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The present volume contains thirteen papers, on subjects that range in place and time from the Cyclades in the Early Bronze Age to Victorian England.

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PAT GETZ-PREZIOSI

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ABBREVIATIONS

MMA—The Metropolitan Museum of Art  
MMAB—The Metropolitan Museum of Art Bulletin  
MMJ—Metropolitan Museum Journal

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Risk and Repair in Early Cycladic Sculpture

PAT GETZ-PREZIOSI

The number of Cycladic marble figures in the Metropolitan Museum’s Aegean collection that show traces of ancient mending has recently been increased from a single example (Figures 4–6) to three. The two new acquisitions (Figures 39–42, 45–49), from the bequest of Alice K. Bache, add significantly to the number of surviving works that exhibit signs of repair, and expand the repertoire of techniques and materials known to have been used for this purpose in the Aegean world of the third millennium B.C. The practice is interesting in itself and also has an important bearing on the study of Cycladic sculpture, its development and purpose.

Although most of the once-mended figures have been previously published, not much attention has ever been paid to the actual repairs; and over half of these repairs have not been adequately illustrated. My intention in this article is to assemble all the examples of Cycladic mending known to me at present and to focus attention on a practice which seems to have occurred with greater frequency in the Cyclades in the Early Bronze Age than perhaps anywhere else in prehistoric times.1

A census of all the Cycladic figures and their Minoan imitations that show traces of ancient mending can be found at the end of the article. All the entries are illustrated by drawings in Figures 1 and 2, with any subsequent illustrations appearing in the same order. Each sculpture is identified in the text and captions by its census number; references to the illustration(s) are cited the first time a piece is discussed and subsequently only as needed.

The practice of repairing broken Cycladic figures was confined neither to one place nor to one period. Although, to be sure, the figures were not necessarily made, or mended, on the islands on which they were found, repaired examples have been recovered on Keos (no. 20), Siphnos (no. 1), and Kimolos (no. 2) in the western Cyclades; on Naxos (nos. 6, 12) and probably Amorgos (nos. 7, 13)3 further east. Outside the Cyclades one such figure has been found on the east coast of Attica (no. 17), and it is possible that two of the once-mended figures found on Crete (nos. 22, 23) were, like no. 17, Cycladic imports. Minoan imitations of Cycladic sculpture were also sometimes repaired (nos. 24–27).

Repairs occur relatively frequently among figures carved in the first Early Cycladic period (EC I, Grotta-Pelos culture; roughly 3200–2800 B.C.) both on the simple schematic violin-type statuettes (nos. 1–3) and on the strangely exaggerated and often highly detailed images of Plastiras type (nos. 4–9); repairs occur noticeably less often on figures carved in the transition to the second period (EC I–II, Kampos-Louros culture; ca. 2800–2700 B.C.), on "hybrid" (no. 10) and Louros-type figures (nos. 11, 12), as well as on the forerunners of the classical folded-arm figures known as "precanonical" (nos. 13, 14), which may belong to

A list of abbreviations is given after the appendix to this article.

1. In actuality only a small fraction of the many hundreds of known marble objects of this culture were repaired in antiquity. A higher percentage of repairs are found perhaps on the roughly contemporaneous but apparently far less numerous figures from Sardinia. See appendix.

2. Neither of these works was found in an authorized excavation. On Amorgos as a source of Cycladic sculpture see P.G.-P. in MMJ 15, p. 33, "A Note on Provenance."

3. On the typology, chronology, and terminology used here see ACC. For a brief summary see P.G.-P... in MMJ 15, pp. 5–6.
1. EC I (nos. 1-9) and EC I-II (nos. 10-12) figures showing traces of ancient mending (drawings: P.G.-P.)
2. EC I–II (nos. 13, 14), EC II (nos. 15–23), and EM II (nos. 24–27) figures showing traces of ancient mending (drawings: P.G.-P.; no. 22 after drawing in Evans)
the end of this transitional phase. In the second period of Early Cycladic civilization (EC II, Keros-Syros culture; ca. 2700–2200 B.C.), few examples of mending are known. Those that exist belong exclusively to female figures of canonical type (Kapsala variety: nos. 15, 16; Spedos variety: nos. 17–19, 22, 23; Dokathismata variety: no. 20; Chalandriani variety: no. 21; Cretan Koumasa variety: nos. 24–27). Of the twenty-one once-mended figures which are definitely the products of Cycladic (as opposed to Minoan) workmanship (nos. 1–21), more than half were made before the beginning of EC II when, except for schematic ones (nos. 1–3), marble figures were seldom carved; of the remaining seven, only five (nos. 15–19) were made in the first half of EC II when the figurative output of Cycladic sculptors was by contrast quite prodigious. We shall have occasion to look more closely at these facts and at the implications to be drawn from them concerning the manufacture and function of Early Cycladic sculpture. For the moment, however, I propose to concentrate on the repairs themselves.

Traces of mending found on Cycladic figures are of three distinct types: 1. perforations through the finished surface on either side of a fracture and parallel to it (nos. 1–12, 14–17, 20; Figures 1–24, 34–42); 2. dowel holes in the break-sites (nos. 13, 18, 19; Figures 2, 28–30, 43, 44); and 3. lead clamps set in channels running perpendicular to a break on either side (no. 21; Figures 45–49). Of these the first is the most common in all periods and, until the end of the transitional phase apparently, it is the only type found. It is also the only type found on Crete (nos. 22–27; Figures 2, 50, 51).

The holes were pierced usually through the main surface of the figures, but occasionally also sideways (nos. 4–6, 15) or obliquely (nos. 8, 11, 12). Their purpose was to allow the broken parts to be tied together, presumably with twine or leather thongs. The latter would perhaps have been saturated with water, which would have caused them to shrink as they dried, thus tightening the bond. It seems unlikely that metal clamps or wire would have been regularly used since there are no traces of metal, metal stains, or, with the possible exception of no. 17, grooves that might have been worn in the stone by metal fastenings. Moreover, in thirteen of the twenty-five examples the part that was originally reattached has failed to survive to the present, a fact which suggests that the material used to tie the pieces together was organic, its effectiveness relatively short-lived.

The earliest mending holes are often conspicuously large and obviously positioned (e.g., no. 3; Figure 3). They were made with a tapered, roughly pointed, hand-rotated borer—probably of flint or Naxian emery but possibly of obsidian—which, when used from one direction only on a piece of marble of some thickness, left a distinctly conical path. Thus the diameter of the hole is considerably greater on the side from which the perforation was begun than on the other. This is clearly observable on the Plastiras-type figure in the Metropolitan Museum (no. 4; Figures 4, 5). Here repair holes exist above and below a break at the right knee; they were made through the side of the leg, presumably because this is wider than the front and back. The hole above the break had necessarily to be bored from the outside since hand and tool could not have been fitted between the legs in order to bore from the other direction. Thus, on a right profile view of the figure a large hole is seen above the break, while the corresponding hole in the calf, which could be and was bored from the inside, is much smaller (Figure 6).

Where it was feasible, however, the usual practice was to bore the hole from both directions, giving its passage a distinctly “biconical” or hourglass shape.

4. This is the oldest and most widespread method of repairing stone objects as well as pottery in prehistoric times. Some examples are given in the appendix.

5. Foster, p. 240 with n. 13.


7. Two of the figures were mended in two places (nos. 5, 7; Figures 7–11, 14, 15).

8. I have experimented with Melian obsidian on a small Cycladic marble beach pebble. Although the bits of obsidian broke easily and needed frequent replacement, I was able to pierce the pebble without too much effort. (The addition of sand or ground obsidian as an abrasive agent would have made the task easier and less time-consuming.) Although the obsidian pieces were irregularly shaped, the perforation that resulted was not. The diameter of the hole in such cases is always larger than that of the implement used to make it owing to the “wobble” effect which is more pronounced at the top of the perforation, thus giving it a conical configuration. The “wobble” effect is much greater in the case of a hole made with a borer twisted back and forth by hand in seminatory fashion than one made with a bow or palm drill capable of complete revolutions. See Gwinnett and Gorelick.

9. I use “biconical” here in the sense of two cones set apex to apex rather than base to base, as the term is strictly defined.
In this way the diameter of the opening could be made more or less uniform on each side—that is, smaller than the point of entry but larger than the point of exit of a perforation made in only one direction. This preferred method was used, for example, on a Plastiras-type figure in the Barbier-Müller Museum (no. 5; Figure 7), which I believe was carved by the same sculptor as no. 4, the name-piece of the Metropolitan Museum Master. The figure has two pairs of mending holes, one at a break just below the chin, bored through the neck from either side (Figures 8, 9), and the other at a break in the upper right thigh (across the buttock line in back), bored from both front and back (Figures 10, 11).

Apart from the three Metropolitan Museum figures, the only other examples of Early Cycladic restoration known to me in the United States are the small Plastiras-type figure in the Getty Museum (no. 9; Figures 19, 20) and the figurine in the Pomerance collection (no. 10; Figures 21, 22). The latter, which has a Louros-type head on a violin-shaped body, shows biconical holes bored through the main surface.10 In this

10. Cf. Thimme in ACC, no. 102 (text). The break-site was not reworked in the mending process.
Indeed, the boring tool seems to have been the favorite implement of these early sculptors, one which they used freely for many details including eye sockets, ears, sternum notch, navel, buttock dimples, and elbow perforations. They also used the borer to perforate the suspension lugs of their many marble vessels (collared jars, beakers, and bowls) as well as the corners of their marble palettes (Figures 25, 26). On these, too, the holes were bored from both directions in order to minimize their size and also, in the case of the lugs, to make the opening on each side more or less uniform.

As time went on, it appears that the boring tool was improved upon. Quite possibly a rotary drill was now introduced, for the repair holes become smaller and more cylindrical (nos. 12, 14–17, 20, 22–23). On a Kapsala-variety figure in the Erlenmeyer collection that I have tentatively attributed to the Kontoleon Master

11. The surface diameter of the upper hole is 0.6 cm. on the front, 0.95 cm. on the back, and of the lower hole ca. 1.05 cm. on the front, ca. 1.2 cm. on the back. The actual opening inside the upper hole is ca. 0.25 cm. in diameter, whereas that of the lower hole is more oblong in shape, ca. 0.5 × 0.25 cm., leading L. Gorelick and A. Gwinnett, who examined the piece in the spring of 1980, to conclude that this hole had been bored from two directions on each side.

12. This was the conclusion, reached independently, through the use of scanning electron microscopy; see Gwinnett and Gorelick.


15. See note 8. Quite small holes were sometimes made by skilled sculptors presumably before the introduction of the rotary drill (e.g., no. 1), and indeed already in Neolithic times beads and pendants of stone were perforated with tiny holes.

14, 15. Female figure, Plastiras type. No. 7. Oxford, Ashmolean Museum AE.151 (photos: Ashmolean Museum, Department of Antiquities)


17, 18. Details of no. 8 showing mending holes in left thigh and hip/buttock (front and back views)

21, 22. Female figure, hybrid type. No. 10. New York, Pomerance Collection of Ancient Art 74 (photos: courtesy L. Gorelick)

25. Collared jar of marble. H. 18.7 cm. The Metropolitan Museum of Art, Fletcher Fund, 35.11.22

26. Collared jar of marble. H. 22.7 cm. The Metropolitan Museum of Art, Fletcher Fund, 35.11.23

27. Marble bowl. D. 14 cm. Private collection (photo: courtesy the collector)
23, 24. Female figure, Louros type. No. 11. Private collection (photos: courtesy the collector)

30. X-ray of no. 13, back view, showing dowel hole in upper right leg

BELOW:


33. X-ray of Figure 32, showing hole in torso
the left leg (now missing) was once reattached at the knee (no. 15; Figures 37, 38). The cylindrical path of the hole drilled through the side of the leg above the break is clearly visible because the front surface at this point has broken away, exposing the channel of the perforation to view.

In the name-grave of the Louros-type figures, dated to the transitional phase, both a statuette (no. 12)—one of seven found standing together in a niche—and a marble bowl with repair holes were found. The figure had had its right leg rejoined at the knee, as shown by the small holes pierced roughly diagonally through the leg, while the bowl, which was broken in half, had been similarly mended; it has three pairs of small, carefully drilled holes evenly spaced along the break. A similar bowl with two pairs of repair holes—biconical ones, however—is illustrated in Figure 27. The two halves of the bowl are shown fastened together with string.

16. Papathanasopoulos, pp. 134–135, pl. 69a. As compared to the figures, which they greatly outnumber, Cycladic stone vessels are very rarely repaired. See Doumas, “Burial Habits,” p. 107 and pl. 35g (greenstone crucible with two pairs of repair holes in the annular haft). In addition to the restoration of marble bowls (see Figure 27 and note 19), the lugs of EC I beakers were occasionally reperforated following damage, possibly incurred during the boring of the original perforation. See, e.g., ACC, fig. 78 and no. 279; Renfrew, Emergence, pl. 1:4; Zervos, fig. 2. See also Doumas, Cycladic Art, no. 35 (palette).

17. Papathanasopoulos (p. 135) mentions that another perforation was begun but not completed slightly above the repair hole at the back of the calf. A similar “false start” was made on the back of the male Plastiras-type figure, no. 8 (Figure 18).

18. I have not personally examined the back of this figure or the underside of the bowl. The perforations appear from the front to have a roughly cylindrical path. In the case of the figure, the top hole at least could only have been made from one direction.

19. A large unpublished bowl in the Naxos Archaeological Museum (no. 4670) also shows three pairs of mending holes. An unpublished bowl fragment from Keros in Naxos has a pair of holes on the surviving side of a break.

purpose. Presumably these grooves were aligned with similar ones running upward from the hole in the leg that is now missing.21 This figure fragment, found on Keos, is the latest example (i.e., late EC II) of mending by the perforation method found to date in the Cyclades.

Another attempt to refine the perforation method is seen on the earlier of the two Bache Bequest pieces in the Metropolitan Museum (no. 16; Figures 39–42), which was fractured at the neck. This Kapsala-variety figure (dated early in the EC II period) from the hand of the Kontoleon Master is the only known example to have three repair holes, presumably in an attempt to make a more secure join than was possible with the usual two.22 These holes—one in each shoulder and one in the neck—were made with a hand-held boring tool applied from both the front and the back. Unlike the repair holes on most other examples, however, these borings, which are quite small in diameter, do not all have a straight path. Rather, in the case of the shoulder perforations the section of the hole bored from the front is set at a slightly oblique angle to the section bored from the rear, with the result that the place where the two borings meet to complete the perforation is very small indeed. Only an extremely narrow cord, thong, or wire could have been used to tie the two parts of the figure together.

37, 38. Female folded-arm figure, Kapsala variety. No. 15. Basel, Erlenmeyer Collection (photos: W. Mohrbach, Badisches Landesmuseum, Karlsruhe)

20. The chronological associations of the precanonical figures have not been established, but they appear to be transitional, typologically, between the Plastiras type of EC I and the early folded-arm figures of EC II. See Thimme (who first defined the group) in ACC, pp. 449–450.

21. See note 6. The early Spedos-variety figure from Aghios Kosmas, no. 17, has a single superficial groove running up from the small repair hole in its chest both in front and in back. It is difficult to tell if these grooves were made deliberately or if they were worn in the stone by the string or wire used to tie the head/neck to the body.

22. Exactly how the three holes were utilized is unclear. I was unable to fasten the head/neck onto the body effectively with a leather thong, perhaps because the thong was not fine enough to pass through each hole more than once. Also, the hole in the neck is positioned quite far above the break (and therefore far from the shoulder holes), which adds to the difficulty of tying the parts together securely. Perhaps a wooden support was used under the bindings in back. (The surviving repair hole in the neck of no. 23, Figures 30 and 31, is likewise located rather far from the break.) As noted below, from the EC II period on, ordinary figures were meant to recline rather than stand, a fact which might have made the mending of broken figures somewhat easier: in the reclining position the join would not have had to be quite as fast.
39–42. Female folded-arm figure, Kapsala variety. No. 16. The Metropolitan Museum of Art, Bequest of Alice K. Bache, 1977.187.10a,b
43, 44. Female folded-arm figure, early Spedos variety.
No. 18. Basel, Erlenmeyer Collection (photos: W. Mohrbach, Badisches Landesmuseum, Karlsruhe)

44. Detail of no. 18 showing dowel hole in right foot (front view)

The only other example in which two holes were completed on one side of a fracture is the little head from Aghios Onouphrios on Crete (no. 27). It is unclear just what purpose was intended by the double perforation in the neck of this fragment; possibly a second hole was made to balance one that had inadvertently been made off center.

Toward the end of the transitional phase, if my dating of a curious figure in Oxford is correct (no. 13; Figures 28, 29), a new, “invisible” mending technique was introduced and for a time used concurrently with the old perforation method. This was the insertion of a pin or dowel, probably of wood, into a cylindrical hole drilled into each of the parts to be reunited (Figure 30).23 In the three certain cases known to me in which this technique was used, a foot was reattached (nos. 13, 18, 19).24 One of these examples, an early...
Spedos-variety figure in the Erlenmeyer collection, shows a further refinement: the break-sites were first evened off and smoothed in order to improve the join (no. 18; Figures 43, 44).

From the point of view of stability dowels must have been superior to the perforation technique, and a good deal safer, especially for reattachment of small parts such as feet. Yet the old method continued in use. One cannot help wondering if some sculptors at least found their highly visible repair holes and ties to be decorative.

Another quite visible method of making a rigid restoration may be seen on the later of the two Bache Bequest pieces in the Metropolitan Museum (no. 21; Figures 45–48). This unusual Chalandriani-variety statuette,25 which was carved near the end of the period of production of Cycladic sculpture in the Early Bronze Age, is unique in the manner in which its head (now lost) was once refastened to the neck by means of lead attachments. These were applied to both sides of the neck, each one straddling the break. The lead pieces, portions of which are preserved in situ, were held in place by being partially inserted into channels cut in the marble, much like the clamps used in classical Greek architecture to join two blocks of marble. The channels, in the form of a broad groove with a roughly circular termination, presumably continued on the other side of the break, ending in a similar fashion on the sides of the head (Figure 49).

With the exception of this figure, the use of lead as an Early Bronze Age mending agent is confined to riveting on damaged pottery.26 It is found once again, however, on a fragmentary Late Bronze Age cruciform figurine of marble from the excavations at Ayia Irini on Keos.27 In a curious way this piece seems to combine all three of the Early Bronze Age techniques I have described: it has a dowel hole drilled into the site where the "arm" (now missing) broke off, another hole drilled through the front surface to meet the dowel hole, and a lead plug filling this second hole.

In addition to the sculptures which were restored by the methods just described, there are two Spedos-variety works not included in the census that I believe suffered serious damage and were rendered serviceable without a reattachment of the broken part. In effect, they appear to have been reworked rather than repaired. The first is a large figure in the Goulandris collection (Figures 52, 53) from the hand of the Copenhagen Master,28 a sculptor named after a partially preserved figure in the Danish National Museum. I suspect that the legs of this extremely thin sculpture sustained a fracture at roughly knee level and that the sculptor, in an effort to salvage his piece, telescoped the legs in such a way that rudimentary feet now take the place of the knees as originally executed or intended. The resulting figure is disproportionate, and concealing the existence of the original dowel holes. In other cases in which only one part of the figure is preserved, the ancient dowel hole could have been used in modern times to insert a support for mounting the piece. A possible example is the upper half of an early Spedos-variety figure in Oxford (Figures 31, 32), which has a hole drilled into its core. There is no record to indicate whether or not the hole was present when the piece was acquired by the Ashmolean Museum around the turn of the century. Since an X-ray photograph (Figure 33) shows the hole to be quite regular in shape, I am not entirely convinced of its antiquity (an opinion shared by technicians of the Ashmolean's laboratory who very kindly examined the piece for me) and for this reason have not included it in the census. Traces of shellac indicate that the hole was at one time used for mounting the piece. (Similar traces of shellac are present in the hole of no. 13, suggesting that at some point it was probably used for mounting purposes, but the irregularity of the hole should preclude the possibility that it is modern.)

25. The arms are exceptionally long and curving, and the lower part of the figure is carved in a plane slightly below that of the rest. The position of the arms is unusual but not unparalleled: see P.G.-P. in MMJ 15, figs. 61, 63a.

26. C. Renfrew, "Cycladic Metallurgy and the Aegean Early Bronze Age," American Journal of Archaeology 71 (1967) p. 4 with n. 29, pl. 2b. Lead, which was mined principally on Siphnos and at Laurion in Attica during the Early Bronze Age, was also used in rare cases to make entire figurines (e.g., ACC, nos. 251, 252; Renfrew, "Cycladic Metallurgy," pp. 4–5, pl. 2:1) as well as other objects found in Cycladic graves, including boat models and a stamp seal. See N. H. Gale and Z. Stos-Gale, "Lead and Silver in the Ancient Aegean," Scientific American (June 1981) pp. 176ff., esp. 184–185, 190–191.

27. Caskey, p. 121, no. 31; fig. 5, pl. 22. On the dating of the figure see pp. 123–125. Of the repair methods known to have been used in the Cyclades in the Early Bronze Age, the inconspicuous doweling technique is the only one to foreshadow developments in the repair and separate piecing of Greek marble sculpture which took place in the archaic period and beyond. See S. Adam, The Technique of Greek Sculpture in the Archaic and Classical Periods, British School of Archaeology at Athens, supplementary vol. 3 (London, 1966) esp. pp. 48–50, 59, 66, 81–82; G. M. A. Richter, The Sculpture and Sculptors of the Greeks, 4th ed. (MMA, New Haven/London, 1970) p. 123.

28. Doumas, Goulandris, no. 257; Doumas, Cycladic Art, no. 143. (Detailed discussion of all the masters mentioned by name in this article will be found in my forthcoming book on Cycladic sculptors.)
49. Hypothetical reconstruction of the head/neck of no. 21, showing channel cut to receive lead clamp (drawing: P.G.-P)

52, 53. Female folded-arm figure, early Spedos variety. Athens, Goulandris Collection 257. H. 70 cm. "Naxos." A work of the Copenhagen Master (photos: courtesy D. Goulandris)

54, 55. Female folded-arm figure, early Spedos variety. London, N. Horiuchi Collection. H. 56.2 cm. A work of the Copenhagen Master (photos: courtesy N. Horiuchi)
the form of the feet inelegant by comparison with the rest. That the Copenhagen Master was able to achieve this transformation at all is largely due to his stylistic preference for unusually elongated thighs, a distinguishing characteristic which can best be seen on another work I have attributed to him (Figures 54, 55).

The second piece that shows evidence of reworking is also in the Goulandris collection (Figures 56, 57).²⁹ It is my belief that this curious image was initially conceived as part of a composition in which two figures clasping each other about the shoulders were set side by side.³⁰ When a break occurred in the extended arm, it appears that the sculptor simply smoothed over the break-site, making the Goulandris figure look as if she were scratching her back. With a humorous twist, the original composition was thus broken up into component parts. If the companion figure was similarly saved, the two could then have been used independently.

With very few exceptions, almost all of which involve later Bronze Age reuse, Cycladic figures and stone vessels have been found in secure contexts only in graves, and it is very likely that they constitute a class of specifically sepulchral objects.³¹ Many scholars claim, however, that the traces of mending found on some of them show that these objects have been used by the living for a religious purpose prior to their interment with the dead.³²

There is, of course, no way of knowing when or under what circumstances the damage to mended objects occurred, but it is quite possible that some pieces at least broke—and were repaired—before they ever left the workshop, perhaps during the final stages of manufacture. Even if they broke after their completion, this need not be construed as evidence to deny their primary function as grave goods. It seems plausible to suppose that the objects buried with the dead would have been their personal possessions. Certain things, such as figures and stone vases, which were not domestic items, could have been acquired by persons of some means and status—they are found in relatively few graves—for the express purpose of preparing for death, burial, and the afterlife. If so, they would have been kept and presumably displayed until their owners’ demise. In the close quarters of an Early Bronze Age domestic setting such objects would have been subject to hazards ranging from playful children to earthquakes. This theory, incidentally, would also help to account for the one or two instances in which Cycladic figures have been recovered in habitation contexts of the EC II period or earlier.

This is not to imply that the mended objects were the only ones that broke before they were buried. On

56, 57. Female figure, early Spedos-variety style. Athens, Goulandris Collection 330. H. 23 cm. (photos: courtesy D. Goulandris)

³⁰. See P.G.-P. in MMJ 15, p. 32, n. following no. 25.
the contrary, it is a puzzling fact that incomplete figures, small fragments of figures, stone vases without their lids, broken vessels, and even lids alone sometimes occur in Cycladic tombs. As we have seen, even the figures that had been repaired are in many cases missing the part or parts that had been painstakingly reattached, or missing other parts, or both. Of the three once-mended figures found in graves by archaeologists (nos. 1, 12, 17), one provides a case in point. This is the small figure, imported from the Cyclades, found in the cemetery at Aghios Kosmas (no. 17). It lacks parts of both legs as well as the head/neck which had been refastened by the perforation method.

The burial of incomplete objects has been viewed, like the traces of ancient mending, as evidence for their use before burial. But unless we look upon the figures as insignificant children's toys or unless we consider the Cycladic people of the Early Bronze Age to have been childishly irresponsible, this seems to me entirely untenable. Surely the marble objects—figures as well as vases—must have been precious to their owners. Made by craft specialists, they were the possessions of only a privileged few, who clearly would not have treated them so carelessly as to lose parts of them, leaving in the end only a torso or a pair of legs to take along to the grave. On the other hand, one cannot rule out the possibility that hatred, envy, or fear may in certain cases have motivated individuals to vandalize a dead person's property. Some sort of funeral custom may have existed—a rite beyond our own experience— involving the intentional breaking of objects and even the deliberate discarding of parts of them. Recent excavation of Cycladic cemeteries has revealed that the images were not always accorded conventional respect at their interment: they were sometimes buried face down or weighted down by other objects. In the light of these considerations, I would suggest that damage to a once-mended piece occurred accidentally before it left the sculptor's workshop or during its owner's lifetime, whereas other damage and loss of parts (including further damage to the mended figures) occurred largely after the owner's death, possibly at the funeral. In some cases, of course, damage may have been caused by natural phenomena after the object was buried.

We do know of at least one case of deliberate breakage. The largest completely preserved figure known, a nearly life-size image from Amorgos in Athens, had to be broken into several pieces in order to fit the grave in which it was found. This fact, too, has been taken to mean that the figure had served a nonsepulchral function, in this case—because of its great size—as a cult statue. However, its size may simply indicate that the owner was an unusually prosperous person who sought to increase his prestige in this life or the next, or both, by obtaining it for his burial. Indeed, if it had been a cult statue of some importance to the community, one wonders why it was put in a grave at all, let alone in one which was much too small for it (the Cycladic dead being buried in a severely contracted position within a confining space).

Cycladic figures break easily when dropped. Susceptibility to fracture was, I believe, an important factor to be reckoned with in their manufacture. The most vulnerable points are, as we have seen, the juncture between the neck and torso and, on the more representational types, the knee and ankle joints. Certain types of figure tended to sustain fractures more readily than others, however. Some 16 or 17 percent of all known Plastiras figures were repaired in antiquity as compared to only 2 or 3 percent of the Cycladic figures carved subsequently. Repairs are proportionally somewhat more numerous among the EM II Koumaza-variety statuettes. These Minoan versions of the Cycladic folded-arm figure are small, flat images which are so thin and delicate as to be particularly vulnerable, especially at the neck/torso juncture. Of the six figures recovered at Koumaza, three—all Koumaza-variety and probably fashioned by one sculptor—were found broken. All three have

33. See P.G.-P. in ACC.
34. Doumas, Goulainris, p. 93; Doumas, "Burial Habits," p. 63.
35. It is my belief that the sculptors who made the figures also repaired them and that some may have done more repair work than others. Two sculptors are each represented by two mended works (Metropolitan Museum Master, nos. 4 and 5; Kontoleon Master, nos. 15 and 16), while the three mended figures from Koumaza (nos. 24–26), and perhaps a fourth (no. 27), were also the work of a single craftsman.
repair holes: two at the neck, one in the pubic area (nos. 24–26).\(^3\)

To a significant degree the development of Cycladic sculpture may be viewed as a gradual yet continuous process of risk reduction and simplification, presumably to permit speedier and more effective production.\(^4\) Generally speaking, the earliest figures have much more exaggerated proportions than the later ones, and the representational Plastiras-type images show a much greater concern for anatomical forms and details. For example, the Plastiras as well as the violin figures of the EC I period and the Louros figures of the transitional phase all tend to have dangerously long, slender necks (nos. 1–6, 9–12). The head/neck unit of the Plastiras figure usually occupies fully one-third of the total height, while the neck prong of the violin statuettes is often still longer proportionally. By adopting a conservative neck length, the EC II sculptor was able to decrease the vulnerability of this part of his work. It is noteworthy that the two Bache Bequest figures (which are at present the only EC II examples of head or head/neck reattachment in which all or nearly all of the neck is preserved) are somewhat atypical: their necks are unusually elongated (nos. 16, 21).

Another characteristic feature of the Plastiras-type figures is the complete separation of the legs from the crotch, with knees and ankles often carefully modeled and reduced in thickness. Much work was required in the process and the results were quite fragile, as shown by the number of leg repairs that ensued (nos. 4–9). Sometime toward the end of the transitional phase, presumably, figures began to be made which were sturdier and more compact than the Plastiras ones, and less extreme in their proportions. Considerable attention was still paid to individual forms and to details, but already we see this as a diminishing concern. To reduce the risk of fracture, the legs were now carved separately for only about half their length, roughly from the knees downward (e.g., nos. 12–16).

This measure did not, however, sufficiently decrease the degree of fragility of the sculptures (nos. 12–15) or the amount of labor required, and soon a further attempt was made to strengthen the legs at vulnerable points: they were now carved as a single unit, separated only by a broad, deep cleft which was perforated between the knees and ankles (e.g., nos. 17, 18). At first the perforation of the leg-cleft was often quite long; later it tended to be shorter. At this point repairs at the knee seem no longer to have been needed.

Somewhat later in the EC II period most sculptors cautiously chose not to perforate the leg-cleft (e.g., no. 19). The Goulandris Master, for example, an extremely prolific sculptor of late Spedos-variety figures, apparently never perforated the marble membrane between the calves.\(^5\) Another major sculptor, the Bastis Master, from whose hand we have only a few works, took the same precautionary measure on at least one piece. This is a small, stocky figure which I believe he carved early in his career (Figures 58, 59). His “later” works, however, including his name-piece in the Metropolitan Museum (Figures 60, 61), which are larger, more elaborate, and more refined, do have a perforated leg-cleft.\(^6\) Evidently the Bastis Master came to regard the perforation as a refinement worth a certain amount of risk.\(^7\)

Toward the end of the period of production, the legs were usually separated merely by a shallow incision (e.g., no. 21). Only a few bold sculptors reverted to the earlier practice of perforating the leg-cleft.\(^8\) In general, though, sculptors seem to have lavished less care on their works, whose severely stylized forms—particularly those of the Chalandriani variety—were well suited to easy and hasty execution.

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38. Xanthoudides, p. 24 and pl. 21.
39. This idea was first developed and expressed by Thimme (J. Thimme, "Ein monumentales Kykladenidol in Karlsruhe. Zur Typologie und Deutung der Idole," Jahrbuch der Staatlichen Kunstsammlungen in Baden-Württemberg 12 [1975] p. 15; see also Thimme in ACC, p. 454).
40. P.G.-P. in ACC, pp. 84–87 with fig. 70 and nos. 167, 168, 178, 180.
41. See ACC, no. 166 and p. 87. I shall discuss the work of the Bastis Master further below.
42. Thimme (ACC, no. 166, p. 468), at least partly on the basis of the perforation of the leg-cleft on the larger figures of the Bastis Master, dates this sculptor somewhat earlier than the Goulandris Master—i.e., he assigns the Bastis Master to his “middle” Spedos group, the Goulandris Master to his “late” Spedos group. He is apparently unaware of the existence of the smaller, unperforated figure by the Bastis Master, which actually resembles the smaller, immature work of the Goulandris Master. I regard the presence or absence of the perforation as a matter of choice and not strictly of development or chronology, and I consider the Goulandris and Bastis Masters to have been roughly contemporary.
43. GAAI, no. 17; Zervos, fig. 296.
Along with the measures taken to strengthen the legs, a basic change was also made in the posture of the figures. The earlier ones—the Plastiras, Louros, and precanonical—are all represented as standing, even though they do not do so unsupported. It is perhaps no coincidence that mending of the legs occurred primarily among these “archaic” types. The damage to such figures, whose legs were delicate in any case, may well have resulted from their being propped up in a niche or on a ledge either in the sculptor’s workshop or in their owner’s house: unable to stand by themselves, they could easily have slipped and fallen.

By the beginning of EC II the figures adopt a reclining posture. Their feet, rather than directed forward horizontally, were now made to point outward at an angle and downward on tiptoe. I like to think that the reclining posture was introduced by the sculptors themselves through a gradual process of experimentation, not because of any change in religious symbolism or practice, nor because of any foreign influence. Their reasoning may have gone something like this: since the figures were to be laid on their backs in the grave anyway, and since they could not be propped up safely for display, why not make them recline from the start? From then on figures meant to stand were carved with a small rectangular base. Leg repairs became much less common.

To continue this line of discussion, the rendering of the arms of Early Cycladic figures was, I believe, also influenced by the risk factor, although the area is not one in which repairs are found. Together with the standing posture, the EC I sculptors inherited from their Late Neolithic predecessors the arrangement of the arms in which the hands meet beneath the breasts. In actuality, this position involves moving the elbows and upper arms well away from the torso, thus creating a large triangular space on either side of it. An effort to indicate or at least to acknowledge this gap was made by a few sculptors of Plastiras-type figures. One, the Athens Master, simply perforated the bend of the elbows with his boring tool. A second sculptor began to make similar perforations, but for some reason stopped before he had gone very far; perhaps he thought it wise not to risk irreparable damage to his figure. A third sculptor showed the gap more realistically by completely separating the upper arms from the torso of his figure. This perilous procedure was not attempted again, evidently, for a very long time. Instead, along with the conservative measures undertaken in the areas of the neck and legs, the sculptors began to seek a safer solution to this problem as well. Once again it was their initiative, I believe, rather than a shift in religious meaning or gesture, or any external influence, that set in motion the gradual development of the folded-arm position. This arrangement creates no extraneous space between the arms and the body, especially if the elbows and upper arms are held close to the sides. Indeed, many of the early folded-arm figures seem to be tightly clasping themselves.

The folded-arm position, with the upper arms clamped against the torso and the forearms held right below left, remained the norm for perhaps several hundred years. It was not until the end of the period of production, which saw an unprecedented freedom in the arrangement of the arms, that a number of sculptors once again began to free the upper arms, partly perhaps as a way of diminishing the highly exaggerated breadth of the torsos (e.g., no. 21). This was a daring move, one fraught with danger, especially since a broken arm could not have been easily reattached with the mending methods available. The male folded-arm figure in the Metropolitan Museum is a case in point.

The figures that show traces of ancient mending vary in height (or length) from a scant 9.4 centimeters (no. 3) to a maximum of approximately 37 centimeters (estimated for no. 18). Most are, or were, less than 25 centimeters—a size about average for Cy-

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44. See ACC, fig. 37, nos. 256, 258.
45. PG.-P. in AK, pls. 17, 18.
46. ACC, no. 72. This figure also has a hole bored just above the crotch. Apparently it was made to receive a separated carved penis, although there is no way of knowing if this was part of the original figure or a replacement; if the latter, it would constitute another example of mending. On this figure see also my remarks in MMJ 15, no. 4, esp. p. 6 n. 4. (For separate piecing of the penis in later times see J. Boardman, Greek Sculpture, The Archaic Period: A Handbook [London, 1978] fig. 59.)
47. ACC, no. 71.
49. E.g., MMA 34.1113 (ACC, no. 124) and MMA 1972.118.102 (ACC, no. 125).
50. It is my feeling that the right-below-left arrangement was also influenced by practical rather than magico-religious considerations, in that right-handed craftsmen would find it easier to execute the arms in this way.
51. See P.G.-P. in MMJ 15, no. 33; also: ACC, nos. 232, 239, and n. 38.
cladic sculptures as a whole. It is interesting to note that, with the exception of the unusually narrow figure illustrated in Figures 52 and 53, no large pieces exhibit repairs or reworking; nor, with the exception of the piece illustrated in Figures 56 and 57, do any of the special or occupational figures—seated and standing musicians, seated females and cupbearers, two- and three-figure compositions. This is not to say that such figures never sustained damage prior to being interred, but, as already suggested, perhaps they did not do so under the same circumstances as the figures that were repaired (or salvaged).

Smaller figures are probably on the whole more fragile than larger ones, because they tend to be thinner in section and less substantial in certain parts.

Smaller figures, therefore, although perhaps less time-consuming, were in some ways more difficult to carve than larger ones, or at least offered the sculptor fewer possibilities to exercise his talents for elegance and refinement of expression. The two works of the Bastis Master mentioned earlier illustrate this point (Figures 58–61).

The maximum thickness of the Bastis Master's small, early figure is about 3.25 centimeters, whereas that of his name-piece, a late or mature work, is 5.48 centimeters. Yet, although actually thinner than the larger figure, the smaller one has a maximum thickness which is 14 percent of its length, as compared to 8.6 percent for the other. As a result, the smaller image has a rather thick, stocky appearance when viewed in profile. This
is in distinct contrast to the profile of the Metropolitan Museum figure, whose relative narrowness adds significantly to its elegant appearance. In order to achieve a similar effect with the smaller piece, the sculptor would have had to reduce its thickness drastically, a step he might have regretted.  

In addition to the refinements in structure and mass made possible by increased size, the treatment of details was also facilitated. It is clear, for example, that it would have been impossible for the Basis Master to incise fingers neatly (and in the correct number) on his smaller figure. There was simply not enough space. It was possible to do so on the larger work because the space allowed for each arm is just slightly greater than the minimum of 1 centimeter needed for this purpose. Because of this requirement, it is rare for folded-arm figures with a length of less than 40 centimeters to be embellished with fingers.  

Surely the most difficult of all Cycladic sculptures to carve were the special occupational types, particularly the harp players, whose fragile instruments have extremely narrow frames carved in the round. These compositions tend also to be quite small, a fact which must have added to the hazards involved in their manufacture as well as in their survival. Not one of the harpers was found intact; in fact, only two—the two largest, incidentally—have all their parts preserved. One of these is the Metropolitan Museum harper, whose instrument, presumably at some point following burial of the work, broke into three pieces.  

It seems a logical supposition that both large-scale and more complex works were fashioned by sculptors who first mastered their craft and polished their skills by painstakingly making small, standard figures. Although, admittedly, there are no such unusual figures that we can attribute to any of the sculptors of once-mended works, we may nevertheless speculate that by the time sculptors were ready to carve large figures and virtuoso pieces with their special risks and difficulties, they had become masters at preventing fractures during the actual process of manufacture. It is probably no coincidence that really large figures and special ones, too, were as a rule not even attempted until the craft itself had progressed to the point where most of the measures to reduce the risk of fracture mentioned above had been taken, and repairs were needed only rarely even on small pieces. By making standard figures recline and by furnishing special figures with bases, if they were meant to stand, or with stools or chairs, if they were meant to be seated, these highly skilled sculptors may also have been able to forestall damage to their work once it had left their hands.

CENSUS OF CYCLADIC MARBLE FIGURES WITH TRACES OF ANCIENT REPAIRS

EARLY CYCLADIC I

1. (Figure 1). Violin type. Athens, National Archaeological Museum 4959. H. ca. 10 cm. A mending hole on either side of break at base of neck prong. Grave 147, Akrotiraki, Siphnos. C. Tsountas, "Kykladika II," Archaiologike Ephemeris (1899) cols. 75–76, 97–98 (fig. 28).

2. (Figure 1). Violin type. Athens, National Archaeological Museum 3937. H. 22.6 cm. A mending hole on either side of break at base of neck prong. "Kimonos." Zervos, fig. 146.


5. (Figures 1, 7–11). Plastiras type with polos. Geneva, Barbier-Müller Museum BMG 202.75. H. 18.3 cm. A mending hole on either side of breaks at top of
neck and right thigh. Attributed to the Metropolitan Museum Master. *ACC*, no. 66.


**EARLY CYCLADIC I–II**


12. (Figure 1). Louros type. Athens, National Archaeological Museum 6140.9. H. 21.5 cm. A mending hole on either side of break at right knee; another, incomplete hole in back above break. Grave 26, Louros Athalassou, Naxos. Attributed to the Stepoulos Master. Paphathonaspolous, p. 135, pl. 76b; *ACC*, fig. 35.


**EARLY CYCLADIC II**

15. (Figures 2, 37, 38). Kapsala variety of the folded-arm type. Basel, Erlenmeyer Collection. Pres. H. 17.2 cm. (head/neck and legs from knees missing). Damaged mending hole above break at left knee. Tentatively attributed to the Kontoleon Master. Errorneously included in the group photograph of fragments from the "Keros hoard" (*ACC*, fig. 71), to which it does not belong; otherwise unpublished.


17. (Figure 2). Early Spedos variety of the folded-arm type. Athens, National Archaeological Museum 8971. Pres. H. 6.2 cm. (head/neck, right foot, and left leg from knee missing). A mending hole below break at base of neck. Grave 5, Aghios Kosmas. G. E. Mylonas, *Aghios Kosmas, An Early Bronze Age Settlement and Cemetery in Attica* (Princeton, 1959) p. 81, no. 2; fig. 163.

18. (Figures 2, 43, 44). Early Spedos variety of the folded-arm type. Basel, Erlenmeyer Collection. Pres. H. 26.8 cm. (head/neck and feet missing). Dowel hole in break at right ankle. M.-L. and H. Erlenmeyer, "Von der frühen Bildkunst der Kykladen," *AK* 8 (1965) pl. 19:5. (See also *ACC*, fig. 71, which by error includes this figure, like no. 15, in the "Keros hoard").

19. (Figure 2). Late Spedos variety of the folded-arm type. Athens, Goulandris Collection 107. H. 12.7 cm. (part of left foot missing). Dowel hole in break at left foot. *Doumas, Cycladic Art*, no. 111.


21. (Figures 2, 45–49). Chalandriani variety of the folded-arm type with the forearms bent upward. New York, MMA 1977.187.11 (Bequest of Alice K. Bache). Pres. H. 27.3 cm. (head with part of neck missing). Cuttings partially filled with lead on either

NOTE: The head and neck of a Spedos-variety figure found on Keros (Naxos Museum KE.67/4183, unpublished) has what appears to be the beginning of a repair hole just above the break at the base of the neck. The perforation was not completed.

FOUND ON CRETE:
EARLY CYCLADIC II AND EARLY MINOAN II

22. (Figure 2). Late Spedos variety of the folded-arm type. Present location unknown. Pres. H. ca. 18 cm. (head with part of neck missing). A damaged mending hole below break at neck. “Aghios Onouphrius Deposit.” Evans, fig. 151.


