Passion with minor variations:[12] In the Hours of the Virgin, Matins are accompanied by the Annunciation; Prime, the Visitation; Terce, the Nativity; Sext, the Adoration of the Magi; None, the Presentation in the Temple; Vespers, Christ before the Doctors in the Temple; Compline, the Dormition of the Virgin. The Office of the Passion depicts Christ before Pilate at Prime; the Carrying of the Cross at Terce; the Crucifixion at Sext, the Descent from the Cross at None; the Deposition at Vespers, and the Resurrection at Compline.

Johann Siebenhirter (1420–1508) was a close friend of Emperor Frederick III and in 1469 was named head of the newly created Order of Saint George, a secular confraternity of knights founded by Frederick to check the Ottoman advance into central Europe.[13] It is very likely that the patron of the Walters' manuscript was a member of the emperor's circle as well.

On the basis of the Stockholm manuscript's decorative program, we can attempt a plausible reconstruction of W.764. In the Hours of the Virgin there is one leaf missing before the start of Matins. Here one would expect an Annunciation like the one at Bayonne (fig. 5). At Terce on a missing folio before fol. 17 would be the Visitation (fig. 6); for Sext on a missing a leaf before folio 20, we would expect a lost Nativity. At None, at the missing leaf before folio 42, one would find the Adoration of the Magi (fig. 7); before Vespers at folio 45, we would find the Circumcision (fig. 8), and before Compline, the missing leaf before fol. 52, would be accompanied by the Dormition of the Virgin (fig. 13). In the Office of the Passion the missing leaf before folio 56 (between Matins and Lauds) can be identified as the Agony in the Garden (fig. 9), the missing leaf for Prime before folio 64 should be the miniature with the Mocking of Christ (fig. 10). The Cleveland cutting of Christ Nailed to the Cross (see fig. 4) should fall before the beginning of the text of Sext where a leaf is missing before folio 69, as Cermann has already proposed, and the

Fig. 7. *The Adoration of the Magi*, sheet: 13.4 x 9.6 cm. Bayonne, Musée Bonnat, Collection Bonnat (inv. 1246)

Fig. 8. *The Circumcision*, sheet: 13.2 x 9.7 cm. Bayonne, Musée Bonnat, Collection Bonnat (inv. 1247)

Fig. 9. *The Agony in the Garden*, sheet: 13.4 x 9.5 cm. Bayonne, Musée Bonnat, Collection Bonnat (inv. 1249)

Fig. 10. *The Mocking of Christ*, sheet: 13.4 x 9.7 cm. Bayonne, Musée Bonnat, Collection Bonnat (inv. 1250)

Descent from the Cross (fig. 11) would be appropriate for the missing leaf before folio 73 at the beginning of Vespers. In addition, a leaf missing after folio 200 at the prayer to Saint Christopher can be identified with the miniature of Saint Christopher at Bayonne (fig. 12). At least two miniatures still remain unlocated. The leaf missing before folio 20 at the Sext of the Hours of the Virgin would almost certainly have depicted the Nativity of Christ; while in the Office of the Passion, another missing leaf before folio 71 opening the text of None would very likely have portrayed the Crucifixion.

The nine cuttings in the Musée Bonnat can be securely identified with nine of the missing miniatures from the Walters Art Museum's prayerbook, which must have been excised before 1910, as the Quaritch catalogue tells us. The cuttings at Bayonne were in the collection of the painter Léon Bonnat (1833–1922). All bear his mark with the initials LB. Their date of purchase is uncertain. Bonnat's record book of his acquisitions, now at the Musée du Louvre (the Musée Bonnat holds only a photocopy) ends with the year 1899 and does not include the cuttings. This suggests that Bonnat acquired these cuttings between 1899—the end-date of the entries in his book of acquisitions—and 1922, the date of his death.

The Walters' manuscript can now be placed in a larger context. It is datable stylistically to the late 1450s or early 1460s. The compositions of the miniatures are more developed than, for example, those of cod. NH. 1, dated 1453, in the archives of the University of Vienna, as shown by the rendering of the figures, the more convincing gestures, and the brighter colors. On the other hand, they are cruder than those in the Maximilian Schoolbooks of the Austrian National Library at Vienna (Cod. 2368, Cod. Ser. n. 2617 and Cod. 2289) executed around 1465/67, which show more sophisticated compositions and layout, richer acanthus-leaf forms and, the use of natural backgrounds as well as a wider range of punched decoration. W.764 is likely the earliest of the richly illuminated prayerbooks attributed to the Master of the Maximilian Schoolbooks, which may explain the unusual placement of the miniature of a Madonna with Child as illumination for the Prime, where usually one would expect the Visitation. The manuscript was illuminated before the prayerbook for Empress Eleonore (d. 1467), datable to around 1466, and the prayerbook of Johann Siebenhirter, datable slightly before 1469. And while we do not know the original patron, it would very likely have been someone within the circle of the imperial court, for whose members a most of the manuscripts illuminated by the Master of the Maximilian Schoolbooks were executed.[14] We may hope that some day the remainder of the missing leaves will come to light.

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Fig. 11. *The Descent from the Cross*, sheet: 13.2 x 9.5 cm. Bayonne, Musée Bonnat, Collection Bonnat (inv. 1251)

Fig. 12. *Saint Christopher*, sheet: 13.4 x 9.5 cm. Bayonne, Musée Bonnat, Collection Bonnat (inv. 1248)

Fig. 13. *The Dormition of the Virgin*, sheet: 13.3 x 9.9 cm. Bayonne, Musée Bonnat, Collection Bonnat (inv. 1252)

NOTES

1. The Walters Art Museum's manuscript was described without knowledge of the Bayonne cuttings by C.U. Faye and W.H. Bond, *Supplement to the Census of Medieval and Renaissance Manuscripts in the United States and Canada* (New York, 1962), 200, no. 578, and by D. Miner, "Since de Ricci—Western Illuminated Manuscripts Acquired since 1934; A Report in Two Parts: Part 1," *Journal of the Walters Art Gallery* 29/30 (1966/67), 95–99 (figs. 19–21); and most recently by Regina Cermann, in *Katalog der deutschsprachigen illustrierten Handschriften des Mittelalters*, Bd. 5, Veröffentlichung der Kommission für Deutsche Literatur des Mittelalters der Bayerischen Akademie der Wissenschaften (Munich, 2002), 28–32. On the illuminator of that manuscript, the Master of the Maximilian Schoolbooks, see K. Holter and K. Oettinger, "Les principaux manuscrits à peintures de la Bibliothèque Nationale de Vienne: Manuscrits allemands," *Bulletin de la Société française de reproductions de manuscrits à peintures*, 20/21 (1937/38): 120–25; K. Holter, "Die Wiener Buchmalerei," *Geschichte der bildenden Kunst in Wien* II (Vienna, 1955), 225; G. Schmidt, "Die Buchmalerei, " in *Die Gotik in Niederösterreich: Kunst, Kultur und Geschichte eines Landes im Spätmittelalter* (Vienna, 1963), 107–8, reprinted in G. Schmidt, *Malerei der Gotik: Fixpunkte und Ausblicke I. Malerei der Gotik in Mitteleuropa*, ed. M. Roland (Graz, 2005), 23–24; G. Schmidt, "Buchmalerei," in *Die Gotik in Österreich*, exh. cat. (Krems, 1967), 174–76, reprinted in Schmidt, *Malerei der Gotik*, 78–81; A. Haidinger, *Verborgene Schönheit: Die Buchkunst im Stift Klosterneuburg*, exh. cat. (Klosterneuburg/Vienna, 1998), 53; M. Roland, "Buchmalerei," in *Geschichte der Bildenden Kunst in Österreich. Spätmittelalter und*

Renaissance (Munich, 2003), 525–27; and recently my contribution in the facsimile commentary K.-G. Pfändtner and A. Haidinger: *Das ABC-Lehrbuch für Kaiser Maximilian: Kommentar zur Vollständigen Faksimile-Ausgabe des Codex 2368 der Österreichischen Nationalbibliothek Wien* (Graz, 2004), esp. 36–53.

2. B. Quaritch, *A Catalogue of Bibles, Liturgies, Church History and Theology. Including a Number of Illuminated Manuscripts and Books from Celebrated Presses* (London, 1910), 134–36, no. 283.

3. C.G. Boerner, *Manuscripte und Miniaturen des XII. bis XVI. Jahrhunderts, Handzeichnungen des XV. bis XVII. Jahrhunderts*, Auction 110 (Leipzig, 28 November 1912), 3f.

4. J. Rosenthal, *Katalog 90* (Munich, 1928), 116f, no. 196, table XX; J. Rosenthal, *Katalog 91: Handschriften und Frühdrucke in deutscher Sprache* (1929), no. 6, fig. 6.

5. H.P. Kraus, *Catalogue 88: Fifty Mediaeval and Renaissance Manuscripts* (New York, 1957–58), 30–32, no. 14.

6. Miniature with frame: 109 x 72 mm.

7. Miniature with frame: 107 x 75 mm.

8. Miniature with frame: 107 x 74 mm.

9. D. Miner, *Since de Ricci*, 95. For the reconstruction of the original placement of that cutting, see Cermann, *Katalog*, 28, 30. Miniature with frame: 110 x 74 mm. Without knowledge of the cuttings at Bayonne, Cermann also proposed the following iconography for the missing leaves in the Office of the Passion—nearly correctly, as we can now say: The Arrest of Christ for Matins/Lauds, Christ before Pilate for Prime, the Crucifixion for None, and the Descent from the Cross for Vespers. She does not propose a reconstruction for the Hours of the Virgin.

10. The measurements of the miniatures (not the leaves) of the Musée Bonnat cuttings, including their frames, are as follows

Annunciation:	Inv. 1244	112 x 75 mm
Visitation:	Inv. 1245	108 x 74 mm
Adoration of the Magi:	Inv. 1246	109 x 74 mm
Circumcision:	Inv. 1247	110 x 74 mm
Saint Christopher:	Inv. 1248	116 x 73 mm
Agony in the Garden:	Inv. 1249	109 x 75 mm
Mocking of Christ:	Inv. 1250	113 x 74 mm
Descent from the Cross:	Inv. 1251	108 x 73 mm
Dormition of the Virgin:	Inv. 1252	108 x 78 mm

11. 118 x 75 mm with eighteen lines instead of the seventeen in the first three quarters of the manuscript.

12. On the Stockholm prayerbook, see Schmidt, "Buchmalerei," 175; more recently Pfändtner and Haidinger, *Das ABC-Lehrbuch*, 37 and K.-G. Pfändtner, "Das Gebetbuch des Johann Siebenhirter in Stockholm: Geschichte—Ausstattung—Bedeutung," *Carinthia* I (2007): 107–156.

13. The manuscript must have been executed before 1469, for it displays only Siebenhirter's personal coat of arms rather than that of the Order of Saint George. See Schmidt, "Buchmalerei," 175.

14. See Pfändtner and Haidinger, *Das ABC-Lehrbuch*, 36–37, 40–41.

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A Renaissance Ceiling in Baltimore from the Palazzo Aliverti in Milan

C.D. DICKERSON III

On 27 May 1903 the Venetian antiques dealer Giuseppe Piccoli concluded the sale of what is almost certainly the largest art item ever acquired by Henry Walters: "A ceiling composed of 10 large square pieces in Renaissance style with reliefs of all varying designs from the noble Aliverti family of Milan."[1] By September of that year, the wooden ceiling, which measures approximately 13.5 x 7.5 meters when assembled, was steaming toward New York, soon to be sent on to Baltimore, its final destination.[2] In 1905 Walters broke ground on the large Italianate building that would become his art gallery on Mount Vernon Place; by its completion in 1907, his young architect, Williams Adams Delano, had made the ceiling part of the permanent fabric of this building, using it to crown the main, south-side room on the ground level, a function it continues to fulfill today.[3]

Since its departure from Italy in 1903, the Walters' ceiling has been virtually lost. In 1934 a plaster ceiling was suspended from it, and this was removed only in 1975 during a campaign to renovate the building. The original woodwork was then restored.[4] The one instance when the ceiling did receive scholarly treatment, in a publication of 1967 on the Palazzo Aliverti, the author assumed the ceiling to be destroyed since he could not trace its whereabouts. While the ceiling's provenance has been recorded in its curatorial file since its accession, this information has never reached a wider audience. This brief note seeks to connect these two sources as a platform for future research.

As indicated in the sales receipt drawn up by Piccoli, the main portion of the ceiling takes the form of ten, identical square coffers, all carved from wood. These units are arranged in two equal columns and feature at their center a hexagon decorated with a foliate motif (fig. 1). Piccoli fails to mention the fourteen rectangular bays that run around the perimeter of the ceiling, constituting a decorative border. Eight are adorned with abstract patterns that surround a plaque containing epigrammatic inscriptions in Latin.[5] The four bays on the short sides of the ceiling are decorated with grotesque heads, while the two central bays on the long sides of the ceiling feature heads of Medusa. The Medusa on the north wall is especially well carved. Her face is sensitively modeled, while the snakes that form her hair are deeply undercut and seem animate.

Purely in stylistic terms, the Walters' ceiling, with its strict sense of balance and order, fine classical details, and monumental scale, speaks the language of late sixteenth-century Italian architecture. Piccoli helps to confirm this dating by noting that the ceiling came from "the noble Aliverti family of Milan," a clue that leads directly to the late sixteenth-century Palazzo Aliverti, situated on via Broletto (no. 20) in the heart of Milan's medieval quarter. In 1967, on the occasion of this building's conversion into a bank, Ferdinando Reggiori published an extensive account of the history of the palace, and this remains the principal source for the patron of the Walters' ceiling, the largely forgotten Castopolimio Aliverti.[6] Reggiori indicates that in 1524 Castopolimio was living at his family's residence near Milan's Porta Ticinese.[7] By 1547 he had moved to the via Broletto, renting a structure that also served as the site of his fur and fabric business. This venture was evidently successful, for he was able to purchase his rented quarters in 1560 and commission a new *palazzo* to take its place. This structure was likely completed around 1565, just after the ceiling now in Baltimore had been installed.