24. (Figure 2). Koumasa variety of the folded-arm type. Herakleion, Archaeological Museum 126. Pres. H. 15.5 cm. (legs missing from above knees). A mending hole on either side of break at base of neck. Koumasa, communal tomb. Xanthoudides, pl. 21; ACC, fig. 137.

25. (Figure 2). Koumasa variety of the folded-arm type. Herakleion, Archaeological Museum 125. H. 11 cm. A mending hole on either side of break at base of neck. Koumasa, communal tomb. Xanthoudides, pl. 21.

26. (Figure 2). Koumasa variety of the folded-arm type. Herakleion, Archaeological Museum 127. Pres. H. 7.3 cm. (legs missing from above knees). A mending hole above break across thighs. Koumasa, communal tomb. Xanthoudides, pl. 21.

27. (Figure 2). Koumasa variety of the folded-arm type. Herakleion, Archaeological Museum 91. Pres. H. 3.6 cm. (head/neck fragment only). Two mending holes above break at neck. “Aghios Onouphrius Deposit.” Evans, fig. 132; ACC, fig. 144.

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Appendix

SOME EXAMPLES OF MENDING (AND PIECING) BY THE PERFORATION METHOD

Stone Sculpture


Stone and Obsidian Vases

Mellink and Filip, fig. 123 (andesite basin from Khirokitia, 5800–5250 B.C.); G. A. Wright, Obsidian Analyses and Prehistoric Near Eastern Trade: 7500 to 3500 B.C., Museum of Anthropology, University of Michigan, Anthropological Papers, 37 (Ann Arbor, 1969) p. 41 (obsidian spouted jar from Tepe Gawra, fourth millennium B.C.); Strommenger, pls. 19–21 (alabaster vase from Uruk, 3250–3000 B.C.; on this piece the copper clamps are still in place); Foster, pp. 238–240 with fig. 2 and ill. 4 (serpentine goblet fragment from Mochlos, 1600–1450 B.C.); S. Marinatos, Excavations at Thera, V (Athens, 1972) pl. 67 (marble chalice from Akrotiri, 1600–1450 B.C.). An intriguing example of obsidian vessel repair was described to me by L. Pomerance: in an unpublished vase of rhyton shape from Acemhöyük (Assyrian trading colony period, second millennium B.C.), a break along the length of the vase has evenly spaced holes on either side through which gold wire is used to lace the two sections together.

Pottery

# Abbreviations

AAA—*Athens Annals of Archaeology*


AK—*Antike Kunst*


EC—Early Cycladic

EM—Early Minoan


GAAI—*Greek Art of the Aegean Islands* (MMA, New York, 1979)


P.G.—P. Getz-Preziosi


Pres. H.—preserved height (or length, where appropriate)


Strommenger—E. Strommenger, *5000 Years of the Art of Mesopotamia* (New York, 1964)


Xanthoudides—S. Xanthoudides, *The Vaulted Tombs of Mesará* (London, 1924)

Style and Subject Matter in Native Thracian Art

ANN E. FARKAS

Professor, Department of Anthropology and Archaeology,
Brooklyn College, City University of New York

To the peoples of civilized societies like the classical Greeks and Persians, the inhabitants of ancient Thrace (which encompassed what is now Bulgaria, southern Romania, eastern Yugoslavia, northeastern Greece, and parts of European Turkey) must have seemed as primitive and wild as their Scythian neighbors who dominated the Pontic steppes on the northern shore of the Black Sea. Greek authors like Herodotus and Xenophon painted a barbaric picture of all these tribes. According to Herodotus, for example, the eastern end of the Eurasian steppes was the very edge of the known world, populated by a race of one-eyed men and by gold-guarding griffins. The Persians, who incorporated the Thracians and Macedonians into the satrapy of Skudra during the years from about 512 to 476 B.C., depicted the Skudrians on the sculptures of the Apadana at Persepolis as similar to the various Scythians who paid homage to the King of Kings.

When Thracian art began to be studied more or less seriously around the turn of the century, scholars like Casson and Rostovtzeff took the view that the Thracians had not created an original material culture, and they concluded that there was no such thing as native Thracian art.1 This opinion was contested by other authorities, such as Filov and Griessmaier, and with the discoveries of the last fifty years, particularly in Bulgaria and Romania, the native characteristics of Thracian art have become apparent.2 Recent studies by the Bulgarian archaeologists Venedikov and Marazov, and by the Romanian Berciu, have emphasized the view that this art developed during the first millennium B.C. from a geometric to a figural style as a primarily indigenous phenomenon, although shaped to some extent by the many foreign contacts of the Thracian tribes.3 Furthermore, it has been stressed by these scholars that the Thracians were not closely related to the steppe nomads who were their neighbors to the north and east. Thracian tribes appeared in their homeland at least as early as the middle of the second millennium B.C., having come probably from more northerly regions of Europe, whereas the Scythians and other nomads moved westward along the steppes from Asia several hundred years later. Herodotus mentions that the Scythians thought of themselves as "the youngest of all nations" (4.5); the Thracians, on the other hand, had participated in the Trojan War, in which the swift white horses, richly ornamented chariot, and gold armor of King Rhesus had exemplified the elaborate material culture of Thrace in the Late Bronze Age (Ilïad 10.435). While the Thracian tribes adopted—no doubt from the Scythians—some aspects of mounted nomadism in the

2. Filov's ideas are discussed by Rostovtzeff, see note 1; Griessmaier's work is listed in note 4 below. A reconsideration of the arts of the Scythians and the Thracians has also been stimulated by recent loan exhibitions at The Metropolitan Museum of Art: "From the Lands of the Scythians," 1975, and "Thracian Treasures from Bulgaria," 1977.
3. I. Venedikov and T. Gerasimov, Thrakische Kunst (Vienna/Munich, 1973); A. Fol and I. Marazov, Thrace and the Thracians (New York, 1977); D. Berciu, Arta traco-getica (Bucharest, 1969); idem, Contribution à l'étude de l'art thraco-gete (Bucharest, 1974).

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first millennium B.C., they also preserved many traditions of the European Bronze Age and belonged more to the world of European cultures than to that of the East.

There are only two examples of art with native Thracian iconography in the United States, a silver cup in The Metropolitan Museum of Art (Figures 1–5) and a silver helmet in the Detroit Institute of Arts (Figures 6–10). These splendid objects (and a third piece, without figural decoration, which may come from the same workshop) have recently been subjected to a technical examination by Dr. Pieter Meyers, whose report appears following this article. The results of his analyses, along with this consideration of related works, offer some new insights into the character of native Thracian art.

The Metropolitan Museum cup and the Detroit helmet belong to a corpus of Thracian art mainly associated with the tribes of the Getae and Triballi, who ruled in northern Thrace; some related pieces, however, have been discovered throughout southern areas of Thrace. Most of these were made in the fourth century B.C., and take the form of helmets, greaves, drinking cups, horse trappings, and other objects of use worked from silver and sometimes gilded. This metalwork has two varieties of decoration, one with human figures and the other with animals—the so-called Thracian animal style. Such art comes from graves and from chance finds which must have been preserved.


the buried hoards of Thracian princes and chiefs. This native Thracian art was little used among the Odrysians, a royal tribe in southern Thrace who led an alliance of several Thracian tribes from the fifth century on. The Odrysians preferred a more Greek-looking art, which nevertheless often expressed Thracian beliefs.5

Elaborately developed during the fourth century B.C., a native Thracian art may have existed as early as the sixth century, at least in the animal-style variant. A bronze matrix found at Gurchinovo in northern Bulgaria (Figure 11) and some objects from Romania seem to be early examples of this style, although they must be dated stylistically rather than on the basis of their respective archaeological contexts.6 It may

5. A.E. Farkas and E.C. Schwartz, Treasures of Bulgarian Art from Earliest Times Through the Nineteenth Century (forthcoming) chap. 11.
be merely by chance that the oldest preserved pieces of native Thracian art are decorated in the animal style rather than with human figures. It is, however, interesting that the evidence at present suggests that the animal style developed first, and in regions of Thrace close to the Scythian tribes. In the seventh century B.C. and earlier, Thracian art was typically geometric in its decoration, a taste which was a remnant of Late Bronze Age traditions.  

The bronze matrix from Gurchinovo was probably used as a source of ornament for repoussé metalwork. It must have served as a mold over which metal was hammered, but scholars disagree as to whether it formed a unified design for a cup like the Metropolitan Museum piece or a “copybook” of separate motifs for different kinds of metalwork. No doubt it belonged to an itinerant craftsman traveling between the Triballi tribe south of the Danube and the Getae to the north. Although nowadays few people would consider the matrix Scythian, it was often cited in the past as an instance of Scythian influence on Thracian art. There are obvious Scythian affinities: the detached heads of birds of prey between the animals’

legs, the drooping-necked animals lined up along the bottom, among them the stag in a folded pose—these are all typically Scythian motifs. In style, and in the use of a hatched edging for decoration on the animals’ bodies, the matrix can be compared to examples of early Scythian art, such as metalwork from the royal burial at Kelermes in the northwestern Caucasus dating from the late seventh century B.C.  

Yet there are significant differences, most notably in the decorative tendency of Thracian as compared to Scythian art. The bird heads on the matrix, used on the bodies of the two large animals as ornament, were important motifs in Scythian art where they were never treated in such a trivial fashion. The elaborate antlers at the top of the matrix are primarily ornamental as well, although they can be read as attached to the heads of the animals below them. In later Thracian metalwork, the antlers with animal heads at the end of each tip become even more of a detached motif, a phenomenon that never occurs in Scythian art. Moreover, the animals on the matrix are generalized and difficult to identify, while animals in Scythian art, particularly stags, are always clearly defined and realistic. All these distinguishing features must be considered characteristic of native Thracian animal-style art, an art related to and probably derived from the Scythian, but, by the sixth or fifth century B.C., one with traits of its own.

The best-known examples of fourth-century native Thracian art have been those excavated in the princely tomb at Agighiol, near the delta of the Danube River in eastern Romania. This tomb was partly robbed by


7. Farkas and Schwartz, Treasures of Bulgarian Art, chap. 11.

local inhabitants in 1931, before being investigated and excavated by I. Andrieșescu and D. Berciu in the same year. A mound of rocks and earth 32 meters in diameter and 2 meters high covered two funeral chambers which had been largely destroyed by the treasure seekers. The archaeologists could, however, observe that the two chambers were built of stone and that although there were traces of fire, the burials were not cremations. The villagers reportedly had found the richest treasure in the larger chamber, which must have been that of the prince; his wife, or a slave, had been buried in the smaller room. In an untouched stone construction south of the two rooms was unearthed the burial of three richly caparisoned horses, which had evidently been interred at the same time as the humans since this structure was covered by the same mound.

The chief finds at Agighiol were two silver cups decorated in animal style and similar to the Metropolitan Museum cup (Figures 12–18), a silver helmet similar in shape to the Detroit example (Figures 19, 20), and a pair of silver greaves (Figure 21); the last three objects were adorned with human figures. Other discoveries included five silver phialai, one inscribed in Greek letters koyvos etbeoy, small gold and silver ornaments, trilobate arrowheads, and Greek pottery. In the horse graves, the silver bridle trappings and bronze bits were well preserved.

Recent excavations in Romania have added to the discoveries of Agighiol. At Peretu, near the Danube in south-central Romania, a princely tomb beneath an isolated tumulus was excavated in 1970, although not published until preliminary reports in 1979 and 1980. Simpler than the Agighiol structure, the Peretu tomb was a squarish pit which contained, in addition to the skeleton of the prince or noble, a horse skeleton, remains of a chariot and two iron wheel rims, two dog skeletons, a gilded silver helmet (Figures 22–

9. Berciu, Arta traco-getica, chap. 3; idem, Contribution à l’étude de l’art thraco-gète, chap. III.

25), a gilded silver head identified as a rhyton or standard top (Figures 26, 27), a small silver vase and three plain silver phialai, and silver bridle ornaments similar to those found at Agighiol. The Peretu helmet is closely related to the one in Detroit. Although the animal motifs are not identical, on both a horned animal adorns the left cheekpiece (Figures 9, 24) and a bird of prey grasping a fish and a hare the right (Figures 8, 23). Two horned animals are placed along the neckpiece of the Peretu helmet (Figure 25), rather than the rosette and ivy leaf design at the back of the Detroit helmet (Figure 10), and there are minor differences in the patterning on the upper portions. The strange silver head from Peretu may have been used as a cup, although a hole in the neck suggests that it was attached to something, perhaps a wooden pole. The head is comparable to the large-eyed, narrow-lipped faces on the knees of the Agighiol greaves, one of which also wears a necklace of amphora-shaped beads (Figures 26, 21). Dr. Emil Moscalu, one of the

20. Detail of Figure 19 (photo: after Treasures from Romania)

26, 27. Head, used as rhyton or standard top, Thracian, 4th century B.C.; from tomb at Peretu, south-central Romania. Gilded silver, exact height unknown (approx. 23 cm.). Bucharest, Historical Museum of the Socialist Republic of Romania (photo: Historical Museum; drawing: after Voievozeanu and Moscalu, “Mormintul princiar getic . . .”)
excavators of Peretu and curator of Thracian art at the Historical Museum, has told the writer that in his opinion all this metalwork—the objects from Agighiol and Peretu, as well as the Metropolitan Museum cup and the Detroit helmet—was produced in the same workshop,\textsuperscript{11} and he hopes to conduct technical analyses of the Romanian silver objects that will establish this fact. Meyers, in the study that follows, demonstrates that the New York and Detroit pieces came from the same workshop: the silver in both is lated silver objects turned up in 1954 in the auction of the Trau collection of Vienna, at the Galerie Fischer, Lucerne;\textsuperscript{12} when, how, and from whom they had been acquired by the Trau family are not known. There is somewhat more information about the cup, which was acquired by the Museum in 1947. It was first mentioned in 1931 by Rostovtzeff as having been found by a laborer in 1913 or 1914, near the Iron Gates, where the Danube flows into western Romania. In Griessmaier's discussion of the cup in 1935,\textsuperscript{13} it was said to have been found in two pieces near the Iron Gates and taken to an antiques dealer in Budapest, who in turn sold it to Baron Eugen Kohner. On the baron's death, the cup was acquired by a private collector in Vienna, who lent it to an exhibition of Eurasian art at the Kunsthistorisches Museum in 1934. The reported place and date of the cup's discovery may both be false, fabricated to draw attention away from the actual facts. If the cup, the helmet, and the related objects in the Trau collection were indeed looted from the tomb at Agighiol early in 1931, their supposed discovery far to the west, some seventeen or eighteen years earlier, would serve to disguise the robbery. On the other hand, the metalwork in the Peretu tomb shows that Agighiol was not the only burial to hold such objects, and it is possible that both cup and helmet came from a Thracian grave as yet unknown to archaeologists.

If the Metropolitan Museum cup and the Detroit helmet were taken from Agighiol, the prince buried there would have possessed two silver helmets, one decorated with human figures and the other with animals; he would also have possessed several silver cups decorated with animal-style motifs, as well as an assortment of silver vases, bowls, and cups, which could have been part of a drinking set with containers of different sizes. The Vulchitrun treasure—a set of gold

\textsuperscript{11} One other object probably to be included in this group is a gilded silver vase with three tattooed faces on the body, now in the Hermitage, Leningrad, said to come from Kurgan II, Mastiugino, near Voronezh on the Don River, excavated early in the 20th century; see A. P. Mantshev, "Mastiuginsk'e kurgany po materialam iz sobrania gosudarstvennogo Ermitazha," \textit{Arheologicheskii sbornik} 15 (1973) fig. 5:1, p. 24.

\textsuperscript{12} \textit{Antikensammlung Nachlass Franz Trau}, Wien, no. 376, pl. 10; related pieces, nos. 379–375.

drinking vessels of various sizes and shapes discovered at Vulcitrun in northern Bulgaria and dated in the Late Bronze Age—shows that the use of such sets was a Thracian tradition, which continued into the first millennium b.c.14 While the later Thracian drinking sets were usually composed of rhytons with spouts in the base, such rhytons seem not to have been used by the Getae, who apparently preferred a cup or a rhyton used like a cup.

The Metropolitan Museum cup and the two similar examples from Agighiol are not unique in their beakerlike form; cups like them, although with geometric rather than animal designs, have been found in Bulgarian Thrace.15 Earlier prototypes for these Thracian cups can be seen in metalwork from northwestern Iran of the late second to the early first millennium b.c.16 Tantalizing and mysterious are the connections between Iran and Thrace, it is possible that metalworking traditions linked these distant regions. As for the animal-style decoration of the cups, Dr. Prudence Harper, curator of the department of Ancient Near Eastern Art in the Metropolitan Museum, has pointed out that the two Agighiol cups have land and water settings respectively: each has a deep band of scales at the bottom, convex on one cup to represent conical mountains, concave on the other and bordered by a wave pattern to suggest water. On the cup with a water setting (Figures 12–15), a horned bird of prey with immense claws holds a fish in its beak and a harelike creature in its claws. The bird is flanked by one horned and two antlered animals; a tiny bird of prey is inserted over the horned animal so as to face the large bird. One staglike creature, placed on the opposite side of the body of the cup from the large bird, has eight legs. Above and independent of this scene is an antler border with bird-headed tines; the rim is adorned by a thin band of scales. On the base of the cup a winged, scaly, lionlike monster chews an animal leg and grasps a small beast in its clawlike feet (Figure 16). The scene on the Agighiol cup set in a mountain landscape depicts four animals, one horned, two with antlers; one stag has eight legs (Figure 17). As on the other cup, the animals’ bodies are patterned and a band of bird-headed antlers borders the top. The base is decorated with a sort of griffin grappling a boarlike creature (Figure 18). The cup in the Metropolitan Museum has a water setting and, like its counterpart from Agighiol, shows a large bird of prey attacking fish and hare, facing a smaller bird, and flanked by three animals, one with horns and two with antlers (Figures 1–4). Almost opposite the large bird is the eight-legged stag (Figure 4). At the top is the bird-headed antler border, below a thin band of scales. On the base, a griffinlike creature attacks a boarlike animal (Figure 5).

Aside from stylistic relationships with contemporary Scythian and earlier Iranian art, the scenes on these cups are clearly Thracian. The eight-legged stag seems to be unparalleled elsewhere, and the combination of large and small birds of prey opposed to the eight-legged stag suggests a Thracian myth or legend. On the two cups with water settings, the monstrous bird of prey with land and water creatures in its grasp may symbolize dominance over land and water by the creature of the air. The eight-legged stag is probably a symbol of fabulous swiftness, and its placement on the opposite side of the cup from the bird of prey may indicate that the stag is always free from the domination of the bird. Professor Asrik Gabriel has pointed out to the writer that medieval Hungarian chronicles describe the migration of the Hungarian peoples into Europe as led by a stag which they followed to their final homeland. The importance of the stag in Scythian art has been noted by several scholars, among them Professor Ivan Marasov, who has mentioned to the writer that an eight-legged deer appears in the folklore of modern Siberian shamanism, perhaps as an instance of the persistence of an ancient motif of magical or religious potency.17 However, the eight-legged stag seems to have been depicted in visual form only in Thracian art.

A horned animal and the monstrous bird of prey grasping a fish and a hare are also found on the De-

14. Farkas and Schwartz, Treasures of Bulgarian Art, chap. 11, which also has a discussion of the Borovo and Panagjurishte treasures.
16. As noted by Berciu, Arta traco-getica, pp. 112–113.
troit and Peretu helmets (Figures 6–9, 22–24); the Agighiol helmet is decorated with human figures probably representing a Thracian prince or hero (Figures 19, 20). If the Detroit and Agighiol helmets were in fact a pair with complementary decoration, the possibility arises that the animal and human figures in Thracian art tell a similar tale, one of domination by a being or beings with supernatural powers.

Goldman, in his discussion of the Detroit helmet, emphasized its foreign elements, which he ascribed to the Scythian ruler whom he believed to have been its owner and to influences from Hellenistic, Celtic, and Etruscan art; to the latter he attributed the motif of eyes on the forehead band of the helmet. Nowadays, however, the helmet is considered Thracian, because of its animal-style ornament, the floral motifs on the sides and back, which are paralleled on other pieces of Thracian art, and its shape, pointed like the Agighiol and Peretu helmets. Simpler helmets of bronze found in Thrace are usually pointed; the shape seems designed to accommodate the Thracian topknot, the typical hair style of many Thracians (although not of the Getae, who apparently wore their hair in short curls). On the Detroit, Agighiol, and Peretu helmets the forehead band is adorned by a central vertical strip between the two eyes, which may represent tattooing, a sign of the lofty status of the helmet's owner. Herodotus (5,6) mentions that a mark of Thracian nobility was the use of tattoos. On the Agighiol helmet, the main decoration is a series of male figures, mounted on horseback; they have curly hair, seem to be dressed in scale armor, and hold spears. On a headdress made for a prince, this decoration no doubt represents the powerful prince himself, or the legendary Thracian hero who plays an important role in later Thracian religion and is embodied in the cult of the Heros, or Thracian Horseman.

A related theme appears on one of the pair of gilded silver greaves discovered in the Agighiol tomb (Figure 21). These are examples of native Thracian art, although probably inspired by Greek greaves which were occasionally adorned with Gorgon heads on the kneecaps. Here the Gorgon is replaced by strange individuals, one male, the other female. The greaves are not identical, for the male, not illustrated here, has a tattooed face and no jewelry, while the woman is much more elaborate. She wears two necklaces, one a simple torque, the other of pendant beads; heavy earrings are looped through her ears. Two coiled snakes with dangling heads may represent breasts. On her left side, the muscle stylizations are elaborated into a snake-headed monster at which one of the coiled snakes strikes. Along the other side, two male figures are shown. The upper figure is mounted on a horse; he holds aloft a bow and seems to be dressed in armor or a tight-fitting, trousered costume. Below, the same figure is seen seated on a low-backed throne; in one hand he holds a horn-shaped rhyton and in the other a bird of prey. These figures appear to depict two aspects of the ruler's public image.

The greaves from Agighiol are comparable to a single grave recovered from a rich tomb at Vratsa in northwestern Bulgaria, in the region of the Triballi Thracians. The mound at Vratsa, discovered in 1965 and excavated in the years following, held three tombs, all of the fourth century B.C.; only one of them was more or less intact, although partially crushed by a collapsing roof. As at Agighiol, this tomb was built with two chambers, and horse burials, as well as a chariot, were also discovered near the entrance. One man, the chief, and two women, one probably the chief's wife and the other a slave, were buried in this tomb, and many lavish gifts and horse trappings were preserved. The Vratsa greave was more elaborately decorated than the Agighiol examples, and probably came from a different workshop; but the same staring face—this time with facial tattoos of leaves as well as parallel horizontal lines—embellished the kneecap. It is possible that behind this image of Greek derivation there was a Thracian divinity, one with a long tradition in Thracian art. Although about one

18. For the floral motifs see beakers cited in note 15. A gold helmet of similar shape and with interesting human and animal decoration was discovered in the Baiceni treasure in Romania in 1961; see M. Petrescu-Dimbovića and M. Dinu, "Le Trésor de Baiceni (dép. de Jassy)," Dacia, n.s. 19 (1975) pp. 105–123.
21. Farkas and Schwartz, Treasures of Bulgarian Art, chap. ii.
22. MMAB 35, no. 1 (1977) pl. 6, p. 35; Farkas and Schwartz, Treasures of Bulgarian Art, chap. ii.
thousand years lie between them, and there are few connecting examples to link classical Thracian art with the Late Bronze Age, the personage on the greave is reminiscent—in her elaborate jewelry, tiny breasts, and eyebrows meeting at the nose—of a Late Bronze Age clay figurine (Figure 28). Such figurines are associated with the presence of Thracians in southeastern Europe, and related examples have been discovered in cemeteries in Romania and Bulgaria.  

Another link between Vratsa and Agighiol is the discovery of phialai at Vratsa, inscribed in Greek letters with the enigmatic Thracian words ἑτβεοῦ, such as had been found at Agighiol. Although the interpretation of this inscription is not agreed upon, it may refer to an Odrysian ruler named Kotys, who reigned between 382 and 359 B.C. This king might have given the phialai to the princes of Thracian tribes as a sign of political alliance. Perhaps because of the Odrysian hegemony in southern Thrace during the fourth century, native Thracian art, which probably developed in northern Thrace, came to be distributed very widely. Horse trappings like those from Agighiol, Peretu, and Vratsa were used throughout Thrace, and traveled even further. A horse with Thracian-style trappings was discovered in a recently excavated Scythian burial at Khomina Mogila on the lower Dnieper River on the Pontic steppes (Figure 29).  

Workshops in Bulgarian Thrace produced their own versions of this native art, amply demonstrated in the Letnitsa treasure, a group of gilded silver plaques unearthed in a bronze vessel at Letnitsa, near Lovech in northern Bulgaria (Figure 30). As on the Agighiol helmet and greave, a horseman is shown on many of the plaques. Female figures on the plaques are related to those on the Agighiol and Vratsa greaves, with their tiny breasts. There are local differences, in particular the Thracian topknot on many of the figures rather than curly hair, and the scene of a sacred marriage which has yet to be discovered elsewhere. Other than that, the male figures, shown as hunters or warriors, are similarly garbed in some sort of scale armor or tight-fitting trousers. On the plaque illustrated, the rider holds a phiale; behind him is a doglike animal. This plaque, which may depict a ritual, seems to anticipate the cult reliefs of the Heros which were so common in Thrace in Roman times.

The popular cult of the Heros revolved around worship of a deity who was a superhuman hero or legendary king; his exploits included both hunting and warfare. The roots of this cult lay perhaps in tales of the kings of classical Thrace and even earlier Homeric heroes. The living kings of Thrace were apparently considered to be heroes, whose superhuman qualities included the power to live forever. The earliest evidence for the worship of the Heros points to the second century B.C., but some of the sanctuaries where he was worshiped might have been in use in the fourth century B.C. and even earlier. The typical Roman cult relief showed the Heros on horseback, often holding a phiale, sometimes accompanied by an animal and with the tiny figure of a second horseman opposite him. The fourth-century repre-

23. Farkas and Schwartz, Treasures of Bulgarian Art, chap. ii.  
25. Farkas and Schwartz, Treasures of Bulgarian Art, chap. ii.  
26. Ibid., chap. iii.
sentations of horsemen might in some way reflect the Heros as he was understood at the time, perhaps still closely identified with living kings and chieftains. If this were true, the mounted figures in Thracian art would be more than mere images of powerful rulers; they might reflect the semidivine status which those rulers enjoyed. It is even conceivable that the animal-style themes in native Thracian art were connected with such depictions. The monstrous bird of prey, dominating land and sea and air, might have been associated with the heroic ruler, as protective spirit, avatar, or tribal totem, an ancient form of belief eventually abandoned by the Thracians. As the legendary bird was all-powerful on earth, so was the heroic king. The dualism of the second, small horseman on Heros plaques is already implied by the small bird of prey facing the larger one on the Metropolitan Museum and Agighiol cups.

Although the precise interpretation of Thracian iconography remains uncertain, the native character of Thracian art is evident. The imagery of animal and human figures is in part traditional and looks back to the Late Bronze Age, despite the obscurity which covers those links with the past. At the same time, the art looks forward to the Roman period, when the iconography of the Heros or deified king—still fluid during the fourth century—was standardized. The animal style may have died out in Roman times, but it was a vital and peculiarly Thracian idiom in its day, despite its many ties to the arts of other peoples, both earlier and contemporary.
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Three Silver Objects from Thrace: A Technical Examination

PIETER MEYERS
Senior Research Chemist, Conservation Center, Los Angeles County Museum of Art

The main purpose of the technical examination, carried out in New York at The Metropolitan Museum of Art, was twofold: first, to confirm the authenticity of a Thracian silver helmet in the collection of the Detroit Institute of Arts (Figure 1); second, to compare the technical characteristics of the helmet with those of a silver cup in the collection of the Metropolitan Museum (Figure 2). The decorations on these objects are sufficiently similar to suggest a relationship, one that might be proved or disproved on the basis of the technical evidence. A third object, a silver vase from the Detroit Institute of Arts (Figure 4), was also examined, mainly because it had been acquired along with the helmet and was thought to have been part of the same treasure.

The study consisted of two parts: the determination of the methods of manufacture and surface characteristics through visual and microscopic examination; and the determination of the elemental composition through neutron activation analysis of small samples extracted from the objects. For the latter purpose, samples were obtained by hand drilling, using a small, high-speed, stainless-steel drill bit. After the surface drillings were discarded, samples weighing about 1 milligram were collected.

1. At the time the examination was undertaken, the writer was Senior Research Chemist at The Metropolitan Museum of Art. A discussion of the helmet, cup, and related Thracian objects precedes this article; see A. E. Farkas, "Style and Subject Matter in Native Thracian Art," MMJ 16/1981 (1982) pp. 33–48.

HELMET Figure 1
The Detroit Institute of Arts, 56.18

Dimensions
WEIGHT: 811 gm.
HEIGHT: 24 cm.
DEPTH: measured at exterior surfaces, from back to front: 20.1 cm.
WIDTH: measured at exterior surfaces, from ear to ear: 18.7 cm
THICKNESS OF METAL:
at bottom edge: 3.8–4.9 mm., on average 4.4 mm.
just above edge: 0.98–1.43 mm.
at 5 cm. above edge: 0.42–0.52 mm.
at 10 cm. above edge: 0.50–0.58 mm.
at 10 cm. below top: 0.52–0.62 mm.
near top: 0.55–0.62 mm.

Method of Manufacture
The helmet is hammered from one piece of silver; original hammering marks are still visible on the interior surface. The bottom edge is thickened over the entire area. The decoration is produced by chasing and engraving on the outside; some areas of decoration appear to be slightly raised above the surface by repoussé.

Most lines were made with a pointed chasing tool. Chisel marks are visible in the curved lines. A pointed engraver was used to produce the elongated punches.
that indicate the hair of the animals. Other chasing marks that can be identified are solid dots with a diameter of 1.1 millimeter and squares framing open circles. The latter tool mark (1.2 × 1.2 mm.) appears in the horns of the goatlike animal on the left side of the helmet (Figures 1, 5, 6), and will be discussed further below.

The deformations have been restored in recent times, when solder repairs were also made at breaks and major cracks. These repairs are clearly visible on the inside of the helmet.

Of interest are the repairs on and around the break across the proper right cheekpiece, from the top of the space reserved for the ear to the space reserved for the eyes. Two repairs can be seen, each consisting of a roughly cut support strip of silver (2.5 × 1.3 cm., approximately 1 mm. thick). Each strip is fastened to the helmet by two rivets, one on each side of the break. These repairs may well be ancient and were probably made relatively soon after the helmet was manufactured. They are certainly quite different from the recent solder repairs, which in parts have been applied over them.

The metal shows clear evidence of a long-term process of natural corrosion. In many areas the surface is etched and pitted, exhibits small cracks, and contains numerous scratches in random directions. Evidence of wear can be observed, in particular at the edges of lines and tool marks. It is evident that the surface has been extensively cleaned, probably by mechanical means. Traces of black corrosion remain visible in lines of decoration.

A circular hole (diameter, varying from 4 to 5 mm.) exists in each of the cheekpieces, located in the lower portion just in front of the space reserved for the ear. They are conical in shape with a diameter decreasing from exterior to interior. Their function is unknown but it may be worth noting that the edges of these holes are worn uniformly, not in any particular direction.

**Elemental Analysis**

The following samples were extracted for neutron activation analysis:

- **SAMPLE 1**: from interior, proper left side, near edge of space reserved for left ear, 4 cm. above bottom edge;
- **SAMPLE 2**: from corresponding area on proper right side;
- **SAMPLE 3**: in ancient repair on interior of proper right cheek, from lower rivet, below ear;
- **SAMPLE 4**: from supporting strip, next to site of sample 3.

The results are given in Table 1.
The cup is hammered from one piece of silver. The rim has been thickened by folding the upper edge and hammering down the double layer of silver (Figure 3).

The relief decoration is produced by repoussé; the design is applied by chasing and engraving. The chased semicircles in the band just below the rim were repunched over a similar, partly obliterated design, whose initial misalignment may have been the cause for redecoration.

Tool marks include a centering mark in the bottom (diameter, 1.3 mm.), chisel marks in curved lines, solid dots (diameter, 1.3–1.5 mm.), elongated punches by a pointed engraver (used to indicate the hair of animals), and squares framing open circles (discussed below). There are crudely incised Greek letters, probably modern, on the underside of the vessel.

**Condition**

The silver is in relatively good condition, except for losses which have probably resulted from mechanical deformation. These losses occur in the bottom and in the center and upper part of the vessel. Many breaks and cracks can be observed, especially in the areas near missing metal. Deformation, breaks, and major cracks have been restored. Solder repairs are visible on the inside of the cup.

The surface of the metal is not seriously affected by corrosion, although evidence of a long-term natural corrosion process is apparent (slight pitting, randomly distributed scratches, and wear, especially on the edges of tool marks). The exterior of the vessel has been cleaned, probably by mechanical means. Traces of black corrosion still remain, predominantly in the lines of decoration. The interior exhibits a thin brownish-gray layer of corrosion.

**Elemental Analysis**

The following sample was extracted for neutron activation analysis:

SAMPLE 5: from inside rim.

The results are reported in Table 1.
4. Vase, Thracian, 4th century B.C. Silver, H. 17 cm. The Detroit Institute of Arts, William H. Murphy Fund, 58.160 (photo: Detroit Institute of Arts)

Figure 4

**VASE**

The Detroit Institute of Arts, 58.160

**Dimensions**

WEIGHT: 233 gm.
HEIGHT: 17 cm.
DIAMETER: at top: 9.2–9.4 cm.
LARGEST DIAMETER: at 6 cm. from bottom: 14 cm.
THICKNESS: at rim: 2 mm.
       at 3 cm. below rim: 0.22–0.30 mm.

**Condition**

The metal is thin but only slightly corroded and moderately brittle. It appears that before restoration the vase was considerably deformed and probably broken. Its shape has been restored, although small irregularities still exist; a break around the entire circumference at the base of the neck has been sol-
dered. The surface has been cleaned, probably mechanically. Black corrosion still remains visible in the lines of decoration and in small patches on the surface.

*Elemental Analysis*

The following sample was extracted for neutron activation analysis:

SAMPLE 6: from inside rim.
The results are reported in Table 1.

**CONCLUSIONS**

The technical evidence produced in this investigation strongly supports the authenticity of the helmet, the cup, and the vase. The nature and extent of the corrosion of the silver, together with the wear and randomly distributed scratches visible on the surface, are indicative of a long-term natural process. The elemental compositions are consistent with the suggested period of manufacture and not with modern silver alloys. There is no evidence of a recent date of manufacture, nor is there any indication that any part of the decoration was applied recently to an ancient vessel.

A metallographic study of cross-sections of the metal could conceivably have provided further evidence of the method of manufacture, the nature of the corrosion, and the presence of slag particles and other impurities. The major justification for such a study would be for authentication purposes by the examination of discontinuous precipitation of copper in the silver. However, owing to the low concentration levels of copper, this phenomenon is not expected to have occurred, and therefore no metallography was performed.

A careful examination of the tool marks leads to the conclusion that at least one common tool was used in applying decoration to the helmet and the cup. The mark in question appears on the helmet in the horns of the goatlike animal (Figures 5, 6) and more abun-

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Details of Thracian helmet and cup showing the marks made by a single chasing tool, with a nicked corner on the outside square and a pointed nipple on the inside circle, evidence that both objects were made in the same workshop.

The mark shows two imperfections: a nicked corner of the square, and a pointed nipple on the circle, 135° counterclockwise from the nicked corner (see arrows in Figures 5 and 7). There is no doubt that a single tool produced the marks on both objects. Other marks, such as those used for the hair of the animals on the helmet and the cup, are very alike and may indeed be identical; but they do not exhibit sufficiently distinct characteristics for us to state with confidence that they were produced by the same tool. However, the fact that at least one common tool was used indicates that both helmet and cup were made in the same workshop, possibly but not necessarily by the same person. In favor of the attribution to a single silversmith is the similarity of workmanship, evident in the execution of the design, inaccuracies in chasing and engraving of lines and in other elements of the decoration, overlapping punches, and so on. On the other hand, there are differences, such as the much higher relief in the cup, to suggest that more than one person may have been involved in the manufacture of the two objects. Further evidence of their relationship is found in the elemental compositions (Table 1). The silver of both the helmet and the cup is characterized by low copper contents, virtually identical gold contents, and...
TABLE 1 Elemental Compositions

Elemental compositions of samples weighing approximately 0.5 milligrams were determined by neutron activation analysis at Brookhaven National Laboratory. Concentrations of silver, copper, and gold were obtained by instrumental methods; the reported concentrations for these elements are based upon the assumption that silver, copper, and gold are the only elements present in significant concentrations. The elements iridium, zinc, tin, arsenic, antimony, selenium, iron, cobalt, and mercury were determined by a neutron activation analysis technique that included chemical separations. A more detailed description of the analytical techniques, with discussions of the accuracy and significance of the reported data, can be found in the literature.3

<table>
<thead>
<tr>
<th>OBJECT</th>
<th>SAMPLE</th>
<th>Ag</th>
<th>Cu</th>
<th>Au</th>
</tr>
</thead>
<tbody>
<tr>
<td>Helmet</td>
<td>1</td>
<td>99.5</td>
<td>0.269</td>
<td>0.231</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>99.5</td>
<td>0.213</td>
<td>0.253</td>
</tr>
<tr>
<td>Cup</td>
<td>5</td>
<td>99.7</td>
<td>0.0656</td>
<td>0.242</td>
</tr>
<tr>
<td>Vase</td>
<td>6</td>
<td>99.5</td>
<td>0.267</td>
<td>0.272</td>
</tr>
<tr>
<td>Helmet, rivet</td>
<td>3</td>
<td>95.9</td>
<td>1.78</td>
<td>2.29</td>
</tr>
<tr>
<td>Helmet, strip</td>
<td>4</td>
<td>95.4</td>
<td>3.02</td>
<td>1.55</td>
</tr>
</tbody>
</table>

Concentrations in percent

<table>
<thead>
<tr>
<th>OBJECT</th>
<th>SAMPLE</th>
<th>Ir</th>
<th>Zn</th>
<th>Sn</th>
<th>As</th>
<th>Sb</th>
<th>Se</th>
<th>Fe</th>
<th>Co</th>
<th>Hg</th>
</tr>
</thead>
<tbody>
<tr>
<td>Helmet</td>
<td>1</td>
<td>&lt;0.0002</td>
<td>4.0</td>
<td>&lt;13</td>
<td>0.86</td>
<td>0.019</td>
<td>0.081</td>
<td>12</td>
<td>0.095</td>
<td>0.051</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>&lt;0.0005</td>
<td>6.5</td>
<td>&lt;34</td>
<td>1.2</td>
<td>0.043</td>
<td>&lt;0.18</td>
<td>&lt;13</td>
<td>0.11</td>
<td>&lt;0.073</td>
</tr>
<tr>
<td>Cup</td>
<td>5</td>
<td>&lt;0.0005</td>
<td>0.98</td>
<td>&lt;22</td>
<td>&lt;0.04</td>
<td>0.025</td>
<td>&lt;0.18</td>
<td>≤4.8</td>
<td>0.054</td>
<td>&lt;0.069</td>
</tr>
<tr>
<td>Vase</td>
<td>6</td>
<td>&lt;0.0004</td>
<td>3.2</td>
<td>&lt;22</td>
<td>&lt;0.05</td>
<td>&lt;0.031</td>
<td>&lt;0.12</td>
<td>6.9</td>
<td>0.060</td>
<td>&lt;0.044</td>
</tr>
<tr>
<td>Helmet, rivet</td>
<td>3</td>
<td>0.0069</td>
<td>4.1</td>
<td>&lt;11</td>
<td>&lt;0.1</td>
<td>0.020</td>
<td>0.14</td>
<td>≤3.7</td>
<td>0.033</td>
<td>0.099</td>
</tr>
<tr>
<td>Helmet, strip</td>
<td>4</td>
<td>0.00035</td>
<td>7.3</td>
<td>&lt;22</td>
<td>0.33</td>
<td>0.029</td>
<td>0.16</td>
<td>&lt;2.7</td>
<td>0.028</td>
<td>0.018</td>
</tr>
</tbody>
</table>

Concentration in µg/g (ppm)

extremely low iridium contents.4 The similarity in elemental compositions, especially in the gold and iridium concentrations and to a lesser extent in the concentrations of other elements, provides a strong indication that the silver was produced from a common ore source. Evidence that the silver used for the vase, the third object examined, also originated from the same source is found in the remarkable similarity between its elemental composition and the compositions of the helmet and the cup.

Although the vase does not exhibit sufficiently characteristic technical properties to claim a connection with the helmet and the cup, its method of manufacture and the execution of its design are sufficiently similar to those of the other two objects to suggest the possibility of a common date and place of manufacture.

The elemental compositions of the rivet and the repair strip in the helmet (samples 3 and 4) differ considerably from the composition of the helmet itself. All that can be said is that their moderately low amounts of copper and relatively high amounts of gold are unlike modern silver alloys. Although these repairs were not made from the same silver as the helmet, their compositions support the suggestion that they are ancient.


4. The iridium concentrations for the helmet, the cup, and also the vase are below the detection limits of the analytical method used.
The Myth of Marsyas: Pieces of a Sculptural Jigsaw

SIRI SANDE
Institutt for Kunsthistorie og Klassisk Arkeologi, University of Oslo

A WELCOME ADDITION to the literature on sarcophagi is Anna Marguerite McCann’s catalogue Roman Sarcophagi in The Metropolitan Museum of Art, published in 1978. This catalogue brought to my attention a fragment which was previously unknown to me, the right corner of a lenos sarcophagus with the punishment of Marsyas (Figures 1, 2). 1

The irregularly shaped fragment comprises the sarcophagus corner from the upper edge almost down to the bottom. Only the upper part of the satyr Marsyas, hanging from a pine tree, is preserved. The rest of his body is broken off at the diaphragm, since the figure was so deeply undercut that no part except the tail touched the background. Only the feet of the satyr were anchored to a surface—to the top of the rock on which the knife-grinder is sharpening his blade. The trunk of the pine is worked in very low relief behind Marsyas all the way down the sarcophagus trough to the lower break.

On the right of the fragment, a slave is tying Marsyas to the pine tree with a rope (Figure 2). He is wearing a long-sleeved tunic, trousers, and a Phrygian cap—a costume which in Greek and Roman art characterizes the Oriental, that is, a man from the Near East. In this case he is presumably a Scythian; Scythian slaves were employed by the Athenian police force in classical times. Because of their association with the police, they were sometimes included by artists in execution scenes, even mythological ones such as the punishment of Marsyas. The Oriental with the rope was carved in lower relief than Marsyas, but his right hand and his right leg from the knee down were undercut so they did not touch the background. As with Marsyas, the sarcophagus trough is completely smooth where it continues behind the missing limbs.