According to Reggioro, who again does not cite his source, two carpenters by the names of Ambrogio da Ello and Giovanni Pietro Alfieri were contracted on 29 May 1563 to execute a ceiling in the Palazzo Aliverti's main salon. They had reportedly finished their job by 22 April 1564, the date of their last payment receipt.[8] That this ceiling is to be identified with the one now in the Walters Art Museum can be said with absolute certainty, for Reggioro had at his disposal an eyewitness description of the ceiling made in 1881 before the ceiling had been removed.[9] Citing this source, Reggiori provides the same measurements as those for the Walters' ceiling as well as transcriptions of four of the inscriptions. Reggiori was also lucky to have a watercolor

Fig. 1. Detail of coffers from the ceiling in the main salon of Palazzo Aliverti. Undated photograph in curatorial files, acc. no. 64.154, Baltimore, Walters Art Museum

done by the painter Giuseppe Candiani around 1881 depicting the ceiling (fig. 2).[10] By this date, the ceiling's original room had been partitioned into three separate rooms, so Candiani's watercolor represents an imaginary reconstruction of the ceiling's original setting, known to have included wall frescoes.[11] In any case, the ceiling that Candiani depicts corresponds precisely with the one now in Baltimore.

During the sixteenth century, the Walters' ceiling was not the only impressive work of carpentry to be installed in the Palazzo Aliverti. There were at least two other wooden ceilings, both smaller, one of which survives and is now on display in the Castello Sforzesco in Milan.[12] This ceiling is more elaborately decorated than the Walters' ceiling, featuring an assortment of figurative elements, such as female allegories in the corners, two busts of emperors in roundels (top and bottom of the ceiling), and two children flanking the cartouche

at the center of the richly carved dodecagon that forms the main decorative field. No payments are known for this ceiling, but it must date from the late sixteenth-century since it bears the Aliverti coat-of-arms, three sets of wings.[13]

As for the third ceiling, Reggioro describes it as lost, and it remains unidentified.[14] What little we know about it comes from Reggiori's eyewitness source, mentioned above, the historian Enrico Mazzola. According to him, the ceiling featured at its center a representation of Mercury, while on its periphery were four medallions with portraits of emperors as well as four of empresses. Perhaps by giving fresh attention to the Walters' ceiling, this other important artifact from the original Palazzo Aliverti will be identified.

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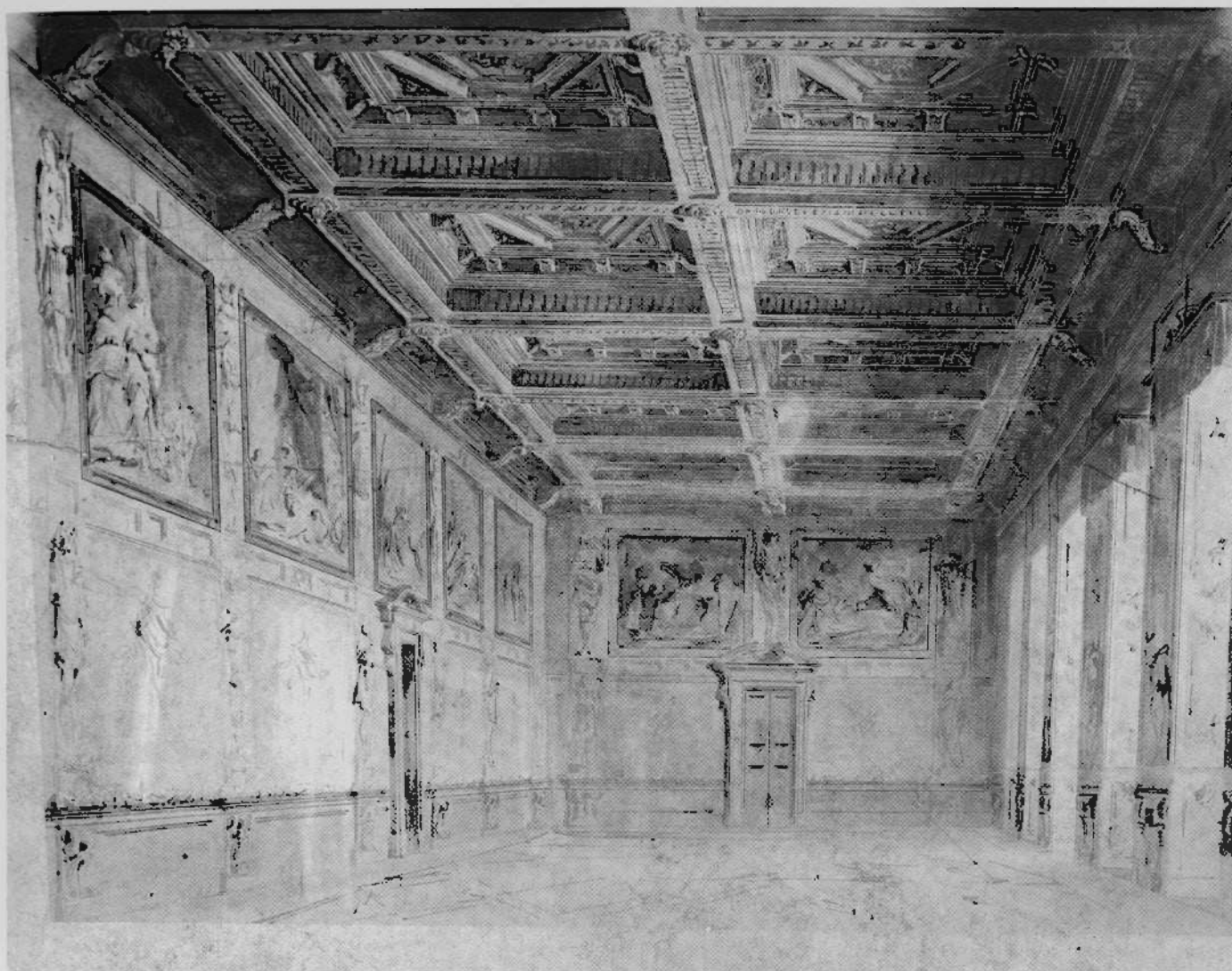
Fig. 2. Albumen photograph, undated, of Giuseppe Candiani watercolor of the main salon of Palazzo Aliverti, Milan. Curatorial files, acc. no. 64.154, Baltimore, Walters Art Museum

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My initial research on the ceiling (acc. no. 64.154) was undertaken in Fall 2005 at the request of Joaneath Spicer, the James A. Murnaghan Curator of Renaissance and Baroque Art at the Walters Art Museum, who sought more information on the room that would become the new Chamber of Wonders.

1. For this sales receipt, see the curatorial file for acc. no. 64.154: "Plafons [*sic*] composé de 10 grands piéces carrés en style renaissance avec des frézes toutes en Dessins variées qui provient de la Noble famille Aliverti de Milan." Giuseppe Piccoli, a self-described "negociant d'antiquités," ran his business from a building in the *sestiere* of San Polo near the Palazzo Barbarigo della Terrazza. The address for the ground entrance was Calle Priuli, no. 2088.

2. In a letter dated 20 September 1903 addressed to Henry Walters in New York, Piccoli advises Walters on how to expedite his shipment through customs, suggesting that it was already en route (see curatorial file for acc. no. 64.154).

3. For the history of this construction, see William Johnston, *William and Henry Walters, the Reticent Collectors* (Baltimore, 1999), 163–69.

4. I thank John Klink, formerly chief designer at the Walters Art Museum (now with Charles Mack Design), for discussing the restoration with me. He indicated that after the plaster ceiling was removed, there were many holes that had to be filled with putty, including those created by the suspension rods for the plaster ceiling. Once these had been repaired, the ceiling was spray varnished.

5. Moving clockwise, these inscriptions read (1) ERRARE COMMUNE EST OMINIBUS (northwest corner); (2) NULLUM DAMNAVERIS NON COGNITA CAUSA; (3) FOELIX ERISI SI IN OMNIBUS SAPIES; (4) ABEUNT OMNIA UNDE ORTA SUNT (northeast corner); (5) SILENDO MULTIS RESPONDETUR (southeast corner); (6) VIRTUS IN ACTIONE CONSISTIT; (7) INDUSTRIAM VALDE DEUS ADJUVAT; and (8) EX LABORE GLORIA ORITUR (southwest corner).

6. Ferdinando Reggiori, *Palazzo Aliverti a Milano: Nuova sede del Mediocredito Regionale Lombardo* (Milan, 1967).

7. For the life of Castopolimio, see Reggiori, *Palazzo Aliverti*, 48–50.

8. Ibid., 50.

9. E. Mazzola, *Di tre soffitti della seconda metà del XVI intagliati in legno di larice esistenti nella casa già Aliverti ora Carones (via Broletto 20)*

(Milan, 1881). I have not had the opportunity to consult this source. The ceiling appears to have remained in place until at least 1890, when, according to Reggiero (1967, 50), Mazzola came out with a second edition of his small pamphlet on the three ceilings.

10. Reggiori, *Palazzo Aliverti*, 40, provides no indication where this watercolor exists, only that it was prepared by Candiani and exhibited at the Esposizione Nazionale held in Milan in 1881.

11. On this subdivision into three rooms, see ibid., 51. With regards to the frescoes, Reggiori (ibid.) quotes Mazzola as writing that the walls of the main salon and "the adjacent salon is decorated with frescoes representing mythological and medieval subjects. The style is very good, and the period of the work can be retained as contemporaneous with that of the ceiling." ("dell'attiguo salottino sono ornate di affreschi rappresentanti soggeti mitologici e medioevali. Lo stile è buonissimo e l'epoca del lavoro si può ritenere contemporanea a quella dei soffitti.") No trace of these frescoes remains today.

12. See Reggioro, *Palazzo Aliverti*, 51–52. The measurements of the ceiling are given as 7.33 x 4.76 meters.

13. Reggioro, *Palazzo Aliverti*, 51, indicates that the letters A. L. and C. E are carved next to each of the two busts. These were interpreted by Mazzola, *Di tre soffitti*, to stand for *Alivertius Castopolimus Erexit*.

14. See Reggiori, *Palazzo Aliverti*, 52–53. The measurements of the ceiling are given as 5.48 x 4.20 meters.

Pentimenti in Hieronymus Francken the Younger's and Jan Brueghel the Elder's *The Archdukes Albert and Isabella Visiting a Collector's Cabinet*

ERIC GORDON

Pentimenti, or changes, in paintings reveal the creative process of making a picture. The journey from a painter's inspiration to his final presentation is rarely illustrated as clearly and perhaps as poetically as in the ghosts of an earlier image appearing from beneath a completed composition. The recent conservation treatment of *The Archdukes Albert and Isabella Visiting a Collector's Cabinet*, attributed to Hieronymous Francken the Younger (1578–1623) and Jan Brueghel the Elder (1568–1625),[1] in the collection of the Walters Art Museum (acc. no. 37.2010, fig.1), uncovered intriguing pentimenti that shed light on the complexities involved in the creation of a picture by more than one artist.

The panel entered the Walters in 1948 as a museum purchase, previously having been part of the J. Pierpont Morgan collection.[2] The picture illustrates a visit by the archdukes Albert and Isabella—rulers of the Southern Netherlands—and other visitors to an unknown seventeenth-century gentleman's *constkamer*: a gallery containing wonders of the natural world (exotic animals, flowers, and shells) and examples of human artistic endeavors (paintings, sculpture, and musical instruments). Typically, pictures such as these—a popular subject in seventeenth-century Flanders—were collaborative efforts between painters with different specialties. Jan Brueghel the Elder, court painter to the archdukes in Brussels from 1608 until his death, is credited with the flowers at lower left; other parts of the composition are attributed to Hieronymus Francken the Younger.

Although the panel had received numerous coats of varnish to resaturate and clarify the surface, it had not been cleaned since it entered the museum's collection. With time, the varnishes had visibly discolored, diminishing the impact of the composition. In preparation for a loan, the painting was examined and a decision was made to thin the surface coatings. Cleaning revealed a slightly damaged but generally well-preserved painting.

Of particular interest was a peculiarity in the composition that had been observed at least since the picture entered the Walters' collection: a large, two-faced dog lying on the floor to the right of Archduke Albert (fig. 2). Both of the dog's faces are completely painted, down to the whiskers and affable expressions. There is no record of either face having been covered over at any stage in the painting's provenance; the two faces are not, in any event, the result of a recent cleaning or restoration.

Thinning the varnish revealed an area in the bottom left corner where restoration covered an original artist's paint. On the urn of flowers, later, poorly executed brown highlights had been retouched by a restorer on top of more recent varnish layers, concealing additional pieces of fragmentary classical marble sculpture. Removing the restorations with mild solvents exposed the carved head of a young man and the back half of the left foot visible to the right of the urn in addition to a head and torso (seen in three-quarter profile from the back), hand, and knee (fig. 3). The head resting on its side, proportionally larger than the other statue fragments, is Hellenistic in style with long, curly hair, an aquiline nose, deep-set eyes, and high cheekbones. With the restorations removed, the fragment of a left foot that seemed to poke out from the side of the urn became whole, including a back half, a heel, and an ankle.

Another version of the painting, attributed variously to Frans Francken II (1581–1642) or to Adriaen Stalbent (1589–1662), in the collection of the Museo Nacional del Prado, Madrid (fig. 4),[3] offers insight into the development of the Walters' painting and a possible explanation of the pentimenti. With the exception of the figures, the Prado's version is very similar. The paintings and decorative objects in the room are arranged identically, but Archdukes Albert and Isabella and their animals are absent, as are the other female visitors; the Prado's picture is populated exclusively by gentlemen. Additionally, the flowers and fruit in their

Fig. 1. Hieronymous Francken the Younger (1578–1623) and Jan Brueghel the Elder (1568–1625), *The Archdukes Albert and Isabella Visiting a Collector's Cabinet*. Oil on panel, 94 x 123.3 cm. Baltimore, Walters Art Museum, museum purchase, 1948 (37.2010), after conservation treatment

Fig. 2. 37.2010: Detail showing dog, before treatment

Fig. 3. 37.2010: Detail of statuary with restorations removed

Fig. 4. *The Sciences and the Arts.* Oil on panel, Madrid, Museo del Prado (inv. no. 1405). The work is attributed by the Prado to Adriaen Stalbent (1589–1662)

Fig. 5. Detail of figure 4, showing statuary and dog

Fig. 6. 37.2010: Detail of lower-left corner, after treatment

containers are missing. In the Prado's picture, the large dog in the left foreground stares forward, toward the viewer (fig. 5). In the Walters' version, it appears that the archdukes may have been inserted in the composition after most of the picture had been painted. At that point, the dog's head, which had been looking forward, was reworked to cast an eye toward the important visitors. Subsequently, the panel was handed over to Breughel, who added the urn of flowers.