The slave is looking upward to see whether the rope is secured. To emphasize the direction of his glance, drill holes just below his upper l i d s render the pupils of his eyes. The eyes of Marsyas do not look upward, and his irises are only faintly incised.

To Marsyas’s right, his goatskin appears near the bottom of the fragment. It was evidently supported on a branch or a rock, its folds nearly touching the truck of the pine on the right, and on the left almost merging with the folds of another goatskin, this one slung across the knife-grinder’s back and continuing downward, partly covering his left arm. The knife-grinder, who is otherwise nude, crouches, turning toward Marsyas and looking up at him. As with the slave with the rope, drill holes render the pupils of the knife-grinder’s eyes to indicate his upward glance. In preparation for the flaying of Marsyas, the knife-grinder is sharpening his knife on the top of the rock which Marsyas’s toes touch. (The rest of this rock

A list of frequently cited sources is given at the end of this article.

1. McCann, no. 13, pp. 79ff., figs. 87–89. Properly speaking, the fragment consists of eleven joining fragments constituting two groups which were bought in 1915 and 1927, respectively, and which in 1930 were found to join. The marble, translucent with gray veining and large crystals, is considered by McCann to be Greek. The measurements are as follows (according to McCann): max. H. 2 ft. (0.61 m.); max. W. 1 ft. 9 in. (0.53 m.); max. D. 1 ft. 3 in. (0.38 m.); max. D. of relief at top 5 in. (0.13 m.); max. D. at bottom 3½ in. (0.10 m.).

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METROPOLITAN MUSEUM JOURNAL 16
seems to have been deliberately cut or sawn off from its context.)

The knife-grinder is the best preserved of the figures on the fragment. Most of his right arm is missing, not surprising since it was carved in the round, as was the lower part of his right leg; this, however, lacks only the foot, which must have been anchored to the missing bottom part of the sarcophagus. The knee and part of the thigh of his left leg are broken off, together with the adjacent part of the sarcophagus trough. Above the head of the knife-grinder, to the right of Marsyas's chest, a break indicates that an object or background figure was once present.

Behind the knife-grinder there is a right arm, bent at the elbow. Like several of the limbs of the figures on this fragment, most of it is carved in the round, with only the hand touching the background. According to McCann this hand is grasping a naked knee. Even though so little of the arm is preserved one may infer from the long, narrow sleeve that it belonged to an Oriental, and that this person was shown from the back seated on the ground.

Just such a figure, lacking his right arm, is preserved on the right of a very fragmentary Marsyas sarcophagus in the cloister of the Museo Nazionale delle Terme in Rome (Figures 3, 4). Close examination reveals that immediately to the right of this seated figure and partly covering his leg are preserved the right foot and the bent left knee of a kneeling figure (Figure 4). Since these are the missing parts of the knife-grinder on the Metropolitan Museum fragment, the question arises whether this fragment and the mutilated sarcophagus may belong together. To test the assumption, I took some measurements on the Terme Museum sarcophagus and asked the Greek and Roman Department of the Metropolitan Mu-

1, 2. Fragment of a Marsyas sarcophagus (fragment A): Marsyas, knife-grinder, slave with rope. Marble, max. H. 0.61 m. The Metropolitan Museum of Art, Rogers Fund, 15.170; Fletcher Fund 27.122.19a,b

2. McCann, p. 79.
seum for corresponding measurements of its fragment. Department Chairman Dietrich von Bothmer very kindly complied, and the result is given in the following table. Fragment A is the fragment in the Metropolitan Museum, and fragment B the Terme Museum sarcophagus. The width was measured as close to the breaks as possible.

<table>
<thead>
<tr>
<th>Fragment</th>
<th>A</th>
<th>B</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thickness of the sarcophagus (the slab itself without relief figures) near the broken ankle of the knife-grinder</td>
<td>4.2</td>
<td>4.0</td>
</tr>
<tr>
<td>Thickness of the sarcophagus immediately to the left of the trunk of the tree on which Marsyas is hanging</td>
<td>7.9</td>
<td>7.8</td>
</tr>
<tr>
<td>Thickness of the sarcophagus immediately to the right of the trunk of the tree on which Marsyas is hanging</td>
<td>8.3</td>
<td>8.4</td>
</tr>
<tr>
<td>Thickness of the sarcophagus including the tree trunk</td>
<td>9.5</td>
<td>9.8</td>
</tr>
<tr>
<td>Thickness of the sarcophagus immediately behind the right knee of the slave with the rope</td>
<td>8.5</td>
<td>8.4</td>
</tr>
<tr>
<td>Width of the right ankle of the knife-grinder, measured at the break</td>
<td>3.5</td>
<td>3.5</td>
</tr>
<tr>
<td>Width of the tree trunk, measured at the break</td>
<td>4.5</td>
<td>4.4</td>
</tr>
</tbody>
</table>

The measurements clearly correspond, and according to the photographs the broken surfaces would seem to fit, especially in the area between the knife-grinder's left arm and the left knee of the slave with the rope. The area around the knife-grinder is more difficult to assess, since fairly large pieces seem to be missing here. In addition to the correspondence between the breaks and the measurements, one should note that the type of marble is the same in both fragments A and B: coarse-grained and white with gray veining.

Assuming that fragments A and B belong together (see Figure 12), one may reconstruct the scene of Marsyas's punishment in the following manner: as on fragment A, the tree trunk on fragment B is worked in low relief behind Marsyas. At the foot of the pine and continuing in the direction of the knife-grinder lies a flat stone or rock (see Figure 5). The upper part of it, which is now missing, must be that part of fragment A where Marsyas's toes and the knife-grinder's hands rest. Above the rock the folds of Marsyas's goatskin continue from fragment A to fragment B.

To the right of the rock on fragment B there is a very fragmentary panpipe, a syrinx (see Figure 5). Its missing parts have left no traces on the surface and must therefore have been undercut. This is also true of a shepherd's staff, a pedum, beside the syrinx. Only its curved end is preserved in relief, the rest of it was worked in the round. The trace of a puntello higher up provides evidence that the pedum was originally slightly tilted, so that it would seem to have been leaning against the pine trunk approximately at the height of the upper break on fragment B.

The left leg of the slave with the rope is fairly well preserved on fragment B (Figure 6). One sees that the slave was wearing trousers. His knee was slightly bent, as is also suggested by the outline of the same leg on fragment A. Perhaps fragment A should have been mounted so that it tilted slightly more in the direction of the sarcophagus front, as the slave with the rope seems to lean back a little. However, this impression may be due to the photographs.

Fragment B has no continuation from fragment A of the right leg of the slave with the rope. Fragment A shows that this leg was raised and that it was undercut from the knee downward, but one would not expect the foot to be left dangling. The position of the slave on fragment A suggests that he was bracing himself with his right foot on some object, probably the pedum, itself leaning against the pine trunk. The leg and the pedum must then have been worked in one piece in the round, anchored to the background only at top and bottom. This technique is demonstrated also in Marsyas's body as well as in more examples discussed below.

On fragment B the left leg of the slave with the rope crosses the leg of another person who faces in the opposite direction (Figure 6). A trace of him may
3. Fragmentary sarcophagus illustrating the myth of Marsyas (fragment B). Marble, L. 2.10 m. Rome, Museo Nazionale delle Terme (photo: Siri Sande)

4. Detail of fragment B (Figure 3) showing the feet of the goddess Leto, the seated Oriental, and the right foot of the knife-grinder. The seated Oriental's missing right arm and most of the knife-grinder are preserved on fragment A (Figures 1 and 2) (photo: Espen B. Andersson)
be preserved on the extreme right of fragment A, where there remains a fold of drapery that does not appear to belong to the dress of the slave with the rope. This additional person, who is more summarily rendered than the others and shown in lower relief, was evidently an Oriental. He is wearing trousers, as is shown by his other leg—the left one, judging from the muscles. The distance between the two legs of this man suggests that he was represented walking. He was leaving the scene of Marsyas’s punishment, and ends the decoration of the sarcophagus on its right side. Immediately beyond his left foot the unadorned back of the sarcophagus begins (Figure 6). As he is turning his back to Marsyas’s executioners, this Oriental may have been depicted in a dejected or sorrowful attitude, and there is evidence of such grieving Orientals on Marsyas sarcophagi.4

The knife-grinder on fragment A recalls knife-grinders on other Marsyas sarcophagi (see Figure 7).5 As mentioned earlier, this figure offers one of the strongest arguments in favor of a connection between fragments A and B, since precisely the parts that he lacks (right foot and left knee) are found on fragment B, where the rest of the figure is missing. Fragment B thus contributes very little to the reconstruction of the knife-grinder, since he is preserved almost in his entirety on fragment A.

The opposite is the case with the figure whose right arm alone is preserved on fragment A (Figure 1, left). If this arm belongs to the corresponding figure on fragment B (Figure 4, left), he can be almost completely reconstructed; only his head is missing. He finds his closest parallel on a fragmentary sarcophagus in the Palazzo Mattei in Rome (see Figure 8, front row, third figure from right).6 This person’s head appears to be preserved, and it is turned toward Apollo at the center of the sarcophagus front.7 C. Robert

4. See, for instance, the Marsyas sarcophagus from Sidon in the Ny Carlsberg Glyptotek, Copenhagen, illustrated in Figure 7; F. Poulsen, Catalogue of Ancient Sculptures in the Ny Carlsberg Glyptotek (Copenhagen, 1951) no. 782, pp. 552ff.; Robert, no. 208, pp. 260ff.; Turcan, pp. 107ff., 204, 215–217. The grieving Oriental next to Marsyas on this sarcophagus is generally supposed to be his friend Olympus.

5. See also Robert, nos. 198 and 211, pls. LXIV and LXIX, which both show nude knife-grinders. Particularly close to the knife-grinder on the Metropolitan Museum fragment is the corresponding figure on Robert, no. 198, a sarcophagus in the Louvre. In both the “barbarian” character of the knife-grinder is suggested by his physiognomy (the inspiration doubtless came from the knife-grinder of the famous Pergamene group, known from a copy in the Uffizi in Florence) and not by a mere addition of attributes, as is the case with the knife-grinder on the Marsyas sarcophagus in Copenhagen (see Figure 7, right), who wears a Phrygian cap but is otherwise rendered as a handsome, nude youth in the classical tradition.


7. The Palazzo Mattei sarcophagus is heavily restored, and it may be that the head is misunderstood. However, its direction seems to be correct, to judge from the general position of the figure. For the state of preservation of the sarcophagus see Robert, pp. 255ff.

5. Detail of fragment B (Figure 3), right side, showing pedum and syrinx belonging to Marsyas (photo: Siri Sande)

6. Detail of fragment B (Figure 3), right side, showing left leg of the slave with the rope and the legs of an Oriental leaving the scene of Marsyas’s punishment (photo: Espen B. Andersson)
considered this seated Oriental to be one of the Scythian slaves awaiting the execution order, and L. Berczelly followed Robert's suggestion in his interpretation of the seated Oriental on fragment B in the Terme Museum. The gesture of the Oriental's left hand may indicate that he is shown talking, in which case he may be thought of as transmitting the execution order to the slaves further right who are actually carrying it out.

From the Oriental's preserved right arm on fragment A, which seems to be grasping a naked knee, McCann infers that the figure represents Marsyas's pupil Olympus, "weeping or imploring Apollo to spare his friend." She compares him to a seminude seated figure shown in a very similar position on a Marsyas sarcophagus in the Galleria Doria in Rome (Figure 9, right) whom she also believes to be Olympus. Robert, however, in discussing the same figure on the Galleria Doria sarcophagus, considered an identification with Olympus unlikely and suggested that the figure represents a local Phrygian god or personification.

The position of the seated Oriental on fragment B (Figure 4) is midway between that of the corresponding figures on the sarcophagi in the Galleria Doria and the Palazzo Mattei (Figures 8 and 9). On the latter he is placed immediately to the left of a seated woman, while his right arm partly covers her body. There is no room for another seated person whose knee the Oriental may have clased. On fragment B the seated Oriental is placed to the right of a seated woman, in a position recalling that of the Oriental on the Galleria Doria sarcophagus. The latter's right hand does clasp a knee, that of Marsyas, who is next to him. On fragment B, however, the knife-grinder is between the seated Oriental and Marsyas. The knee that the Oriental grasps must therefore belong to another figure. This was probably not Apollo, as suggested by McCann, since the preserved Marsyas sarcophagi of the type we are dealing with do not show him in the scene of Marsyas's punishment. A person whose knee might have been grasped is Hermes, who in the role of Psychopompos appears near the execution scene

8. Robert, p. 254; Berczelly, p. 38. Berczelly does not quote Robert on the Palazzo Mattei sarcophagus, however, but on a Marsyas sarcophagus in the Louvre, which shows a slightly different seated Oriental turned toward Apollo (Robert, no. 203, pp. 255ff., pl. lxvi).
9. McCann, p. 79.
10. McCann, p. 83. For the Galleria Doria sarcophagus see Robert, no. 207, pp. 259ff., pl. lxvii; Turcan, pp. 71, 220ff., 276ff.; H. Sichtermann and G. Koch, Griechische Mythen auf römischen Sarkophagen (Tübingen, 1975) no. 36, pp. 40ff., pls. 82'2, 86-89, with further bibliography. The latter also suggest that the seated Oriental on the sarcophagus may be Olympus.
12. Compare Robert, p. 254. The restorer of the sarcophagus has carved the upper body of a man in this area, but Robert's reconstruction of it as the lower body of Leto must be right.
on several sarcophagi.\textsuperscript{13} A less likely candidate is Artemis, who, at least on one sarcophagus, is seen close to the scene of execution.\textsuperscript{14}

Too little of the object behind the Oriental’s right arm is preserved to identify it. If it is a knee, the Oriental may not necessarily have been grasping it. If his head were preserved, his action might be more comprehensible. If he really is imploring somebody on his right, he may be assumed to be turning his head in that direction. From his general position, however, he

\textsuperscript{13} See Figure 9, right, and Figure 8, upper right; see further Robert, nos. 203, 205, 212, pls. LXVI, LXVII, LXIX.

\textsuperscript{14} See Robert, no. 201, pl. LXXV.
seems more likely to have turned his head toward his left, and this would correspond to the direction of the head of the seated Oriental on the Palazzo Mattei sarcophagus, his closest parallel. Though the ambiguous position of the seated Oriental on fragment B makes his interpretation difficult, it seems probable to me that he is one of the Scythians connected with the execution of Marsyas, and not his pupil Olympus. If Olympus were represented at all on the Terme Marsyas sarcophagus, I would suggest that he is the person leaving the scene of Marsyas's punishment on the extreme right of the monument.

The enthroned figure whose left foot is almost touched by the left hand of the seated Oriental is Leto, Apollo's mother. Though little of her remains, her identity may be established by comparison to the figures of Leto on better-preserved Marsyas sarcophagi, such as the ones illustrated in Figures 7 and 9.15 In the compositional scheme, Leto frames on the right the main scene on the sarcophagus front, the musical contest between Apollo and Marsyas. Fragment B shows only the lower part of the legs of the protagonists (Figure 10), but there exists another fragment which completes it so that this important portion of the sarcophagus may be securely reconstructed.

The fragment in question is in the National Gallery of Oslo (Figure 11). It was purchased in 1936 on the Roman art market. The discovery of its connection with the Terme sarcophagus is not mine but that of H. P. L'Orange, who made it public in his presentation of the fragment in the Norwegian newspaper Aftenposten in 1937.16 A fuller account of the fragment did not appear until 1973, in an article by L. Berczelly.17 Since it is in Norwegian this article has

10. Detail of fragment B (Figure 3) showing the middle of the sarcophagus front which presented the contest between Apollo and Marsyas. From left to right: right leg of seated Cybele, left foot of Athena, Marsyas's right leg, Marsyas's pedum and paws of his panther skin, Marsyas's left foot, right forepaw of Apollo's griffin, dress of the muse Urania, Apollo's right foot, lower part of Apollo's griffin, part of Apollo's cloak, Apollo's raven with an olive branch in its claws, left foot of the goddess Leto, and left hand of seated Oriental (photo: Espen B. Andersen)

15. Compare also Robert, no. 203, pl. lxvi, and no. 205, pl. lxvii.
16. H. P. L'Orange, in Aftenposten, Mar. 1, 1937, evening edition, p. 3; Nasjonalgalleriet, Katalog over skulptur (Oslo, 1952) no. 114, p. 46, inv. no. 1243. White marble with gray veining and large crystals. Broken diagonally into two pieces, which have been rejoined. All the figures shown on the fragment lack part of their bodies from the knees down. Missing: from Thalia, all except left hand and part of chest; from Athena, right arm from above the elbow, left arm from below the elbow, tip of nose, parts of drapery; from the muse between Athena and Marsyas, tip of nose; from Marsyas, right arm between shoulder and wrist, left hand, tip of nose, parts of genitals and left thigh, double flute; from the muse behind Marsyas's left shoulder, tip of nose; from the muse behind Apollo's right arm, both hands with attributes, tip of nose; from Apollo's griffin, head; from Apollo, right arm, left thumb, tip of nose, upper part of plectrum. H. 0.532 m., L. 0.855 m., thickness of sarcophagus trough without reliefs 0.041 m. The thickness including reliefs varies from 0.041 m. (Thalia's body, which is incised into the background) to 0.115 m. (Athena's head, Apollo's thigh).
17. See note 8 above and list of frequently cited sources.
not aroused the interest it merits. I shall therefore recapitulate some of Berczelly's more important conclusions.18

It is easy to see that the fragment in Norway, here referred to as fragment C, corresponds to the center portion of fragment B, the mutilated sarcophagus in the Terme Museum (see Figure 12). The profile of the breaks is more regular than is the case with fragment A. L'Orange's theory could easily be proved with

18. I have in the following omitted Berczelly's name in connection with the more obvious identifications such as Thalia, and only referred to it in connection with figures whose identity might be subject to discussion.

11. Fragment of a Marsyas sarcophagus showing the contest between Apollo and Marsyas (fragment C): from left to right: part of the muse Thalia, Athena, the muse Euterpe, Marsyas, nameless muse, the muse Urania, Apollo with griffin. Marble, H. 0.532 m. Oslo, Nasjonalgalleriet, inv. no. 1243 (photo: O. Væring)

12. Reconstruction drawing of the Terme Marsyas sarcophagus (fragment B, Figure 3), incorporating at right fragment A (Figure i) and at center fragment C (Figure 11) (drawing: Siri Sande)
a piece of cardboard cut so that its lower contour corresponded to that of fragment C. The break of fragment C corresponded perfectly with that of fragment B, apart from a few areas where chips were missing.19

Marsyas stands straddle-legged in the middle of fragment C. Though his arms are missing, his inflated cheeks make his action perfectly clear. A bit of the mouthpiece of the double flute is seen between his lips. Traces of a puntello which supported the instrument are found just to the right of his genitals. Between Marsyas's legs the head of a panther skin may be glimpsed. It was supported on a pedum which is still preserved on fragment B, together with the paws of the panther skin (compare Figures 10, middle, and 11, middle).

The other protagonist, Apollo, is seen seated on his cloak on the right of fragment C, in a pose which recurs on several Marsyas sarcophagi.20 The god's left arm is broken off, and with it the cithara which was placed at his left side. By contrast the leaf-shaped plectrum in his right hand is perfectly preserved apart from its upper end. It is raised as though Apollo has just lifted it from the strings, his laurel-crowned head turned expectantly toward his challenger. Apollo's right foot rested on the ground and is still preserved on fragment B (see Figure 10, in front of the seated animal), while his left leg, which was raised, is broken off at the knee. It must have rested on some object, but both the support and the missing part of the leg have disappeared without leaving any visible break on fragments B and C. Undercutting must have been as prominent a feature on this portion of the sarcophagus as it was further to the right: one may recall the slave with the rope, the lower part of whose right leg with its support has similarly disappeared. Apollo's and Marsyas's preserved legs also show this undercutting. They are worked in the round from the middle of the thighs down to the lower edge of the sarcophagus, where the feet rest.

Between Apollo and Marsyas a griffin is seated. Fragment C shows the upper part of its body, fragment B the lower (see Figures 10 and 11). It is fairly well preserved, but lacks its head.21 The rear end of the griffin, on fragment B, is hidden by the folds of Apollo's cloak which continue in uninterrupted lines from fragment C (compare Figures 10 and 11). Further right on fragment B one sees the remains of Apollo's raven (see Figure 10, bottom right). Only its tail feathers, its right claw, and the olive branch it holds in its claws are preserved.

Apart from Apollo and Marsyas, Athena and four muses are seen on fragment C. Of the fourth muse, Thalia, a very small portion is preserved on the extreme left, near Athena's right shoulder (see Figure 13, left). Thanks to her characteristic garment, rendered by a multitude of small drill holes, and to a partially preserved pedum which she holds in her left hand, this muse is easily identifiable despite her fragmentary state.

The other three muses are better preserved. They wear diadems instead of the usual feathers.22 Between Athena and Marsyas there is a muse who holds a long stafflike object in her left hand. This may be interpreted as an extremely long flute, an aulos, and L'Orange and Berczelly have consequently identified this muse with Euterpe.23 The muse whose head emerges behind Marsyas's left shoulder lacks attributes. She appears to be a mere space-filler, and no more is seen of her further down, either on fragment C or on B.

The fourth muse, who is more carefully executed than the others, wears a high-girt dress with a triangular girdle-front. Her missing attributes have been identified by Berczelly as a globe which she held in her raised left hand close to her cheek, and a staff held in her lowered right hand.24 She is the muse Urania. On fragment C she alone is looking upward, and to emphasize this her pupils are plastically rendered.

19. I would like to thank my colleague in Rome Rasmus Brandt for making this test for me and for checking the measurements.
20. Compare Figures 7 and 8; further Robert, nos. 203 and 204, pl. lxvi, no. 209, pl. lxvii.
21. Bartoli, p. 2, quoting E. Paribeni, maintains that Artemis with a deer was shown on the mutilated sarcophagus front in the Terme Museum. I have found no positive trace of either of them, on either this or the other fragments. Could Paribeni have mistaken the lower part of the griffin's body for that of a deer?
22. Berczelly, p. 36, has suggested that the diadems may indicate that the muses have been assimilated to the parcae. M. Wegner, Die Musensarkophage (Berlin, 1966) pp. 116f., gives other instances of an assimilation between muses and parcae. Generally the parcae take over the feathers of the muses, not the other way around, as in the case of fragment C. For another example of muses wearing diadems see Wegner, Die Musensarkophage, no. 165, pp. 64f., pl. 54b.
23. L'Orange, in Aftenposten; Berczelly, p. 36.
24. Berczelly, pp. 35f.
in contrast to those of the other persons, whose eyes are blank. On fragment B the folds of Urania's dress fill the space between the legs of Apollo and Marsyas (see Figure 10, middle).

Athena, who is seen on the left of fragment C, is of a type met with on other Marsyas sarcophagi (compare Figures 7 and 8). Both her lower arms were raised. She wears a Corinthian helmet decorated with rams' heads in relief (Figures 11 and 19), peplos and himation, and an aegis with a tiny mask of Medusa in the middle. Her left foot was raised and placed on a rock or a ledge, visible on fragment B (see Figure 10, left, immediately to the left of Marsyas's right leg). The folds of Athena's dress almost merge with the draperies of an enthroned woman, Cybele, who partly covers her (Figure 10, left). Seeing fragment B alone, one might at first assume that the raised left foot belongs to Cybele. However, her left foot is drawn back behind her right foot and is therefore not visible. On other Marsyas sarcophagi, where the same models were used for Athena and for Cybele, the two are more clearly separated from each other (compare Figures 7 and 8). This merging of draperies on fragment B recalls an area on fragment A, where the goatskins of Marsyas and the knife-grinder appear to continue into one another (see Figure 1, middle). On the lower ledge of the sarcophagus, between the feet of Marsyas and Cybele, there is a small circular break (see Figure 10, left). This doubtless indicates that a lance was originally held in Athena's raised hands.

Nothing of the enthroned Cybele, a pendant to Leot, is preserved on fragment C, whose lower break is determined by the profile of her left thigh on fragment B (compare Figures 10 and 11). Like Athena, Cybele derives from a popular model which was used by the sculptors of several Marsyas sarcophagi (see Figures 7-9). She is easily identifiable in fragment B by the small lion accompanying her, and by a kettledrum, a tympanon, held in her hand. Attis, who was included in some cases (compare Figure 9), is not present. Apart from minor differences in the position of her arms, Cybele varies little from one Marsyas sarcophagus to another, so the missing upper part of her body on the Terme sarcophagus may be reconstructed in accordance with the better-preserved versions on other sarcophagi.

Comparison of fragments A and C makes it apparent that they share certain stylistic and technical features which support the assumption that they belong to the same sarcophagus. The two versions of Marsyas in particular lend themselves to comparison (Figures 14 and 15). The treatment of the face and hair is very similar in both, as are the high, chinalike polish of the surface of the bodies, the rendering of the muscles, and a detail such as the nipples (which seem to imitate bronze models). The face of Urania on fragment C may be compared to that of the slave with the rope on fragment A (Figures 2 and 21). Their features are rendered in the same manner, and both show a peculiarity of this sarcophagus: only the eyes of upward-looking persons have plastically indicated pupils.

Another characteristic of the sarcophagus is the

25. See Robert, no. 203, pl. lxvi.
26. See also Robert, no. 203, pl. lxvi.
27. Robert, nos. 202, 203, and 208 also show traces of a lance held by Athena (see Robert, pp. 254, 256, 262).
28. See Robert, no. 201, pl. lxv, no. 205, pl. lxvii.
29. The Galleria Doria sarcophagus as well as another in the Palazzo Torlonia (Robert, no. 205, pl. lxvii), which are very close to the Terme Marsyas sarcophagus with regard to composition, both show Attis by the side of Cybele.
14. Head of Marsyas from the contest with Apollo, detail of fragment C (Figure 11) (photo: Tore Holter)

deep undercutting of the limbs, especially the lower ones, which is seen on both fragments A and C. This gives some of the figures an undulating shape, especially manifest in Marsyas's body on fragment C. His thighs, which are partly carved in the round, appear to burst forth from his rather flat abdomen.
To return to the fragmentary sarcophagus in the

15. Head of Marsyas in punishment, detail of fragment A (Figure 1)

16. Detail of fragment B (Figure 3) showing the seated Cybele with lion and to the left of her the muse Polyhymnia from the waist down (photo: Siri Sande)

17. Detail of fragment B (Figure 3) showing Dionysus supported by a satyr (photo: Espen B. Andersson)
Terme Museum, its left part from Cybele onward is so well preserved that its composition may easily be reconstructed. Behind Cybele, and supporting herself on the back of her throne, stands a figure familiar from muse sarcophagi, Polhymnia (Figure 16). Her legs are crossed and she holds a scroll in her lowered left hand.

The left corner of the sarcophagus is occupied by two male figures, the larger one partly draped and the smaller one nude. The latter's left foot is raised and placed on a ledge, and in his lowered right hand he holds a syrinx (Figure 17). Mancini and Bartoli both believed the person with the syrinx to be Marsyas flying from Athena after having picked up the double flute, but Berczelly has correctly identified him as part of a group showing Dionysus supported by a satyr.30

On the left side of the sarcophagus in the Terme Museum is Athena, holding the double flute (Figure 18). She is very similar in type to the corresponding Athena on the Galleria Doria sarcophagus (Figure 19). Her head was turned in the same direction, as may be inferred from the preserved lower end of the crest of her helmet. On other Marsyas sarcophagi, the scene with Athena and the double flute is more elaborate, including a river god and sometimes also other landscape personifications,31 whereas the external elements are, on the Terme sarcophagus, reduced to a tree and Athena's owl. A similar tree is found on the Galleria Doria sarcophagus, whereas the owl recurs on a sarcophagus in the Palazzo Torlonia.32 Both these works correspond to the Terme sarcophagus in other compositional details.

The Marsyas sarcophagus here reconstructed follows the general compositional pattern for sarcophagi featuring the musical contest between Apollo

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18. Detail of fragment B (Figure 3), left side, showing Athena with the double flute (photo: Espen B. Andersson)

19. Detail of sarcophagus in the Galleria Doria, Rome (Figure 9), left side, showing Athena with the double flute (photo: Deutsches Archäologisches Institut, Rome)

30. Mancini, p. 118; Bartoli, p. 2; Berczelly, p. 38.
31. Compare Figures 7, 8, 19, and Robert, no. 200, pl. LXV, no. 203, pl. LXVI, no. 205, pl. LXVII.
32. Robert, nos. 207, 205, pl. LXVII.
and Marsyas at the center of the front. The closest parallels are the 
lenos sarcophagi in the Palazzo Torlonia and the Galleria Doria. From fragment A alone McCann was able to reconstruct the main composition of the sarcophagus on the basis of the Galleria Doria monument (Figure 9). Berczelly also used that sarcophagus for comparison with fragment C. On all three sarcophagi the same figures recur in the area between Cybele and Leto with one important exception: on the Terme sarcophagus, Artemis apparently did not appear between Leto and Apollo. She may have been placed a little further to the right, so that the lower part of her body was hidden behind that of her mother and consequently has no parts visible on fragment B. It seems more likely that the Terme sarcophagus followed the composition of the Marsyas sarcophagus in Copenhagen (Figure 7), in which only Athena, Marsyas, and Apollo, alternating with muses, occupy the area between Leto and Cybele.

The Terme sarcophagus has suffered especially in the area around and behind Leto. The space between her and the hanging Marsyas is unusually wide, and there is room for several figures above the seated Oriental and the knife-grinder. If McCann is correct in interpreting the object behind the seated Oriental’s right hand as a naked knee, it would seem that here one has the remains of a person who was shown in profile and turned toward the center of the sarcophagus front. A horizontal break above the knee may be interpreted as the hem of a short tunic. Could the knee belong to Artemis, who is generally represented wearing a short tunic, and who may have been transferred to the right side of the sarcophagus front since there does not seem to have been room for her in the center of it? As already suggested, Hermes may also have been represented, and one might also expect one or two muses to have filled the area between Leto and the hanging Marsyas.

Such speculations can only be proved or disproved if the missing parts of the sarcophagus should turn up, which is not impossible. The circumstances surrounding the discovery of the Terme sarcophagus are such that they suggest the existence of more fragments than the two hitherto located.

Fragment B (the mutilated sarcophagus in the Terme Museum) was found in its present state in 1912, on an ancient burial site near the Viale del Re in Trastevere. Another fragmentary sarcophagus and one whole and one fragmentary sarcophagus lid were also found, in addition to “many marble fragments belonging to sarcophagi.” Of these “many fragments” seems to have been attributable to the Marsyas sarcophagus. Its missing fragments were probably removed before the archaeological authorities were notified of the discovery. That the burial site prior to its official discovery had been robbed of salable fragments is also suggested by the complete sarcophagus lid referred to by Mancini. This was of the kline type with two reclining figures, but their heads had been struck off and were missing.

When this took place, we can only guess: “The state of preservation of fragment A indicates that the Marsyas sarcophagus was damaged a long time ago.” On fragment C the lower break is encrusted, showing that the damage here must have been inflicted long ago, while the breaks at left and right look fairly fresh. Probably the Marsyas sarcophagus was found in a partially damaged state, but with the fragments remaining in situ. The person or persons who discovered it then broke up the rest of the sarcophagus and made off with the salable fragments. A terminus ante quem is given by the year 1912. The fragments may have been removed much earlier, but their appearance on the art market suggests that the vendors were aware of their connection with the mutilated sarcophagus in the Terme Museum and did not want to draw attention to it. A certain pattern is suggested by the fact that the two main parts of fragment A and the whole of fragment C were sold at intervals of about ten years, beginning with the most inconspicuous figure, the knife-grinder, and ending with the most revealing piece, fragment C, which appeared more than twenty years after Mancini’s publication of the finds from the Viale del Re.

Since two large portions of the Marsyas sarcophagus, fragments A and C, exist in a good state of preservation, it is not unreasonable to suppose that the missing portion between them may have been found and removed at the same time. This fragment, with the enthroned Leto as its main figure, would make a pleasing composition in itself and fetch a good price.

33. See Mancini, pp. 117ff.
34. Mancini, p. 119.
35. Mancini, p. 118, no. 3.
36. See McCann, p. 79.
37. The fragments were sold in 1915, 1927, and 1936 respectively. More than one art dealer was involved in the transactions.
20. The Badminton sarcophagus, showing the triumph of Dionysus and the Seasons. Marble, max. L. 2.16 m. The Metropolitan Museum of Art, Pulitzer Fund, 55.11.5

21. Urania, detail of fragment C (Figure 11) (photo: Tore Holter)

The same is true of the corresponding portion on the left side of the sarcophagus front, showing Cybele. If the missing portions of the Terme Marsyas sarcophagus do exist, the most easily recognizable figures will be Leto and Cybele. Since the preserved sarcophagi show a preference for the same models for these goddesses, with few variations, it should not be too difficult to attribute fragments showing them to a Marsyas sarcophagus. A more precise attribution to the sarcophagus discussed here may be facilitated by certain iconographical features such as the unusual diadems worn by the muses, but the style must of course be the determining factor.

In this connection it is interesting to note that both McCann and Berczelly, independently of each other, have compared different fragments of the Terme Marsyas sarcophagus to the famous Badminton sarcophagus with Dionysus and the Seasons in the Metropolitan Museum (Figure 20).38 Berczelly has pointed out that the faces of both the Badminton sarcophagus and fragment C are constructed around eight drill holes at the inner corners of the eyes, the outer corners of the mouth, the nostrils, and a depression above and below the mouth (the face of Urania on fragment C constitutes an exception, as both the inner and outer corners of her eyes are emphasized by drill holes; see Figure 21). McCann has drawn attention to

38. Matz, Meisterwerk; Turcan, pp. 50, 208, 221, 278–280, 298f., 304, 556, 558, 604, 609f., 613, 616, 618; McCann, no. 17, pp. 94ff. with further bibliography.
the similarity between the head of Marsyas on fragment A and that of Ocean on the Badminton sarcophagus.\textsuperscript{39} There are, in fact, several other points of similarity between the Badminton and the Terme Marsyas sarcophagi. Both are characterized by extensive undercutting where the detached parts support each other, a technique described by Matz as “eine Menge wohlberechneter gegenseitiger Verbindungen der freien und unterschnittenen Teile.”\textsuperscript{40} The chinalike polish of parts of the surface and the treatment of the hair and beards of the figures may also be compared. Apollo’s body on fragment C is similar

\textsuperscript{39} Berczelly, p. 40; McCann, p. 84, fig. 88, p. 80, fig. 120, p. 100.

\textsuperscript{40} Matz, \textit{Meisterwerk}, p. 13.
to the bodies of the Seasons on the Badminton sarcophagus, as is the drapery of his and their cloaks (compare Figures 22 and 20). Navels and pubic hair are rendered in the same manner on the two sarcophagi, and the wings of Apollo's griffin show the same type of incisions as the wings of the Badminton Seasons (Figure 23). Apart from being constructed around eight drill holes, the faces on the sarcophagi show other points of similarity, such as the slightly pouting mouths and the heavy, waxy eyelids (compare the faces of Apollo and Dionysus, Figures 22 and 23, and those of the muse Euterpe and Winter, Figures 24 and 25). In connection with the eyes, the distinction between eyeballs which are blank or show a faintly incised iris, and eyes with pupils indicated by drill holes seems to have served different purposes on the two sarcophagi: on the Badminton sarcophagus the pupils with drill holes are intended to convey a note of the wild and primitive, whereas those on the Terme Marsyas sarcophagus seem merely to indicate an upward glance. Another comparable feature is the rendering of the hands, where small drill holes separate the fingers at their base. Particularly characteristic are the fingers themselves. In their shape they recall fingers in works by Parmigianino and other Mannerist painters; long and supple (the fingers of Marsyas on fragment A, for instance, seem to comprise one joint more than they should), they taper down to a long, narrow tip with a correspondingly long nail. One may compare the left hands of Gaia on the Badminton sarcophagus and Euterpe on fragment C (Figures 26 and 11): the index finger is thrust out like a tentacle, its tip anchored to a drapery fold.

The many similarities between the Badminton and the Terme Marsyas sarcophagi make it likely that they come from the same workshop, to which F. Matz has attributed a number of other works. Of these, the most convincing parallel seems to me to be a strigil sarcophagus in the Vatican grottoes. The figure of Dionysus in the middle resembles that of Dionysus on

41. The description of these details given by Matz, Meisterwerk, p. 12, also applies to the Terme Marsyas sarcophagus.
43. Matz, Meisterwerk, pp. 143ff., pls. 17b, 23, 24a, 25b; Matz, Die dionysischen Sarkophage IV, p. 520 (Werkstatt 17).
44. Matz, Meisterwerk, pp. 146f., pls. 25b, 26a–b; Matz, Die dionysischen Sarkophage IV, no. 306, pp. 479ff., pls. 320, 321, 323.
the Badminton sarcophagus and Apollo on the Terme Marsyas sarcophagus. The draperies of the flute-blowing maenad on the left of the Strigil sarcophagus, with their "organ-pipe folds" bending at the bottom, find a counterpart in the cloak folds of the seated Oriental on the Terme Marsyas sarcophagus. Also the draperies of Cybele and Polymnia on the same monument show similarities to those of the flute-blowing maenad. The latter's puffed-up face is rendered in a manner very similar to that of the contesting Marsyas on fragment C, while her "Mannerist" hands holding the flute recall the left hand of the muse Euterpe holding her aulos.

Of the other works in Matz's group, a sarcophagus in the Palazzo Borghese, Rome, and a fragmentary lenos sarcophagus in the storerooms of the Vatican Museums show certain similarities to the Terme–Badminton group, but I am not sure that these are close enough to allow for an attribution to the same workshop.\(^{45}\)

With regard to the rest of Matz's group, a fragment of a lenos sarcophagus and a well-preserved pair of sarcophagi from Bordeaux, all in the Louvre, I find Matz's arguments even less convincing.\(^{46}\) Though the head of a centaur on the Ariadne sarcophagus from Bordeaux does show a certain resemblance to Ocean on the Badminton sarcophagus,\(^{47}\) the other faces on the Ariadne sarcophagus are rendered in a different manner.\(^{48}\) The drapery folds are sharper and more brittle on the Bordeaux sarcophagi, giving a shimmering effect when the monuments are seen from a distance, and the proportions of their figures differ from those of the Terme–Badminton group, as may be seen by juxtaposing figures shown in the same position. It seems difficult to believe that one workshop should have produced both the slim, long-legged Polymnia on the Terme Marsyas sarcophagus and the squat woman who stands in a similar cross-legged pose near the right corner of the Endymion sarcophagus from Bordeaux.\(^{49}\)

The attribution to different workshops is a controversial matter, and studies in this field have been complicated further by the fact that scholars often do not agree on the dates of Roman sarcophagi. A monument such as the Badminton sarcophagus has been dated from A.D. 220 to 280.\(^{50}\) Generally it is believed to be either a late Severan or a late Gallienic work. This vacillation between the Severan and Gallienic periods is also found in studies on third-century por-

traiture,\(^{51}\) indicating that our general knowledge of these periods is as yet incomplete. Discussions on the subject are apt to manifest themselves merely as exchanges of personal impressions. If I may add mine, I should like to remark that those in favor of a late Severan date for the Badminton sarcophagus seem to me to have the more convincing arguments.\(^{52}\)

Therefore I agree with McCann in dating the Terme Marsyas and the Badminton sarcophagi to the late Severan period, with the former as the slightly earlier of the two. I must refrain from a fuller discussion of the date of the Badminton sarcophagus and others resembling it in style. To sort out the thorny problems involved would exceed the scope of this article. My chief aim has been to present the Terme Marsyas sarcophagus as it may be reconstructed from the existing fragments; and by drawing attention to these, I hope that other fragments will be found. Even in its present incomplete state, however, the Terme Marsyas sarcophagus is an interesting monument which can take a place among the high-quality sepulchral monuments of the third century A.D.

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46. Matz, *Die dionysischen Sarkophage I*, no. 42, p. 145, pl. 43; III, no. 223, pp. 399ff., pls. 234, 238, 245; Matz, *Meisterwerk*, pp. 143ff., pls. 17, 23; Turcan, pp. 266, 272, pl. 38a (fragment in the Louvre); Turcan, pp. 50, 91, 101, 105, 220, 279ff., 283ff., 296, 297, 301, 314 (Endymion sarcophagus); pp. 90, 101, 105f., 220, 272ff., 279ff., 283ff., 293, 296, 297, 301, 303, 309f., 314, 316, 318, 530 (Ariadne sarcophagus). Turcan does not believe that these two sarcophagi and the Badminton sarcophagus come from the same workshop, whereas McCann (p. 103) appears to find a close relationship between them.


49. Compare Figure 16 to Matz, *Meisterwerk*, pl. 23.

50. See McCann, pp. 109ff.


52. McCann, pp. 109ff., quotes others of the same opinion. See also Turcan, pp. 278ff.
26. Detail of the Badminton sarcophagus (Figure 20), left side, showing the seated figure of Gaia

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A Fourteenth-Century German Tapestry of the Crucifixion

REBECCA MARTIN
Instructor, Department of Education and Art History, Cleveland Museum of Art

In 1916 The Metropolitan Museum of Art acquired a small tapestry representing the Crucifixion—the crucified Christ between the Virgin Mary and St. John the Evangelist—with the additional figures of St. Catherine of Alexandria on the left and St. Margaret of Antioch on the right (Figure 1). Currently displayed in the Museum's Medieval Treasury, the panel is of a rather coarse texture, with a linen warp of eleven or twelve threads to the inch and a wool weft. There are losses at the top and bottom, and both sides have been cut (a discussion of condition is given in the appendix).

Although much faded, the tapestry is still impressive for its vivid color contrasts and bold patterning. By silhouetting slender figures against an azure sky emblazoned with bright yellow stars, the artist achieved an abstract, two-dimensional effect well suited to the textile art. Their heads reverently inclined, the Virgin and saints turn toward Christ, whose thin body seems to hover weightlessly before the sky, against which the narrow blue-green arms of the cross are barely visible. The wounds in Christ's hands and feet bleed profusely and his body is flecked with blood from the Flagellation. The Crown of Thorns, although not represented, has left its mark on Christ's forehead (Figure 2).

In 1917 R. A. Meyer-Riefstahl associated the Metropolitan Museum tapestry with one in the Germanisches Nationalmuseum in Nuremberg; composed of two panels seamed together, this shows SS. Clare of Assisi, John the Baptist, and Agnes in the left panel, and Dorothy, Peter, and Paul in the right (Figure 3).1 Meyer-Riefstahl suggested that the Crucifixion in New York originally constituted the central portion between these two panels.2 Another suggestion, made by Betty Kurth in 1926, was that the New York and Nuremberg panels might be the remains of two tapestries from a set rather than sections of one long hanging.3 Recent intensive study of the panels has made it possible to establish definitely that they once formed part of the same tapestry. As a result more can now be said about its probable place of origin and function.

In the Nuremberg tapestry, the blossoming branch

1. The saints represented in the New York and Nuremberg tapestries carry their usual attributes (see Joseph Braun, *Tracht und Attribute der Heiligen in der deutschen Kunst* [Stuttgart, 1945] cols. 45-48, 195–198, 365–369, 413–418, 423–425, 489–493, 589–591, 594–601). Only one requires comment. St. Margaret holds in her left hand a cross, symbolic of the sign of the cross with which she vanquished Satan when he appeared to her as a dragon. It is possible that the tongues of flame visible at her lower left are the breath of fire from the defeated dragon, as has been suggested by W.M. Milliken [W.M.M.], "A Late Thirteenth-Century French Tapestry," *MMAB* 11 (1916) p. 147. However, although artists of the 14th and 15th century often depicted the dragon either beneath Margaret's feet or reposing docilely in her arms, I have been unable to find an image of the saint from this period that shows a fire-breathing dragon. Perhaps the designer of the tapestry chose a seldom-depicted instrument of the saint's torture, a torch.


3. Betty Kurth, *Die deutschen Bildteppiche des Mittelalters* (Vienna, 1946) I, pp. 86–87. Kurth considered that uniting the fragments in New York and Nuremberg would result in two monotonous a design (ibid., p. 80 n. 4). She suggested that the Nuremberg panels flanked a central figure, perhaps a Madonna.

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1. The Crucifixion, with St. Catherine of Alexandria and St. Margaret of Antioch, German (Upper Rhenish, probably region of Constance), mid-14th century. Tapestry (wool, linen, and silk), approx. 2 ft. 8 in. × 5 ft. 8 in. (81.3 × 172.7 cm.). Ex. colls. Hoentschel and Morgan. The Metropolitan Museum of Art, Francis L. Leland Fund, 16.90

2. The Crucified Christ, detail of Figure 1

held by St. Dorothy has alternating white and red flowers on its right side but no corresponding flowers on the left. At the far right edge of the New York panel, at the level of St. Margaret's halo, are three small flowers—two white and one red—which, although often not visible in earlier photographs, are still largely intact; there are also touches of color which are probably the remains of other flowers. Unconnected with any of the New York figures, these are St. Dorothy's missing flowers. To restore them to their proper place and the tapestry to something resembling its original appearance, the Nuremberg panels must be divided between SS. Agnes and Dorothy and the three pieces reassembled as shown in Figure 4.

This reconstruction makes it possible to estimate the original length of the tapestry as between 11 and 12 feet, and to reject Meyer-Riefstahl's suggestion that the tapestry may have included other figures now lost.4 The design as a whole is rhythmically harmonious and complete. Beginning with the Virgin and St. John and moving outward, each saint is slightly taller than the previous one. At either end of the tapestry SS. Clare

4. Exact measurements are not possible because of the uneven cropping and/or deterioration of the tapestry along all borders. The New York panel measures roughly 2 ft. 8 in. × 5 ft. 8 in. The two combined fragments in Nuremberg, which were more severely cropped at the bottom than the New York piece, measure roughly 2 ft. 5 in. × 5 ft. 5 in.
3. Six Standing Saints (Clare, John the Baptist, Agnes, Dorothy, Peter, and Paul), German (Upper Rhenish, probably region of Constance), mid-14th century. Tapestry (wool, linen, and silk), composed of two panels joined at dotted line, approx. 2 ft. 5 in. × 5 ft. 5 in. (73.7 × 165.1 cm.). Nuremberg, Germanisches Nationalmuseum, inv. no. Gew 670 (photo: Germanisches Nationalmuseum)

4. The Crucifixion, with Eight Standing Saints. Partial reconstruction of the tapestry now divided between New York and Nuremberg (see Figures 1 and 3) and John the Baptist and SS. Peter and Paul are compositionally set off from the other figures. The slenderest of the saints, they stand erect, not inclined toward the cross but facing one another as in a dialogue, so that the composition is effectively closed off at either end.

At some unknown date and for an unknown reason the New York–Nuremberg tapestry was cropped at the bottom and divided into three parts. The photographic montage, of course, gives no indication of the design along the lower border. To make an informed guess as to what this was, we must look to other fourteenth-century German depictions of the Crucifixion flanked by saints. The majority show the cross rising from a small mound, with unshod figures

to either side of it standing on a narrow strip of earth. One example is the embroidered mid-fourteenth-century altar frontal from the Franciscan convent at Königsfelden (Figure 5). Here the attendant saints are set within Gothic arches against a plain background; in other respects, however, the foot of the antependium suggests what the missing portion of our tapestry may have looked like. In the tapestry, a rather small, subjugated dragon may have been shown beside or under St. Margaret's feet.

It was Kurth who in 1926 first advanced the idea that the New York–Nuremberg tapestry might have been made in the mid-fourteenth century in the Upper Rhenish city of Constance, rather than in France as had thitherto been believed. Direct evidence for weaving activity in Constance during the fourteenth century is in fact scarce. Some indication that the craft was known there may be provided by a wall painting of about 1315 in a house in Constance (Figure 6). The painting—one of a series of twenty-one depicting women engaged in the production of linen and silk fabrics—shows a woman seated at an upright loom.


5. See, e.g., Paul Clemens, *Die gotischen Monumentalmalerien der Rheinlände* (Düsseldorf, 1930) I, figs. 29, 195, 234. In the simpler three-figure German *Crucifixions* of the 14th century the cross is frequently erected upon a small mound of earth. St. John is usually barefoot, while the Virgin Mary's longer robe covers her feet. For examples see Alfred Stange, *Deutsche Malerei der Gotik* (Berlin, 1934) I, figs. 19, 21, 32, 43, 69, 138, 162, 164.

6. See note 1 above. For German Crucifixion paintings of 1325 and 1411 showing Margaret with the dragon see Clemens, *Monumentalmalerien*, I, figs. 195, 277.

with an inscription which Kurth interpreted to mean "Thus can I weave tapestry." Kurth pointed also to the relatively large number of references to tapestries in Constance church inventories of the sixteenth century as indirect evidence that tapestry weaving was probably known in this region at an earlier period. Her main argument for the presence of tapestry weavers in fourteenth-century Constance, however, rested on the compositional and stylistic parallels between the Crucifixion tapestry and mid-fourteenth-century art works from the region of Constance, particularly a wall painting—dated by an inscription to 1348—in the upper sacristy of Constance Cathedral. It is a simple representation of the crucified Christ with the Virgin and St. John standing beneath the arms of the cross (Figure 7). A miniature of the Crucifixion from an Upper Rhenish manuscript of the

7. The Crucifixion, German (Upper Rhenish), 1348. Wall painting. Constance Cathedral (photo: Alfonse Ret- tich, Staatliches Hochbauamt, Constance)


9. Kurth, Bildteppiche, I, pp. 80–81. This painting, to which the central group of our tapestry is so similar in composition and iconographic detail, was the subject of a scholarly debate ranging over some five decades. At issue was whether the type of Crucifixion depicted was unique to the Upper Rhineland, as Gramm believed, or not, as Vitzthum argued. In a compromise, Wienecke and others maintained that the particular combination of features represented by the painting was characteristic of, though not unique to, the Lake of Constance region in the 14th century—a view with which I agree. For the entire debate see: Georg Graf Vitzthum, Die Pariser Miniaturmalerei von der Zeit des hl. Ludwig bis zu Philipp Valois und ihr Verhältnis zur Malerei in Nordwesteuropa (Leipzig, 1907) pp. 237–238; Wieniecke, Konstanzer Malereien, p. 35; Clemens, Monumentalmalereien, I p. 55; Stange, Deutsche Malerei, I, p. 61; Von Claparède-Crola, Profane Wandmalerei, pp. 72–74.
mid-fourteenth century also shows a remarkable resemblance to the New York tapestry, not only in the figure of Christ, but also in the poses and gestures of the Virgin and St. John (Figure 8). As in the tapestry, the slender figures stand almost erect with only a suggestion of the S-pose, their heads inclined. Mary, whose arms are tightly bound, slinglike, by her mantle, clasps her hands before her breast, while St. John holds a book firmly against his chest with his right hand and raises his left as if in dismay. The type of Crucifixion image represented by the wall painting, the manuscript illumination, and the tapestry is characteristic for the Lake of Constance region in the fourteenth century, recurring more frequently there in wall paintings, manuscript illuminations, and stained glass than elsewhere in Europe.  

Further consideration and analysis of the style, format, technique, and iconography of the New York–Nuremberg tapestry serve to reinforce the attribution to an Upper Rhenish atelier.

While documents attesting to tapestry production in Germany are rare before the fifteenth century, records testify to an established tapestry industry in fourteenth-century France. Unfortunately, most of the fourteenth-century tapestries have disappeared, the earliest extant French tapestries being those associated with the Paris workshop of Nicholas Bataille in the last quarter of the century. They are the Apocalypse series in Angers, the Nine Heroes set in New York, and a panel in Brussels showing the Presentation in the Temple (Figure 9).

10. A combination of all or most of the following features characterizes this type of crucified Christ: the slumped-over body; the head hanging over the right shoulder; the hair, which hugs Christ’s head and then flows in wavy lines over his neck and shoulders; the arms describing a broad arc; the open hands jutting above the arms of the cross; the emphasized breastcage and ribs; the wounds gushing blood; the twisted legs and crossed feet; the draping of the loincloth, which hangs in heavy, pointed folds from the left hip and right knee, baring the left knee and covering the right.


12. Bataille is frequently mentioned in documents from 1373 to 1399 as “tapissier et varlet de chambre” of the duke of Anjou, as “tapissier de Paris,” and as a “marchant de tappiz sarrazinois.” On Bataille and his workshop see Salet and Souchal, Masterpieces, nos. 1 and 2 (ill.). Dora Heinz, Europäische Kunst um 1400, exh. cat., (Vienna, 1962) pp. 457–459, suggests that
The Brussels tapestry, usually dated to the 1380s, resembles in certain respects the New York–Nuremberg Crucifixion. This raises the issue of possible influence on German tapestry weaving from a better-established French industry in the fourteenth century. The somewhat ethereal participants in the Presentation, akin to the saints of the Crucifixion, move stiffly in a row and wear rather spare garments, the folds of which tend to fall in vertical and angular rather than curving lines. Their long hair, like that of the figures in the Crucifixion, is represented by parallel wavy lines. Common to both tapestries is the use of a repetitive all-over background pattern against a dark blue or bluish ground.

Given these similarities, the early attribution of the New York–Nuremberg tapestry to a French atelier is understandable. However, many factors confirm its German, and specifically its Upper Rhenish, origins. The Crucifixion is a narrow panel, which in its original state probably measured only about 4 by 12 feet. This horizontal, rectangular format is characteristic of German and Swiss tapestries of the fifteenth century. The earliest known French Gothic tapestries, on the other hand, were woven on much larger looms and are both grander in scale and more elaborate in composition. For example, the Angers Apocalypse set comprised seven tapestries about 6 feet in height with a total length of some 156 yards. That the Brussels Presentation is part of a larger tapestry is evident from the bits of architecture and an angel's wing visible at the lower edge of the panel.

The simple composition of the Crucifixion, with figures standing side by side silhouetted against a patterned background, is typical of Upper Rhenish tapestries of the fifteenth century. The figures are rendered with a herculean flatness and linearity quite distinct from the subtly shaded three-dimensionality of the participants in the Brussels Presentation. In fact, the figure style of the New York–Nuremberg tapestry is that prevailing in the art of the Upper Rhinel-land during the period from around 1300 to 1350. At its best it is a graceful, delicate style of thin, incor-poreal figures with restrained gestures (Figures 7 and 8). At its worst it features stiff, dull figures with restricted contours and angular movements. In either case, the figures tend to be flat and weightless, defined more with line than with light and shadow. The slim, ever-so-slightly swaying figures of the tapestry, their narrow and confined silhouettes, their inclined heads, their arms raised sharply from the elbow and hands cocked back from the wrist are all elements which can be seen again and again in fourteenth-century wall, manuscript, and stained-glass paintings in the Upper Rhine region.

Certain aspects of the technique of the Crucifixion indicate that it was executed by an artist or artists willing to experiment with different approaches to tapestry weaving. In French and Flemish tapestries the weft was generally woven perpendicular to the warp. German weavers gave less regard to this strict regularity, weaving in some weft threads perpendicular to the warp and others diagonally or on a curve. These eccentric weft threads were especially useful for outlining or for executing details of linear decoration (Figure 10). The weavers of the Crucifixion used this technique extensively, with the result that in many places the warp threads are pulled out of their vertical alignment by the slanting weft threads. The earliest surviving French and Flemish tapestries are woven with wool weft threads on a wool warp, and in tapestry centers in France and England regulations the Brussels Presentation may be a fragment of the tapestry mentioned in a 1379 inventory of the duke of Anjou's possessions; the subject of that tapestry, woven for the duke by Bataille, was the Life of the Virgin. Souchal (Masterpieces, pp. 33–34) also mentions this hypothesis but points out that there is no evidence to support it; she assigns the Presentation to a Parisian workshop of ca. 1380.

13. Both Vitry and Milliken, who attributed the New York–Nuremberg tapestry to a French atelier, referred to its archaic appearance as compared to tapestries associated with Bataille's workshop. That they mention the Brussels Presentation and the Angers Apocalypse in connection with our tapestry indicates that they saw some relatedness in style and composition. Neither they nor any of the other scholars writing in the first decades of this century who attributed the Crucifixion to a French atelier developed a convincing argument for the attribution. See note 7 above.

15. See Kurth, Bildstöcke, II and III (pl. vols.), for numerous examples.
10. Diagrams of tapestry weave: A. Regular weave, with weft threads perpendicular to warp; B. Regular and eccentric weave, with some slanting weft threads (drawings: Martin)

required that both warp and weft be of wool.\(^{18}\) German weavers, on the other hand, used a warp of hemp or linen, as in the Crucifixion.\(^{19}\)

Another distinctively German and typically Upper Rhenish feature of the Crucifixion is the use of embroidery for details, a peculiarity seldom found in Franco-Flemish tapestries and later prohibited by some guild regulations.\(^{20}\) In the Crucifixion the faces were left blank when the tapestry was woven and the features were added later using the embroidery stitch known as couching. In couching, the design thread is laid on top of the material and is then caught by small stitches at short intervals. The features of the figures in the Crucifixion were outlined with dark brown wool couching threads, with lighter-hued silk couching threads beside them. The original appearance of the faces can only be imagined now, for the brown couching threads have deteriorated to a great extent, leaving only the bits of thread by which they were once attached (Figure 2). Under natural light the slightest pink tinge is evident in the now almost white silk threads, but ultraviolet light brings out more color, indicating that they may originally have been dyed red or pink. The definition of the cheeks of all the figures, with the exception of Christ and the Virgin Mary, by circles of small silk embroidery stitches is now visible only upon close inspection, whereas the saints must once have had the pronounced round cheeks so charmingly featured in later German and Swiss tapestries.\(^{21}\) The lips of SS. John the Baptist, Peter, and Paul, which are woven with a vivid red wool, cannot have faded much from their original hue, and may be an indication of the strong color that all the features once had. The red, blue, and green jewels on the crowns of SS. Catherine and Dorothy are embroidered, the jewels on the crowns of SS. Margaret and Agnes woven.

Although couching was used only sparingly on the Crucifixion, certain elements of the design bear a strong resemblance to contemporary works of embroidery. The strong linear definition, totally devoid of shading, of the garments of the three central and four outside figures corresponds to the treatment of drapery in many German embroideries.\(^{22}\) No use was made of the tapestry technique of hatching to render a garment in several colors. Hatching avoids the mosaic or stained-glass effect of juxtaposed contrasting color areas by "interpenetrating comb-like processes of adjoining colors [which] produce, at a distance, the effect of a color blend."\(^{23}\) Already in the works of the late fourteenth-century Bataille workshop in Paris hatching was employed to create effects of shading.\(^{24}\) In the fifteenth century, Franco-Flemish weavers used the technique more and more extensively, until toward 1500 very subtle effects were achieved by it. The weaver of the Crucifixion was either unfamiliar with

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18. On the early regulations of the tapestry industry and the rules concerning the use of wool thread, see Thomson, Tapestry, pp. 44-79.
19. Göbel, Wandteppiche III, I, p. 15. According to Göbel (p. 14), German weavers remained occasional laborers without the strength of guilds or the guilds' guarantee of the quality of work and the continued development of technique.
21. See Kurth, Bildteppiche, II, pls. 33, 54, 64, 90, 97, 98, 99.
22. For other examples of unshaded, strongly outlined drapery in embroideries see Marie Schuette and Sigrid Müller-Christensen, A Pictorial History of Embroidery (New York, 1964) fig. 172, pl. ix.
23. Anna G. Bennett, Five Centuries of Tapestry from the Fine Arts Museums of San Francisco (San Francisco, 1976) p. 22, figs. 21, 22.
24. Bennett, Five Centuries, fig. 23, illustrations on pp. 4, 31.
the technique or preferred the abstract, patterned
effect resulting from a clear differentiation of color
areas. In the fifteenth century, Upper Rhenish tapes-
try weavers continued to prefer the abrupt juxta-
position of colors to the use of hatching. The pref-
ference for two-dimensional surface designs over a
shaded, modeled rendering of figures and draperies is
characteristic of medieval German embroideries,
particularly of cloister work as opposed to the prod-
ucts of professional embroiderers. In some embo-
doi
ered images the colors of the draperies produce an
effect like the garments of the four female martyrs
of the New York–Nuremberg tapestry, in which ver-
tical areas of contrasting color resemble bold stripes
(Figures 4 and 5). The regular, almost geometric
pattern of the blood on Christ's body in the Crucifix-
ion panel is also reminiscent of the patterning of hu-
man bodies on some German embroideries. The
striking, starrry background of the Crucifixion has par-
allels in fifteenth-century German embroideries;
however, since a background of yellow or gold stars
on a blue field was popular in stained-glass, wall, and
manuscript painting of the same period, this corre-
spondence should not be stressed.

While few German tapestries woven between 1200
and the late fourteenth century are extant, many em-
roideries survive from this period, indicating that
embroidery was the more extensively practiced art at
the time. In German-speaking lands embroidery was
often done in convents, and when tapestry weaving
became popular it too was practiced by nuns. The
parallels in drapery style and decorative patterning
between the Crucifixion and German embroideries
suggest that weavers may have borrowed certain effects
from the more familiar textile art of embroidery.

The depiction in the Crucifixion of St. Clare of Assisi,
founder of the Franciscan Second Order, the Poor
Clares, raises the possibility that the tapestry was
woven in a convent of Poor Clares or in a house of
the Third Order, a modified lay version of the Fran-
ciscan rule. St. Clare appears chiefly in works of art
associated with Franciscan convents or churches.
Further, she stands out among the eight saints flan-
kling the Crucifixion scene as the only one who was not
martyred. The palm branch she holds is not the sign
of a martyr's death but of Christian victory, and
probably refers to the legend according to which
Clare's profession was accepted by St. Francis on Palm
Sunday of 1212. Her special attribute is the mon-
strance containing the Sacred Host with which she
confronted and routed from her convent attacking
Saracen mercenaries from Frederick II's army.

The first known house of Poor Clares in the Lake
of Constance region was founded in Constance in
1251; in 1259 it moved to Schaffhausen, about twenty-
five miles away. In 1309 the German queen, Elisa-
beth, founded a Franciscan convent in Aargau at
Königsfelden. The Poor Clares, however, did not ex-
perience much growth around the Lake of Con-
stance or in the greater Upper Rhineland during the
thirteenth and fourteenth centuries. In striking
contrast, the Third Order of St. Francis was tremen-
dously popular. In the bishopric of Constance alone
there were over one hundred such houses in the late

25. Fritz Gysin, Gotische Bildsteppiche der Schweiz (Frankfurt am
Main, n.d. [1930]) pls. 2, 7, 10.
Behncke et. al. (Berlin, n.d.) pp. 341–342. For examples of ab-
stractly patterned embroideries see Schuette and Müller-
Christensen, A Pictorial History, fig. 177, pl. viii.
27. For other examples see Schuette and Müller-Christensen,
A Pictorial History, fig. 327, pl. v.
28. See, e.g., the blood-flecked body of Christ in an embroi-
dery hanging illustrated by Renate Kroos, Niedersächsische Bild-
stickerei des Mittelalters (Berlin, 1970) fig. 101; see also figs. 206,
29. For a discussion of the extant 14th-century German tape-
estries and of documentary evidence for tapestry weaving in
14th-century German-speaking territory see Göbel, Wandtepp-
30. Bibliotheca Sanctorum, III (Rome, 1963) col. 1210; Braun,
Tracht und Attribute, cols. 423–425. Venerated primarily by
Franciscans, Clare was also seen as an ideal for all womankind:
Ortrud Reber, Die Gestaltung des Kultus weiblicher Heiliger im
Spätmittelalter: Die Verehrung der Heiligen Elisabeth, Klara, Hedwig
und Brígida (Hersbruck, 1963) pp. 93, 101, 113–114. Fourteenth-
century representations of St. Clare outside Italy are rather rare.
I have been able to identify ten German art works of the 13th
and 14th centuries that depict her; at least seven of them are
associated with Franciscan convents or churches, and an eighth
with a Dominican convent. For discussion and illustrations of
these works see: Braun, Tracht und Attribute, cols. 423–424; Clem-
mens, Monumentalmalereien, I, fig. 80; Hildegard L. Keller, Rek-
lams Lexikon der Heiligen und der biblischen Gestalten (Stuttgart,
Buchmalerei," Anzeiger des Germanischen Museums (1930–31)
pp. 10–15; Emil Mauer, Die Kunstdenkmäler der Schweiz, Kanton
31. Arno Borst, Mönche am Bodensee 610–1525 (Sigmaringen,
Middle Ages. Members of these houses were not strictly enclosed and were allowed to work as seculars. As did the Poor Clares, many Franciscan tertiaries supported their houses by handwork—weaving, spinning, and sewing.

Given the Franciscan ideal of poverty, to which St. Clare was passionately devoted, we may ask whether a tapestry is likely to have been produced for the adornment of their convent by Poor Clares or Franciscan tertiaries. By the fourteenth century the Poor Clares had moved far from their founder's ideal of mendicancy. Not only convents but also individual nuns often owned considerable property. Tertiaries, even if personally dedicated to a life of poverty, had never been required by the rule of the Third Order to abandon their wealth. Although I have found no reference to tapestry production or ownership by Poor Clares in the mid-fourteenth century, there is indication of an active painting atelier in a convent of Poor Clares in Nuremberg as early as the 1360s. The embroidered altar frontal from Königsfelden is thought to have been executed in part by Poor Clares of that convent (Figure 5). From the fifteenth century comes the earliest evidence of a tapestry workshop in a house of Poor Clares. Kurth first identified a group of tapestries dating from about 1410 to 1460 as probably originating in the convent of Gnadenstollen in Basel. One of them, a tapestry of about 1435 which depicts the Death of the Virgin, shows as the donor a kneeling nun in the Franciscan habit, beside her the inscription "Gnadenstollen." Although it is larger than most of the extant medieval tapestry antependia, the New York-Nuremberg tapestry may have been used as an altar frontal. Inventories reveal that one of the most common subjects of antependia in the fourteenth and following centuries was the crucified Christ flanked by a row of saints. The composition of this Crucifixion, which differentiates the two figures at each end of the row, suggests to me that the tapestry may have been wrapped around three sides of an altar with the end pairs of saints adorning the shorter sides. Against this supposition it must be said that although the use of hangings to cover three or four sides of the altar was the rule in early Christian times, as early as the ninth century adornment of the front only was common and in the late Middle Ages it became the custom. Even if our tapestry was a late survival of the earlier usage, the presence of St. Clare is a difficulty, since she is unlikely to have been relegated to the side of the altar if the tapestry had been woven for use at a Franciscan convent. The same can be said for SS. John the Baptist, Peter, and Paul—all major saints of the Church. Perhaps the panel adorned only the front of an altar. The high altars of the late Middle Ages were quite large, usually ten feet or more in length.

Another possibility is that the tapestry functioned as a reredos which hung on the wall above and behind the altar. Joseph Braun, in his study of the Christian altar and its furnishings, found in French, English, and Flemish inventories frequent mention of such hangings. Although he found no similar reference in German inventories, the oldest example of a textile reredos known to Braun was in fact a woven silk panel of the late thirteenth century from Regensburg Cathedral, which depicts Christ on the cross flanked by the Virgin Mary, St. John, and other fig-

39. If we estimate the original length of the tapestry as 12 ft., then the portions folded around the sides of the altar would have measured in all about 4–5 ft. According to Braun, the high altars of the 14th and 15th centuries were almost always at least 2 m. (6½ ft.) in width, although many were much larger. Side altars in chapels might be as small as 1.50 m. (4 ft. 11 in.) in width and 0.50 m. (1 ft. 8 in.) in depth [Joseph Braun, Der christliche Altar in seiner geschichtlichen Entwicklung (Munich, 1924) I, pp. 250–257. The tapestry would have been suitable in size for a high altar of modest proportions or for a fairly large side altar.
ures.\textsuperscript{42} Achim Hubel, conservator of the Regensburg Cathedral treasury, adheres to the theory that this hanging was used as a reredos for the high altar and is thus the earliest extant exemplar of the genre in Germany.\textsuperscript{43} One of the most common subjects of reredos hangings, as of antependium, was the crucified Christ, frequently flanked by standing saints.\textsuperscript{44} In the New York–Nuremberg tapestry the presence of St. John the Baptist holding the sacrificial lamb and gesturing toward the cross, and of St. Clare with the Host clearly visible in her monstrance, reinforces the Eucharistic symbolism of the Crucifixion.

Apart from its importance as a work of art and as a striking early example of Gothic tapestry weaving, the Crucifixion also represents an iconographic development associated with fourteenth-century German mysticism. One of the manifestations of this was a propensity for images of the suffering Christ, whose body was often shown streaming with blood from the wounds made by the Flagellation, the Crown of Thorns, the nails, and the centurion’s spear. The Franciscans cultivated a particular devotion to the Passion of Christ in keeping with the experience of St. Francis, whose sharing of Christ’s agony had culminated in his receiving of the stigmata.\textsuperscript{45} In its hieratic formality and simplicity of means, the Crucifixion invites the beholder to meditative contemplation. Christ’s wounded body inspires empathy;\textsuperscript{46} his grieving mother and the saints, bearing witness to the most profound event of the Christian religion, exemplify the kind of faith required of the believer.

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Appendix

THE CONDITION OF THE NEW YORK–NUREMBERG CRUCIFIXION TAPESTRY

Apart from the fact that it is cropped on all four sides, the New York panel is on the whole in a fairly good state of preservation. The upper portion, however, is badly damaged and has been heavily restored, with the stars and loose bits of sky sewn to a fabric backing. The remainder of the tapestry has been resewn in relatively few places where threads were coming unwoven. These restorations are apparent to the naked eye.

The tiny slits in the weaving above and below each

\textsuperscript{42} Ibid., II, p. 539.
\textsuperscript{43} The hanging is listed in cathedral inventories of the 16th century. Hubel follows Donald King in rejecting the earlier accepted attribution to a Regensburg atelier in favor of a Venetian workshop (Achim Hubel, Der Regensburger Domchatz [Munich, 1976] pp. 229–234).
\textsuperscript{44} Braun, Der christliche Altar, II, p. 539.
\textsuperscript{45} James H. Marrow, Passion Iconography in Northern European Art of the Later Middle Ages and Early Renaissance (Kortrijk, 1979) pp. 10–11, 13–19, 25; Gertrud Schiller, Iconographie der christlichen Kunst (Gütersloh, 1968) II, p. 164, figs. 624, 298.
\textsuperscript{46} On the late medieval evolution of the devotional image and the role of empathy, see Erwin Panofsky, “’Imago Pietatis,’ Ein Beitrag zur Typengeschichte des ‘Schmerzensmanns’ und der ‘Maria Mediatrix,’” in Festschrift für Max J. Friedländer zum 60. Geburtstage (Leipzig, 1927) pp. 261–287; Sixten Ringbom, Icon to Narrative: The Rise of the Dramatic Close-Up in Fifteenth Century Devotional Painting (Abo, 1965) pp. 11–22; and particularly, Robert Suckale, “Arma Christi; Überlegungen zur Zeichenhaftigkeit mittelalterlicher Andachtsbilder,” Stüdel-Jahrbuch, n.s. 6 (1977) pp. 175, 194. Suckale points out that a liturgical object of public worship could also serve as a private devotional image, particularly those Crucifixion images that constitute a virtual summary of the Passion, showing the Crown of Thorns, the five principal wounds, and the tormented, wound-covered body.
drop of blood on Christ's body may well have been an intentional use of technique to enhance the design. Similar small slits accent the pattern on the lining of the mantles of SS. Dorothy and Margaret. Another effective use of a slit in the weaving is around the neckline of St. Catherine's tunic, where it produces the impression of a crease or shadow.

The blue of the sky and the yellow used for the stars, halos, crowns, St. Catherine's palm, and parts of the robes of SS. Catherine and Margaret have faded unevenly. The cross was probably originally greener but has faded to its present blue-green color owing to the instability of the yellow dye. (It is interesting to note that the Constance Cathedral painting illustrated in Figure 7 features an olive-green cross against a blue background.)

The tunics of St. Catherine and the Virgin Mary, as well as St. John the Evangelist's mantle, are woven with a thread that is slightly coarser and creamier in hue than the other off-white parts of these figures and their garments. Nobuko Kajitani, Textile Conservator at the Metropolitan Museum, has pointed out to me that this creamy color sometimes results from the extreme fading of threads dyed with archil or brazilwood; the color obtained from these dyes is wine or brownish red, and at the lower edge of St. John's mantle a hint of reddish brown is visible. If the cream garments were indeed such a shade originally, the tapestry would have been much more colorful and the figure of the Virgin Mary in particular would have been more striking. Reds produced from other dyes remain relatively bright and unfaded, as in St. John's tunic and St. Margaret's mantle, both woven in two shades of red.

Parts of St. John's mantle, as well as St. Margaret's cross, are woven in an extremely pale blue, scarcely visible except under strong light. Without an examination of the reverse side of the tapestry or a chemical analysis of the threads it is impossible to know to what extent the cream and pale blue areas have faded.

The four stars to the right of St. Margaret's head were painted onto the fabric where none existed before; this may have been done at the time the tapestry was divided, in order to "complete" the picture. Their color is now a pasty gray.

The Nuremberg panels are in a worse state of preservation than the central portion. Since the photograph reproduced in Figure 3 was made, the accumulation of dust on the surface has obscured some of the finer features of the tapestry, which is so fragile that cleaning is not desirable. Because of its deteriorated condition the tapestry is no longer displayed in the Germanisches Nationalmuseum.

Restored areas are badly discolored and jarring. Leonie von Wilckens, Textile Curator of the museum, believes that these restorations had already been made when the tapestry entered the museum sometime between 1852 and 1856. Across the top of the tapestry the sky has been re-woven with a thread which has faded to a paler blue, while many of the stars were re-woven in part with a thread now off-white. Between SS. Agnes and Dorothy, where the two panels are sewn together, runs a strip which is entirely re-woven with a thread now faded to pale blue. The stars in this strip are white. Part of Dorothy's right arm has also been re-woven. All the figures have undergone some degree of restoration with threads which are now either white or mustard-yellow. The figure of St. Clare, for example, has a white patch on her halo and large mustard-colored patches on her dark blue veil and blue-green palm branch.

The features of the figures have deteriorated further than those in the New York panel. St. John the Baptist's beard, which looks so odd in photographic reproduction, appears more natural in reality; it is accented along the jawline and around the mouth by alternating strands of off-white and light brown.

As with the off-white or cream-colored robes of several figures in the New York panel, those of John the Baptist and Paul were woven with a slightly coarser thread than their skin. The fabric backing of the tapestry is not attached along its lower border, so that it is possible to see part of the reverse side. St. John's garment has a slightly red cast on the reverse, indicating again that some of the off-white areas may have been woven with threads dyed with brazilwood or some other equally unstable dye. A gray-lavender ply of gray, pink, and blue-gray strands was used for the lower parts of the mantles of SS. Clare and Paul. On the reverse side these areas are a deeper shade of purple, while St. Clare's mantle is brown rather than pale tan as on the front of the tapestry.

A curious feature is the use of a different color—a shade of brown instead of the dark blue used elsewhere in the New York—Nuremberg tapestry—to outline the figure of St. Paul, St. Peter's left arm and hand, and the left portion of St. Peter's halo.
Antico and the Development of Bronze Casting in Italy at the End of the Quattrocento

RICHARD E. STONE
Associate Conservator, Department of Objects Conservation, The Metropolitan Museum of Art

Pier Jacopo Alari-Bonacolsi of Mantua, called Antico (ca. 1460–1528), spent a lifetime in the service of the Gonzagas as a goldsmith as well as a sculptor of elegant bronze reductions of the marble statuary of the Hellenized Roman world then being unearthed in Italy. He was among the strictest of the classicizing artists of the late quattrocento, continuing the uniquely archaeological tradition founded in Mantua by Mantegna, and was one of the Italian sculptors responsible for the popularity of the small bronze as a tangible expression of antique forms and ideals.1

Antico was perhaps the first sculptor to realize the advantages of being able to cast identical replicas of his small bronzes and thus occupies a special position in the development of Italian sculpture. This study will be devoted to an elucidation of his technique, based on the close study—including radiography—of a few, choice examples of his work and an examination of contemporary knowledge and practice. “Technique” in this case is intended in the strict sense of technological expertise and skill in execution rather than accuracy in modeling and sculptural fluency. Antico was a sculptor of genuine intelligence and taste, but he will be considered here largely in the light of those tasks that he could safely delegate to others without compromising his artistic vision.

The casting of small bronzes as distinct from monumental works poses certain specific problems and opportunities unique to the genre. To understand the context in which the technology of the small bronze evolved, however, it is necessary to review the history of quattrocento bronze casting as a whole.

The recently discovered Madrid Codices of Leonardo contain our only extensive source of knowledge of casting in Italy during the quattrocento.2 Madrid Codex II consists, in part, of Leonardo’s random jottings on the technical problems of casting the great equestrian monument to Francesco Sforza, a project that involved some seventy tons of bronze. It is fairly obvious from the text that Leonardo had still not solved these problems when Lodovico Sforza’s political misfortunes consigned the project to limbo in 1499.

The equestrian monument, certainly the bronze caster’s greatest challenge, is so difficult and singular a genre that it is amazing that any examples were successfully executed during the quattrocento. The fact that the Gattamelata and the Colleoni were cast is

itself extraordinary; more extraordinary still is that virtually not a line of technical investigation into their casting has been published. Despite the peculiar and specialized nature of the material contained in Leonardo's notebook, it is still invaluable for the insights it gives into what must have been the most advanced technical practice known to a Florentine working in Milan in the 1490s.

Other than the Madrid Codex II, there is no important primary source concerning casting technique surviving from fifteenth-century Italy, that is, between Cennini's Libro dell'arte of the late fourteenth century and the De sculptura of Pomponius Gauricus of 1504. While both works afford valuable evidence, Cennini was a painter and Gauricus a humanist and amateur rather than a practicing artist. Furthermore, while Cennini seems to have a direct and practical knowledge of the methods of casting he chooses to discuss, Gauricus does not. In Gauricus, we have what may well be described as the "Plinian" turn of mind, not only because Gauricus is frequently dependent on the Roman author for his information, but also because, like Pliny the Elder, he would rather resort to his own library for information than to the actual workshop next door. Whatever Gauricus says about contemporary practice is usually contaminated with classical precedents, even to the pretentious title of his section "Chemike." Despite its importance, Gauricus's theoretical treatise on sculpture—the first surviving from the Renaissance with the exception of Alberti's opusculum Della statua—must always be used with circumspection.

Of greater practical interest is Biringuccio's exhaustive Pirotechnia, published posthumously in 1540 but certainly written no earlier than 1530. Here we have a treasure trove of information from someone obviously well-practiced in his craft and writing about a lifetime of experience in what would now be called metallurgical engineering. Biringuccio is only incidentally concerned with artistic casting, but whatever he tells us seems to represent contemporary practice. Unfortunately for our purposes, he seldom bothers to explain what is old—that is, quattrocento practice—but rather revels in the latest novelties. Nevertheless, he seems to mention virtually every technique he has ever known of, even if occasionally in a somewhat elliptical and parenthetical fashion, and his work is consequently of the highest importance.

The next two authors—Cellini and Vasari—are better known. Cellini's sober Trattati and, to a lesser extent, his autobiography, are the only extensive sources written by a practicing Renaissance sculptor in bronze, and an important one at that. Although not a sculptor, Vasari, as was his fashion, made himself quite well informed about bronze casting for the technical introduction of his Vite. This should not surprise us, since he certainly supervised carvers in his capacity as an architect and modelers in his involvement with projects of interior and festal decorations. With Cellini and Vasari we have advanced far into the sixteenth century, but not so far as to be within the influence of Giambologna and his circle, who appear to have begun the regular production of small replica bronzes in Florence. Both Cellini and Vasari represent the culmination of local Florentine practice, tenacious and conservative and, with the exception of Cellini's experience in France, totally Tuscan.

In fact, apart from Gauricus in Padua, who was not even a professional artist much less a bronze caster, all the authors mentioned were Tuscan, and all save the Sienese Biringuccio were Florentines. Thus there is a Florentine-Tuscan bias built into the nature of the surviving technical literature comparable in some ways to that of Vasari's Vite as the major source for so much

7. Vannoccio Biringuccio, De la pirotechnia (Venice, 1540); also The Pirotechnia of Vannoccio Biringuccio, trans. C. Stanley Smith and M. Teach Gnudi (1942; reprint, New York, 1959). As the translation is one of the masterpieces of the technical literature and the original edition is difficult of access, all citations will be to the translation. Biringuccio died before Apr. 30, 1539, and the Pirotechnia was certainly composed toward the end of his career (for this see Pirotechnia, pp. ix–x).
8. Cellini's Trattati were not published in their original form until the Milanese edition of 1587 (the "edition" of 1568 was actually a humanist reduction by Gherardo Spinii). The Rizzoli edition containing both the Trattati and the Vita is the most convenient: Benvenuto Cellini, Opere, ed. Bruno Maier (Milan, 1968).
9. The sections on the technique of sculpture are virtually identical in both the 1550 and 1568 editions of Vasari's Vite.
of Italian art history. This bias will prove as significant for our knowledge of the history of techniques as for that of the history of styles.

The technical study of bronze casting in the Renaissance is as yet in its infancy, and considerable confusion is generated by what at best can be described as inconsistent terminology. Certain arbitrary definitions are therefore in order.

The original figure prepared by the sculptor directly for casting, whether modeled in wax or plaster or carved in wood, is referred to here simply as the model. If the model is necessarily destroyed in the course of being transformed into bronze, the bronze so produced will be described as directly cast; if the model is preserved, substantially undamaged, the bronze will be indirectly cast. Neither term implies that the sculptor who prepared the model necessarily cast the bronze himself, although in both cases he may have.

Indirect casting makes it possible to create multiple casts from the same model. These casts will be substantially identical in both form and size except for differences in chaging and finishing subsequent to casting. Such similar casts from the same model are here called replicas. They bear the same relationship to their common model as do the various printed impressions of an engraving to the same copper plate. As with the engraving, where inking, press work, and inevitable wear may affect the quality of the impression, so may the quality of bronze replicas vary, as well as their finishing after casting.

The replica has to be distinguished from two other states: the variant and the aftercast. A variant is a bronze similar to another but cast from an independently fashioned model. No two directly cast bronzes can be replicas, since by definition the model is destroyed in direct casting. A variant may range from a second essay by the same sculptor to a carefully fashioned fake by an alien hand; in either case new models have to be prepared. With an aftercast there is no new model. An already extant bronze is used as a model for a necessarily indirect cast. Notice that an aftercast is always an indirect cast, while two directly cast bronzes can only be variants.

Shrinkage is an important distinguishing feature between the aftercast and the replica. A casting is always smaller than its model. After the molten metal is poured into the mold and the metal solidifies, it is still red-hot. As it cools to room temperature it contracts and shrinks away from the walls of the mold. Even if the mold cavity is precisely the same size as the model, the casting is inevitably smaller. This shrinkage averages about 1 1/2 percent of the linear dimensions of the model for most of the common alloys of copper. As a practical matter the observed shrinkage is frequently greater, especially if an inter-model (to be explained below) was used to produce an indirect cast. The inter-model produced by casting in wax also shrinks and consequently with an indirect cast the overall shrinkage between the original model and final bronze is found to be more like 5 percent. As an aftercast is always an indirect cast after an extant bronze (the model in this case), the aftercast will always be about 5 percent smaller than the original.

As with all definitions, there are gray areas. A model may be changed between two casts which otherwise be exact replicas. In Antico's work such changes are usually quite slight. This is not necessarily the case; experiments with interchangeable heads, limbs, and attributes in the original models have produced the phenomenon of groups of replicas with interchanged parts. The problem also exists of similar bronzes which, while cast indirectly from a common model, are cast so ineptly as to appear to be variants rather than replicas or, even more confusing, interchanged replicas slovenly cast. There is a very important class of what may be called near-replicas produced at the time when the knowledge of expert indirect casting had not yet been diffused through all of Italy. These near-replica bronzes will be described when we examine the work of Riccio and his circle.

There remains one other class of bronze to be discussed. In every Renaissance sculptor's studio (and probably in many painters' as well) there were little wax bozzetti of various degrees of finish which were essentially study pieces and were never intended to be cast. Wax being so fragile a material, virtually no bozzetti have come down to us intact. As long as they remained part of the studio properties, they would be saved or discarded as convenience dictated. There is, however, a small but extremely interesting class of

10. I have tried to follow contemporary technical usage whenever appropriate. Unfortunately modern usage is sometimes as inconsistent as that in the Renaissance.

11. A linear contraction of 1 1/2 percent is equivalent to 5/6 in. per foot. For shrinkage allowances for various metals and alloys, see American Society for Metals, Metals Handbook (Metals Park, Ohio, 1970) V, pp. 164, 425.
bronzes which represent the urge, probably on the part of collectors, to preserve permanently these orphans of the atelier. Of course, such waxes may be indirectly cast and reproduced ad infinitum, as in the case of the Degas bronzes of modern times. Not infrequently, however, they are direct casts and consequently unique. These relict casts, as they may be termed, present some of the most thorny problems of connoisseurship. Since a wax would have to be fairly battered to provoke so drastic a method of preservation as direct casting, a relict cast may at first create a very unfavorable impression. Yet such a cast, in its better-preserved portions, can give us a notion of the sculptor’s least premeditated style. The problems lie in identifying a genuine relict cast from mere variants by other hands, since by definition a relict cast was never, as it were, intended for publication. Thus, for one reason or another, it does not necessarily conform to the sculptor’s own criteria of quality, nor does it usually represent his standard casting technique. The relict cast is to be clearly distinguished from the “trial cast,” an erroneous and profoundly misleading expression. There are successful casts and unsuccessful casts, and unsuccessful casts repaired more or less successfully, or casts partially repaired and then abandoned. But as to casts for the sake of mere practice (like a warm-up before a sporting event), there seems to be no evidence for their existence.