Thus it appears that Hieronymous Franken the Younger, the painter responsible for the sculptural group in the corner, laid in his work before Breughel, the flower painter. Close inspection in fact reveals that the flowers were painted on top of the right shoulder of the statue fragment, as well as over chairs, the bottom of the windowsill, and the tablecloth. The stems of the carnations growing out of a clay pot were similarly painted over the dog (see fig. 2). Later, after the flowers had been added as part of the original painting campaign, the urn must have been painted on top of the statuary fragments. Through the years, the urn may have faded or become abraded by cleaning(s) and was subsequently reinforced in restoration. In any case, there seems to have been either a lack of communication between the artists before the execution of the picture, or a change of thought at a late stage in the painting's composition; the marble fragments would not otherwise have been included in the composition. One might imagine that the *constkammer* picture had become so crowded with painted figures and artifacts that little room was left for the flowers and fruit and their containers, causing Breughel to resort to painting over already existing objects.

It appears that the oval flower painting on the wall behind the figures, nearly lost amid the plethora of artworks, was not painted by Breughel, who painted the flowers in the foreground. The rather stilted and tight style of the petals and leaves of the oval flower painting in no way resembles the light, loose brushwork evident in the flora in the lower left corner.

With the passage of time, the pentimenti clarify the distinction of subject matter as the basis for artistic input in the *Collector's Cabinet*. Furthermore, they give a general sense of the sequence of the two artists' participation in the making of the picture.

Finally, in considering how to reintegrate the pentimenti into the cleaned painting, curator Joaneath Spicer and I agreed that because the dog's two faces had remained exposed for a substantial period and the painting was published and well known in this condition, it would be acceptable to leave this pentimento exposed. The recently revealed sculptural motifs, however, risked weakening the composition. Therefore, the details were documented in photographs for the museum's curatorial and conservation files and lightly retouched to strengthen the structure of the urn, while suggesting that underneath the top surface, another form might exist (fig. 6).

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1. Joaneath Spicer, the James A. Murnaghan Curator of Renaissance and Baroque Art at the Walters Art Museum, has attributed the painting to Hieronymous Francken the Younger, with the exception of the flower piece at the left, which she gives to Jan Brueghel the Elder; she dates the composition ca. 1621–23.

2. E. Zafran, *Fifty Old Master Paintings from the Walters Art Gallery* (Baltimore, 1988), 104.

3. The attribution to Frans Francken II is that of S. Speth-Holterfoff, *Les peintres flamands de cabinets d'amateurs au XVII siècle* (Brussels, 1957), fig. 11; the Prado attributes the work to Adriaen Stalbent.

Poelenburch's Changes to His Portraits of Jan Pellicorne and Susanna van Collen

JOANEATH SPICER

The companion portrait miniatures (figs. 1 and 2) executed around 1626 representing the wealthy Amsterdam couple Jan Pellicorne (1597–after 1653) and his wife, Susanna van Collen (1606–37), by the Utrecht artist Cornelius van Poelenburch (1586–1667)[1] are arguably the finest portrait miniatures painted in the Dutch Republic and also the most intriguing, given their role in the development of the oft-discussed Arcadian imagery so beloved by the Dutch elite. In addition, they are rare examples of portrait miniatures that underwent major compositional changes—their initial appearance in everyday attire characterized by large, starched conventional ruffs overpainted by the newly fashionable, romantic Arcadian costume visible today.[2]

The evidence for these changes is provided by electron-emission radiography (figs. 3 and 4), a particularly sensitive form of radiography that can produce an image from a painting involving white lead on copper, in spite of the absorption of the rays by the metal support. In 1964, the observation in raking light of a change in profile on the portrait of Susanna van Collen led to a project partially carried out at the Rochester Institute of Technology that applied various imagining techniques to the portrait of Susanna, including electron-emission radiography (fig. 4), whereby (to quote from the report) "the image is created by electrons emitted by the pigments when irradiated by high energy X-rays." [3] Decades later, as I was preparing entries on these portraits for the exhibition catalogue *Masters of Light, Dutch Painters in Utrecht during the Golden Age* (Baltimore, San Francisco, and London, 1997–98),[4] discussions with Terry Drayman-Weisser, head of the division of conservation and technical research at the Walters, led her to attempt to arrive at comparable results with the radiography equipment available at the Walters (lacking the appropriate filters). The image (fig. 3) is not as easy to read, but in it the shadow of a ruff is visible. In addition, the styling of Jan's hair is less calculatedly disordered in the radiograph.[5] In 1997, only the previously published radiograph of Susanna (fig. 4) accompanied the entry. However, given the importance of these miniatures, we would like to make this image as well generally available.

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1. Walters Art Museum, acc. nos. 38.226, 38.227. See most recently my discussion in J.A. Spicer with L. Federle Orr, *Masters of Light, Dutch Painters in Utrecht during the Golden Age* (San Francisco, Baltimore, and London, 1997), nos. 60, 61 (with further literature); J. Spicer with A. Wheelock, Jr., *Small Northern European Portraits from The Walters Art Gallery, Baltimore* (Washington, National Gallery of Art, 2000), nos. 33, 34.

2. For the importance of these portraits in the development of Arcadian imagery, see Spicer, "Introduction to Painting in Utrecht, 1600–1650," in Spicer and Orr, *Masters of Light*, 1997, esp. 33–39, and under entries 60, 61. In 1633 or 1634, companion portraits of the couple, again in starched collars and now with their children, were commissioned from Rembrandt (Wallace Collection, London); for the most recent commentary on the attribution, see C. Brown, "Rembrandts Reassessed," *Apollo*, December 2006, esp. 58–60.

3. For an explanation of the process, see the report of the imaging carried out on the *Portrait of Susanna van Collen*: C. F. Bridgman, P. Michaels, and H. F. Sherwood, "Radiography of a Painting on Copper by Electron Emission," *Studies in Conservation* 10, no. 1 (February 1965), 1–6. "If the painting is on metal, the absorption of the support can be so great that the slight additional absorption of the paint layers will be all but lost in the radiograph, using X-radiography. Electron-emission radiography. . ., however, makes use of the electrons emitted by the paint itself, when 'bombarded' with X-rays, to reveal the surface and sub-surface details of the paint layers. Thus, the composition of the support material only plays a minor role in the formation of the radiographic image." Ibid., 1. Photographs were made by printing the radiographs as if they were negatives. To maintain a comparable orientation to the actual paintings, they were printed in reverse.

4. See note 1.

5. Since the appearance of his hair in the x-radiograph is already too disordered for normal decorum, I suspect that a neater styling lies underneath these locks.