The sculptor wishing to cast a small, solid statue in bronze must, because of the problem of shrinkage mentioned above, start with a model which is slightly larger than the statue he wishes to arrive at. His simplest approach is to make a model in beeswax, a very sympathetic, plastic, and universally available medium. To the finished model he must attach a wax rod at some convenient point; this will form the channel, or sprue, through which the molten metal will be introduced into the mold. The wax model must now be invested, that is, covered with some refractory mixture which will harden to form the shell of the mold. The most common investment, although not the only one, is clay. Again, universally available and literally dirt-cheap, it can be worked up with water, applied to the wax model as a paste, and allowed to dry. Only the end of the wax sprue is left exposed.

When the clay mold has dried and hardened, it must be fired. Firing accomplishes two things: first, it melts away, then burns out all of the wax model inside the mold; second, it further dries and hardens the clay shell. After firing, the wax model has been totally destroyed, hence the universally used and evocative expression, the lost wax technique, or cire perdue. According to the terminology preferred here, the process is “direct casting from a wax model.”

The mold now needs only to be placed with the sprue end up and filled with molten bronze. When the bronze has cooled and congealed, the clay investment is broken away exposing the bronze statue inside, nominally identical in form to the original model, except for the protruding sprue which can be sawed or filed away.

The method sounds simple and up to a point it is. It has been routinely used for casting copper, gold, and silver, and their alloys in virtually every culture that has cast metals. It is capable of exquisite delicacy even in cultures technically less advanced than that of fifteenth-century Italy. As has been shown by radiography, the Pollaiuolo Hercules in the Frick Collection was cast by this method, likewise the St. John the Baptist by Francesco da Sangallo in the same museum (Figures 1, 2). Both these statuettes are quite heavy, especially the Baptist, as they are solid casts. Solid casts, however, are costly, wasteful, and even technically unsound.

The preferred method is to cast a bronze hollow, the surface of which is then coated with a thick layer of paint—just conceivably a relict cast of the original model for the Vienna example. No decision can be made before the bronze is cleaned.

A possible example is a version of Antico’s Venus Felix in the Victoria and Albert Museum, which while battered and unattractive in its present condition—it is coated with a thick layer of green paint—is just conceivably a relict cast of the original model for the Vienna example. No decision can be made before the bronze is cleaned.

The version of Antico’s Venus Felix in the Capodimonte Museum has been called a trial cast. It is a weak variant by an unskilled hand. The notion of trial casts also implies that bronzes can be cast in permanent, reusable molds—like waffles! Neither Renaissance bronzes nor modern ones have ever been so cast.

A complex terminology has evolved in the casting industry to describe the entries and exits of a mold. Unfortunately the terminology is more or less standardized only for modern “green-sand” casting. This article uses the term “sprue” indifferently for the channel into the mold, for the projecting rod of metal formed in the channel by casting, as well as for the rod of wax joined to the model to produce the channel into the mold. (In this last case, stricter usage demands “sprue-former.”) Modern users of wax models for casting seldom distinguish between these meanings, yet no ambiguity arises. One must, however, remember that in practice the passages into a mold were by necessity rather more complicated than the description of a single sprue implies.

One conspicuous exception to this is China of the Shang and Zhou periods when bronze vessels were cast directly into piece-molds without using wax models.

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that is, with a core, making it less likely to be porous. The reason is that a bronze cast with a core needs less molten metal introduced into the mold. As the gas producing porosity is evolved from the metal during cooling, the smaller the quantity of metal the less the porosity and the sounder the bronze.

There is a simple method of casting a figure hollow, which is almost as great in its antiquity as the basic process of direct casting itself. The wax model is fashioned around a preformed core of dried clay. This core can vary from a crude lump whose only function is to displace metal to a quite accurately reduced and simplified version of the model. When the wax is modeled around the core to the desired thickness, it must be skewered through to the core with pins called chaplets. Then the wax must be invested and fired, and the metal poured as before. The purpose of the chaplets is to prevent the core from floating in the molten metal in the mold; they act as spacers between the core and the outer envelope of investment. According to our terminology, this process is described as “direct casting from a wax model with a preformed core.”


16. In modern usage, “chaplet” is more generally used to indicate a refractory spacing block between the core and the walls of the mold rather than a pin serving the same function; the term is capable of extension. As bronze is about eight times heavier than water, considerable force is exerted on the core by reason of its buoyancy in the liquid metal. The chaplets must be capable of resisting this force even at the temperature of molten bronze.
The main disadvantage of direct casting with a preformed core is the loss of the model; but there is another drawback. One of the functions of the core is to lighten the casting. If the sculpture is not very large, the core can be quite simple, just a roughly formed torso. For a sculpture of any size the core must extend into the extremities if the bronze is to be light enough to be picked up and examined. This immediately puts constraints on the sculptor, since the position of the extremities must be fixed from the very beginning and the spontaneity of direct casting from a wax model is totally lost.

Sometimes a Renaissance sculptor showed sudden technical inspiration. The *Surprised Youth* in the Frick Collection (Figure 3), possibly an early work of Riccio, has been done with a certain naive ingenuity. The figure was apparently modeled in wax, then cut in two at the waist and the superfluous wax excavated from the chest. The scooping tool marks are clearly visible in the radiographs, especially in the shoulders (Fig-

3. Andrea Briosco called Riccio (?) (d. 1532), *Surprised Youth*. Bronze, H. 33.6 cm. New York, The Frick Collection (photo: The Frick Collection)

4. Riccio (?), *Surprised Youth* (radiograph: Stone)

5. Bertoldo di Giovanni (d. 1491) and Adriano Fiorentino (d. ca. 1499), Bellerophon and Pegasus. Bronze, H. 32.5 cm. Vienna, Kunsthistorisches Museum (photo: Kunsthistorisches Museum)

The now-hollow chest was then filled with a refractory and allowed to dry, after which the two halves of the model were rejoined with a few drops of molten wax and the join smoothed over. Obviously unsuitable for a figure of any size or complexity, this is the typical and traditional method of hollowing leather-hard terracotta figures before their final drying and firing, a point that underscores the bronze's connection with Padua and that city's strong terracotta tradition.

In view of the loss of spontaneity involved in preforming a complicated core, it is not surprising to find that most fifteenth-century Florentine small bronzes were fashioned without cores. The author has examined only one exception, the Bellerophon and Pegasus of Bertoldo and Adriano Fiorentino in Vienna (Figure 5), where there is the impression left by a small preformed core in the belly of Pegasus visible through the hole in the belly used to evacuate the core material. Visual inspection and probing with a fine wire revealed that the hollow did not extend into the figure of Bellerophon.

The Bellerophon and Pegasus, even with its minuscule core, is extremely heavy, too heavy to lift with ease. The aesthetic of lifting and fondling bronzes had not yet entered the Florence of Bertoldo and Adriano.

There is more to be said of quattrocento Florentine casting. Foremost is its lack of technical expertise, combined with its tenacious conservatism. Let us consider a radiographed example: the Pollaiuolo Hercules in the Frick Collection.18 Internally the bronze is flawed with enormous bubbles trapped in the metal; the exterior surface is likewise rough and slagged. No doubt the artist originally intended to bring it to a state of finish comparable to his Hercules and Antaeus

the frustrations of this task that left so many Florentine bronzes surviving in a partially finished state. The sculptors were caught between an inadequate technique and the incompatible demands of an aesthetic that called for both artistic spontaneity and high surface finish.

It is only a slight exaggeration to say that Florentine bronzes were carved rather than cast. Beginning with Ghiberti’s Baptistry doors (the chasing of which required an inordinate length of time) and extending even into the sixteenth century with Francesco da Sangallo’s St. John the Baptist, Florentine bronzes were directly cast with a primitive technique, then filed, chiseled, and burnished into perfection. Direct casting was so universally practiced that it is doubtful if there was a bronze cast in replica in Florence before the arrival of Giambologna.20

What were the possibilities besides direct casting? All forms of indirect casting depend on the ability to make a piece-mold. There was no novelty in this since Cennino Cennini gave an adequate description of the technique in his Libro dell’arte, in which he suggested a life-mold of an entire human being be made from plaster of paris.21 Plaster of paris is in many ways an ideal molding material. When mixed with water, it sets rapidly by means of a chemical reaction, which means that it need not be dried or fired to have considerable mechanical strength; at the same time, because it expands very slightly in setting, it is capable of registering the finest detail. Plaster has one great drawback, its rigidity. It cannot be flexed in order to remove it from a rigid three-dimensional form. Hence the necessity for piece-molding.

In piece-molding, the model must first be divided conceptually into sections, chosen so that there is no projection that may interlock with the plaster when

19. It is difficult to say whether the gaping flaw on the side of the chest of the Bertoldo Apollo is a displaced core or simply an area of very coarse porosity. The Bertoldo Heraldic Wild Man in the Frick is solid cast, as was shown by radiography. For the Wild Man, see Pope-Hennessy, Frick Collection, pp. 37–42.

20. Even the figures from the base of Cellini’s Perseus appear to be direct solid casting. For illustrations of the back of the Mercury from the Perseus base, see Charles Davis, “Benvenuto Cellini and the Scuola Fiorentina,” North Carolina Museum of Art Bulletin 13, no. 4 (1976) p. 15, figs. 13a,b. One can see the mounting socket let into almost the full thickness of the solid bronze torso. The Mercury is, of course, enormously heavy.

the mold is removed from the model. Then, section by section, the model is enveloped in plaster, each section separated by metal shims (as Cennini suggests) or by little dams of clay. To ensure that the sections once removed from the model can be reassembled in proper registration, they are either notched into one another, or small eyelets or hooks that may all be tied together are imbedded in the plaster. When the piece-mold has been completed, it is customarily greased and another shell of plaster is cast around it. This mold is a much simpler one, frequently just two halves; it greatly assists in reassembling the inner sectional mold once the latter has been removed from the model.

The piece-mold is an exact negative, or matrix, of the original except for the inevitable sutures between the various sections. It is evident that an object with complex surface textures or complicated postures will necessitate an enormous number of sections to accommodate the model. If the model is small, some sections of the piece-mold will be so tiny as to be impracticable.

A flexible molding material solves many difficulties but none was available in the fifteenth century. Biringuccio mentions molds in glue, wax, even papier-mâché, but all in rather specialized contexts. Glue was eventually to become the favored material, as a strong solution of glue is fluid when hot, yet sets to a firm but reasonably flexible gel when cool. There is no evidence that it was in common use for molding statues in the round before the time of Giambologna, if then. There is, in fact, considerable evidence to the contrary.

It is, of course, possible to cast metal directly into a piece-mold, but this was virtually never done. Leonardo toyed with the idea for the Sforza Horse but he had already realized the major drawback. Under the pressure of the molten metal every one of the seams in the piece-mold would leak. When the metal had hardened and the mold was broken away, every leakage would be a projecting fin, or flash, of metal, to be laboriously filed away. The problem would be especially acute for small bronzes since the fins would be so close together as to make finishing—without mar-ring the rest of the surface—very tedious.

It is obviously easier to finish wax than metal. Why not cast wax into the piece-mold, instead of metal, producing a replica in wax of the original model? By and large this was the procedure followed in indirect casting, to cast an inter-model in wax which could then be carefully finished and invested to produce the final cast in metal.

One problem remains unexplained—how to produce a suitable core for the inter-model. There are two difficulties to be overcome: first, to make a core uniformly smaller than the inter-model, that is, to control the thickness of the walls of the metal cast; second, to fix the core within the mold so that when the wax is burnt out and the molten metal poured in, the core will not shift or float.

By the end of the fifteenth century, several different methods for producing cored, indirect casts of varying degrees of fidelity to the original model had been developed. All of these methods were confined to north Italian sculptors. When the major center of production of small bronzes moved from Tuscany to

22. In making a life mask Cennini does not piece the mold. A human face is sufficiently pliable to permit a rigid plaster mask to be removed without too much difficulty.

23. This latter method using cords and eyelets is described by Cellini in the Trattati (Cellini, Opere, pp. 796–797).

24. Biringuccio discusses molding using glue and wax essentially in the context of high relief, not for sculpture in the round.

Wax may be used to mold from even wax models if one is sufficiently dexterous. The wax model is coated with honey-water as a release agent, then subsequently coated with molten wax to form a shell. The temperature of the molten wax must be just right or disaster ensues. The wax shell may be dissected away or threads may be laid on the model with honey-water which will cut the shell apart when the ends of the threads are pulled taut (Biringuccio, Pirotechnia, pp. 131, 132). Antico may have been aware of the wax-on-wax technique, but it must be remembered that his method would demand the cire mouillage conjuring trick to be done twice to produce positive wax shells from his wax models.

25. Biringuccio saw Giambattista Pelori using papier-mâché to mold ancient sculpture for reproductive plaster casts (Biringuccio, Pirotechnia, p. 332). This method would obviously not be very suitable for small-scale work.

26. Though Biringuccio recognizes glue as a flexible molding material, his lack of any directions to add a plasticizer shows the limits of his expertise. The only one available to him would have been honey. In the 19th century glycerin was introduced with much better results. The glue–glycerin mixture was subsequently replaced with mixtures based on agar-agar which melt at lower temperatures and therefore with less danger to the model.

27. For Leonardo planning to cast the Sforza Horse directly into a piece-mold, see Bruno Bearzi, "Leonardo da Vinci ed il monumento equestre allo Sforza," Commentari, n.s. 21 (Jan.–June 1970) pp. 61–65.

28. The inter-model is also known as a "counter-model," but this term suggests that it is the negative of the model.
northern Italy, there seemed to be an advanced technology ready and waiting for the new artistic genre.

In April 1519 Antico wrote the following letter to Isabella d'Este:29

Illustrious Lady: A few days ago your Ladyship asked me if some of the antiquities had been found which at another time I made for the bishop [Lodovico Gonzaga, bishop elect of Mantua]. I looked for and found the nude that kneels on a tortoise (the one that was stolen from your Ladyship), also the satyr that caresses her, that beautiful thing—a girdle of leaves can be made to clothe him for the sake of modesty. I have also found the model of the Hercules who is killing Antaeus, which was the most beautiful antiquity among them all; also the horse of St. John in the Lateran, that is [Marcus] Aurelius Antoninus—about eight works from among the best.

I have again spoken with the master who worked for the bishop and he says that given the finished wax(es) he can make the figures half a braccio tall for twenty-five ducats a piece (which would be a great bargain), that is to say, the Hercules valued with the Antaeus for fifty ducats and the kneeling nude for not less than twenty-five—in which case you would have it for less than half the [original] cost.

I would give you these things for the love of your Ladyship, freely, if only to be called upon when your Ladyship should wish to adorn some place with any sort of bronze bust, as I now have a way of having them made which will make them even more beautiful than those busts which were made for the bishop.

However, said Master Johan told me he would be willing to work by the month as he used to for the bishop—at six ducats a month, plus board for three people—and in this way he would be willing to deliver the figures cast in metal. That way, your Ladyship willing, we would be able to make them for no more than twelve and a half ducats a piece; this would be twice as good for you.

I hope your Ladyship is not displeased with this answer.

April 1519

It is obvious from the letter that Antico is offering to Isabella replicas of the bronzes that he had made at least nine years earlier for Lodovico Gonzaga. Although Isabella seems to have at first refused the sculptor’s offer, she eventually must have changed her mind since the Hercules and Antaeus now in Vienna (Figure 7) bears her abbreviated name and title on the underside of the base.30

The letter also makes it clear, from the reference to “Master Johan,” that Antico routinely had bronzes cast from his models by others. We do not know whether casting also implied finishing and chasing, or, indeed, whether Antico always used the services of a caster. What is certain is that Antico had mastered the technique of indirect casting, that he kept his original wax models intact, and that he could produce replicas from them at will, as he did for Isabella d’Este.

Despite the existence of this letter we know very little from the documentary sources about Antico’s methods of indirect casting. From an earlier letter to Isabella d’Este dated 1504, concerning the still unfinished model for a gold St. John,31 he seems to have modeled in wax, apparently over an armature of iron

29. Umberto Rossi, “I medagliasti del rinascimento alla corte di Mantova: Pier Jacopo Alari-Bonacolsi detto l’Antico,” Rivista italiana di numismatica 1 (1888) pp. 190–191. Antico to Isabella d’Este: “Illu. Signora.—I di pasati vostra signoria mi dimandò se el si trovava de quelle antichità che altra volta fece per il vescho: o cercho et trovato la nuta che inochenata in su la bise schudelara, quella che fu robata a vostra signoria, ancor el satiro che la charezza, che bella cosa, il se pria farli la bracha de fogli per honestade, ancora io ho trovata la forma de l’Ercule che amaza Anteo, che la più bella antiquità che li fusse, anchora il chalko de Santo Iani Laterano, zoè Auellio Antonino, circha oto cose de le migliore. Ancora io ho parlato come il maestro che laurava al veschovo, et dice dagandoli de cera ne-tizate, chel faria per vintincine ducati il paro dele figure di longeza di mezo brazo, dove seria grandissimo mercato, che l’Ercule val cum l’Anteo duchati cinquantà, la nuda inenochiata non val manco de vintincine, dove se aria per la mità mancho de la valuta. Io li daria li chose per amor de la signiora vostra volontera per eservi obligato ancora quando vostra signoria volesse adornar qualche loco de alcunch testa de bronze, io ho il modo et farne fare che sera più belle che non è quelle del vescho. Il dit maestro Johan ma ha dito chel staria al modo et lavoreria a mese chome faceva col veschovo, a sei ducati il mese et le spese per bochì tre et voria li dèse le figure zetate di metalo, dove volendo vostra signoria chel lavora il faremo lavoro a dodese duchati e mese dil p. . . . perche sel starà el dop-mio meglio. Prego la signoria V. non li dispiatìa la resposta; de aprilio 1519.” (Translations of Antico’s letters by the author.)

30. Hermann, “Antico,” pp. 239, 240, fig. 15. Hermann describes the inscription as engraviert, which is certainly not true if by engraviert he means cut into the metal with a burin. As is clear even from Hermann’s reproduction, the inscription was written in the wax with a pointed instrument before the bronze was cast, proving that the Hercules and Antaeus was made expressly for Isabella.

wire. The principal evidence for his casting technique is supplied by the works themselves.

The author has been fortunate in having three bronzes by Antico available to him for extended technical study: the Paris in The Metropolitan Museum of Art; the Standing Hercules in the Frick Collection; and the Spinario in the collection of Mr. and Mrs. Charles Wrightsman (Figures 8–12). From these, as well as those radiographed in the Victoria and Albert Museum (the Hercules and Antaeus; the Atropos; and the Meleager, Figures 13–18), it has been possible to reconstruct Antico's working technique in considerable detail, with results borne out by what can be learned from the direct examination of the rest of Antico's work. A preliminary synopsis of these conclusions may make the technical details easier to follow.

As we have said, Antico modeled in wax on a wire armature. His models were prepared in the knowledge that they were to be indirectly cast, hence they were finished to a considerable degree. A piece-mold in plaster of paris was then made from the wax model. Once the piece-mold was disassembled from the model, the latter could be put aside. The piece-mold was then reassembled, but in sections, not completely. In general there were five sections of partially reassembled piece-mold: the main section, consisting of the head and torso, plus four for the limbs.

Hardened plaster of paris has a convenient property. While it is not easily soluble in water, it readily absorbs it, creating a surface to which molten wax will not adhere. Thus, wax objects can conveniently be cast in wet plaster molds. So much was known to Pomponius Gauricus, who recommended the method for casting hollow wax figures. If the limbs of the statue were to be cast solid, Antico (or his assistant) took the piece-mold sections for the limbs, thoroughly wet them, then promptly filled them with molten wax. When the wax had chilled through and hardened, the piece-molds could be easily disassembled, leaving wax replicas of the original model of the limbs. These replicas would, of course, still be marred by the projecting fins from the seams of the mold.

Next would come the casting of the head and torso in wax. These were always cast hollow by means of a very simple trick. The head-and-torso section of the piece-mold, like the others, would be wetted and filled with molten wax. This time, instead of being allowed to congeal through and through, the wax would be

7. Pier Jacopo Alari-Bonacolsi called Antico (ca. 1460–1528), Hercules and Antaeus. Bronze, H. 43.4 cm. overall, figures 39.7 cm. Vienna, Kunsthistorisches Museum (photo: Kunsthistorisches Museum)
left in the mold only long enough for a relatively thin skin to form against the surface of the mold. When Antico judged that this skin was sufficiently thick, he simply poured out the surplus wax. He now had a plaster piece-mold lined with a thin shell of wax into which he poured the investment to form the core: fresh, liquid plaster of paris mixed with fine sand. When the plaster had hardened, the piece-mold for the torso was disassembled, leaving the finished wax head-and-torso with its cast core already in place.

The inter-model could now be assembled. The wax limbs, already cast, could be heated at their points of attachment and fused to the torso at the hips and shoulders.

It was at this stage that the inter-model would be prepared for casting, or fettled. All the seams left from the piece-mold could be easily smoothed away, as well as any roughness left from the joining of the limbs to the torso. With the original model as a guide, any imperfections in the wax could be touched up, or small additions—such as attributes or changes in decorative details—made.

The next step was to insert the chaplets. Antico used drawn iron wire about a millimeter in diameter which he simply pushed through the wax shell, like a pin, until it struck the plaster core.33 He usually chose

33. The maximum diameter of the wires is about 1 mm.; they are frequently smaller. When visible on the surface they are always quite accurately round in section.


9. Antico, Paris (radiograph: Stone)


FACING PAGE, TOP:


FACING PAGE, BOTTOM:


convex surfaces in which to insert these chaplets, making it easier finally to trim them back to the bronze.

The inter-model, looking now like a pincushion with its protruding wire chaplets, was next provided with rods of wax to form the sprues. There had to be several, to provide entrance for the molten bronze into the mold and egress for the trapped, heated air.

The inter-model, equipped now with both sprue-formers and chaplets, was then invested. There is no reason to doubt that Antico used the same investment for the exterior mold as he used for the core: plaster of paris mixed with sand. From here on the casting procedure followed the standard course: the wax was fired out and the now-hollow mold was filled with molten bronze. When the metal had cooled, Antico broke away the exterior mold and began the chasing of the bronze. He seems to have made no effort to remove the core, unless it was readily accessible, as in the open-based Wrightsman Spinario. This indifference seems not to have been shared by Antico’s contemporaries, such as Severo da Ravenna or the Paduan founders, who apparently went to great lengths in order to remove as much core material as feasible, even if this meant cutting a port in the walls of the bronze to do so.

Any bronze, no matter how carefully cast, requires at least a minimum of cleaning and chasing. When broken out of the mold, it is inevitably covered with black copper oxides which must be removed, generally by pickling, that is, soaking in dilute acid, or by scraping. The sprues and chaplets must be sawed and filed away. Then the surface of the bronze must be polished with the use of abrasives or by scraping and burnishing. Antico seems to have preferred the second method. Wherever the patination has worn thin on one of his bronzes, one can see, especially in raking light, fine parallel striations of a type produced by a polished steel burnisher.

Antico made good use of his intact cores when dealing with the disfiguring areas of porosity or even gross flaws that are inevitable in casting bronze. The damaged metal was cut away and the core within excavated, generally quite extensively, undercutting the sound bronze walls to key in the patch. Into this excavation fresh molten bronze was poured until it filled the hole in the core as well as the hole in the wall of the bronze. After the cast-in patch had cooled, the superfluos metal could be filed back to the original surface of the cast. When scraped and burnished these cast-in repairs are virtually invisible except in radiographs.34

On at least one occasion, Antico made a major repair by a similar method. The legs of the Metropolitan Museum Paris (which would be Antico’s largest statuette if it were a standing figure) are cast hollow. Apparently the right, extended foot was defective and was sawn off at the ankle. Returning to his original piece-mold Antico cast a new foot in wax. After excavating the core at the ankle some way up the calf he fixed the new wax foot to the bronze stump of the ankle. He then proceeded as usual, attaching a wax sprue, and investing the wax foot and the calf. After locally burning out the wax, he poured a new foot in bronze. The junction between the new foot and the calf at the ankle is now completely invisible and the repair was totally unsuspected until the Paris was radiographed. In the radiographs the plug of bronze extending into the calf is quite obvious, and even the

34. In both the Meleager and the Atropos, the amount of core excavated and filled with new bronze is much greater than the actual size of the flaw would lead one to expect was necessary. On neither of these two bronzes are the repairs visible to the naked eye. The Wrightsman Spinario has a large, relatively shallow cast-in repair on the back. The edges of the flaw are just visible in a good light.
seam between the new bronze and the old within the calf is visible (Figure 19). As the molten bronze of the repair cooled and contracted, it left a minute gap between the plug and the inner surface of the walls of the calf. This tiny gap is visible in the radiographs. Essentially, the new foot is fixed in place by a mechanical bond, the plug running into the calf, tapering outward from the ankle. This was an advantage to Antico; by not relying on actual fusion to hold his repair in place he could use the same alloy for the repair as in the original bronze. Hence the new foot would be identical in color with the old leg and the repair quite inconspicuous once the seam between the old and new had been burnished over. Antico seems to have relied very seldom, if ever, on soldering or brazing—that is, true fusion to the bronze—to effect repairs. The lighter-colored solder alloy would have been too conspicuous.

Of the bronzes studied in order to arrive at these conclusions about Antico’s casting technique, the Metropolitan Museum Paris was the most important for several reasons: first, it has been constantly available to the author; second, it seems to employ the entire repertory of Antico’s technical methods; third, it has been partially mutilated in a way that greatly aids its examination.

When the figure came to the Museum it was seated on a bronze stump which, as an obvious addition, was removed; it is now displayed seated on a wood plinth. In the entire Antico canon there survive only four seated figures: the Paris; the Spinario; the Satyr in Vienna; and the Rothschild Seated Woman, which is currently inaccessible. As Sir Francis Watson points out, the Spinario, seated on a tree stump, was never intended to have any further base as there are absolutely no signs of attachment. On the other hand, the Vienna Satyr was originally intended to sit on a stone plinth, since projecting down from the buttocks is a tapered bronze tang, notched along the side, which was clearly designed to be inserted into a hole drilled in a stone block and plastered in place; the notches were to key the tang into the plaster. When we examine the buttocks of the Paris (Figure 20), we find that they have been filed flat, partially revealing the interior, in a way that was certainly not Antico’s intention. Either the figure was originally seated on an integral bronze base like the Spinario, or it was tanged to be fitted to a stone plinth like the Satyr. In the for-

mer, where the boy’s buttocks join the tree stump, there is internally simply an unobstructed hole. With the Paris, however, there is still a septum of metal between the buttocks, as we would expect to find on the Satyr if we were to file off the tang and buttocks to make it sit flat on an unperforated base. This leads to the conclusion that the Paris was designed, like the Satyr, to be tanged into a stone plinth. It explains why the interior of the Paris is fully visible and the core almost totally removed. Thus, among all of Antico’s statuettes, only two, the largest and one of the smallest in scale, the Paris and the Spinario, have visible interiors.

37. The tang of the Satyr is rectangular in section and the notches, made with a saw, face the rear. The tang projects from the proper left buttock. While both buttocks are flattened, even deliberately filed, the core is nowhere exposed. The tang is certainly coeval with the bronze.
38. The interior of the Vienna Venus Felix would be visible if one could remove its almost certainly alien wooden base. The turned, black-lacquered base with inserted gilt-silver Roman coins is closer in taste to the Kunstkammer than to Mantua.

20. Antico, Paris, underside of buttocks (photo: Stone)


We have previously referred to Antico's method of producing hollow bronzes by making thin wax shells in wet plaster piece-molds. The technique of allowing a molten substance to harden against the walls of a cold mold, then pouring out the excess molten material to form a shell, goes by the rather inelegant name of slush-molding. It is still widely used to produce hollow trinkets—souvenirs of the Statue of Liberty and the like—in low-melting alloys of lead and tin. In a similar vein, the chocolate Santas and Easter bunnies that appear at their appropriate seasons are made by slush-molding chocolate in chilled metal molds. Inside these hollow confections is a feature that turns out to be rather significant, surprisingly enough, for our interpretation of Antico's working methods. Molten chocolate (especially that used for slush-molding) has properties rather similar to those of beeswax, for as it cools it gradually becomes more and more viscous until it finally solidifies. When the mold is inverted and the excess chocolate poured out, what still adheres to the mold is sufficiently fluid to drip and sag, until it too finally solidifies. The drip marks inside a chocolate bunny or Santa are usually quite conspicuous.

In fact, the same drip marks are visible in the X-rays of Antico's bronzes, normally in the shoulders, although they can be seen occasionally in any hollow member. They are fairly conspicuous in the shoulder of the Paris (Figure 21) and in the radiographs of the Frick Hercules (Figure 22). In the Paris, where they can be observed directly with the use of an endoscope, their waxy appearance is quite striking.

Further proof that Antico was using wax shells is provided by an incidental feature produced in the bronze when hollow limbs were attached to a hollow torso, as in the Paris. Imagine two hollow wax cylinders that are to be joined together. The ends of both cylinders are gently heated until they just begin to melt, then they are aligned and quickly pressed together while the wax is still molten. The excess wax will be extruded on both the outer and inner surfaces of the cylinders. The wax on the exterior can be pared away to produce an apparently seamless join, but this is unnecessary on the interior where the ring of extruded wax is allowed to remain. Inside the leg and thigh junctions of the Paris these rings of extruded wax, now preserved in the bronze, are visible directly as well as in the radiographs (Figure 23).

In the Victoria and Albert Hercules and Antaeus, all four legs are similarly joined, although the joins can be seen only in the X-rays (Figure 24). There is another feature in the X-rays to prove that the shells of the legs were cast separately from the torso. Apparently Antico decided to fill the shells of the legs with plaster cores before joining them. To strengthen the cores he inserted in each a longitudinal wire, probably of iron. These wires terminate abruptly at the thighs, just where the internal rings of wax appear.

Another curious set of features occurs in the radiographs of the Paris and the Hercules (Figures 25, 26). Through the walls of the bronze they appear as neatly circular opacities; when seen edge-on they are clearly hemispherical. These domes of metal projecting from the interior of the bronze look like air bubbles adhering to a surface, as indeed they once were. Inevitably, when the liquid plaster was poured into the wax shells, it would trap bubbles of air next to the wax. When the mold was fired and poured, the air bubbles in the core investment filled with molten bronze, producing the typical bubble marks in the X-rays. Actually, radiography shows clearly only the very largest of these marks. In the Wrightsman Spinario numerous small “bubbles” of bronze, all of which are too minute to be seen in the radiographs, are visible to the naked eye on the interior of the tree stump (Figure 27). Bubbles in liquids naturally tend to assume a spherical shape, hemispherical if attached to a surface; thus the “bubbles” visible on the inner surface of the bronze are evidence that the core investment was originally liquid.

Actual core substance has been recovered from the Paris, the Spinario, and the Frick Hercules. In all three cores, X-ray diffraction analysis unequivocally demonstrated that the core had been made from a mix-

39. They can be seen in radiographs of the Victoria and Albert Meleager dripping upward. Presuming that both legs were shells of wax opening at the top, one would expect them to drip "upward," i.e., when inverted and draining toward the openings at the thighs.

40. Not only limbs were joined in such a fashion. The head, neck, and part of the shoulders of the Victoria and Albert Atropos were formed as a separate little "bust" in wax, and were joined to the torso in the same manner. Despite what I have said previously about the inevitable shrinkage between a model and the bronze cast from it, notice how the nature of these joins in a wax inter-model can easily produce small discrepancies in height between otherwise identical bronze replicas of the same model.

ture of plaster of paris and fine sand.41 The bubble marks demonstrate that the mixture was indeed fluid and poured into the shells rather than being modeled and subsequently covered with wax.

The iron wire chaplets can be seen only in radiographs of the finest quality, and then recognized only by careful inspection of stereographic pairs. Chaplets can usually be spotted, however, by the naked eye in places where the patina is thin, where they appear as round silvery spots. They are frequently even more conspicuous in gilded areas where they appear as rust stains against the gold. There is an especially noticeable one, right at the crown of the head of the *Spinario* (Figure 28). The tiny bits of fine iron wire are, of course, magnetic, and this property can be used to detect them.


Some features of our reconstruction of Antico’s technique of indirect casting remain hypothetical. For instance, did Antico use plaster and sand for his external investment as well as his cores? There is every reason to suppose he did, as we shall discuss further, but direct evidence—“bubbles” on the exterior surface of his bronzes—has not yet been found.42 The advantage of the radiographic technique is that it allows us to examine the one surface of a bronze we can be sure has never been chased or finished: the interior. In the process of chasing and finishing the exterior, such minor blemishes as bubble marks would have disappeared with the first strokes of a scraper. There is much we can do, however, to confirm our hypothesis by returning to the primary literature on casting, in order to compare Antico’s methods with the recorded technology.

The first author to describe the making of wax shells

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41. The three cores all contain anhydrite (anhydrous calcium sulfate) and alpha-quartz (fine silica sand). The *Spinario* and the *Paris* also contain unchanged gypsum. Gypsum dehydrates to anhydrite if the mold is fired to a sufficiently high temperature.

42. The author has not, unfortunately, had the opportunity to examine an example of the *Hercules and Antaeus* in the Houston Museum of Fine Arts. It appears to have an unfinished surface with the sprues intact.
from wet molds—that is, slush-molding—is Pomponius Gauricus. He does not, however, suggest how these wax shells may be employed for casting bronze. Biringuccio is more explicit. Curiously, he suggests the method for those who wish to form the piece-mold not in plaster but in damp clay:

This clay is well beaten so that it is hard enough to stand by itself, and it can stand in two, three, four, or six pieces as needed. Then they pour melted wax into the empty space. If they wish to make them solid, they put in enough so that by turning it about and then upside down they prevail upon it not only to be spread all over but to make the thickness which they wish the statue to be in bronze taking out the superfluous wax by decantation. When it is cold, the wax is taken out of the mold and the fins made by the junctions are carefully taken off. It is exactly cleaned and finished just as it is to be.43

The use of damp clay is interesting, for within certain limits stiff clay can function as a flexible molding material if carefully handled. Biringuccio suggests a piece-mold of anywhere from two to six sections. Even if we allow for some flexibility in the damp sections of clay, he could not have been thinking of casting from a very complex model.

Biringuccio goes on to suggest a liquid investment for the core, “liquid clay composed of cloth clippings, horse dung, an half of young ram’s-horn ashes and a little fresh plaster of Paris.”44 The clay core is to be allowed to dry well, an important point.

Vasari’s description of 1550 is more explicitly related to what was probably Antico’s technique for making a plaster piece-mold:

Now should the artificer wish to cast small figures in metal, they are first made of wax, or if he happen to have them in clay or other material, he makes the shell of plaster over them in the same way as for the large figures, and fills it all with wax. But the shell must be moistened that the wax, when poured into it, may set (with a hard skin) by reason of the coldness of the wet cast. Then by shaking about and agitating the cast, the wax (which is not hardened) within the cavity is thrown out, so that the cast remains hollow in the interior: the craftsman afterwards fills up the vacant space with clay and puts in skewers of iron. This clay serves then for core, but it must be allowed to dry well.45

Vasari does not say that clay used to fill the wax shell should be liquid but he too insists that it be “allowed to dry well.”

Both Biringuccio’s and Vasari’s admonitions to let the core dry well skillfully skirt certain major technical difficulties. Clay within an impervious wax shell will simply not dry well, and until clay is quite dry it has little mechanical strength. Moreover, as it dries, it shrinks. Biringuccio has obviously given some

27. Antico, Spinario, detail of the interior of the tree-trunk base (photo: Stone)

28. Antico, Spinario, detail of crown of head (photo: Stone)

43. Biringuccio, Pirotechnia, p. 291.
44. Ibid.
45. Giorgio Vasari, Vasari on Technique, trans. L. S. Maclehose, ed. G. Baldwin Brown (1907; reprint, New York, 1960) p. 165. This translation of the technical sections of Vasari’s Vite is in general reliable although the annotation is antiquated.
thought to the matter; his mixture is at least a liquid
so as to fill the shell with ease. Unfortunately, he gives
no proportions for his mixture. He starts with a li-
quid clay slip mixed with fibrous organic material (cloth
cloppings and horse manure) as well as a refractory
grog (bone ash from the core of a ram’s horn) with
the addition of a “little” plaster. If the ingredients were
listed in order of decreasing quantity, Biringuccio’s
liquid investment would not be very satisfactory. A
“little” plaster will not do, for unless the liquid invest-
ment is mostly plaster it will not set hard by chemical
action but simply dry with painful slowness within its
waxen bottle. Why not simply suggest plaster as the
core investment?
Here we must digress a bit on the role of plaster in
casting. Plaster of paris, or gesso, as it is called by Itali-
ian writers, is produced by heating the common min-
eral gypsum, which is found plentifully on both the
southern and northern slopes of the Apennines. In
heating, gypsum (calcium sulfate dihydrate) loses some
of its water to form plaster of paris (calcium sulfate
hemihydrate). If the heated product is ground and
mixed with water, the water recombines with the
plaster to form gypsum again, that is, it sets hard.
These properties of calcium sulfate have been known
since ancient times. Yet, although objects have been
cast in plaster since antiquity, there is no early notice
of its use as a refractory investment. This is some-
what puzzling since it is an excellent investment for
casting bronze. The only difficulty is that a mold made
simply of plaster will crack if heated red-hot. This
deficiency is easily remedied by adding a sufficient
quantity of ordinary silica sand as a grog to control
the thermal expansion that causes the cracking.
Despite the simplicity of this solution to the prob-
lem of thermal cracking, it seems to have occurred to
no one until the end of the fifteenth century. Leo-
nardo is the first to record its use for casting medals
(in the Madrid Codex II).46 One side of the model is
to be coated with regular liquid plaster to be followed
immediately with another coat of plaster which is this
time mixed with twelve parts of “renella da orilogi,”
that is, the fine sand used in hourglasses. (The other
side of the medal is to be done in the same fashion,
the first half of the mold being greased to prevent it
sticking to the second.)
Before we credit Leonardo with yet another mirac-
ulous invention, let us remember that Antico was al-
ready at work when Leonardo made that entry in his
notebook. Furthermore, the mixture that Leonardo
suggests is far too sandy to be used directly against
the model. The model must first be coated with reg-
ular plaster, an unnecessary complication if the proper
ratio of sand to plaster is used. Nevertheless, it is the
first mention of plaster and sand as an investment
suitable for casting bronze.
Cellini, whose Trattati were written by 1565,47 only
fifteen years after the publication of Vasari’s first edi-
tion of the Vite, was apparently the first author to be
aware that plaster has real advantages as a refractory,
especially for making cores.
Cellini gives a quite explicit account of how to cast
a monumental bronze indirectly.48 After the inevi-
table piece-mold is made from the original model, a
core must be fashioned. Cellini’s solution is to line the
section of piece-mold with an even layer of dough.
This layer of dough, or to use his picturesque termi-
nology, the lasagna, establishes the minimum thick-
ness of the final bronze. He then independently
models a core of clay on an iron armature until the
core seems to be of just sufficient size to fit within the
piece-mold lined with lasagna. This fitting of the lined
piece-mold onto the core requires considerable
handwork. Section by section, the damp core is pared
down so as to fit the preformed shell of the piece-
mold while, in similar fashion, fresh clay is added to
the interior of the piece-mold. Inevitably, the thick-
ness of the lasagna is merely the minimum thickness
of the walls. Paring away too much of the core will
simply mean thicker walls; paring away too little will
prevent the sections of piece-mold from fitting on the
core at all. Considering the limits of human patience,
the bronze walls will always be thicker than the origi-
nal lining of lasagna.

46. Leonardo, Madrid Codices, V, fol. 141: “Togli gesso sca-
gliolo e vela liquido la tua medaglia. Poi subito copi col altro
gesso, il quale sarà composto di 12 parti di renella da orilogi
et una di gesso. E' fla ogni cosa liquido e gitta e po' ricci. E il
simile fa poi dall'oposita parte della medaglia, ma prima ungi
acciò che gesso a gesso non s'apichi.”

47. The original dedication of the manuscript is to Fran-
cesco I of Tuscany on the occasion of his marriage to Giovanna
of Austria in 1565 (Cellini, Opere, p. 621).

48. Cellini, Opere, p. 794. Chap. III of the Trattato della scul-
tura is entitled: “Un altro modo si usa fare figure di bronzo di
getto, quando le figure sieni grandi quanto il vivo, o poca cosa
più.” It is obvious from the description that the method alla
lasagna would be impractical for small bronzes as Cellini’s title
implies.
Cellini must have realized that this was a very tedious process for ensuring that the core would be uniformly smaller than the inner surface of the piece-mold, for after a long digression on the casting of the Perseus, he suddenly remembered another method of forming the core:

instead of making the core of your figure in clay, you make it of gesso mixed with burnt bone and pounded brick . . . in this way you make a sort of slurry, which you pour into the piece-mold coating the lasagna and which soon sets.49

Now this is obviously more expeditious than the "cut and fit" method over a clay core that Cellini suggests as general practice. When the plaster hardens, the piece-mold and the lasagna can be removed, leaving a core which is smaller than the model by exactly the thickness of the lasagna.

Whether a clay or plaster core was used, Cellini's method would subsequently be the same. After the core had dried out the piece-mold would be reassembled around it, this time without the lasagna. Molten wax would be poured in between the core and the piece-mold to form the inter-model. From then on the procedure would be standard: remove the piece-mold; fettle the inter-model; invest and fire the completed mold.

Despite the fact that the liquid plaster core is so much easier to manage than clay, Cellini is quite hesitant to suggest plaster for either the core or the outer investment. What he finally admits is that "the gesso in our part of Tuscany does not lend itself so well to works of this nature as that of Mantua[!], Milan, and France."50 Regardless of Cellini's reasons for slighting the quality of Florentine gesso, his choice of those places where he supposes good plaster to be available is fascinating and pertinent.

France, of course, means Paris, where Cellini had lived and worked, and "plaster of paris" is no idle figure of speech. Montmartre is a hill of gypsum. But what of Mantua and Milan? Neither city has immediately convenient sources of gypsum; they both stand in the great alluvial plain of northern Italy and gypsum deposits are not to be found in alluvial plains.51

In Milan, where Leonardo found the practice of casting into plaster and sand, was accumulated technical skill. In Mantua there was Antico.

Although Vasari in the Vite never mentions Antico's name, Cellini seems to be very well aware that in Lombardy they know how to cast in plaster, and the first Lombard city that comes to his mind when he thinks of casting in plaster is Mantua. We cannot press the evidence too far, for Antico had been dead for over thirty years when Cellini was writing. Yet this proves a point: Florence, compared with metal-working centers in northern Italy, was technically backward. What was standard practice for Antico in 1510 was still a novelty for Cellini in the 1560s. Despite the fact that Cellini was certainly acquainted with indirect casting technology, the two monumental works in bronze that he chooses to describe in detail, the Nymph of Fontainebleau and the Perseus, were both cast directly. As we know from the famous passage in his autobiography regarding the casting of Perseus, this decision caused him considerable anxiety. Why Cellini chose to cast directly is not clear except that Florentine artists, at the very forefront of stylistic advance, were frequently steeple conservatives in technical matters. In this the Florentine character seems to have played as important a role as Florentine command of technology.

We may conclude from the literary sources that the three Tuscan authors of the sixteenth century, Biringuccio, Vasari, and Cellini, had at least a peripheral knowledge of all the methods used by Antico before 1500, but that not one of them was sufficiently acquainted with the details to be able to reproduce them as a technological ensemble. Even Cellini, the latest of them, was still hesitant about using plaster as a refractory, although he knew that plaster was being successfully used in northern Italy and France.

The methods used by Antico were not merely an accumulation of shop formulas but a carefully thought-out technology to enable him to reproduce his bronzes with the greatest simplicity and economy of means. Slush-molding, permitting Antico to control the thickness of the walls of his bronzes without

49. Cellini, Opere, pp. 814–815: "e questo si è che in cambio di far quel nocciolo alle figure di terra, ei si può fare di gesso mescolato con osso arro e con mattone cotto pesto . . . in questo modo di fa come un savore, il quale si getta si quel cavo sopra la lasagna, si questo si rappiglia subito."

50. Cellini, Opere, p. 816: "Gli è bene il vero che in questa parte di Toscana el gesso non è tanto a proposito per far simili operie, si come gli è in Mantova e in Milano e in Francia."

51. Gypsum is only relatively insoluble in water and dissolves with surprising rapidity in a continually wet environment.
the tedious and indirect method *alla lasagna*, necessitated the use of a fluid, pourable core if he was to fill his wax shells with speed and security. Since no clay could serve his purpose, he turned to plaster of paris mixed with sand; this mixture remains, even today, the standard investment for statuary bronzes. Starting with the wax model, progressing to the slush-molded inter-model with its poured plaster core, and finishing with the replica bronze, each step led to the next, without fumbling, misdirection or technical insecurity. Security was indeed the watchword, for Antico did not hesitate to hand over his precious wax models to trained technicians for actual casting, to be returned undamaged along with what was probably at least a partially finished bronze replica ready to receive the final exquisite chasing from his own hands. Antico was either a technical genius or the recipient of an earlier, unrecorded technology, developed in the fifteenth century toward some very specialized aims.

To the author's knowledge there are no bronze replica castings before Antico. Only one other sculptor, Severo da Ravenna, who was apparently an exact contemporary of Antico, seems also to have achieved this level of technology, although on a much lower level of artistry.

No more need be said here about Severo's methods except that they were entirely different from Antico's, despite their similarity of technical aims, the production of replica bronzes.\(^52\) Thanks to Ulrich Middeldorf, who has revivified Severo studies by the rediscovery of the unnoticed work of Silvio Bernicoli in the Ravenna archives,\(^53\) we can be relatively sure that Severo Calzetta da Ravenna was indeed from Ravenna. Despite the enthusiastic praise from Pomponius Gauricus which had led all to believe that Severo was a mere appanage of the Paduan school, it would seem that the sculptor spent most of his life in

\(^{52}\) The author plans to participate with Anthony Radcliffe and Jonathan Ashley Smith in a separate study of Severo's works.


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the relative isolation of his home town of Ravenna, mass-producing (that is the only term to use) bronzes with considerable technical ingenuity but in an increasingly impoverished style.

When all those pieces which really hail from Ravenna are winnowed out from that stylistic wastebasket called the School of Padua, there is an amazing discovery to be made. Not one sculptor in Padua, not even Riccio himself, could replicate a bronze. This calls for some explanation.

It is well known that there are numerous bronzes loosely considered to be by the hand of Riccio. Some are products of Severo's workshop. Others are almost certainly post-Riccio, for example the notorious Mountains of Hell, which as Leithe-Jasper has proved are actually by Agostino Zoppo, a sculptor in the entourage of Sansovino.54

For our immediate purposes the remaining core of Ricciosque bronzes may be divided into two groups: those that seem unique and are of the highest quality; and those that while of high quality seem to be produced in multiples. Of the first group, we will consider only two, both in the Victoria and Albert Museum: the great Warrior on Horseback and the Satyr and Satyress (Figures 29, 30). Neither has ever been questioned.

The author has examined both carefully and has also examined their radiographs. Both, or rather all three, for the horse and rider are cast separately, seem to be directly cast over preformed cores. There are neither drip nor bubble marks and the walls of the bronzes seem relatively thick.

Here yet another technical concept must be introduced: the conformality of the core. If we examine a bronze in cross-section, as in a radiograph, we can compare the outlines of the exterior with those of the interior surface as produced by the core. In an "ideal" cast, where the thickness of the bronze walls would always be the same, the interior surface would closely parallel the exterior one, hence be "conformal." The shell-casting technique of Antico produces highly conformal walls, as their thickness depends on the rate of chilling of the molten wax in a wet mold. The rate of chilling is, of course, not entirely uniform and as we have seen there are the drip marks typical of Antico's methods. Nevertheless, Antico's bronzes have extremely conformal cores and hence quite even wall thicknesses.

In general, the degree of conformality of the core and the thinness of the walls are the most ready indices of the degree of a bronze's technical sophistication. If a bronze has been simply modeled in wax over a preformed core, even with the exercise of considerable care, there is very little likelihood that the core will be as conformal as in the case of indirect casting by a method like Antico's.

In both the Warrior on Horseback and the Satyr and Satyress the cores are only moderately conformal. The most plausible reconstruction of Riccio's technique is the following. He first made a sketch model to establish the general design of the bronze and its size. From this he carefully modeled a core by hand, probably in


32. Riccio (?), *Nereid and Ichthyocentaur*. Bronze, H. 22.1 cm. The Metropolitan Museum of Art, The Jules Bache Collection, 49.7.59

clay. He would endeavor to make the core as evenly and proportionally smaller than the sketch model as he could. When he was satisfied with the preformed core, it would be allowed to dry. From this point on, the pose—although not necessarily the surface modeling—would be determined. The next step would be to coat the core with wax as evenly as possible, either by brushing or dipping, until the walls were of the proper thickness.

With the sketch model as a guide, the surface of the wax would be finished by hand. Surface textures could be elaborated to any degree of complexity since Riccio did not have to consider the limitation of piece-molding. When he was satisfied with the modeling he simply invested the piece (probably with clay) and proceeded as with any other bronze casting.

This method is really no more complex than that used by Bertoldo and Adriano for casting the *Bellerophon and Pegasus*, although Riccio habitually modeled a more complicated core than did the two Florentines. We are once again dealing with direct casting from wax and a preformed core. Riccio, however, realized that walls had to be at least of moderate thinness to produce a sound cast. Lightness seems also to have been an aesthetic demand, for, as we mentioned earlier, the core of every Paduan bronze has been carefully removed.

Riccio was still subject to the fundamental limitation of all direct casting—if it failed he had to begin again from the beginning, with only the original sketch model to guide him. On the other hand, he had all the advantages of spontaneity of surface modeling and
unlimited complexity of form. Consider the problems that Antico would have had to face if he had tried to piece-mold the Satyr and Satyress. This group, with its interlocking forms, would present a piece-molder with insuperable difficulties, unless he were using a flexible molding material at that time seemingly unavailable.

The author believes that all the bronzes from Riccio's hand were directly cast in the manner described above, and that consequently there are no replicas extant of his work.

This leaves us to explain those numerous Paduan bronzes that may be described as near-replicas and that while quite Ricci-esque reveal a variety of features, none of which is as exciting as the master's. The Nereid and Ichthyocentaur groups are a good example; they are virtually identical in size and pose but differ in surface details. Are they all merely variants or do they have some more intimate connection?

The author has examined only three of the Nereid and Ichthyocentaur groups radiographically but they are three which are generally regarded as being of very high quality: the Frick, the Metropolitan Museum, and the Victoria and Albert examples (Figures 31–33). They show striking differences technically from the Satyr and Satyress and the Warrior on Horseback.

All three groups have thin, rather conformal walls. In spite of their virtually identical size, they are definitely not replicas, at least not in the sense in which we speak of Antico's replicas. His differ from one another only in surface finish. Each of these groups appears to have independently modeled surfaces, the result not merely of a difference in chasing but in the actual modeling of the original wax. Yet radiography shows their cores to be identical. The two bronzes in New York were X-rayed in the same position, with the nereid on her back and the ichthyocentaur on his left flank (Figures 34, 35). Tracings of the profiles of the interior, core surfaces were virtually superimposable, the exterior profiles markedly less so.55

Riccio's bronzes, as we have seen, were probably directly modeled over preformed cores. What if instead of using the core only once we made a piece-mold of it? Then we could cast cores, all identical, dip them in wax till a thick enough wall was produced, and model all the details of the surface into the wax. If such partial replicas were invested and cast they would have identical cores but differing surfaces, just as we find in the Nereid and Ichthyocentaur groups.

Such a procedure would obviate the need for pourable plaster cores such as Antico's method demands. Cores need not be elaborately modeled and can be made from clay in simple press molds like terracotta figurines. If one distrusted plaster as a core material, and evidently many did, here was a method for mass-producing cores from clay.

55. The Nereid and Ichthyocentaur groups all have conspicuous holes left by chaplets of rather large diameter (about 3 mm.). Most of these holes have been plugged but are nevertheless quite visible especially in radiographs; their positions are fairly similar in the three examples of the group examined. Such a type of chaplet is never found in Severo's work nor can it be found in Riccio's Warrior and Satyr and Satyress.
There is another more specifically stylistic reason for such an apparently “inside-out” procedure, and it has to do with the greater spatial complexity of poses in Riccio’s Paduan circle, when compared to Antico and most especially Severo.

In the Satyr and Satyress, wherever the figures touch in their interwined pose, the preformed core is continuous through the juncture of their two bodies. This makes perfect sense if, as we assume, the core was modeled as a sculptural unit in clay, then coated with wax. But in the three Nereid and Ichthyocentaur groups examined radiographically, the core in the nereid, which fills the figure from head to knees, is discontinuous with the core in the ichthyocentaur. Where the two figures meet—at the buttocks of the nereid and the equine back of ichthyocentaur—there is a septum of bronze twice as thick as the average wall thickness of either figure. The implication is clear. The cores for the nereid and ichthyocentaur were formed separately, coated with wax separately, and then “glued” together with a drop of molten wax under the nereid’s buttocks. This procedure vastly simplifies the modeling of the cores, allowing them to be formed in ordinary piece-molds of no great complexity. With the far more complex core of the Satyr and Satyress this would be impossible.

In all of Antico’s work there is only a single model with conjoined figures, the Hercules and Antaeus. In the radiographed example in the Victoria and Albert Museum, the core is indeed continuous between the torsos of Hercules and Antaeus (Figure 36), but the group’s relatively open composition would present far
fewer problems in piece-molding that that of Riccio's Satyr and Satyress or even of the Nereid and Ichthyocentaur groups. Severo, for his part, does not attempt conjoined figures; single figures are inevitably cast separately, then joined with threaded lugs to their bases and attributes.

To return to an earlier point, all methods of indirect casting that required plaster piece-molds to form the exterior surface, that is, all true replica casts such as Antico's and Severo's, put distinct limitations on the complexity of pose a sculptor could manage. For true freedom of expression there was still only the direct cast as in Riccio's Satyr and Satyress. At a slightly less complex level of composition the near-replica method of the Nereid and Ichthyocentaur would serve for a bronze intended to be produced in multiple ex-

amples. Had a flexible molding material been available to Antico, Severo, or Riccio and his circle, all these difficulties would have been obviated. The Nereid and Ichthyocentaur groups would be as identical as Antico's or Severo's replicas and, presumably, both Antico and Severo would have felt freer to use more complex poses. We must assume, therefore, that such a flexible material was not available for molding figures in the round, at least not in the first quarter of the sixteenth century.

We have tried to suggest the interaction between artistic desires and technical limitations in a period when the craft of casting was undergoing rapid technological change. The properties of bronze, clay, and plaster remain unvarying, and the sculptor must come to terms with them. Antico could bear his yoke mildly while Riccio, like all artists who belonged ultimately to the Florentine tradition, must have chafed badly.

One question of Antico's practice is still unanswered. Why did he not remove his cores? Both Severo and the Paduans inevitably removed theirs even if it was a considerable nuisance to do so. In the Nereid and Ichthyocentaur groups, for instance, it was necessary first to cut into the belly of the ichthyocentaur, scraping and soaking out the core, then to drill through his back and through the nereid's buttocks to remove the core inside her figure. As far as we can tell from radiographs and probing, this was done with great thoroughness. It would certainly appear that lightness was desired as an end in itself. In Antico's case this did not seem to matter. We have, of course, suggested that hollow casts are technically superior to solid ones, but did Antico develop his complex technology for that reason alone? The Florentines, after all, remained satisfied with coreless small bronzes. The answer seems to lie somewhere else, with the urge to save metal.

Bronze, around 1500, was no doubt relatively much more expensive than it is today but gold and silver were even more so, and from the surviving documents it seems that Antico was accustomed to cast in precious metals. The previously mentioned, little St. John that he made for Isabella d'Este was described as the "St. John that our Antico has cast" in Lodovico Gonzaga's letter accompanying the gold pendant when it was sent to Isabella on April 4, 1504.56 The size of

56. Rossi, "I medaglisti," p. 183, n. 3: "san Zoanne che ha gettato lo Anticho nostro."
the St. John is unfortunately not known. It was probably quite small if, as it appears, Isabella intended to wear it as a ferronnière. In 1505, however, Antico sent Isabella models, presumably in wax, of a horse's head and an eagle, with the following note:

Illustrious Madam: If I have been late in sending the horse's head as well as the eagle, do not blame anything other than illness; once again I am not quite about by reason of a chill. Hence I beg your pardon if your Ladyship has not been well served as you desire. If the master is not sufficiently experienced to cast it in silver, I will teach him as a favor, and if being otherwise able, I beg your command.57

Antico was thus accustomed to cast in silver, although he did not regularly expect other masters to have the necessary knowledge. A horse's head implies something rather larger than a trinket. If the model was of some size, it would have to be cast hollow for reasons of expense: besides, if it was merely to be cast solid, Antico's offer to instruct Isabella's craftsman would have seemed condescending and impertinent. No, the only conclusion we can draw is that Antico's casting technology was originally designed for precious metals, where the precise control of wall thickness was an economic as well as a technical necessity.

Casting statues in silver, as distinguished from medals and seal matrices, would seem to go against everything Cellini says about statuary in precious metals. Cellini worked his gold and silver almost entirely in repoussé, either with hammers and stakes (as in making vessels) or by hammering metal sheets, section by section, over a bronze model of the intended statue and then soldering the sections together. He suggests casting silver only for small additions, such as the handles to vases. In truth, silver and gold will always go further if worked, since precious metals can be hammered much thinner than they can be cast.

None of Antico's works in precious metals has apparently survived. This will surprise no one. It is the dearth of objects in precious metals surviving from fifteenth-century Italy that makes the antecedents of Antico's casting technology so difficult to follow. Perhaps the use of thin wax shells was developed originally for casting merely the head, hands, and feet of draped statues in silver. Drapery can be executed quite easily in repoussé, while the head and especially the hands and feet lend themselves far more easily to casting.

Regardless of its origins, Antico's technology was ideally suited to his aims. What probably started as an attempt to cast economically in silver (that is, with thin, conformal walls) turned out to be adaptable to the indirect casting of bronzes, a fact which Antico exploited to the full.

In the continuous dialogue of means and ends, different technical traditions evolved within the craft of goldsmithing, and the skills acquired within those traditions were transferred to another craft, sculpture. Contrasting attitudes toward sculpture were accompanied by contrasting sculptural techniques, and while in both central and northern Italy bronze sculpture frequently originated in the goldsmith's studio, there was despite this a striking diversity of methods. Thus, method and style developed simultaneously, though along different paths in Florence and Mantua, and the traditions of Italian sculpture were thereby enriched and enlarged.

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The Judgment of Paris by Lucas Cranach the Elder: Nature, Allegory, and Alchemy

Helmuts Nickel
Curator of Arms and Armor, The Metropolitan Museum of Art

Among the great German painters of the sixteenth century Lucas Cranach takes a special, and rather controversial, place. Though his humanist friends at the university of Wittenberg, Christoph Scheurl and Philipp Melanchthon, stated emphatically that he would be surpassed only by Albrecht Dürer, and even in spite of the high opinion Dürer himself had for Cranach,¹ he has been treated with condescension and even scorn by art historians more often than not. Significantly this was done for the very same reasons that incited Dürer’s and Scheurl’s admiration, namely his charm, his indomitable productivity, and his amazing working speed. Thus he was put down as a facile painter of charming but superficial qualities, best known for a well-run workshop turning out series of credible portraits and of pretty, frivolous nudes under classical pretexts.² These classical themes—usually suspected to be a rather transparent cover for a sixteenth-century version of pinup pictures—included Venus, Lucretia, sleeping nymphs, the Three Graces, and the Judgment of Paris.

Of this last subject—the Judgment of Paris—about a dozen painted versions as well as two woodcuts by the hand or the workshop of Lucas Cranach have survived.³ Cranach actually was the first German painter of panel paintings of this subject, which before existed only in prints, woodcuts, or book illustrations. This almost instant popularity of paintings of the Judgment of Paris was presumably due to the fact that for the display of piquant nudes it was an


Dürer’s opinion was recorded, 1538, by the humanist Johann Stigel in his eulogy for Cranach’s son Hans (whose untimely death in 1537 is thought to have been the reason for the change in Cranach’s artist’s signet, the folding of the wings of his winged serpent): “Audio Albertum Durerum te (Lucas Cranach) omnibus nostrae aetatis pictoribus laude venustatis ac facilitatis praebuisse...”

2. A typical example of “official” opinion could be quoted from Meyers Lexikon, 7th ed. (Leipzig, 1925) III, p. 79, under the entry “Cranach, Lukas”: “C. erfreute sich seinerzeit in Deutschland (hauptsächlich wegen seines Verhältnisses zu den Reformatoren, dann aber auch wegen seiner grossen Fruchtbarkeit) des grössten Rufes. Er schuf sich sein eigenes Ideal weiblicher Schönheit... von zierlicher Bildung, mit einer gotischen anmutenden Schwingung der Umrissslinie... Er liebt es, seine Figuren in eine landschaftliche Umgebung zu stellen, die er stets reizvoll gestaltet; sie ist oft der Hintergrund für kleine mythologische Szenen von sehr ergötzlicher und naïver Auffassung. Im Porträt leistete C. Tüchtiges... Die Arbeiten seiner Frühzeit, bis etwa 1509, zeichnen sich durch grosse Frische und starkes Temperament aus... Später wurde er trockner, handwerksmässiger; der allzu grosse Werkstattbetrieb, in den er hineingetrieb, hat ihn künstlerisch gelähmt....”

1. Lucas Cranach, the Elder (1472–1553), The Judgment of Paris, ca. 1528. Tempera and oil on wood, 40 7/8 × 28 in. (102 × 71.2 cm.). The Metropolitan Museum of Art, Rogers Fund, 28.221

even better choice than the Three Graces, because it not only offered the chance of presenting three undraped female bodies in three different postures—traditionally front view, rear view, and profile—but it also put them into a teasing contrast with two fully and properly dressed males, and all in a perfectly respectable classical context.

The Metropolitan Museum owns one of the loveliest versions of this delightful subject, which is furthermore of considerable iconographical significance (Figure 1). Its first special point of interest is in the painting’s landscape background (Figure 2) which, far from being the usual romantic stage scenery, is a quite accurate rendering of an actual landscape.

The first English essay about this painting, published soon after its acquisition by the Museum in 1928, described the scenic background as “also . . . characteristic of the later period (after 1520). There is less intensity in the blue sky and more silvery delicacy in the distant landscape with its placid lake, its romantic Gothic city and castled rocks, and its lovely hills.” This description can be elaborated on and corrected insofar as the “placid lake” is in actuality the Elbe River near Schandau, and the lovely hills and castled rocks are some of the landmarks of the Elbsandsteingebirge, the romantically rugged mountain range of towering sandstone mesas and deep-cut wooded ravines about fifteen miles to the southeast of Dresden (Figure 3; map, Figure 4).

The large dominating mountain beyond the river’s bend is the Lilienstein, and the smaller one, even further to the rear, and actually located beyond the loop of the river’s double bend, is the Rauenstein. The rocks on the right side are part of the mile-long cliffs, the Schrammsteine, edging the east bank of the Elbe River, which cuts a winding canyon through this sandstone massif. The vantage point from which Cranach must have seen and presumably also sketched this view seems to be at the edge of the Schrammsteine, facing northwest. Most likely it is somewhere near the ravine of the Breite Kluf, about one mile downriver from the present-day border between Czechoslovakia and the German Democratic Repub-

dated 1527; no. 253, Öffentliche Kunstsammlung, Basel, dated 1528; no. 254, MMA, New York, ca. 1528; no. 255, Staatliche Kunsthalle, Karlsruhe, dated 1530; no. 256, Anhaltische Gemäldegalerie, Dessau (lost in 1945), ca. 1535; no. 257, Steiermärkisches Landesmuseum, Graz, ca. 1540–45; no. 258, The St. Louis Art Museum, ca. 1537; no. 409, Landesmuseum, Gotha, post-1537; no. 409a, Hampton Court, post-1537; no. 409b, Bode-Museum, East Berlin, post-1537.

Koepplin and Falk, Cranach, list still another, though doubtful, version: II, no. 537, private collection, England, “ca. 1507 or later.” Cranach’s woodcut of 1508 was his first attempt at the subject; the woodcut title page of 1530, with the Judgment of Paris, is considered to be workshop work. Koepplin and Falk, Cranach II, no. 528, and I, no. 242 (figs. 116 and 312); Marc Rosenberg, Von Paris von Troja bis zum König von Mercia (Darmstadt, 1939) fig. 11.


5. To give credibility to my claim, it should be mentioned that I grew up and went to school in Pirna an der Elbe (see map, Figure 4).

6. The motif of Paris not as a shepherd youth but as an armored knight goes back to the medieval editions of the fictitious eyewitness account of the Trojan War by “Dares Phrygius” (6th century a.d.), and reworkings of the material by Benoît de Sainte-More (Roman de Troie, ca. 1180), Guido da Columna (Historia destructionis Troiae, 1297), and particularly Jacques Millet (Histoire du Chevalier Paris et de la belle Vienne, 1485). Rosenberg, Paris von Troja, pp. 29–86.

 lic. The city at the river’s bank is where the town of Schandau is situated.

Though this painted landscape is perfectly recognizable for someone familiar with the Elbsandsteingebirge, it has to be pointed out that Cranach took some artistic liberties with it. For instance, he put a castle on the Lilienstein where none is today, and he set another one, distinguished by a connecting bridge to an outlying tower, on the Schrammstein cliffs. There were fortifications on the plateau of the Lilienstein in the sixteenth century, but it is doubtful whether they were as conspicuous from afar as those which appear in the painting. This painted castle would be more likely a transplant from the Königstein, the mighty fortress on the mesa on the west bank of the Elbe, directly opposite from the Lilienstein (Figure 5).

The turreted city of Troy—a masted ship near its water gate included—as well as the cliff castle, bridge, tower, and zigzag road leading up the cliffs are clearly borrowed from one of the iconographical prototypes of the Judgment of Paris with Paris as an armored knight, a print by the Master of the Banderoles. Other
2. Detail of Figure 1, the Metropolitan Museum Judgment of Paris, showing the background landscape.


4. Sketch map of the central part of the Elbsandsteingebirge, indicating Cranach’s view

details from this print that reappear in Cranach’s painting are the war hammer in Paris’s mailed fist and the draped veil of Venus (Figure 6). A second print, attributed to the same master, shows the Judgment of Paris with a tiny naked archer in the background, conceivably a prototype of Cranach’s arrow-aiming Cupid (Figure 7).
5. Königstein with its fortress; in the sixteenth century the mountain slopes would have been treeless for defense purposes and therefore more like the mountains in Cranach's paintings (photo: after Vogt)


The Judgment of Paris was a theme popular with German humanists and particularly with members of the faculty of the newly founded (1502) university of Wittenberg. Indeed, in 1503 the Graecist Nikolaus Marschalk used it as a theme for his academic address at the graduation of the university's first twenty-four baccalaurei; the printed edition of this address was illustrated by a woodcut (Figure 8), which was reused in 1504 to illustrate a textbook for the Wittenberg students. Nikolaus Marschalk had come to Wittenberg from the rival university of Erfurt, where he had operated his own printing press. The artist who designed woodcuts for his Erfurt publications was the same one who designed the Wittenberg illustration of the Judgment of Paris. In the library of the university of Leiden there is a


9. Koepplin and Falk, *Cranach II*, pt. 12, “Urteil des Paris, Entscheidung zwischen Tugend und Laster,” pp. 613–621. The Judgment of Paris was popular as a Shrovetide play (documented 1455, 1463, 1468, 1483), as a tableau vivant in pageants (1494, in the festive entry of Philip the Handsome into Antwerp, where Elector Frederick the Wise, later Cranach's employer, was present), and as educational Latin plays for and by students, as well as textbook material (1502, 1503, 1512, 1514).

10. Koepplin and Falk, *Cranach I*, fig. 116; II, no. 528a. This woodcut was reused three more times in Wittenberg publications: 1512 and 1513 in *Historia Daretis Phrygi de Excidio Troiae*, 1514 in *Iudicium Paridis* by Giovanni Battista Cantalicius (d. 1514).

manuscript—*De alchimia*—written in 1522 by Valentin Hernworst, citizen of Erfurt, and illustrated by Johannes Hoch in 1526. The most important illustration in this volume is a *Judgment of Paris* (Figure 9), as an allegory on a decisive step in the Great Work, or the Making of the Philosopher's Stone. Not only does this drawing share with the Wittenberg woodcut striking details of composition, such as the fountain with quadrilobate basin and a bird on the basin's rim, but a comparison of stylistic features, such as the round faces with heavy-lidded eyes and curiously wide-bridged noses over small, pursed mouths, suggests that the master of the Wittenberg woodcut and the artist of the Leiden manuscript—Johannes Hoch of Erfurt—are one and the same.

The three goddesses in the Wittenberg woodcut of 1503 are demurely dressed, befitting the moralizing tenor of the academic address—the good magister Marschalk used the Judgment of Paris as a horrible example of what would happen if *vita voluptaria* were chosen over *vita contemplativa* or even *vita activa*—but in the illustration in the Leiden manuscript, 1526, they are naked except for coquetish berets and lavish jewelry. Their scanty and provocative attire has a definitely "Cranachesque" flavor, but it should be pointed out that the earliest dated *judgment of Paris* by Lucas Cranach, where one of the naked goddesses is wearing a beret, is of 1528 (Basel), and his earliest dated standing nude with a beret is of 1529 (*Venus Outdoors*, Louvre). It looks almost as if Cranach must have seen Hoch's book illustration and picked up the detail of the beret, using it in his own paintings to such a degree that it became a hallmark of what we think of as a typical Cranach nude.

In comparing the different versions of the Judgment of Paris by Lucas Cranach with each other, one is struck by the strange fact that in them Mercury is regularly portrayed as an elderly man with a white beard, and that often—as in the versions now in the Seattle Art Museum, in the St. Louis Art Museum, in the Steiermärkisches Landesmuseum, Graz, Austria, and in the Statens Museum for Kunst, Copenhagen—he is gorgeously plumed in peacock feathers (Figures 10–12). In the Metropolitan Museum's painting he wears a headdress crested by two peacocks feeding from an object which resembles a white fruit with red seeds like a pomegranate, but which is probably intended to represent a broken egg with a red yolk.

The use of the Judgment of Paris as an alchemical illustration in the Hernworst manuscript, which Cranach was likely to have known, gives a clue to a possible hidden meaning in Cranach's treatment of the subject especially in the Metropolitan Museum's panel.

Alchemy is based on the belief in the transmutation of materials, particularly of metals. All materials were thought to be composed of the Four Elements: Earth, Water, Air, and Fire, representing for our understanding of nature solid state, liquid state, gaseous state, and energy. These elements were thought to be present in all materials in differing proportions; perfection would be found in incorruptible gold. All materials were assumed to be changeable, on the evidence that solid metals could be liquefied by applying fire in smelting, or that liquids could be turned into gaseous state in vaporization. For this reason it

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12. Petrus Cornelius Boeren, *Codices Vossiani Chymici* (Leiden, 1975) pp. 83–90, Voss. Chym. F. 29. The manuscript has a colophon: "Beschrieben durch Valentinum Hernworst burger zue Erfurd zu der gulden laden bey sanct Gothortt wonhaftig" Anno domini etc. XXII, frigats nach Erhardi der do was der zehnte tag des mondes Januarii," and several other identifying entries with addenda up to 1533. The illustrations are annotated on fol. ggv.: "Anno domini tausent funfhundert vnd sechsundzwentzexig auf Freytag nach Seueeri Episcopi der do was der XXVI tag des mondenn Octobris Im Hause zuem weissen schilde genant in der lowen gassen zue Erfurd gelegen Sindt diese vorgescriebene Bylle vnd Figure durch J ohannem Hoch Illuminierer gemacht, auff beuehl Valentinurn Hernworst alias Winterkornn Burgess zue Erfurd, vnd bey gedachten Valentinum Kost vnd auch myt seiner Valentinum Hernworst eygen hantschrift die beystehende notabilia vnd vnndernerschrift geschiessen vnd geendet am tage vndt Jare wie oben berurt ist" ("Anno domini one thousand five hundred and six-and-twenty on the Friday after St. Severus the Bishop's day, which was the 26th day of the month of October, in the house called in the sign of the white shield, located in the Lion's Street at Erfurt, these prescribed pictures and figures were made by Johannes Hoch, illuminator, by order of Valentin Hernworst alias Winterkorn, citizen of Erfurt, at the expense of above-mentioned Valentin and also with his, Valentin Hernworst's, own handwriting the attached notes and captions were written, and finished on the day and in the year as touched upon above"). This manuscript is based upon the first German alchemical treatise, *Das Buch der Heiligen Dreifaltigkeit*, 1419–20, by Brother Ulmannus, a Minorite priest at Constance. The picture of the *Judgment of Paris* has been published in Stanislas Klossowski de Rola, *Alchemy: The Secret Art* (London/New York, 1975) pl. 35–36. Friedländer and Rosenberg, *Paintings of Cranach*, nos. 242 and 253. The other Judgments of Paris in which Venus wears a beret are no. 254 (MMA; ca. 1528), no. 555 (Karlsruhe; dated 1530), no. 256 (Dessau; ca. 1535), no. 258 (St. Louis; ca. 1537).
It was concluded that by changing the proportions of the Four Elements within a given material, the material could be changed into another.

In order to arrive at the lofty goal of turning base matter into the perfect material, gold, a suitable raw material had to be put through three major stages of purification, which in their turn consisted of seven to twelve steps each. The English alchemist George Ripley listed them (ca. 1470) as calcination, solution, separation, conjunction, putrefaction, coagulation, cibation, sublimation, fermentation, exaltation, multiplication, and projection.14

In the Great Work the raw material could be purified during the first stage—up to putrefactio, necessarily a precondition as mystical death for subsequent resurrection15—to strip away its impure characteristics, reducing it to materia prima, and to release its innate spirit, or spark of life. At the end of the first stage the materia turned black in putrefaction (nigredo), but soon the blackness was to be relieved by a starry aspect like the sky at night. In the following stage the materia turned white (albedo) and, according to some authorities, acquired the quality of producing silver, the metal of the moon, with a transitional phase in which a sudden burst of most beautiful colors appeared. In the final stage the materia turned red (rubedo) and acquired the quality of transforming base metals into gold by changing their elementary compositions to perfection.

The greatest difficulty in finding the formula for the Philosopher’s Stone was that the handbooks gave only veiled hints regarding the nature of the raw material; they might call it “something to be found everywhere” and “something considered valueless by everyone”—except the initiate, of course. Others helpfully suggested starting the Great Work with the “spittle of the Moon,” the “semen of the stars,” or the


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15. “Verily, verily, I say unto you, Except a corn of wheat fall into the ground and die, it abideth alone; but if it die, it bringeth forth much fruit” (John 12:24).

It might also be suggestive that the scribe of the Leiden manuscript used the alias Winterkorn—the corn that “dies” during its winter rest, but sprouts again in spring. Perhaps this was an alchemical nom de plume; his family name Hernworst (Hirnwurst, “brain sausage,” i.e., scrambled brains) might have given rise to uncomplimentary remarks by his fellow citizens in connection with his alchemical studies.
formula VITRIOL: Visita Interiora Terrae Rectificando Invenies Occultum Lapidem ("visit the interior of the earth and by right measure you will find the secret stone"). However, most alchemists seem to have used copper, the metal of Venus, as basic material; the main ingredients to be added in the higher stages were "white Mercury" and "red Sulfur," because quicksilver and sulfur combined between them the primary qualities of the Four Elements. Sulfur was hot and dry, and therefore embodied the element Fire, and mercury was cold and wet, representing the element Water, both with admixtures of Earth and Air. During the transmutation process three types of fire—Hot Fire, Slow Fire, and Mild Fire—were used. The final stage was achieved by the mystical Secret Fire.

All these stages and ingredients were recorded either in symbolical picture writing or in code names understandable only to the initiate. The Great Work with its three stages could be represented as the Tree of Alchemy with three branches and with the Hermetical Spring flowing forth between its roots; the materia going through its transmutations could be "the Dragon" (usually shown as a winged serpent), black, white, or red in color; of the three stages the first—nigredo—could be called "the Raven," "the Death's Head," or "the Black Man"; albedo could be called "the


Philosopher's Stone, and Troy's Fall would be the achievement of the Elixir, the catalyst that would bring forth from base matter the most precious of materials, like victory after strife. The three goddesses could also, as in a treatise in the Vatican Library (Figure 19), be personifications of the three stages of the Work: Athena with her owl and a star representing blackness of night and the starry aspect, for nigredo; Juno with her peacock and the rainbow of Iris—for the Peacock's Tail—for albedo; and Venus with her red roses emerging from the white seashell, for rubedo.16 The goddesses stood also for the lofty goals of the spiritual alchemist who was unconcerned with the materialistic achievement of goldmaking, but in Zen-like self-purification strove for Omniscience, Omnipotence, and Eternal Love and Harmony. Precisely these three gifts were offered to Paris by Athena, Juno, and Venus in their famous bribery attempt. From the alchemist's point of view—the stern opinion of magister Marschalk notwithstanding—Paris's choice was the only possible one, because copper, the metal of Venus, was the accepted raw material for the Great Work, and neither Athena nor Juno had metals of their own to offer. The alchemists searching for gold were regarded as mere "puffers" by their spiritual colleagues. However, the more practical-minded among those of spiritual bent took the Philosopher's Stone as a key to unlock the secrets of the universe and to create the Elixir of Life.

The Metropolitan Museum's Judgment of Paris contains enough peculiar details to make inevitable the conclusion that it was intended as an alchemical allegory. White-bearded Mercury, whose namesake "white Mercury" is the single most important ingredient in the final stage of the Making of the Philosopher's Stone, has been placed here more centrally than in any of the other versions, and the glass ball—an alchemical vessel?—that he holds in his hand instead of the traditional Apple of Discord is almost exactly in the center of the entire composition.17 He wears black sleeves and

13. Manuscript illustration showing Athena, Juno, and Venus as representations of nigredo, albedo, and rubedo (Cod. Pal. lat. 1066, fol. 230v.). Vatican City, Biblioteca Apostolica (photo: Biblioteca Apostolica)

Lily" or "the White Rose"; while rubedo was "the Red Rose." Sulfur could be "the Red King," the Philosopher's Stone "the Egg" or "the Fruit," and the iridescence of many colors during the second stage indicating that the adept was on the right track was "the Peacock's Tail." The Work itself could be symbolized by the Sign of Ouroboros—the Serpent that bites its own tail—and even the tools of the alchemist's laboratory were secretly named, such as "the Bear" for the alembic vessel, "the mercurial Serpent," "the seven-headed Dragon," "the Egg," and "the Pelican" for various types of distilling vessels, and "the Tortoise" for the alchemical basin.

The decisive point at the end of the second stage—albedo—could be represented, as in Valentin Hernworst's De alchimia (Figure 9), by the Judgment of Paris. The Siege of Troy was equaled to the Making of the

16. Klossowski de Rola, Alchemy, pl. 61, identifies Athena as Lady Alchimia, in a castle representing the philosopher's furnace, with her shield bearing the head of Medusa, emblem of black putrefaction. Below she supposedly reappears in the guise of Iris, next to "Venus on her scallop shell, her body all roses; the red flowering out of the white."

17. Cranach's woodcut of 1508 shows an oversize apple lying in the foreground; in his panel paintings the "apple" is always an orb of goldsmith's work or a crystal ball.
a red skirt with his gilded pseudoclassical armor, demonstrating on his own person the color scheme—black-white-red-gold—of the Great Work. His strange helmet crest of two peacocks feeding from a broken egg with a red yolk could hardly be anything else but a symbol of the Peacock's Tail, the stage at which the red Philosopher's Stone would emerge from the Egg.

Red-clad Paris—as “red King” or “red Sulfur”—is sitting under the three-branched Tree of Alchemy, which has two withered twigs for the important and necessary steps of putrefaction; the crystal-clear Hermetical Spring emerges at the Tree's base. Befitting an alchemical context, the Tree is an oak, because the Hot Fire was fed with charcoal of oakwood, and the pollard tree behind Mercury's wand is a willow, because the fuel to feed the Slow Fire was willow charcoal. Even Paris's white steed might have another “secret” significance, preposterous as it may sound, because the Mild Fire, that is, protracted warming just above room temperature, was created by fermenting horse dung. The Secret Fire, which was essential for the final achievement, was described as “the fire that consumes without leaving ashes, that is more powerful than any other fire, and whose smith is the great son of Venus.” It is, of course, represented by Cupid with his fiery red wings. It should be pointed out that Cranach's Cupid has red wings only in his paintings of the Judgment of Paris; in his numerous other representations of Cupid—as honey thief or as companion of Venus—Cupid's wings are white, light blue, or multicolored.

The equation of the three goddesses with the three stages of the Great Work has been shown in the illustration in the Vatican manuscript (Figure 13). Because the Judgment of Paris is the symbol of a specific point at the turn of the second stage, there might be subtle meaning in the placement of the three goddesses in the Metropolitan Museum's painting. Juno, the representative of the second stage, is talking directly to Paris, while Athena, the representative of the first stage, nigredo, stands with her back to us on a dark, bare patch of ground (the other two are standing on the fresh greensward), and finally, Venus with her red hat stands proudly pointing up toward Cupid, the Secret Fire.

Alchemical undercurrents have been suspected in other works by Lucas Cranach, as for instance in the double portrait of the humanist, historian, poet, and physician, Johannes Cuspinianus, and his wife, painted in Vienna, about 1502–03. Lucas Cranach, who from 1520 was the owner of an apothecary shop in Wittenberg, must have been interested in the Elixir of Life, and presumably had alchemical knowledge of his own. In any case, as a good Latinist, as owner of a printing press and a bookshop, and finally as the long-standing and close friend of important faculty members of the universities of Vienna and Wittenberg, he

21. Cranach's artist's signet, the winged serpent with a ruby ring in its mouth, was granted to him as his coat of arms by Elector Frederick the Wise, on Jan. 6, 1508. It has been suspected that the winged serpent might have astrological significance, that as a symbol of Sin it might be a cantiing device for the alleged family name Sünd (Cranach is derived from his hometown, Kronach), that it might be a symbol of speeding time referring to the Latin form Chronus, with which Cranach occasionally signed his work. Schade, Cranach, p. 409, n. 38, ill. p. 27; Koeplin and Falk, Cranach I, p. 20, n. 20. It can be added that the winged serpent can be a symbol of speed, indicating Cranach's fame as celerrima pictor. According to the Bestiary, in Arabia there were winged serpents, the fastest of all creatures; such a serpent was called laculus, a name that might have been seen as a cryptogram for Lucas. Finally, there might have been an alchemical symbolism involved too: the black Dragon that carries the gold ring with the red stone. The crest of Cranach's coat of arms, incidentally, shows the serpent writhing on a wreath of thorns, possibly indicating the throrny way to perfection. It would be interesting to know whether the day chosen for the granting of these arms, Jan. 6, i.e., Epiphany or Dreikönigstag, held any deeper meaning. In German tradition the arms attributed to the Dre Köänge—the Three Wise Men—were a black man, a starry field, and a silver half-moon, all three being alchemical symbols for nigredo and albedo, quite appropriate for the gold-bearing Magi searching for the King of Kings and the True Light.

Dr. Edeltraud Wisser, director of the Stadtgeschichtliches Museum, Wittenberg, has kindly supplied the following information about Cranach's ownership of the Wittenberg pharmacy. Cranach bought it for 2,000 gulden from its founder, Martin Polich von Mellerstadt, who was also rector of the university. The purchase was presumably an investment, since Cranach was not an apothecary himself. He had the shop managed by professionals, Basilius Axt and later Caspar Pfreundt, who married Cranach's youngest daughter, Anna, Dec. 13, 1550. The pharmacy, incidentally, was for centuries the only one in Wittenberg and therefore had no special name; in the mid-19th century it became the Adler-Apotheke and since 1945 has been called the Cranach-Apotheke.
15. Detail of Figure 11, the Copenhagen Judgment of Paris, 1527, showing Paris's armor

14. Cranach, Chancellor Dr. Gregor Brück, dated 1533. Panel, 16¼ × 15 in. (41 × 38 cm.). Nuremberg, Germanisches Nationalmuseum (photo: Nationalmuseum)

was certainly an artist who could be trusted to compose a seemingly harmlessly pleasant picture fraught with deep symbolical meaning, if such was desired by a customer with alchemical inclinations.