PHOTOGRAPHY CREDITS: Charles Bridgman and Harold Sherwood: fig. 3 Terry Drayman-Weisser: fig. 4; Walters Art Museum, Susan Tobin: figs. 1, 2

Fig. 1. Cornelius van Poelenburch, *Portrait of Jan Pellicorne*, ca. 1626. Oil on copper, 9.8 x 7.6 cm. Baltimore, Walters Art Museum, gift of the A. Jay Fink Foundation, Inc., Baltimore, in memory of Abraham Jay Fink, 1963 (38.226)

Fig. 2. Cornelius van Poelenburch, *Portrait of Susanna van Collen*, ca. 1626. Oil on copper, 9.8 x 7.6 cm. Baltimore, Walters Art Museum, gift of the A. Jay Fink Foundation, Inc., Baltimore, in memory of Abraham Jay Fink, 1963 (38.227)

Fig. 3. Electron-emission radiograph (1997) of *Portrait of Jan Pellicorne* (printed in reverse)

Fig. 4. Electron emission radiograph (1964) of *Portrait of Susanna van Collen* (printed in reverse)

The Technical Characteristics of a Terracotta Attributed to François Duquesnoy

JULIE A. LAUFFENBURGER

The examination of the Walters' terracotta sculpture *The Infant Christ with the Crown of Thorns* (acc. no. 27.374, fig. 1) in preparation for its installation in the museum's reconceived Renaissance and Baroque galleries revealed several interesting features of its production. Those addressed here include the original role the terracotta served in the creative process, how it was made, and the original appearance of the surface. Observations and information gleaned from the physical examination and analysis of the piece itself form the basis for answers to these questions. A simultaneous investigation by then assistant curator for Renaissance and Baroque art, Morten Steen Hansen, has considered the question of its attribution, weighing the evidence for its attribution to François Duquesnoy (1597–1643),[1] a prominent Baroque sculptor born in Brussels who worked primarily in Rome. Duquesnoy looked toward antique sculpture for inspiration and was known for his unemotional classicizing manner, producing works in terracotta, bronze, and marble.

Reaching toward, but not yet touching, the crown of thorns in front of him, the Christ Child is surrounded by other symbols of his future Passion, including a small hammer, nails, and a whip, all laid on a draped ovoid platform. The sculptural rendering of the Christ Child plays upon the fleshy quality of the infant body, a type referred to as the *putto moderno* that was popularized in the seventeenth century by Duquesnoy while in Rome in the 1620s and 1630s.[2] An early example of Duquesnoy's *putto moderno* can be found in his *Cenotaphe d'Adrian Vryburch* (1628), perhaps the most prominent illustration of this motif from his oeuvre.

Evidence pertaining to the method of manufacture and the original function of a sculpture can be gleaned through a detailed examination of the physical evidence left behind by the artist. Following careful observation of the Walters' *Infant Christ with the Crown of Thorns*, the tools and methods of manufacture of the sculpture were determined. This provides a view into the European Renaissance and Baroque sculptural tradition and places the Walters' terracotta in context with a continuum of clay craftsmanship extending from prehistory until the present day.[3]

The proliferation of sculpture production in the Baroque period necessitated an increased dependence on workshop assistants and models. As a direct result, sculptors' models attained new status as points of reference and study for final commissions.[4]

Sculptors often created many three-dimensional sketches, known as *bozzetti*, before pursuing their final commission.[5] The smoothed quality of *The Infant Christ with the Crown of Thorns* indicates it may have been either a completed work of art or a *modello*, a refined model created as a reference for a larger or more intricate sculptural group. The terracotta *modelli* of Duquesnoy were known to be of value to other sculptors; several were in the collection of François Girardon (1628–1715), sculptor to Louis XIV of France.[6]

Clay, essentially composed of alumina, silica, and water, possesses a unique combination of working properties, namely malleability and cohesiveness. It is the platelike structure of the clay molecule built up into layers that allows for ease of manipulation or "slippage" of one molecule over the other when clay is wet. Further, clay retains its shape when deformed because of the specific type of physical bonds formed within its matrix.[7] Among the materials available to sculptors in the seventeenth century, clay and wax behaved in a similar manner. Combined with their affordability and availability, they were used almost exclusively as materials for three-dimensional sketches or sculptors' models. Once produced, clay models could be broken down for reuse of materials or fired to preserve the worked form. Fired clay, or *terracotta* in Italian, undergoes a chemical change that results in a permanent and immobile structure. This may be why there are more extant sculptures made of terracotta than wax, which remains motile and is easily damaged.

This smaller than life-size terracotta, measuring 28.6 cm high by 39.8 cm across, was modeled free-hand in the round while fixed to a board or turntable. When turned

Fig. 1. Attributed to François Duquesnoy (Flemish, 1597–1643), *The Infant Christ with the Crown of Thorns*, ca. 1640. Terracotta with gilt, 28.6 x 39.8 cm. Baltimore, Walters Art Museum, bequest of Henry Walters, 1931 (27.374)

on its side, a conical void is visible at the center of the underside, hollowed out with repetitive scrapes of a round-ended tool (fig. 2). Because the underside shows signs of scraping away of clay, it is likely that the sculpture was initially modeled as a solid form and hollowed out only when it was determined that it would be fired and preserved. Also visible from beneath are impressions of the artist's fingerprints, preserved in the fired clay. Parallel scratch marks in the upper left corner of the underside were formed when a metal wire was used to cut or remove the clay from its turntable. Once removed, in an almost leather-hard state, a flat scraper, either of wood or metal, was employed to thin the clay along the base to ensure more even drying, thus diminishing the risk of shrinkage and cracking during firing.

In fact there was some damage to the terracotta during firing. A branched hairline crack extending across the child's groin is a result of shrinkage during firing. Other damages to the draped platform are more significant. A pie-shaped wedge at the left side of the base has been neatly reattached with plaster. The rounded edges of this wedge suggest the possible use of a fired insert that may be contemporary with the sculpture, used to repair a damaged area of the base. In

fact, the pattern of combed lines on the wedge section does not correspond exactly with the combed pattern on the surrounding sections of the base, further supporting the idea of a fired insert. It was not uncommon for terracotta sculptures to be repaired after sustaining damage during firing; often those repairs were masked with obscuring decorative surface layers.[8] Another crack at the back of the platform has been smeared with plaster, as has almost half of the underside of the base. Examination of the x-radiograph looking down onto the base shows additional cracks in the base as well as wrinkles or voids from the working of the clay, both now obscured by the heavy plaster restoration. This plaster appears to be a later restoration attempt and has none of the subtlety of the repair to the triangular section of the base. A third break at the front of the platform, just beneath the flail, remains unrestored.

The terracotta was formed in an additive fashion by combining large masses of clay to form the major sculptural elements. This is confirmed when examining the x-radiograph (fig. 3)[9] which also shows that the piece is solid except for the hollowed-out cone shape in the torso region, partially visible from the underside. Shrinkage cracks at the points
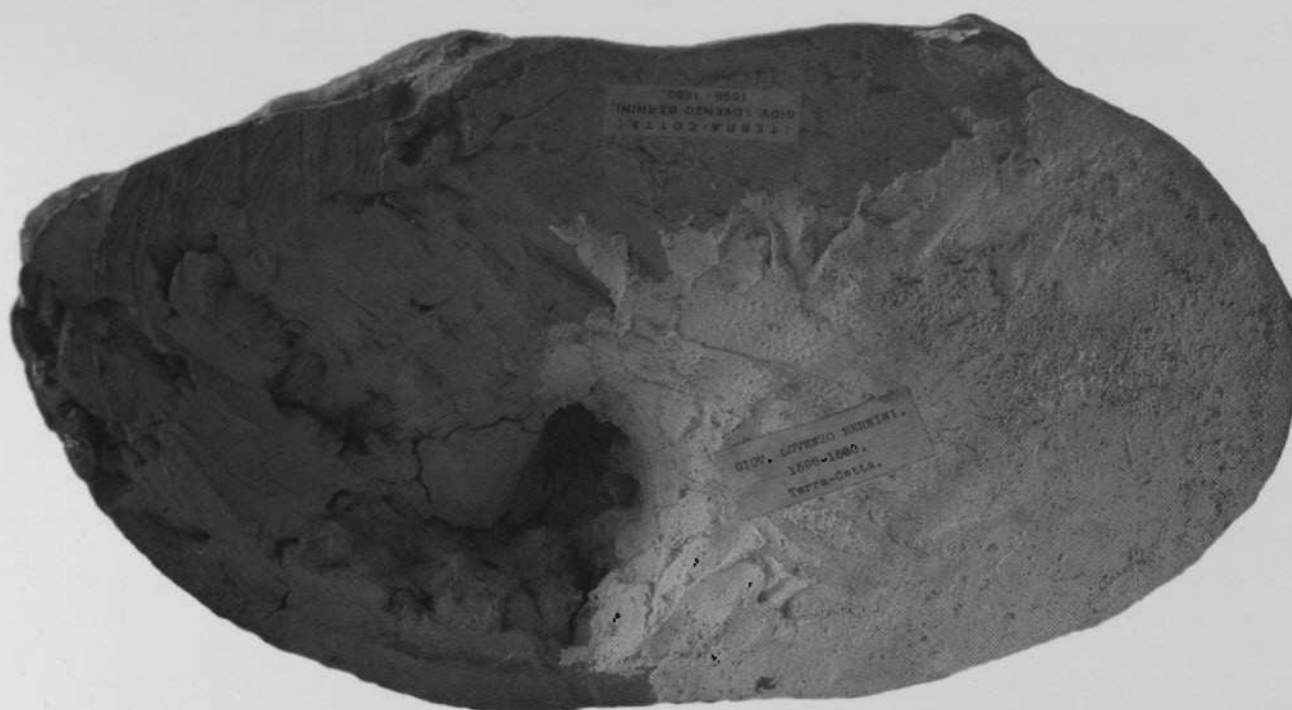
Fig. 2. Detail of *Infant Christ*, underside, showing conical void, tool marks, and plaster repair

of attachment of separate clay masses are visible as dark vertical lines at the connection point between the arms and the torso much like a doll with articulated limbs. Shrinkage cracks across the upper thighs also indicate that, like the arms, the legs were formed as separate clay masses and attached to the torso for final sculpting of details.

The drapery at the back served as a support for the outstretched left arm to prevent sagging of this heavy extension. Similarly, a wooden support may have been used to elevate the right hand to just hover above the crown of thorns and avoid sagging during firing.[10] Variations in the density of the x-radiograph correspond to differences in thickness of the clay. This is a result of modeling free hand rather than pressing rolled sheets of clay into a preformed mold. A recent association of the Walters' terracotta with Duquesnoy's student Artus Quellinus the Elder (1609–1668), proposed by Steen Hansen, lead to a comparison of techniques between the Walters' *Infant Christ* and an example of Quellinus's work in the Statens Museum for Kunst, Copenhagen, depicting the Infant Christ with a Cross from the 1650s (fig. 4). The similarities between the two terracottas are striking in terms of motif and approach to subject matter, but differences in their manufacture set them apart.[11] The Copenhagen *Infant Christ* is said to have been mold-made. If the Walters' *Infant Christ* had been mold-made, the x-radiograph would show clay walls of more or less even thickness conforming to the outer contours of the sculptural form.

The terracotta surface of the Walters' *Infant Christ* is worked and smoothed to a very high degree and reveals little of its initial stages of manipulation by hand. It is both refined and elegant and therefore can be securely referred to as a *modello* and is certainly fine enough to have served as an end unto itself. The degree of finish would have made its translation unto a final work a fairly direct procedure. Models intended to be used as direct sources for enlargements in other media often retain some sign related to that procedure.[12] None of the tell-tale signs, including red paint or pencil marks used as points of reference or drag marks in the wet clay from a pointing instrument, were noted on the Walters' terracotta. While there is no known marble or

Fig. 3. X-radiograph of *Infant Christ*

Fig. 4. Artus Quellinus (Flemish, 1609–1668), *The Infant Christ with a Cross*, 1650s. Terracotta, 20 x 25 x 12.7 cm. Copenhagen, Statens Museum for Kunst (inv. no. KMS5549)

bronze corresponding to *The Infant Christ with the Crown of Thorns*, it is not clear whether it was used as a direct model for a final unknown commission. Other examples of Duquesnoy's terracottas with similar motifs are found in engravings from the Galerie Girardon. One in particular, described as *Enfant à demi allongé en appui sur un bras qui brandit une couronne*, shows similarities with the Walters' *Infant Christ with the Crown of Thorns*, but the sculpture's whereabouts are unknown.[13]

A simple repertoire of tools was used to form the subtle and vibrant surfaces of the terracotta. Several toothed tools of varying fineness and width were used to create combed patterns in both the attached base and locks of hair. The base was combed with a toothed tool with 2 to 3-mm-wide teeth, while the hair was combed with a finer tool with teeth measuring only 1 mm wide across. Pointed tools were used to delineate twists in the bound rope at the base of the crown of thorns. This same tool was likely used to create lines in the eyes and to render the finger- and toenails.

The velvety quality of the flesh was achieved by a combination of techniques. Fine parallel striations on the upper torso and arms of the Christ Child indicate that a fairly smooth and homogeneous material was dragged over the surface while it was still wet. The nature of these fine lines suggests the use of a wet cloth or sponge wrapped around a finger and perhaps the overall application of a slip layer, essentially a thin, watered-down clay that served to smooth and even out the surface (fig. 5).[14] Shallow trenches are visible where silicate inclusions were dragged along the surface during this finishing process. Slightly more pronounced lines visible on the legs may be the result of a bristle brush having been dragged around the circumference of the legs to help define their volume.

In contrast to *bozzetti*, which have the immediacy of pieces modeled at a moment in time, the Walters' *Infant Christ* resembles a sculpture that was conceived and created over a longer period and perhaps after several practice runs. Generally, in order to keep the clay from drying out
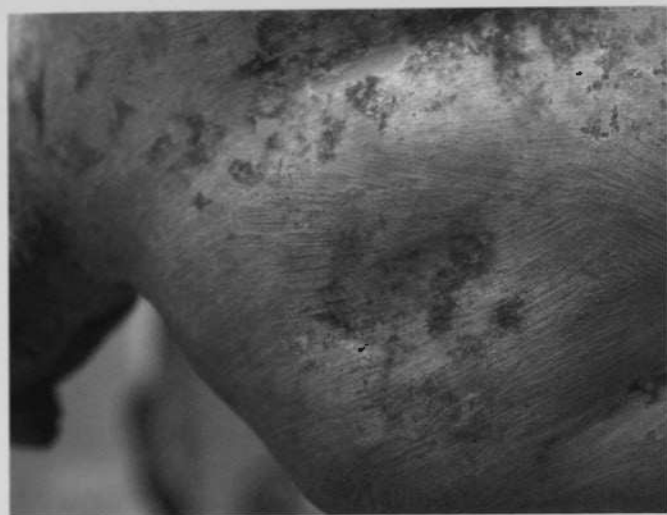
Fig. 5. (top) Detail of *Infant Christ*, upper torso and arms, showing striations
Fig. 6. Detail of *Infant Christ*, left elbow, showing impression of woven textile

Fig. 7. Detail of *Infant Christ*, showing gilding remnants (darker areas)

or drying unevenly, artists laid a wet woven cloth over the surface of clay in between periods of work. The use of this sculptural technique on the Walters' terracotta is suggested by the preserved impression of a coarse plain woven textile on the Child's proper left elbow (fig. 6). Several small, shallow fingerprints seen on the base and underside of the terracotta are also clear signs of the artist at work.