Unfortunately, we do not know for whom any of the various Judgments of Paris were painted. It is interesting to see, however, that Cranach's portrait (dated 1533) of the chancellor Dr. Gregor Brück, whose son would marry one of Cranach's daughters, shows the chancellor wearing several gold chains—one of them with a portrait medallion of the Elector—and in addition to these he has a close-fitting neck ring in the shape of a serpent biting its own tail: the alchemist's Ouroboros (Figure 14).22 It might be also an indication of original ownership that the Judgment of Paris in Copenhagen, dated 1527 (Figure 11), shows Paris wearing an armor with a peculiar surface decoration of lengthwise stripes crossed by wider horizontal bands, and imitations of slashings on shoulders, elbow cops, and knees (Figure 15). These elements are exactly the same as on the armor of the commander of the Saxon forces, Ascanius von Cramm (Figure 16), in Cranach's portrait drawing of about 1525.23 Though the simplest explanation would be that Cranach used the drawing as a model for the armor in the painting, there is a strong possibility that the Judgment of Paris as the exaltation of Venus and also as the beginning of the Trojan War would have a very personal significance for Ascanius von Cramm, a distinguished knight who bore the name of Aeneas's son, grandson of Venus and one of the survivors of the Fall of Troy.24

If we consider the many details in the Metropolitan Museum's Judgment of Paris by Cranach that can be interpreted as arcane alchemical symbols, it might be the final touch to note that the background landscape shows the two mountains, the Rauenstein (the "Raw Stone," that is, the materia prima) and the Lilienstein (the "Stone of the Lily"), beyond the river Elbe, whose Latin name is Albis. These names, of mountains and river, would refer to albedo, the stage in the Great Work that is represented in the Erfurt manuscript De alchimia as the Judgment of Paris (Figure 9).25

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22. Schade, Cranach, no. 133.
23. Ibid., no. 120.
24. Though Paris is always dressed in red in Cranach's Judgments, often with white plumes on his beret, it should be pointed out that red and white were also the livery colors of the von Cramm family, whose arms were in Rot drei weisse Lilien—gules, three fleurs-de-lis argent. The Cramm helmet crest was a peacock tuft between two fleurs-de-lis.
25. Besides the Rauenstein and Lilienstein there are other geographical sites in this area that could be interpreted in alchemical terms: Königstein—Stone of the King, Grosser Bärenstein and Kleiner Bärenstein—Great Stone of the Bear and Little Stone of the Bear (Bear—the alembic vessel). The Philosopher's Stone is called der Stein der Weisen in German, inviting a play upon words with weise (wise) and weiss (white). The village at the foot of the Rauenstein, in a straight line between the Rauenstein and Lilienstein, is named Weissig. Ironically, this can be made into the punning question: Weiss ich?—"Do I know?"
Tiziano Aspetti’s Reliefs with Scenes of the Martyrdom of St. Daniel of Padua

OLGA RAGGIO
Chairman, Department of European Sculpture and Decorative Arts, The Metropolitan Museum of Art

In 1590 the bishop of Padua, Cardinal Federico Cornaro, and the canons decided to move the relics of St. Daniel from the main altar of Padua Cathedral to a chapel to be created underneath the presbytery. The design and construction of this underground chapel and its altar were entrusted to the architect of the cathedral, Giulio Viola, and in 1594 the body of St. Daniel was solemnly transferred to the new location.1 The altar was designed as a freestanding marble structure, with plain marble facings enclosing the ancient Roman sarcophagus that contains St. Daniel’s remains. Its only decoration was two bronze reliefs depicting the martyrdom of the saint, one set into the front of the altar, the other into the back (Figure 1). In 1953 the relief on the front, together with the surrounding marble facing, was removed in order to expose the sarcophagus to the veneration of the faithful. Both reliefs were shown in 1976 in the exhibition “Dopo Mantegna” at the Palazzo della Ragione in Padua, and are now in the Museo Diocesano.

The two reliefs, which represent St. Daniel dragged by a horse (Figure 2) and St. Daniel nailed between two boards (Figure 3), are known as works executed in 1592–93 by the Paduan sculptor Tiziano Aspetti (ca. 1561–1606). They were first published and illustrated in our century by Planiscig in 1921.2 Later they were discussed in Benacchio’s well-documented study on Aspetti, as well as by Venturi, Pope-Hennessy, Brunetti, and Cessi.3 The documents first published by Benacchio confirmed their authorship and date, and their authenticity was never doubted until 1970, when another pair of bronze reliefs with the same compositions was acquired by the Metropolitan Museum (Figures 4, 5). A comparison between the reliefs in Padua and those in New York led to my discovery that the New York reliefs are Aspetti’s original works, while those in Padua are fairly recent aftercasts, dating probably from the end of the nineteenth century.4

Although the present article will deal with the stylistic and iconographic sources of Aspetti’s compositions, it may be useful to summarize the facts once

1. F. S. Doni dell’Orologio, Due lettere sopra la fabbrica della cattedrale di Padova (Padua, 1794) pp. 42–43. C. Bellinati and L. Puppi (Padova, Basiliche e chiese [Venice, 1975] p. 90) mention, however, the date of June 3, 1592, for the translation of the relics.
1. The Altar of St. Daniel in Padua Cathedral, rear view, photographed in 1970 (photo: Antonello Perissinotto)

2. St. Daniel Dragged by a Horse, bronze replica of the relief now in the Metropolitan Museum. Padua, Museo Diocesano (photo: Osvaldo Böhm)
more concerning the two sets of reliefs. The Museum reliefs were purchased in Munich and came from the collection of Eduard Arnhold (1849–1925), a well-known Berlin industrialist and art patron, whose acquisitions were made at the beginning of this century following the advice of Bode and Tschudi. Although no mention of the reliefs could be discovered in any source, their outstanding quality shows them as of undoubtedly sixteenth-century workmanship. Their metal is of a rather yellowish brassy color and their surfaces are tooled throughout, with many vigorously chased, engraved, and hammered passages, such as the brick patterning of the walls, the details of the costumes, the texture of various materials, and the firmly defined facial traits with deeply bored pupils. The whole is covered with the firm, opaque, black patina that is so typical of sixteenth-century Venetian monumental bronzes.

While in principle one cannot rule out the possibility that the sculptor prepared a second set of casts for another patron, a careful comparison with the reliefs in Padua shows that the two sets are fundamentally different in workmanship. The Paduan reliefs are cast from a reddish metal which shows through a rather thin, sloppily applied, black patina, and the surface has none of the chased and stippled details that give so much life to the Metropolitan Museum versions. True enough, the figures are identical in composition, but their surfaces have a bland and boring look. There is no brick patterning, no hammered or engraved detail—save for a thin line incised along the edge of some of the costumes. The faces, with blank staring eyes, are classicizing rather than intensely expressive, the hair is chased in heavy rather than crisp locks, the contours are smooth rather than angular. There are differences also in the inscription incised on the rear wall in each scene: Titian aspecti patavini opvs (Figures 2 and 4; the name is spelt ASPETTI in the other

5. Eduard Arnhold, Ein Gedenkbuch (Berlin, 1928).


scene, Figures 3 and 5); in the Metropolitan reliefs the inscription is surrounded by an incised cartouche, while in the Paduan reliefs it is not. Finally, the initials M.A.V.F. traced on the lower edge of the Metropolitan St. Daniel Nailed Between Boards do not appear in the Paduan set. These initials (Figure 6) must refer to the name of an as yet unknown Venetian bronze founder: M.A.V[ENETUS?] F(ECIT).

From a comparison of their measurements, it appears that the two reliefs in Padua are somewhat smaller than those in New York. This discrepancy can be accounted for by the irregular shape of their edges. But when we compare their inner measurements, these also appear to be consistently smaller, with differences ranging from 1 to 2.5 centimeters. This is a reduction that can be explained only if we assume that the Paduan reliefs were not cast from the same model, but from a plaster cast taken from the larger reliefs. The suspicion that such aftercasts may have been taken not in the sixteenth century but in fairly modern times is fully confirmed by the appearance of the reverse side of the relief, which I examined in 1970 in the treasury of the cathedral. While the Museum bronzes show the typical, dark, partly oxidized reverse of sixteenth-century castings, the relief in Padua has the muddy, pinkish coloration of a cast of fairly recent

6. St. Daniel Dragged by a Horse: 45 × 71 cm. (Padua), 48 × 73 cm. (MMA); St. Daniel Nailed Between Boards: 44 × 68 cm. (Padua), 48 × 74.5 cm. (MMA).

7. I should like to thank Monsignor Professor Arcangelo Rizzato, treasurer of the cathedral chapter, for kindly giving me access to the normally closed treasury and helping me to inspect this relief.

The discovery of the originals of Aspetti’s reliefs for the cathedral of Padua offers an ideal opportunity for a fresh analysis and evaluation of these works, which in recent literature have been surrounded by some uneasiness and critical uncertainty. Their study may also be useful in arriving at a better definition of Aspetti’s artistic personality and of the place he occupies in the history of late sixteenth-century Venetian sculpture.

The subjects are sufficiently uncommon to merit a word of explanation. St. Daniel, together with St. Prosdocimus and St. Giustina, is one of the patrons of Padua. He was a deacon of the Paduan church at the beginning of the fourth century A.D., and died as a martyr, probably during the persecutions of Diocletian.8 Nothing is known about his life, and his legend rests only upon the discovery in 1075 of an ancient

marble sarcophagus allegedly inscribed "hic corpus Danielis martyris et levitae quiescit. In the absence of any textual account, a reconstruction of his manner of death was inspired by the sight of the unusually tortured body of a Christian deacon found inside the sarcophagus, laid upon a marble slab, covered with a wooden board, and pierced by many nails.9

In the first of the reliefs (Figure 4), we see the martyr still clad in his ecclesiastical vestments, lying on the ground, tied by his legs to a rearing horse which is restrained by a Roman soldier ready to march; this soldier looks back to an officer on the far right, who is giving the signal to start off.

The second relief (Figure 5) depicts Daniel in his final agony: his naked body lies pressed between two boards upon a table, with two executioners hammering away at a row of enormous nails while a third executioner, casually turning back to speak to a Roman officer, drills through the upper board.

Both the choice of the scenes and the insistence upon the details of the torture are typical of the Counter-Reformation spirit that lies behind this commission. While traditional Paduan iconography had portrayed Daniel as a serene-looking young deacon carrying a model or a banner of the city of Padua,10 the new post-Tridentine, late sixteenth-century devotion required a dramatic depiction of his martyrdom. When on May 18, 1592, the canons of the cathedral voted to ask the president of the Fabbrica, Monsignor Camillo Borromeo, to commission two bronze reliefs representing the martyrdom of St. Daniel, they explicitly said that these were expected to be made "at his own discretion."11 A cousin of St. Charles Borromeo, Monsignor Camillo was the cathedral theologian, and a man of great learning and piety.12 It was undoubtedly he who formulated the two scenes of Daniel’s torture, based on hagiographical texts as well as on two eleventh- and twelfth-century manuscript accounts of the Inventio Danielis.15

The episode of the horse is evidently an interpretation of Daniel’s suffering by diversis supplicis, mentioned in the eleventh-century text. As to the second torture, the depiction of Daniel pierced by huge nails clearly reflects the wording of the twelfth-century

6. Detail of Figure 5, showing founder’s inscription at lower left

9. For a discussion of the legend, see A. Barzón, Padova cristiana (Padua, 1955) pp. 237-251. There were remains of the martyr’s liturgical vestments.


11. "1592 inditione V° die luna 18 mensis maii Padua in sacristia maiorior loco solito capitulari. Vada parte che sia commesso a Mons. Borromeo presidente della fabbrica il far far dei quadri del martirio nell’arca del glorioso martire S. Daniele di bronzo come parerà alla prudenza sua essendo e il Presidente e il Rev.mo e Ill.mo Vescovo concordi. Quae pars cunctis votis captata remanit” (Benacchio, “Titian Aspetti,” p. 145, doc. xxi).

12. P. Litta, Famiglie celebri italiane (Milan, 1819–1921) II, s.v. Borromeo di S. Miniato, pl. 3.

13. The earliest account is in the library of the Seminario Vescovile in Padua, MS. 540. The latest, written by a Magister Franciscus de Donocis de Mutina, was in the library of the Eremitani in Padua, and was published in F. Dondi dell’Oratorio, Dissertazioni sopra l’istoria ecclesiastica di Padova (Padua, 1802) III, p. 54. Excerpts from both texts are quoted side by side in J. Brunacci, Chartarum coenobii S. Iustinae explicato (Padua, 1789) pp. 125ff.
Daniel was lying upon a wooden board of the same size as his body, which was flat and stretched out. He was covered with a marble slab of the same size, joined together with the board underneath him by means of enormous iron nails. These pierced the head, the chest, the belly, and all the limbs of the martyr. All of this showed what suffering he had been subjected by the heathen.14

Since no contract commissioning the reliefs from Aspetti has survived, we do not know what agreements were made concerning their actual execution. But we may suspect that the sculptor was given considerable freedom, for when the bronzes were delivered early in 1593, the canons were surprised to find that they had not been carried out as mere bas-reliefs but comprised figures almost fully in the round. Indeed, the canons were so pleased that they nearly doubled Aspetti's fee and paid him 110 scudi over and above the 140 that had been originally agreed upon.15 Undoubtedly Aspetti's success was due to the fact that he had managed to translate Borromeo's instructions into the forthright and edifying manner that the Church expected artists to employ in the depiction of sacred subjects.

In the absence of any iconographic tradition to which Aspetti could turn for the formulation of the two scenes, it is interesting to see what visual sources he drew on in creating his own compositions. For St. Daniel Dragged by a Horse, a Venetian model existed in the Martyrdom of St. Isidore, as represented in St. Mark's in the chapel of St. Isidore. The same torture is depicted in one of the mosaics of the vault, executed about 1355 (Figure 7),16 as well as in a relief on the mid-fourteenth-century sarcophagus of the saint.17 It is the mosaic scene that was obviously adapted by Aspetti. As a simple comparison between the two compositions will show, the sculptor, although reversing the scene, has, in fact, reused several details in a remarkably literal fashion. The rather inexplicable little boy riding the horse in the relief (Figure 8) derives from the young man on horseback in the mosaic, and both look back in much the same way at the martyr behind them. Even the group of soldiers and commanding officer on the right in Aspetti's relief seems to be inspired by the group of gesturing soldiers standing at the far left in the mosaic.

The adaptation by Aspetti of a fourteenth-century mosaic can hardly surprise us when we remember the interest that St. Mark's ecclesiastic authorities were showing, in the second half of the sixteenth century, in the preservation of the old mosaics. A special decree, promulgated in 1566, emphasized the respect due to them and to the faithful retention of their iconography.18 In this sense, in patterning the martyrdom of St. Daniel on the time-honored story of the martyrdom of St. Isidore, Aspetti could well be seen to confer a measure of historical dignity on his own composition.

As to St. Daniel Nailed Between Boards, it is evident that Aspetti has adapted and recomposed elements derived from a sacrificial scene that occurs in at least two late antique sarcophagi, well known to the sixteenth century: the sarcophagus now in the Uffizi (Figure 9),19 and another at Mantua.20 The pose of the kneeling attendant in the foreground (Figure 10) is derived from that of the victimarius holding the head of the steer, that of the executioner on the left-hand side echoes the pose of the Roman popa swinging his ax, while the two figures on the far left seem to derive from those at the left in the Mantuan relief. Such compositional similarities are far from coincidental and once they are recognized, Aspetti's rendering of Daniel's torture appears more clearly as an allusion.

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8. Aspetti, St. Daniel Dragged by a Horse, detail
to the sacrificial role of the Christian martyr. In the same spirit, the ultimate victory of Daniel's martyrdom is appropriately symbolized by the design of the facade in the background: three bays reminiscent of a triumphal arch, with two reclining Victories at the center, holding the head of a Medusa.

If we now consider how Aspetti chose to organize the two reliefs, we notice that both scenes take place against an architectural backdrop parallel to the picture plane, the characters being confined to a narrow stage front and almost jutting into space. The choice of this traditional classicistic scheme was undoubtedly

9. Sarcophagus with sacrificial scene (detail), Roman, 1st century A.D. Florence, Gallerie degli Uffizi (photo: Deutsches Archäologisches Institut, Rome)

10. Aspetti, St. Daniel Nailed Between Boards, detail
inspired by the design of the nine marble reliefs in the chapel of St. Anthony in S. Antonio, where a similar basic arrangement is uniformly maintained. The last of these reliefs, which depict scenes from the life of the saint, was that of *St. Anthony Raising a Youth to Life in Lisbon* (Figure 11), designed and partly executed in Venice by Danese Cattaneo shortly before his death in 1572, and carried to completion by Gerolamo Campagna in 1577.


A comparison between this work and the St. Daniel reliefs shows a similar reliance on dramatic groupings of figures together with crossing diagonal lines that stress a multiplicity of psychological tensions. Violent gestures and exaggerated contrapposti point to the emotional involvement of the characters, who no longer simply witness the events but fully participate in them. In the Aspetti reliefs, which depict not a miracle but scenes of martyrdom, the bystanders are moved by feelings of cruel hostility, jaded indifference, or involuntary horror, but the expressive devices used by the artist are very similar to those employed in the Cattaneo–Campagna relief. Other similarities also indicate Aspetti’s careful study: for instance, the two shallow figures in profile who seem to travel across the background of *St. Daniel Nailed Between Boards*, as do some figures in the Cattaneo–Campagna relief—a conventional device employed even earlier by Jacopo Sansovino in the relief of *St. Anthony’s Miracle of the Maiden Carilla*, also in the Santo. Direct quotations from Sansovino rather than Cattaneo occur elsewhere in the reliefs: for example, the two soldiers with long, flowing beards in the center of *St. Daniel Dragged by a Horse* are borrowed from figures in Sansovino’s bronze relief in St. Mark’s, Venice, of *St. Mark Saving a Servant of the Lord of Provence from Death* (Figure 12).

Such occasional borrowings or adaptations from Sansovino’s works serve mainly to draw our attention, however, to the fundamental difference between their compact plasticity and the mannered, linear style practiced by Aspetti. The angular, astrigent modeling of his figures, their complicated poses, and their lively, somewhat exaggerated gestures are part of a personal vocabulary that he developed during his first twelve years of activity in Venice, before obtaining the Paduan commission.

We know that in 1580 Aspetti was living in Venice, having in 1577 entered the household of the patriarch of Aquileia, Cardinal Giovanni Grimani (ca. 1500–93), well known as a patron and collector. At the outset he probably spent some time in one of the

leading studios of Venice, in order to learn the technical side of his art. If so, this apprenticeship is likely to have been in the studio of Campagna, rather than that of Vittoria as has been suggested. For there is no trace of the influence of Vittoria's soft, painterly manner on Aspetti's later style, while there are several points of contact with Campagna, especially in the underlying classicism of both sculptors. The really determining influence, however, came from Aspetti's early acquaintance with the works of the Mannerist painters whom Grimani had patronized since the 1560s—Giuseppe Porta called Salviati, Battista Franco, and Federico Zuccari—who all worked on the decoration of the Grimani Palace at Sta Maria Formosa and the Grimani chapel in S. Francesco della Vigna. Their emphasis on Florentine disegno must have provided a basic direction for the young Aspetti, as did his study of the famous collection of antiquities assembled by the patriarch of Aquileia: a collection for which we know that between 1587 and 1592 Aspetti restored several marbles, willed by Grimani to the Venetian Republic.  

Aspetti's earliest commissions, no doubt obtained through the offices of Patriarch Grimani, reflect his classicistic and somewhat eclectic education. Venus Visiting Vulcan's Forge, a relief carved in 1589 for the chimney piece in the Sala dell'Anticollegio of the Doges' Palace (Figure 13), is still a beginner's work: it combines a self-conscious classicism with the influence of the engravings of Battista Franco and of the early paintings of Palma Giovane. A work such as The Gathering of Manna in S. Giovanni dell'Orto (Figure


14), painted by Palma Giovane in 1575 soon after his return from Rome, provided Aspetti with a repertory of Mannerist poses and groupings and a staccato style of narration that would eventually determine his own relief style.

The St. Daniel reliefs show that Aspetti looked also at the works of Federico Zuccari and Veronese, adapting from them compositional devices and formal inventions, much in the same way that Campagna drew upon Michelangelo and Tintoretto.

In St. Daniel Nailed Between Boards, the rigid, centralized, boxlike structure of the composition recalls Zuccari's Flagellation of 1583 in the Oratorio del Gonfalone in Rome (Figure 15). Here we find the same crisscrossing of diagonal lines leading in and out of the picture and such typical Zuccaresque repoussé figures as the helmeted soldier in the left foreground, translated by Aspetti into the officer standing at the far right in the relief (Figure 16). It is undoubtedly Zuccari's rigid, linear, geometrical style, represented in Venice itself by his fresco of Barbarossa Making Obeisance to Pope Alexander III painted in 1582 in the Doges' Palace, that accounts for the style adopted by Aspetti in the Paduan reliefs.

Veronese's influence, on the other hand, can be detected in Aspetti's use of contemporary costumes and such decorative touches as the opulent gallooned banner in St. Daniel Dragged by a Horse. Instead of classical armor, Aspetti exploits the variety of late sixteenth-century military apparel. Here are the plumed burgonets, cuirasses and quilted jackets, breeches, and shoes worn by the Venetian officers, and the leather caps and coats of mail of the soldiers and the galeotti in the plates of Cesare Vecellio's Habiti antichi et moderni di tutto il mondo (1589–90). Their use gives the reliefs the lively, picturesque tone of miniature tableaux vivants, staged like a classical play in front of an architectural screen.

It is in this theatrical vivacity that we find Aspetti's most original, inventive character. We see it at its clearest in his handling of figures, which are firmly and deftly modeled, while the light is sent bouncing and rippling over well-defined surfaces, always preserving the integrity of the taut outlines. The incised initials M.A.V.F. show that, like other contemporary sculptors, Aspetti used a professional founder to cast his wax models into bronze. But surely it was he who controlled the various decorative surface effects, the elaborate chasing and engraving that give the finished works a formal elegance and refinement and that distinguish them from the bronzes cast after Campagna's or Vittoria's models.

The success of Aspetti's reliefs in the cathedral brought him almost immediately an even more important Paduan commission: the decoration of a new altar for the chapel of St. Anthony in S. Antonio, which he obtained in the fall of 1593. It is interesting to note that the wording of the contract between Aspetti and the Congregazione dell'Arca for the bronze statues for this altar stipulates that the new works be "as beautiful as those made for the altar of St. Daniel." Aspetti's bronzes, especially the four Angels still on the altar of St. Anthony (Figure 17),


23. S. J. Freedberg, Painting in Italy 1500 to 1600 (Harmondsworth, 1970) fig. 292.
and the four *Virtues* which now stand on the communion rail of the church (Figure 18), are indeed strikingly similar in facture to the cathedral reliefs. Modeling, surface treatment, metal, and patination of all these statuettes are virtually identical. The *Angels* step forward with the same feverish animation as some of Aspetti's soldiers. The *Virtues*’ complicated, slightly precious stances and expressive gestures are similar to those of certain figures in the reliefs. All sport belts and costume borders with beautifully engraved arabesques similar to the borders of the banner or the edge of Daniel's vestments in the "dragging" scene.

The St. Daniel reliefs have often been used as points of reference for the attribution to Aspetti of a number of bronze statuettes. Two of the most convincing are figures of Mars: one as a heroic nude, as represented by an example in the Frick Collection (Figure 19), the other, in pseudo-classical armor, as in an example in the Metropolitan Museum (Figure 20). The design of these statuettes clearly depends


on some of the figures surrounding St. Daniel in the reliefs, while their surfaces display the same metalworker’s delight in the sharp, graphic definition of details.

Some new attributions may also be proposed on the basis of the reliefs and related works. A bronze statuette of a putto holding a shell (Figure 21), published by Bode with a tentative attribution to Niccolò Roccatagliata,\(^28\) recalls the compositional rhythms of Aspetti’s *Virtues*. The *Putto’s* energetic striding forward and bending sideways are especially close to the movement of Aspetti’s *Charity*, who is accompanied by similar, moon-faced children.\(^29\) It is tantalizing to note that, like the St. Daniel reliefs, this bronze statuette was once in the Eduard Arnhold collection. Is it a simple coincidence, or could the statuette—which may have served as a holy water stoup—have also come from the cathedral of Padua? The whereabouts of the *Putto* today are unknown.

It must have been Aspetti’s success in handling the bronze medium that brought him opportunities to work in silver. From a letter he wrote in 1602 to the


duchess of Mantua, Laura Gonzaga,\textsuperscript{30} we learn that he had made two statues of silver for her. Nothing more is known about them. There are, however, two large silver statuettes of SS. Peter and Paul now in the Boymans Museum, Rotterdam (Figures 22, 23), which have been ascribed to Vittoria,\textsuperscript{31} but which, in my opinion, bear all the hallmarks of Aspetti's style. They have elongated, sickle-shaped contours, sharply articulated stances, and low-belted garments with lavishly engraved details that are strikingly close to those of Aspetti's \textit{Virtues}, while their stern expressions recall certain faces in the St. Daniel reliefs.

It is in these first Paduan works of the young Aspetti that we can now more convincingly grasp the true quality and originality of his personal style: a lively, narrative, almost vernacular language, which stems from a delicate balance between the conventions of late sixteenth-century Florentino-Roman \textit{maniera} and the tenacious traditions of Venetian and Paduan classicism.

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\textsuperscript{30} "ma perch\`e le cose de li argenti portano maggior tempo di quel che non si stima o deferito sino ora pero io spero di esser di domenica ouero marti con le due statue l'una finita a fato et l'altra a bonissimo termine et spero che sua Altezza restar\`a compitamente satisfata . . ." (A. Bertolotti, \textit{Artisti in relazione coi Gonzaga signori di Mantova} [Modena, 1885] p. 79).

\textsuperscript{31} Rijksmuseum, Amsterdam, \textit{Meesters van het bronzen der Italiaanse Renaissance} (Amsterdam, 1961) nos. 153, 154. The similarity between these statuettes and the work of Aspetti has been noted by Ulrich Middeldorf.
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Tapestries for a Cardinal-Nephew: 
A Roman Set Illustrating 
Tasso’s Gerusalemme Liberata 

EDITH A. STANDEN 
Consultant, Department of European Sculpture and Decorative Arts, 
The Metropolitan Museum of Art

When Pietro Ottoboni became Pope Alexander VIII in October 1689, he was nearly eighty years old; he is reported to have said, “Let us make all possible speed, for the eleventh hour has struck.”¹ He did, indeed, die on February 1, 1691, but during his brief reign he had been able to do much for his relatives. Among these was his great-nephew Pietro, born in 1667, whom he made a cardinal in 1689. The dignity was supported, of course, by such sources of substantial revenue as could be assigned to a layman, for the young Ottoboni did not become a priest until 1724. He may well be called the last of the Cardinal-Nephews, for a bull of June 22, 1692, put an end to papal nepotism for ever.²

The most important title the new cardinal assumed was that of vice-chancellor of the Papal State, an appointment for life. The Palazzo della Cancelleria therefore became his principal residence; until his death in 1740 it was, according to an authority on the period, “the centre of the most enlightened and extravagant patronage in Rome.”³ Here Ottoboni accumulated his paintings by old and modern masters, his sculptures, classical gems, clocks, jewels, and musical instruments; here he installed two theatres and entertained lavishly, for he was, as a contemporary wrote, “amatore di musica, poesia e di allegrezze.”⁴ Arcangelo Corelli and Alessandro Scarlatti benefited from his patronage and Filippo Juvarra produced scenery for his theatres. A portrait by Francesco Trevisani, one of his favorite painters, in the Bowes Museum, Barnard Castle, England (Figure 1), shows the young cardinal in a surplice made mostly of fine Venetian needlepoint lace, placing his hand on an elaborately carved desk;⁵ a golden bell and a silver

2. Ibid., pp. 637, 638.
5. Frank R. D. Federico, Francesco Trevisani (Washington, 1977) pp. 21, 73, no. 5, pl. 100. The author believes the portrait was painted between 1700 and 1705; this dating is supported by the style of the lace, which is not the sculptural 17th-century gros-point de Venise, but has a lighter quality, typical of early 18th-century lace.
inkstand are beside him; the Ottoboni arms—an eagle with two crowned heads standing on a banded globe—appear on the back of a chair behind him, as a three-dimensional carving.

It is these arms, shown in the upper corners of four tapestries in the Metropolitan Museum, that have led to the identification of one of the very few sets with secular subjects woven in Rome in the eighteenth century. The set is listed in the inventory made soon after the cardinal’s death in 1740; we thus know that it consisted of at least seventeen pieces, all 14½ to 15 palms high, of which ten can now be identified.

The tapestries were hung in five rooms of the Cancelleria. In the first room was a single wide piece:

Un pezzo d’arazzo tessuto in altezza di p.mi quattordici e mezzo e di lunghezza p.mi ventisei e mezzo rapp. e diverse figure in piedi boscareccie e padiglioni ad uso militare, con suo freggio che lo circonda essendoci in un cantone la seg.te iscrizione: nouzon 1735 con titolo sopra il medesimo: La bella Armida di sua forma altera e de’ doni del sesso e dell’etade, festoni a uso de fiori e figure che tengono sopra la testa una palla sbarrata con l’aquila sopra.

It was appraised at 500.45 scudi.

This tapestry (Figure 2) was last sold at Sotheby’s, London, on April 29, 1960, no. 105, when it was bought by the London dealer C. John. It is 10½ feet high and 21 feet wide. The inscription is from canto 4, stanza 27, of Tasso’s Gerusalemme Liberata; this is part of the account of how Armida, the beautiful niece of the pagan wizard, Prince Idrastes of Damascus, prepared to go alone to the Crusaders’ camp to cause as much trouble as she could. The name “Nouzon” must be that of a weaver and will be discussed later.

In the next room were three tapestries, one wide and two narrow. One of the latter is described in the inventory:


This tapestry is one of four bequeathed to the Metropolitan Museum by Mrs. William Coles in memory of her son, William F. Coles, in 1891 (Figure 3).

6. “Nel 1° d’oro all’aquila bicipite di nero, coronate del campo nelle due teste; nel 2° trinciato d’azzurro e di verde da una banda d’argento.” The Emperor Rudolf II granted the imperial double-headed eagle to the Ottoboni family in 1588 (Armando Schiavo, Il Palazzo della Cancelleria [Rome, 1964] p. 100, n. 4).

7. The identification of the arms was made by the late Anthony Clark.

8. The Roman palmo was 22.3 cm., or 8¾ in. A transcription of the pertinent entries in the inventory was kindly sent to me by Olivier Michel.

9. Previously sold at Christie’s, July 14, 1885, no. 3202, from the Christopher Bennett Denison collection, and July 17, 1952, no. 233. C. John has no record of its present location. The appearance of many of these tapestries in the Hamilton Palace sale of 1882 will be discussed later.

10. See also Figures 9, 12, and 13. The tapestries are mentioned in Museum handbooks of 1894 and 1895. This piece is illustrated in George Leland Hunter, Tapestries, Their Origin, History and Renaissance (New York, 1912) pl. 777b.
2. Armida Prepares to Go to the Crusaders' Camp, Italian (Roman), 1735. Wool and silk tapestry, 10 ft. 6 in. × 21 ft. (3.20 × 6.40 m.). Location unknown (photo: after sale catalogue, 1960)

Thanks to the name of the weaver—P. FERLONI F. ROMAE A.D. MDCCXXXIX—given at the foot of this piece, it has always been known that the tapestries were woven at the San Michele manufactory in Rome under the direction of Pietro Ferloni. The inscription here reads: C 2 / S 2 / 10 L’IMAGINE TOLSI. 10 / SON COLEI / CHE TV RICERCHI, E ME PVNIR / TV DEL. It is from canto 2, stanza 21, of the poem and is the Christian Sophronia's defiant speech to Aladin, king of Jerusalem. This monarch, hearing of the approach of the Crusaders, orders a statue of the Virgin to be removed from a church and placed in a mosque. When it then disappears, he decides to massacre all the Christians of the city, but the maiden Sophronia admits to having taken it and asks that she alone be punished. The tapestry is 12 feet 4 inches high and 10½ feet wide.

Aladin wears a turban like that of a Turkish sultan and the headdress and wide sleeves of several of his men-at-arms show them to be janissaries. The imposing figure on the right is presumably Ismeno, a renegade sorcerer, who had advised the king to transfer the statue to the mosque.

The large tapestry in the same room is described as:

altro rapp. e battaglie con figure in piedi coll'istesso freggio simile dell'istessa altezza e di longhezza di p.mi venti sei con intitolazione nel mezzo del freggio di sopra nella cartella: E le chiome dorate dal vento sparse, giovane donna in mezzo il campo apparse, con altra annot. e nel fine di de arazzo su la mano dritta sopra il freggio che dice: Nouzon 1735.

This tapestry was last sold at Sotheby Parke Bernet, New York, June 24, 1977, no. 79, as property from an eastern museum (Figure 4). It measures 11½ feet by 19 feet 7 inches and shows the moment described in canto 3, stanza 21, when the warrior-maiden

11. The Turkish character of the costumes was noted by Heinrich Göbel, Wandteppiche: II. Die romanischen Länder (Leipzig, 1928) I, p. 425. The janissary's headdress remained unchanged until 1876. A 17-century example is in the Badisches Landesmuseum, Karlsruhe (Der Türk enlou s, exh. cat. [1955] no. 400, pl. 45). Depictions of janissaries and a sultan contemporaneous with the tapestries are found in the works of J. B. Vanmoor, 1671–1737 (Remmet van Luttervelt, De "Turke" Schilderijen van J. B. Vanmoor en zijn School [Istanbul, 1958] pls. 4, 9, 10).

3. *Sophronia's Defiance*, Italian (Roman), 1739. Wool and silk tapestry, 12 ft. 4 in. × 10 ft. 6 in. (3.76 × 3.20 m.). The Metropolitan Museum of Art, Bequest of Elizabeth U. Coles, in memory of her Deceased Son William F. Coles, 1891, 92.1.16
4. *Clorinda and Tancred in Combat*, Italian (Roman), 1735. Wool and silk tapestry, 11 ft. 6 in. × 19 ft. 7 in. (3.51 × 5.97 m.). Location unknown (photo: Sotheby Parke Bernet)
This tapestry has not been identified. The quotation is from canto 2, stanza 45, and gives the words spoken by Clorinda to the executioners who are about to burn Sophronia and her lover Olindo at the stake. The same scene was illustrated in a Genoese edition of the poem, published by G. Pavoni in 1617 (Figure 5).

The three tapestries in this room were appraised at 1012.05 scudi. If the wide piece, like the first tapestry described, was valued at 500.45 scudi, the other two would have been worth 255.80 each.

There were four tapestries in a room described as "ove è situato il p.mo baldacchino." All had "figure diverse in piedi con loro fregio rapp.te frutti e fiori con figure ne cantoni, quale anno sopra le spalle una palla sbarrata con aquila di due [teste] . . . con altra iscrizione a pie della cimase di d.i quattro arazzi: P. Feroni f. Romae A.D. 1738 e 1737" and a valuation of 394.90 scudi each. All four were 14⅜ palmi high. The inscribed quotations are given for each piece. The first has: "Tratto al tumulto il pio Goffredo intanto vede fero spettacolo improvviso." It is 17½ palmi wide and has not been identified, but, as the quotation comes from canto 5, stanza 32, it must show Godfrey finding the body of Gernando, killed by Rinaldo. The second tapestry, also not identified, has: "Va dal rago alle nozze, ed è gia sposo fatto di reo non pur d'amante amato." It is 17 palmi wide. The quotation is from canto 2, stanza 53, so the tapestry illustrates the happy ending of the Sophronia and Olindo episode; the king has pardoned them, and Sophronia, previously reluctant, has agreed to marry Olindo.

The third tapestry listed as in this room is 20½ palmi wide and is now in the embassy of the German Federal Republic to the Vatican (Figure 6).18 The inventory gives the inscription as "Subito il nome di ciascun si scrisse, e in picciol urna posti e scossi foro"; this is from canto 5, stanza 73. The Crusaders, directed by Godfrey, draw lots to decide which ten

5. Camillo Cungi after Bernardo Castello, Sophronia and Olindo Rescued by Clorinda, 1617. Engraving. The Metropolitan Museum of Art, Department of Prints and Photographs, Harris Brisbane Dick Fund, 48.53.2

Clorinda, who had come from Persia to help Aladin, has had her helmet struck off by Tancred's spear. Another Crusader raises his sword, but Tancred, who has seen her golden hair and fallen in love with her, rushes up to protect her. Clorinda's fallen helmet lies on the ground beside the hind legs of her horse. Jerusalem, with archers shooting from its battlements, is seen in the background.

The third tapestry in this room was almost square:

altro di simile altezza e di larghezza p.mi tredici avantage con freggio consimile ed impressa sud.a rapp.e simil.te molte figure in piedi, con iscrizione nella cartella in mezzo al freggio seg.te cioè: Alcun non sia di voi, che in questo duro ufficio oltra seguire abbia baldanza.

13. Mariapia Vecchi, Ambasciate estere a Roma (Milan, 1971) p. 313, seen on the wall of a staircase in the embassy of the German Federal Republic in Rome. This tapestry and its companion (Figure 11) have been moved to the embassy to the Vatican.

I am indebted to Dr. Eva Stahn for this information. No recent photography has been possible of either piece. Both are illustrated in the Répertoire des biens spoliés en France durant la guerre 1939–1945, deuxième supplément aux tomes II, III, et IV: Objets d'art, published by the Commandement en Chef français en Allemagne (n.p., n.d.) p. 38, nos. 632, 633 (described as from the Mobilier National).
knights will go with Armida to recover the heritage that she says has been stolen from her. Armida, in exotic costume, stands on the right beside Godfrey, as a knight draws his lot from the urn; the Crusaders wear approximations of Roman armor.

The fourth tapestry in this room has not been identified. It is 18 palmi wide and inscribed: "Si che le vie si sgombra e solo ad onta di mille difensor Gernando affronta." This is from canto 5, stanza 29, which describes how Gernando, having insulted Rinaldo, of whom he is jealous, fights him and is killed.

"La stanza contigua più grande ove sta il secondo baldachino" had no less than six tapestries, only one of them narrow. All are 15 palmi high:

tutti rapp.it figure diverse in piedi con il loro freggio rapp.it figure quali sopra alle spalle sostengono una palla con sbarra e aquila con due teste sopra, con vaso di fiori sotto e nel freggio di sotto rapp.it frutti.

One piece is 23\(\frac{1}{2}\) palmi wide and is inscribed, according to the inventory: "Questo finto dolore molti eligge lagrime vere e i cor più duri spetra." This tapestry is

in the San Francisco Opera House (Figure 7). In the same location is another piece from the same room in the Cancellaria, 20 palmi wide, inscribed, according to the inventory: “Ch’essi un di loro scelgono a sua voglia che succeda al magnanimo Dudone” (Figure 8). The year MDCCXXXVI is visible on the first and the inventory states that the second has a border inscription reading: “P. Ferloni Rom. F. in O. A. A.D. 1732.” This is the earliest date found on the tapestries.

The quotations on these two tapestries come from canto 4, stanza 77, and canto 5, stanza 2, and refer to episodes of Armida’s incursion into the Crusaders’ camp. Telling Godfrey that her wicked uncle has deprived her of her heritage, the city of Damascus, she asks for help; Godfrey refuses, but she wins the tears and sympathy of his brother and other knights. The first tapestry shows the weeping Armida in Godfrey’s tent; he must be the central figure in the group of three on the right with his hand on his breast, expressing regret, while the warriors on the left are visibly impressed. In the second San Francisco tapestry, Godfrey, standing in the center, tells the followers of the slain Dudone to choose another leader, who will then select ten knights to accompany Armida and fight for her. Dudone’s tomb, surmounted by a trophy of arms and bearing an inscription beginning QUI GIACE DUDON ..., stands in the background.

A third tapestry from the six once in the “larger room with the second baldachino” is now in the Metropolitan Museum (Figure 9). The inscription reads: C 3 / s 3 / ecco da mille voci / vnitamente / GIERSALEMME SALVTAR / SI SENTE, which, except for the

7. Armida in Godfrey’s Tent, Italian (Roman), 1736. Wool and silk tapestry. San Francisco, Opera House (photo: J. Medley)

14. Both pieces in San Francisco were in the Archduke Leopold Salvator sale, Anderson Gallery, New York, Feb. 4-5, 1927, nos. 282, 283. They were given to the Opera House by A. Livingston Dump.
reference to canto 3, stanza 3, is accurately transcribed in the inventory. One of the widest pieces in the set, it is 12 feet 5 inches high and 19 1/2 feet wide, 24 palmi in the inventory. The Crusaders, having come within sight of their goal, dismount and kneel. In stanza 7 of canto 3, the commander is described as taking off his helmet, which in the tapestry lies on the ground beside him. The standards and banners of the Crusaders are topped by crosses, but are otherwise derived from classical Rome, like the armor. The round building rising above the walls of Jerusalem in the background is presumably the Temple. The same scene was used to illustrate this canto in the 1617 Genoese edition of the poem (Figure 11); the foremost kneeling Crusaders and Jerusalem in the distance are sufficiently like the tapestry to suggest that the designer of the latter knew this print.

8. Godfrey Addressing Dudone’s Followers, Italian (Roman), 1732. Wool and silk tapestry. San Francisco, Opera House (photo: J. Medley)

A fourth tapestry from this room is in the German Embassy to the Vatican (Figure 11). The inventory gives its width as 22 1/2 palmi and its inscription as: “Si che Guglielmo et Guelfo i più sublimi chiamar Godfrey per lor duce i primi.” This is from stanza 32 of the first canto. The Crusaders, assembled at Tortosa, are exhorted by Peter the Hermit, who is in the center, pointing to heaven and to the seated Godfrey of Bouillon. The latter is chosen by acclamation as the leader of the Crusade.

The remaining two tapestries in this room have not been identified. One is 16 1/2 palmi wide and has lines from canto 2, stanza 7: “E sforzo i sacerdoti e irriverente il casto similacro indi rapio.” It must show the sorcerer Ismeno removing the statue of the Virgin from the church in Jerusalem. The other, 13 palmi wide (a narrow panel) is inscribed: “Ne furia eguale a quella, ond’al’assetto quingi Tancred e quindi Ar- gante venne,” from canto 6, stanza 40, which describes the single combat between the crusader Tancred and the pagan Argante.
9. The Crusaders Reach Jerusalem, Italian (Roman), 1734 or 1735. Wool and silk tapestry, 12 ft. 5 in. x 19 ft. 6 in. (3.79 x 5.94 m.) The Metropolitan Museum of Art, Bequest of Elizabeth U. Coles, in memory of her Deceased Son William F. Coles, 1891, 92.1.17


All six tapestries in this room, according to the inventory, had inscriptions giving the name of the weaver and the date. These are transcribed at the end of the entry, but not in the order in which the tapestries themselves are listed. The section reads:

The dates 1732 and 1736 must refer to the San Francisco tapestries, but the Metropolitan Museum piece has lost its outer guard border, making it impossible to say which of the weaver's inscriptions it originally bore.

The last room in the Cancelleria with tapestries of this set is listed in the inventory as "ultima stanza che corrisponde al Pellegrino"; the via Pellegrino runs along one side of the palace. Here was:

Un arazzo simile alli descritti della camera grande contigua del 2° baldacchino alto p.mi 14 ½ scarsi, largo dicinove scarsi con iscrizione in mezzo al freggio di sopra nel cartellone che contiene ciò che segue: Ma li salute

Erminia e dolcem.te gl'affida e gl'occhi scopre e i bei crin d'oro, con altra iscrizione a piedi in un angolo della cimase: P. Ferloni Romae f. in O. A. a.D. 1733.