Remnants of a gilding layer are visible in small patches over much of the surface of the *Infant Christ* (fig. 7). From the extent and location of the remains, it is clear that at one point the piece was entirely gilded, resulting in a visual effect quite different from what we see today. In the Renaissance it was common for terracotta to be glazed or painted in full color in a fairly naturalistic way. Gilding terracotta surfaces is documented early in the seventeenth century and was used to highlight and decorate elements of terracotta sculpture.[15] Overall, gesso and gilding layers were frequently applied to mask imperfections or damages. In a study of Bernini models, Kendra Roth also suggests

that gilding would "certainly enhance a modello's visual impact and create a sense of refinement and collectibility."[16] In the late eighteenth and early nineteenth centuries, the color range of unadulterated terracotta was more widely appreciated and sculptures more often finished with only a clay slip applied overall to even out the surface. It is instructive to examine the surface of the Walters' terracotta in light of these changing tastes. Several cross sections were taken from areas of gilding in the hair.[17] An off-white ground layer toned with iron oxide colorant predominates. Directly over this layer is a layer of gilding (gold foil with no silver but a small amount of copper). A second fragmentary layer, which incorporated metallic gold, sits on top of this. The ground layer itself appears to be a toned layer of lead carbonate and shows traces of a linseed oil binder. Visible fluorescence under ultraviolet light distinguishes the uppermost portion of the ground layer from the bottom. The top section appears to be permeated with some type of medium, perhaps an oil mordant that would have been

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used to adhere the gold leaf. Beneath all of these layers and closest to the terracotta is a brown layer that shows a mix of elements including calcium, alumina, silica and iron from the clay, and lead. This may be an original slip layer mixed, perhaps, with some dirt. Traces of lead in the layer seem to be associated with black staining found on the sections of exposed terracotta surface, which was also found to include traces of lead.[18]

A substantial layer of grime between the terracotta and the lead white layer and the fact that the lead white layer goes over damages sustained by the terracotta indicate that this layer and the subsequent gilding layers are not original to the manufacture of the piece. At some point the gilded layer turned this subtle *modello* with a buff-colored clay slip into a gilded collectable.

The examination of the Walters' *Infant Christ with the Crown of Thorns* contributes directly to the body of technical knowledge related to seventeenth-century terracottas and allows us entrée into the sculptor's process. Though the original surface has since been altered, the work retains a variety of surface effects produced with only a modicum of tools, communicating some of the individual style of the artist made possible by the immediacy of the clay medium.

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NOTES

1. M. Hansen, "The Infant Christ with the *Arma Christi*: François Duquesnoy and the Typology of the Putto in Seventeenth-Century Art," *Zeitschrift für Kunstgeschichte* 71 (2008), 121–33.

2. For a thorough discussion of the development of the *putto moderno* and Duquesnoy's oeuvre, see M. Boudon-Machuel, *François du Quesnoy, 1597–1643* (Paris, 2005), 74–83.

3. Recent studies on terracotta sculpture include C. Baisier et al., eds., *Seventeenth- and Eighteenth-Century Terracottas: The Van Herck Collection*, trans. S. Judd and P. King, exh. cat, Antwerp, Koninklijk Museum voor Schone Kunsten (Antwerp, 2000), esp. 25–36; B. Boucher, *Earth and Fire: Terracotta Sculpture from Donatello to Canova* (New Haven and London, 2001); and M. Grazia Vaccari, ed: *La scultura in terracotta: Tecniche e conservazione* (Florence, 1996).

4. C. Hemingway, "Of Clay, and the Initial Stages of Sculpture," in I. Gaskell and H. Lie, eds., *Sketches in Clay for Projects by Gian Lorenzo Bernini: Theoretical, Technical, and Case Studies* (Cambridge, Mass., 1999), 31–33.

5. Multiple copies of *bozzetti* by Bernini for his angels on the Altar of the Blessed Sacrament are known. See Gaskell and Lie, *Sketches in Clay*, 151.

6. Several of Duquesnoy's terracotta models were recorded in an inventory of Girardon's collection in 1715. These are illustrated in several texts, including Boudon-Machuel, *François Duquesnoy*.

7. Clay molecules are loosely bound together by oxygen and hydroxyl ions, which allows for deformation while still maintaining its intrinsic strength. Y. Cuff, *Ceramic Technology for Potters and Sculptors* (Philadelphia, 1996), 55–58.

8. N. Penny, *The Materials of Sculpture* (New Haven and London, 1993), 201.

9. The x-radiograph was taken on a Gemini III, at 240 kilovolts, 2.8 millamps for 4 minutes.

10. The use of wooden armatures to support extended clay projections during firing is discussed by Penny, *The Materials of Sculpture*, 204.

11. I would like to express my sincerest thanks to Jens Heinet Knudsen and Hannah Christina Heillmann for their observations of a terracotta by Artus Quellinus in the collection of the Statens Museum for Kunst, Denmark. Unlike the Walters' terracotta, their *Putto Holding the Cross* is referred to as being "pressed into shape" implying molded rather than modeled. In a museum annual from 1917, art historian Francis Beckett wrote about the four terracottas by Quellinus in the Danish collection and stated that the *Putto Holding the Cross* is not an original but "pressed into shape." But unlike the others, the terracotta's surface has been thoroughly worked over with a wire sling, making the surfaces appear "fresh as if they were chased."

12. Boucher, *Earth and Fire*, 31.

13. *Planche pour Encyclopedie de 1771*, illustrated in Boudon-Machuel, *François Duquesnoy*, 71, 310.

14. A. Sigel, "The Clay Modelling Techniques of Gian Lorenzo Bernini," in Gaskell and Lie, *Sketches in Clay*, 63.

15. My thanks to C.D. Dickerson, associate curator of European art, Kimbell Art Museum, for specific information related to this topic. A payment dated 2 July 1635 is early evidence for the gilding of a terracotta *Deposition of Christ* owned by Virgilio Spada. See Roberto Cannatà, "Il Collezionismo di Virgilio Spada," in R. Cannatà and M.L. Vicini *La Galleria di Palazzo Spada: Genesi e storia di una collezzione* (Rome, n.d. [1990s]), 32, citing *Archivo di Stato di Roma, Fondo Spada-Veralli*, vol. 822, fol. 138. There are many earlier references to terracottas that have been made to resemble bronzes. One collection with this sort of item was the Villa Medici (see E. Müntz, *Donatello* (Paris, 1885), 59: "una Carità di terra cotta di color di metallo")."

16. K. Roth, " Decorative Coatings on the St. Longinus and St. Ambrose Modelli," in Gaskell and Lie, *Sketched in Clay*, 125–27.

17. My thanks to Jennifer Giaccai, former conservation scientist at the Walters Art Museum for coordinating the analysis of the cross section. A cross section taken from the *putto*'s hair was sent to Orion Analytical, LLC in Williamstown, Massachusetts, for analysis. The section was examined using a FEI Quanta scanning electron microscope in secondary and backscattered electron modes. Samples from an off-white ground layer within the section were removed and analyzed using infrared microscopy. The resulting infrared spectra showed features consistent with lead carbonate (hydrocerrusite) and oil.

18. The exact nature of this black staining is not clear, although conservation scientist Jennifer Giaccai was able to detect some residual lead in a sample taken of it.