It was valued at 358.15 scudi.15

This tapestry is in the Metropolitan Museum (Figure 12) and is 11 feet 11 inches high and 15 feet wide. It has lost its outer guard border, so that the weaver's name and the date are now missing. The inscription reads: C 7 / S 7 / MA GLI SALVTA ERMINIA, / E DOLCE-MENTE / GL AFFIDA, E GL'OCCHI SCOPRE / E I BEI CRIN D'ORO. These lines are from canto 7, stanza 7. The tapestry illustrates one of the most frequently pictured episodes in the poem, Erminia greeting the

15. Olszewski compares the total of 5,227.65 scudi at which the Gerusalemme tapestries were appraised to the more than 8,000 scudi Ottoboni paid for the tomb of his great-uncle in St. Peter's ("Tapestry Collection," p. 108).

11. Godfrey Chosen to Lead the Crusade, Italian (Roman), 1734 or 1735. Wool and silk tapestry. Vatican City, Embassy of the German Federal Republic (photo: courtesy R. W. Lee)
shepherd and his family. The pagan maiden, hopelessly in love with Tancred, has left Jerusalem wearing Clorinda's armor. She comes to a remote valley near the Jordan, where she meets an old shepherd weaving a basket, his three small sons playing beside him. They are frightened by her warlike appearance, but she takes off her borrowed helmet to reveal her golden hair, which reassures them. The designer has


12. Erminia and the Shepherd, Italian (Roman), 1733. Wool and silk tapestry, 11 ft. 11 in. x 15 ft. (3.63 x 4.57 m.) The Metropolitan Museum of Art, Bequest of Elizabeth U. Coles, in memory of her Deceased Son William F. Coles, 1891, 92.1.15

13. Aladin Hears of the Crusaders' Approach, Italian (Roman), 1740 (?) Wool and silk tapestry, 12 ft. 2 in. x 11 ft. 6 in. (3.71 x 3.51 m.). The Metropolitan Museum of Art, Bequest of Elizabeth U. Coles, in memory of her Deceased Son William F. Coles, 1891, 92.1.14
followed the text closely. The pastoral character of the story may have appealed to Ottoboni, who was a prominent member of the famous and still existing Accademia degli Arcadi, under the name of Crato Pradelini. The academy consisted of literary men (and even some women), musicians, architects, painters, and their patrons, who took the names of Arcadian shepherds.17

Another document dates from two years after the cardinal's death and is an addition to the 1740 inventory. One entry reads: "Due pezzi d'arazzi della storia del Tasso esistenti in manò del Sig.r Pietro Fer-


18. Information kindly provided by M. Olivier Michel. The source is given by Olszewski, "Tapestry Collection," n. 38.
Its inscription reads: C 1 / S 82 / MA IL VECCHIO RE NE GIA / VICIN PERIGLI / VOLGE NEL DUBIO COR FERI / CONSIGLI. In stanz 82 of the first canto, Aladīn, king of Jerusalem, is informed that the Crusaders’ army is at hand; the savage plan that he contemplates is the massacre of the Christians. As in Figure 3, he is shown as a Turkish sultan and some of his attendants are janissaries.

It is clear that the tapestries were hung in the Cancelleria without thought for their narrative continuity. All the scenes are from the first seven cantos of the poem. From the first canto comes an event near the beginning of the action, the choice of Godfrey of Bouillon as leader of the Crusade (Figure 11). Five pieces then illustrate an episode related in this and the following canto, the story of Sophronia and Olindo. Aladīn, king of Jerusalem, hears of the approaching Crusaders (Figure 13); he orders a statue of the Virgin to be taken from a church to a mosque, whence it is surreptitiously removed by Sophronia. The king threatens to kill all the Christians, but Sophronia confesses (Figure 3); he condemns her to the stake and when Olindo, who loves her, takes the blame upon himself, orders him to be burned with her. The couple are rescued at the last minute by Clorinda and are married.

Clorinda rescuing the two Christians is one of the most frequently illustrated events in the poem. An instance not previously recorded is a Flemish tapestry sold at the American-Anderson Galleries, New York, January 14, 1933, no. 622 (Figure 14); this must have been woven not long after the first complete publication of the poem in 1581.

From the third canto come two isolated scenes, the Crusaders’ first sight of Jerusalem (Figure 9) and Clorinda meeting Tancred in battle (Figure 4). Six tapestries then recount the first part of the story of the enchantress Armīda, but are not followed by others relating the far more famous sequel to these events, her love affair with Rinald.;20 perhaps the cardinal did not consider the story suitable for an ecclesiastical palace, though this hardly seems consistent with what we know of his character. Armīda is seen preparing for her visit to the Crusaders’ camp (Figure 2) and pleading her cause there (Figure 7). Dudone, leader of the group called the Adventurers, is slain and another chief is chosen for the ten knights who are to help her (Figure 8). Godfrey finds Gernando’s body and orders lots to be cast for the privilege of becoming Armīda’s escort (Figure 6).

The fight between Tancred and Argantes was chosen from canto 6, and from canto 7 comes another frequently pictured episode, the meeting of Erminia and the shepherd family (Figure 12). This tapestry has an early date, 1733, whereas one of the first scenes in the story, Sophronia’s defiance (Figure 3), has the latest, 1739; the order of weaving, therefore, was not determined by the sequence of the episodes in the poem. Apparently visitors to the tapestry rooms in the Cancelleria were expected to know the Gerusalemme


20. The story has often been used for tapestries, such as the frequently woven Paris series of twelve scenes after Simon Vouet. A set of ten of these is in the De Waters Art Gallery, Flint, Michigan (The Viola E. Bray Renaissance Gallery [Flint, 1961]).
Liberata well enough to be able to identify the scenes with no difficulty.

Cardinal Ottoboni showed his interest in Tasso at an early age when he redecorated the Cancelleria. The architect-decorator Domenico Paradisi submitted bills for “arazzi finti . . . con paese” in 1691 and in 1693 for “pitture dell arazzi di figure dell'apartamento fatti per servitio dell' E.mo Sig.re Cardinale Ottoboni.” A payment of 750 scudi is said to be “per haver dipinti tutti li arazzi di tutte le stanze in tela con l'istorie del Tasso con fregi ornati di fiori e statue inscrizioni sopraporti.”21 Paradisi was the only artist paid for these imitation tapestries on cloth, but in 1693 the Mercurio errante described the paintings as “diverse istorie del Tasso dipinte dal Paradisi, Ricciolini, e Borgognone,” that is, by Paradisi, Michelangelo Ricciolini the figure-painter, and Francesco Borgognone the landscapist.22

The inventory lists many “arazzi finti” and rooms covered with “tela dipinta a guazzo,” but not those showing scenes from Tasso.23 Perhaps they had been replaced by the tapestries, which apparently were copied from them. This is known from a statement in the Mercurio errante of 1739 that “presentamente Sua Eminenza fa ritrarre [the paintings] in arazzi.”24 The borders as well as the central scenes of the tapestries were presumably copied from the paintings, which are described as “con fregi ornati di fiore e statue.” The statues on the tapestries which support the Ottoboni arms are different on each piece, as are the masks in the horizontal borders. The latter, however, are found on another San Michele set, that with scenes from Genesis after the ceiling paintings of the Vatican Logge (often called “Raphael’s Bible”); the three known pieces of this set are dated 1733 and 1734, which means that they were being made at the same time as the Tasso set.25 The inscription on the Creation of Eve (Figure 15) reads: RAPHR. URB. IN. VATIC. . . . F. FERLONI. F. ROMAE. IN. HOSP. AP. A.D. MDCCXXXIV. Whether Ferloni took motifs from the Ottoboni paintings and used them on other tapestries, or whether he added details from tapestry borders to the design of the Gerusalemme Liberata set cannot be determined.

The cardinal thus seems to have removed his “arazzi finti” of the Gerusalemme Liberata, which were probably by now in poor condition as “painted cloths” quickly become, and replaced them with real tapestries of the same designs.26 It is hard to understand why he should have done this, though of course once tapestries had been decided upon, it would have been cheaper to make them from existing designs. New wall paintings would probably have been cheaper still. Economy, however, can never have been a consideration with the cardinal; even when in his last years he was doyen of the Sacred College, he was described as “sans moeurs, sans crédit, débauché, ruiné, amateur

23. Ibid., pp. 335–337.
24. Ibid., p. 295. The Michel's reproduce (fig. 6) the Metropolitan Museum tapestry Erminia and the Shepherd (Figure 12).
26. They were evidently easily moved, since the Diario di Roma for Aug. 29, 1706, records that in the church of the Misericordia “si fece solenne musica, con apparire il prospio cortile e cemetary di arazzi finti del cardinale Ottoboni, nel quali si rappresentava rari fatti di Goffredo secondo la narrazione del Tasso” (Olszewski, “Tapestry Collection,” p. 106, n. 20).

15. The Creation of Eve, Italian (Roman), 1734. Wool and silk tapestry. Location unknown (photo: Sotheby's)
des arts, grand musicien.” whatever the reason, his magnificent commission for so large a set of tapestries (six or eight would have been more usual) must have been welcomed at the San Michele manufactory.

This enterprise was set up in 1710 by Pope Clement XI, in part, at least, to train orphans in handicrafts, such as tapestry weaving, painting, carving, and pietra-dura work. An Englishwoman, Lady Pomfret, described a visit to the manufactory in May 1741:

About noon today I went, as appointed, to the Signora Cenci, who carried me to see the working of the tapestry, which is done in a different manner from what I have ever seen, the tent being set edgewise. I stood on the right side, and saw the figures as they grew. The workman is on the other side, and the picture he works from behind him. The tapestry is of several pieces; but the best is very dear, if one can call so fine a thing dear at any price; it being brought to that perfection, that, in a head of St. Matthew, copying from Guido, I could find no difference between the spirit of the painting and that of the silk. The colours are here as good as those in France; but the designs are much better and more justly executed. The master has an apartment and nine crowns a month from the charity of St. Michael. This is so noble an institution that I cannot forbear giving you a particular account of it. . . . A hundred and eighty boys are taken in at ten years old, and maintained till one or two and twenty: they are taught all sorts of trades, for which purpose the best masters from every country are obtained, and amongst these are the tapestry-workers before mentioned.

When Lady Pomfret speaks of seeing “the tent,” or finished fabric, “set edgewise,” she is describing the usual way of weaving a tapestry that is wider than it is high. Her statement that the weaver had his cartoon behind him shows that the looms were upright ones. If the imitation tapestries, as seems probable, were taken from the Cancelleria to the manufactory, they would not have been cut into strips as would have been necessary if they had been reproduced on horizontal looms.

San Michele tapestries were acquired by popes and private individuals and a number have been identified. Most of these were woven under the directorship (from 1717 to 1770) of Pietro Ferloni, whose name is frequently inscribed on them. The full name of the manufactory was the Ospizio Apostolico de Poveri Fanciulli di San Michele a Ripa, accounting for the “in O. A.,” “In Osp.0 Ap.,” and “In Hosp. Ap.” of the inscriptions on the tapestries.

The name found on two of the tapestries dated 1735 (Figures 2 and 4) is harder to account for. In the 1740 inventory it is given as “Nouzon,” but when the tapestries (whose present whereabouts are unknown) have appeared in auction sales, it has sometimes been read as “Nouzou.” A Gobelins weaver, Louis Nouzon, made haute-lisse (upright loom) tapestry upholstery for Héron de Villefosse in 1739–40, and the name Nouzon is found on a Gobelins tapestry sofa-back in the Calouste Gulbenkian Museum, Lisbon. The letters “n” and “u” are easily confused; possibly the two Ottoboni tapestries were both made by Nouzon, the Gobelins weaver, or by some member of his family. San Michele had originally been managed by a Frenchman, Jean Simonet, and even in the 1730s French weavers were employed there; a visitor at this time wrote: “Very good tapestry is made here, several workmen from the Gobelins at Paris having been invited hither by great encouragements.” A Nouzon could have been one of them.

But another explanation is possible. Francesco Valesio in his Diario di Roma for October 4, 1735, wrote that Cardinal Ottoboni had given the French ambassador “una cantata con sontuoso rinfresco e spiegò alcuni arazzi nuovi, uno tessuto in Fiandra, altro in Francia ed altro in Roma a S. Michele a Ripa ed è stato giudicato quello di Ripa essere il migliore.” It is unfortunate that Valesio gives no details of the cardinal’s explanation of his tapestries, but, as they were new in 1735 and at least one of them had been made

29. Correspondence Between Frances, Countess of Hartford (Afterwards Duchess of Somerset) and Henrietta Louisa, Countess of Pomfret, Between the Years 1738 and 1741 (London, 1805) III, pp. 113–115.
32. John George Keysler, Travels through Germany, Bohemia, Hungary, Switzerland, Italy, and Lorraine (London, 1757) II, p. 130. Keysler was in Rome before 1740 and describes Cardinal Otto boni (p. 228) as “of a very liberal disposition and a strong propensity to pleasure.”
at San Michele, it seems highly probable that they were pieces of the *Gerusalemme Liberata* set. It would certainly have been most unusual for pieces of a set to have been made in different places, but possibly Ottoboni, having been told by Ferloni how long it would take his workshop to weave all the tapestries he wanted, decided to send some of the "arazzi finti" to Paris and Brussels; there is a kind of magnificence about this extravagant proceeding that seems quite in keeping with what we know of Ottoboni’s character.

There are indications that this may be the true reason for the appearance of "Nouzon" or "Nouzou" on the two tapestries. Ferloni was so consistent in putting his name on all his productions that it is hard to believe he would have allowed an assistant to be so presumptuous as to replace it with his own. Another possible clue is that some of the "arazzi finti" were missing in 1756, when an inventory was made of the furnishings of the palace of the cardinal’s great-nephew in Fiano; only eleven "pezzi di tela" with "istorie" of Tasso were listed. 34 Could the others have been sent to be copied abroad? They would certainly not have come back to Italy.

Ottoboni’s heiress, his niece Maria Francesca Boncompagni Ottoboni, had to remove his collections from

34. Information from Professor Olszewski, who cites the document as Ottob. Arch., col. 86, fasc. 14, in the Lateran Library.

the Cancelleria before the new vice-chancellor moved in; the great library was sold by auction on November 10, 1745.\textsuperscript{35} Some of the \textit{Gerusalemme Liberata} tapestries may have been bought later by the tenth duke of Hamilton (1767–1852), who spent several years in Italy acquiring works of art;\textsuperscript{36} they were seen at Hamilton Palace in Scotland in 1850 by the German scholar Dr. Waagen, who mentions them as “hangings representing scenes from Tasso” in the new state-rooms (Figure 16); he adds, “their value, as works of art, are [sic] subordinate.”\textsuperscript{37}

When the multitudinous and immensely valuable contents of Hamilton Palace were sold in 1882, eight pieces of the set were included and are identifiable in the catalogue. They appeared on the fifteenth day of the sale as nos. 1914–1916, 1918, 1919, and 1922–1924. Lot nos. 1914 and 1922 are described as oblong pieces of tapestry (no. 1914 is called “Gobelins”), each with “a subject from Tasso’s \textit{Jerusalem Delivered}’ in border, with caryatid figures, masks, flowers, and fruits.” Added to no. 1914 is the information: “by Nouzou—in carved gilt frame—12 ft. by 20 ft. 10 in. Signed, and dated 1735”; and to no. 1922: “in carved and gilt frame. Signed \textit{Nouzou} and dated 1735—12 ft. by 21 ft. 6 in.” Both were bought by D. Sheratt. These must be the two tapestries known from their appearances in auction sales (Figures 2 and 4), the only pieces that bear the Nouzon/Nouzou name.

The other Hamilton Palace tapestries are less easy to identify, as only dimensions are given and no two persons’ measurements of a tapestry are exactly the same. Some are described as in carved and gilt frames, as seen in Figure 16, which probably covered part of the fabric. Two (nos. 1923 and 1924) were square and were bought by Duveen; one of them could have been Figure 13, but some of the unidentified pieces in the Ottoboni inventory are square or nearly so. Others (nos. 1916 and 1919) were uprights, bought by H. E. Kidson; one was probably Figure 3. There were two more wide pieces, no. 1915, which was probably Figure 12, and no. 1918, which corresponds closely to Figure 9. In an early photograph (Figure 16), \textit{Erminia and the Shepherd} (Figure 12) is seen on one wall of a sitting room; the other tapestry visible is \textit{Clorinda and Tancred in Combat} (Figure 4).\textsuperscript{38}

It is unlikely that the Tasso series was ever woven again,\textsuperscript{39} but it may well be that the missing tapestries from the Hamilton sale and even those known only from the description in the Ottoboni inventory will one day come to light, perhaps in places equally as diverse as an embassy in Italy and an opera house in California. Even in its fragmentary state, the set is spectacular evidence of the splendor of an extinct species, the Cardinal-Nephew, as represented by its last and certainly not least magnificent example, Pietro Ottoboni.


\textsuperscript{36} They do not appear in the 1825 inventory of Hamilton Palace, but were probably among the “Pieces of fine large Tapestry Work for all of the Rooms” listed between 1835 and 1840. In an 1876 inventory, they are described as in the Tapestry Rooms, three in the Sitting Room (Figure 16), two in the Bed Room, and three in the Dressing Room. They are called “Large Pieces of Splendid Italian Tapestry as fitted into the Panels, Subject from Tasso’s Jerusalem delivered.” Extracts from the Hamilton Palace inventories were kindly given me by Mr. Ronald Freyberger.

\textsuperscript{37} Gustav Friedrich Waagen, \textit{Treasures of Art in Great Britain} (London, 1854) III, p. 305.

\textsuperscript{38} The Hamilton Palace inventories show that six overdoors, listed in the sale catalogue as “panels with vases of flowers of the same,” were Aubusson tapestries made to order. In Mar. 1842, they appear as “10 Newly made pieces of D. [Tapestry Work] for Panels over the doors” and in 1876 as “Square Pieces of Aubusson Tapestry fixed in Panels over Door heads.”

\textsuperscript{39} Ferrari, \textit{Arazzi italiani}, p. 25, mentions episodes from the \textit{Gerusalemme Liberata} woven at the San Michele manufactory between 1791 and 1798, but does not cite any examples of these tapestries.
The Heraldic Lion in Akan Art: 
A Study of Motif Assimilation 
in Southern Ghana

DORAN H. ROSS
Associate Director and Curator of African Art, Museum of Cultural History, 
University of California, Los Angeles

European influence and in particular the impact of colonialism on the imagery of West African art have long been demonstrated with indigenous representations of musket-bearing soldiers, pith-helmeted administrators, and an occasional Christian missionary. Such undisguised subjects as these—categorically referred to as “colos” in Pidgin English—are found in the arts of many peoples of sub-Saharan Africa. The Akan peoples (Asante, Fante, Akuapem, and others) of southern Ghana are particularly inclined toward such representations owing in part to their extensive exposure to Europeans since their initial contact with the Portuguese in 1471. Not all colonially inspired images, however, are as evident as those mentioned. The lion is a prime example. At first glance the superb pair of cast-gold lions in the Metropolitan Museum’s collection (Figure 1) would appear to be obvious traditional symbols of Asante royal power (their function and date are discussed in the appendix). Yet considerable evidence suggests that the lion is not an indigenous motif, or at least not an early one, in the artistic imagery of the Twi (Akan) speakers. Perhaps surprisingly, the lion is generally rare in the visual arts of sub-Saharan Africa. The principal exceptions are found among the Akan and to a lesser extent among the Fon of southern Benin (formerly Dahomey) where a lion is the primary emblem of King Glele (reigned 1858–89). For a full appreciation of its history and meaning in Akan art, the lion must be considered in relation to its zoological cousin the leopard. Akan perceptions of the two great cats reveal significant formal and symbolic differences as well as several similarities.

Both the lion and the leopard in Akan art are potent images of leadership and are particularly common in the regalia of chiefs and court functionaries, where they evoke qualities of strength, courage, wisdom, and regal beauty. Aside from these general attributes, the large majority of feline images represent very specific messages. As is typical of most Akan iconography, the meaning of a given motif is conventionally expressed in a proverb or traditional saying (epe or ebe); thus the verbal and visual arts of the Akan are very closely linked. For example, a recurrent

1. René A. Bravmann, West African Sculpture, exh. cat. (Seattle, 1970) p. 38, was the first to note the incongruity of lion representations in Akan art although he did not expand upon his observation.

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aphorism associated with the leopard in royal contexts is “No one teaches the leopard’s cub how to spring” (Obi nkyere 3ebo ba atow), that is, the wisdom and strength of the chief are naturally passed on to his heirs. A leopard and an antelope on a Fante linguist staff—the staff of a chief’s principal counselor—at the paramountcy of Abrem represent “If the leopard had been absent, many animals would have been at the funeral of the antelope” (3ebo wamma adowa n’ayi amma). Here the much-feared power of the chief as a warrior is extolled. A cast-gold sword ornament at the Asante paramountcy of Ejisu (similar to Figure 2) depicts the maxim “If the lion has no intention to attack, it will not show its teeth” (Gyata nya wo na nnyeye wo a, nnwene ne se nkyere wo), which wisely argues for heeding the warnings of a chief. Occasionally, the Akan use the lion and the leopard as interchangeable actors in the same drama. The most common example of this shows the feline overpowering a hunter (Figure 3), associated with the saying “If you fire at a leopard (lion) and do not kill it, it would have been better not to have fired at all” (Se wo beto 3ebo (gyata) tuo na wanwuo dee fanyinam). The scene demonstrates that force must be used judiciously and with precision. The above sayings and others like them exploit the predatory natures of the felines to provide metaphors for the power of the ruling elite.

One of the most frequent representations of the lion in Akan art is found on the finials of linguist staffs and depicts a small boy touching the side of a lion or holding its tail (Figure 4). It illustrates the simple ad-


2. Sword ornament, Nsuta, Asante. Gold, H. approx. 4½ in. (11.4 cm.). Nsuta, Ghana, Treasury of the Nsutahene (photo: Ross)

5. Field interview with Nana Osei Bonsu at Kumasi, Nov. 19, 1976, concerning a linguist staff he was carving for an unidentified Akan chief in the Ivory Coast.


age “The small boy does not know the lion” (*Akwa-
biaa nnim gyata*). The expression emphasizes the im-
portance of education by suggesting the consequences
of ignorance. The boy’s naive behavior is a result of
his youthful inexperience. An unusual, but not unique,
variation of this motif forms the support of an Akan
stool in the Metropolitan Museum’s collection (Figure
5). Here the product of ignorance is vividly de-
picted; the lion’s paw rests on its victim who is clearly

9. Field interview with elders of Adansi Fomena at Fomena,
Nov. 16, 1976.

5. Stool, Akan. Wood. H. 16½ in. (41.3 cm.). The Met-
ropolitan Museum of Art, Rogers Fund, 1976.315
represented as a young child (as rare in Akan art as in African art as a whole).

It is significant, however, that the Akan say the child does not know the lion, because the Twi-speakers as a people generally do not know the lion. The Western world’s “king of beasts,” principally a grassland predator, was rare in the heavily forested ecosystem of most Akan states.10 Indeed, Ivor Wilks noted that the principal Twi word for “lion,” gyata, is a loan word from the Mande, a large series of language-related ethnic groups living in the savanna regions northwest of the Akan, an area generally well suited for lions.11 On the other hand, the leopard thrives in the forest environment of the Akan, where its inclination to sleep and eat in trees has been widely documented by zoologists.12 Accordingly, the most common Twi word for “leopard,” osebo, is apparently specific to the Akan.13

Environmental and linguistic data make it understandable why the leopard plays a much more prominent role than the lion in Akan oral literature. Although Wilks noted that the lion was a praise name among the Mande and suggested that gyata was first borrowed by the Akan in this usage,14 the lion is rare among Akan praise names.15 Akan chiefs are more frequently celebrated with leopard, elephant, and porcupine metaphors. For example, Robert S. Rattray, the leading scholar of Asante culture, recorded the following drum language praising a chief at a Brong festival in Ejura:

The hero holds a gun and a sword to fight.
Make yourself to arise.
The leopard is in the thicket.
The thicket shakes like anything.
Leopard, walk softly, softly.
O King, walk softly, softly.16

The leopard is seen as the “king of the forest” by the Akan. The preamble to a traditional Asante prayer addresses the powers of the world and includes the phrase “Leopard that possesses the forest.”17 In questions of land tenure a common saying is “The leopard [i.e., the chief] owns the land.”18 The lion is rare in such contexts. Similarly, in a compendium of 3,600 proverbs published by Johann Christaller in 1879, leopard maxims outnumber those about lions by four to one.19 Finally, of the seventy-five folktales recorded by Rattray, the leopard is a major character in at least twelve and the lion in none.20 Evidence from oral literature reflects pre-twentieth-century Akan perceptions and consistently indicates the leopard as of traditionally greater importance to the Akan than the lion.

A similar situation occurs in the use of actual parts of the two felines. Their skins, teeth, and claws are not generally important—as they are in some areas of Africa—in the personal adornment of Akan chiefs with the exception of select royal crowns. On the other hand, the skins of the felines are found on other regalia of chiefs and court officials. As one might imagine, the greater prevalence of the leopard in the forest is reflected in the widespread use of its skin as a surface covering on regalia. The author’s study of

11. Ivor Wilks, “The Mande Loan Element in Twi,” Ghana Notes and Queries, no. 4 (1962) pp. 26–28. For cognates of gyata among surrounding ethnic groups, see G.S. Cansdale, A List of Scientific and Vernacular Names of the Fauna of Ghana (Accra, 1970) pp. 11–14. While gyata is universally understood as “lion” by the Akan, there are several other vernacular names in use, the most important of which is the Fante word awinadez.
14. Wilks, “Mande Loan,” p. 28. The lion as a Mande praise name in the western Sudan dates back at least to the founding king of the empire of Mali who was called Sun Dyata (Sunjata, Sundiata), “the lord lion,” and reigned for an undetermined number of years after A.D. 1234: J. Spencer Tringham, A History of Islam in West Africa (London, 1970) p. 64.
15. Ivor Wilks, personal communication, Mar. 13, 1979. McCall, “Prevalence of Lions,” p. 135, notes the principal exception to this in the use of Osai or “lion” as a royal appellation for the Asantehene. An important Asante synonym for gyata is saremu. Wilks, in the above communication, wrote, “This word has complicated nuances. It denotes the lion because the lion is the ‘Osei (Osee)’ of the grasslands (saremu), that is, the name of the Asantehenes of the house of Osei Tutu. But osae also has the sense of ‘destroyer,’ so the lion is the ‘destroying one of the grasslands.’” Wilks related the use of saremu as a royal name to the Asante conquest of some of the non-Akan savanna states. J. H. K. Nketia, personal communication, May 31, 1980, confirms this.
17. Ibid., p. 165.
thirteen of the fourteen Asante paramount chiefs’ treasuries revealed a uniformly greater use of leopard skin over that of other animals, with the exception of various species of antelope which form the staple leather of Akan royalty. These data are difficult to quantify, however, because leopard skins are obviously much easier to identify (especially in photographs) than more visually innocuous lion skins. Still, where the latter seem to be scarce, the former are frequently found on such diverse objects as drums, sword sheaths and hilts, haversacks, treasury bags, hats of sword bearers and executioners, and warshirt amulets. Cloth patterned as leopard skin is also used in many of the same contexts; this would not be effective with simulated lion skin.

The leopard also prevails over the lion in the older plastic arts, and is very pronounced in the most diversified of all Akan forms—goldweights. These small brass castings, used as counterbalances in the weighing of gold, represent, in addition to a variety of geometric designs, virtually the whole of the Akan environment, life, and material culture with only a few significant exceptions. In a survey by the author of nearly 2,500 published representational weights, the leopard occurs forty-seven times, where the lion is found but twice. Furthermore, one of the “traditional” goldweight lions from the British Museum has been questioned by Malcolm McLeod, keeper of the Ethnographic Department (Museum of Mankind). He considers it an early tourist object or perhaps a “sample or test piece [owned by a goldsmith] to show potential customers what the finished product would look like if made into a ring.” The other lion weight (Figure 6) is unquestionably authentic and was first illustrated by Rattray in 1923 as part of the only intact Asante goldweight set ever published. This weight is important not only because of the motif’s rarity, but also because of its distinctive form. The apparent insignificance of the lion among goldweights could possibly be explained by its absence in the Akan forest; however, today lion motifs are abundant in most arts despite the animal’s near extinction in virtually all of Ghana, including the northern grasslands. Clearly, ecological rarity is not the explanation.

McLeod recently outlined his theory for motif exclusion in goldweight imagery and suggested that “nearly all those animals which are not represented as weights are those classed as fie’mmoa—house or domestic animals.” Obviously the lion is not part of this category, nor does it correspond with other exceptions McLeod analyzes. The production of goldweights for traditional use ceased with the abandonment of gold dust as a medium of exchange shortly before 1900. Considering the fact that lions are prevalent in other more recent arts, it would seem that

6. Goldweight, Bekwai (?), Asante. Brass, L. 2¼ in. (6.3 cm.). Collection of Mr. and Mrs. Allen Alperton (photo: Raphael X. Reichert)

21. See, for example, the illustrations throughout A. A. Y. Kyeremateng, Panoply of Ghana (New York, 1964).
22. Ibid., pp. 27 and 63.
23. Although published examples cannot be taken as a representative sample of the total corpus of goldweights, the relative occurrence of leopards in relation to lions is certainly accurate.
25. Rattray, Ashanti, p. 316, fig. 114.
the lion was a relatively late introduction to Akan iconography and largely a twentieth-century phenomenon. The complete absence of lions on the lids of cast-brass ritual containers called kuduo (another form whose manufacture ceased around 1900) in the midst of numerous leopards reinforces the statistics about goldweights and further argues for the lion’s late arrival.\footnote{In the author’s photographic archive of 253 kuduo, leopards are found on the lids of 19 examples.}

This situation is repeated in the decorative schemes of sheet-brass containers, forowa, used for the storage of a cosmetic vegetable fat. These art forms went out of local production early in the present century, and in a sample of 240 cans there is not a single identifiable lion, as against at least seventeen readily recognizable leopards.\footnote{Author’s photographic archive; see Doran H. Ross, “Ghanaian Forowa,” African Arts 8 no. 1 (1974) pp. 40–49.}

In contrast to the clear numerical dominance of the leopard in the three older metalwork traditions, it is the lion that dominates in twentieth-century Akan art.\footnote{This is especially true of chiefs’ regalia where lions are a common motif on rings, sword ornaments, and sword bearers’ skull caps. In a dramatically different genre, of the 61 Fante military shrines studied by the author, the lion is represented in cement sculptures on 31 shrines and the leopard on only 16.}

In addition, in the three image-proverbs known to the author where the felines appear together, the lion is considered physically superior to its maculated counterpart. At the Asante paramountcy of Kokofu, one of the linguist staff finials depicts a lion drinking palm wine from a pot on a leopard’s head while an antelope observes the scene (Figure 7). The carving illustrates the adage “Only the lion drinks from the palm-wine pot of the leopard” (\textit{\oe b\oe , osa ns\a fufu a h\a na ot\a tu ni, g\a s\a gy\a ta}).\footnote{Field interview with Supi Kwamina Amoaku, Asafo No. 3 Company, Anomabu, Sept. 2, 1978.} This asserts the obvious truth that some chiefs are more powerful than others and that lesser rulers are subservient to the paramount chief. The second proverb is common on drums, appliqué flags, and various military (asafo) arts among the Fante. It is generally represented as a solitary lion, although occasionally it appears in more complex compositions. The relevant saying is “A dead lion is greater than a living leopard” (\textit{Aw\oe na d\oe wu ye d\oe n sen \oe b\oe a ot\oe s\oe a}).\footnote{Field interview with elders of Egya No. 1 Asafo Company and Kobina Badowa, Sept. 25, 1981.} In other words, the lion at its worst is still more powerful than the leopard at its best. The third image-proverb also occurs on asafo flags and generally represents a lion confronting a leopard surrounded by a variety of African animals (Figure 8). Its maxim is perhaps the most telling: “Before the lion, the leopard ruled the forest” (\textit{Ansa na aw\oe na d\oe be na n\oe n s\oe b\oe na od\oe zi hen}).\footnote{Field interview with Nana Osei Assibey III and his elders at Kokofu, Aug. 29, 1976.} These three proverbs contradict the prominence of the leopard in the older arts and suggest that sometime after 1900 the lion usurped the leopard as the major feline power symbol among the Akan.

The environmental and linguistic evidence would seem to suggest that lion imagery was introduced from the savanna; however, while lions recur in the oral literature of the savanna peoples, they are infre-

quenty found in their visual arts. Perhaps the best-known exception, and also the closest to the Akan, is the Kore society “lion” mask of the Bamana.33 Yet the Bamana live in southern Mali several hundred miles from the Akan, and their lion masks are highly abstract, possessing none of the naturalism of the full-bodied Akan representations. Furthermore, since masks are generally alien to Akan society, the Bamana tradition is an unlikely prototype. In addition, since the proliferation of lion imagery is largely a late nineteenth- and twentieth-century happening, the northwest is an even less likely source of influence because Akan commercial and cultural contacts during this period were focused on the coast-dwelling Europeans rather than the Mande and other northern groups.

Some of the most compelling evidence for the origin of the lion in Akan art is in the form of the feline itself. While the position of the body with all four feet on the ground is typical of Akan animal representations, other details of posture are unique. The lion is most frequently posed in a highly conventionalized fashion with the head turned to the side, the tail curving over the back in a horizontal S-shape, and occasionally with the tongue protruding from the mouth. All three traits are found on the pair of lions in the Metropolitan Museum's collection (Figure 1), as well as on the sword ornament from Nsuta (Figure 2) and the rare goldweight (Figure 6). The recurved tail and especially the side-facing head on the lion recur in Akan art regardless of object type or medium. All three of these traits are nearly nonexistent in Akan representations of other animals.

The side-facing head is the most diagnostic of the three traits. Aside from the lion, only the *sankofa* bird has its head consistently facing in a direction other than straight forward. It faces to the back in a position related to the motif's message which is usually translated as “Go back and fetch it,” or “Pick it up if it falls behind you” (*Eto woakyi a fa*).\(^{34}\) The image deals with learning from experience; if a mistake is made (if something is left behind or forgotten), it can be corrected (retrieved). It could be argued that the side-facing head of the lion has an analogous morphological explanation. According to Rattray, “Lions, leopards, and other members of the cat tribe are all supposed . . . to be left handed, that is to say, they spring to the left on seizing their prey.”\(^{35}\) In this connection he cites the proverb “If a leopard could spring upon its prey to the right hand, then no animal would be left alive in the bush” (*Aboa kurututamansa huna ato nija, ankrana aboa bi nni wiram*).\(^{36}\) Of course, “lion” can be substituted for “leopard” here. This Akan perception of the great cats, however, does not indicate why the lion is generally depicted with its head turned to the side while the leopard faces forward. In addition, the lion’s head is as often turned to its right in Akan art as it is to its left.

An alternative explanation of the side-facing posture was presented by Leo Frobenius in his discussion of a hypothesized “lion cult” patronized by West African hunters. Although none of his evidence came from the Akan, he considered the pose an attribute of a deity and reasoned that the full-face stare was a manifestation of the deity's power over its surroundings in something akin to the “evil eye.”\(^{37}\) Daniel McCall, however, responding to Frobenius's study, demonstrated that in sub-Saharan Africa the lion is almost always a symbol of kingship and he could find no evidence relating the image to deities.\(^{38}\)

The S-curved tail is nearly as telling as the pose of the head. Most animal tails in Akan art hang directly down from the back or trail straight behind the body. Aside from the lion, the principal exceptions to this are the crocodile, whose tail curves to the side (occasionally into a spiral), and the leopard, whose tail comes up over its back in a single curve but is very seldom recurved like that of the lion.

The exclusive juxtaposition of the side-facing head, S-curved tail, and protruding tongue on the lion, in view of the static posture shared by almost all other animals in Akan art, suggests that the lion pose is alien to Akan traditions. These features are typical of many European heraldic lions; the posture is identified as statant guardant, and the position of the tail and the protruding tongue are considered normal for lions.\(^{39}\) The arbitrary nature of these traits makes it unlikely that they were invented independently by the Akan who, on the other hand, certainly had ample opportunity to observe European armorial compositions.

34. This is perhaps the single most common motif in all of Akan art and has been published numerous times. See, for example, Brigitte Menzel, *Goldgewichte aus Ghana*, exh. cat. (Berlin, 1968) p. 195, fig. 737.
36. Ibid.
The lion was the quintessential visual metaphor for European (especially British) power on the Gold Coast. It is the most popular common charge in European heraldry and is found on the shields of the Danish, Dutch, and British royal arms. A lion is also a supporter of the shield in the British arms (opposite a unicorn) with another lion statant guardant on the crest. Two lions support the shield of the Dutch arms. These heraldic images were readily identifiable symbols of white authority in southern Ghana and were found on numerous politically potent objects. One of the more influential displays of royal arms was that emblazoned on the backs of the Dutch and English governors’ chairs, formerly at Elmina and Cape Coast Castles respectively (Figures 9, 10). From these seats crucial judgments were made on an array of criminal, political, military, and economic issues, with occasional life or death consequences. Although the governors’ chairs represent only two distinctive and elaborate examples, they were nevertheless highly visible to chiefs and court officials brought before the Europeans. The Akan copied their own three major chair types from the structures of European examples typical to the seventeenth and eighteenth centuries, some of which undoubtedly featured lions in various heraldic poses on finials, armrests, or stretchers. A royal chair still in the treasury of the Asantehene has an openwork back clearly derived from European principles of heraldic composition although it is not a direct copy of any particular arms.

Aside from chairs, armorial devices also adorned the European forts lining the coast, and a heraldic lion can still be seen over the principal entryway to Elmina Castle. Heraldic lions were carried to the interior of Ghana as finials on flagstaffs and on messenger canes used to identify official representatives of the governors on diplomatic missions. Both items were common gifts to chiefs who acknowledged the authority of the British and/or Dutch.

Sailing ships supporting the gold and slave trade during the seventeenth and eighteenth centuries made a dramatic impression on the Akan as evidenced by their depiction in goldweights, often complete with rigging, flags, and cannons. During those two centuries the single most popular ship’s figurehead was the lion, and stern ornamentation usually included royal arms, which again meant lions. In addition, lion faces capped the ends of catheads, projecting


42. Cole and Ross, *Arts of Ghana*, fig. 301. This chair features eagle motifs and may have been influenced by a late 17th-century Iberian chair that was taken from Kumasi in 1896. See Malcolm D. McLeod, “A Note on an Asante Royal Chair of Iberian Origin,” *Akan-Asante Studies*, British Museum Occasional Paper no. 3 (London, 1979) pp. 21–22. The eagle in Akan art also seems to have been heavily influenced by European prototypes.
46. L. G. Carr Laughton, *Old Ship Figure-Heads and Sterns* (London, 1925) pp. 69–79 and 95.
47. Ibid., pp. 11 and 131.
timbers which secured the anchor near the bow.48 However, the European tradition of elaborate ship decoration reached its peak during the mid-1600s and was generally unimpressive after about 1800.49 The proliferation of lions in Akan art did not begin until the nineteenth century. Thus, naval imagery is un-

likely to have been a direct source, but coupled with the profusion of lions in other European media was probably a contributing factor in establishing the early Akan conception of the lion, at least in the coastal regions.

Undoubtedly even more influential was the program of images associated with the various commercial interests operating on the coast. The lion in different heraldic postures was a corporate emblem of many West African trading companies and especially of nineteenth-century British firms.50 In nonliterate cultures like the Akan, heraldic crests and trademarks played an intensified role in establishing corporate identities. Company symbols adorned trading premises, identified cargo ships, and marked items, such as cloth, sold by the company. Businesses were generally known by their symbols and were identified as "house of the lion" or "house of the unicorn," rather than by their more unmanageable (for the African) European names.51 Trade goods marked with company emblems were effective vehicles for transmitting European imagery to the interior of Ghana.

Printed advertisements, announcements, and other illustrated publications, often put out by the trading companies, were also influential throughout most of the nineteenth century, and of course later. Brodie Cruickshank, who spent more than eighteen years on the Gold Coast beginning in 1834, provided the following rich account of local interior decoration:

In other parts of the house we find, suspended from, or nailed to the walls, a variety of portraits and prints, chiefly French, and vile daubs. Africans are exceedingly fond of pictures in their rooms, and to gratify this taste press anything into their service that comes readiest to hand. Napoleon in his cocked hat, in gaudy colours or simple

48. Ibid., p. 57. In a public lecture that influenced the research in the present paper, Bill Holm convincingly argued that one type of Kwakiutl Nulmal mask from British Columbia was based on lion figureheads and catheads of sailing ships that frequented the northwest coast of America, "Some More Conundrums in Northwest Coast Art: A Kwakiutl Mask, Northern Carved Bowls, and More on the Copper," paper presented at the symposium Traditions and New Perspectives of Northwest Coast Art, University of California, Los Angeles, Feb. 22, 1975.

49. Laughton, Old Ship Figure-Heads, pp. 18 and 23.


woodcut, on foot and on horseback, and George IV in his coronation robes, may be seen disputing for space with Punch and his dog Toby, as they appear in the frontispiece of his publication, with the urns, tea and coffee-pots of Cox, Savory, and Company, as seen in their advertisements, or with the royal arms of England flaming in all the glory of an announcement of one of her Majesty's tradesmen.

Clearly a variety of images was readily available even in the first half of the nineteenth century.

The lion also appeared as a decorative boss or handle on widely traded brassware. At the paramountcy of Adansi Fomena, a Birmingham-produced brass pot with lion-face handles has replaced the traditional kuduo as a major ritual container. Before its confiscation by the British in 1896, one of the most important vessels in Asante society was the aya kese (great brass basin). This European-manufactured form, allegedly captured from the Sefwi (another Akan state), was located near the entrance to the royal mausoleum at Bantama in an area reserved for human sacrifice. The rim of the vessel is surmounted by four crouching lions cast in the round.

One final category of lion images assimilated into Akan culture is found in the numerous pieces of European brass used as goldweights. Called “pseudo weights” by contemporary scholars, these enormously varied “found objects” were a convenient medium for the transmission of foreign imagery. Among other things they include bits and pieces from clocks, furniture mounts, musket fittings, wall brackets and sconces, door knockers, spigots, and trivets, as well as intact snuff boxes, buttons, belt buckles, and coins.

A common object in this array is a British-made pressed-brass lion face originally used as a button or anchor for a whistle chain on military uniforms of the eighteenth and nineteenth centuries (Figure 11). In the same illustration is a European lion statant guardant from an unidentified source also used as a goldweight by the Akan.

This inventory of European-produced lion images, drawn from a variety of media and from different times and places, cannot be considered comprehensive, but it does demonstrate the wealth of visual models available to the Akan. The earliest documented Akan-made heraldic image is found on an Asante adinkra cloth (a textile usually used in mourning) collected before 1826 (Figure 12). In the center of the fabric is a loose interpretation of the Dutch royal arms (cf. Figure 9) with its two lion supporters and with a third lion charged on the shield. It is unclear whether the design was portrayed at the instigation of the Dutch or was an unprompted depiction by the Akan. In either case, since adinkra was traditionally made by the Asante in only a few villages north of Kumasi, over one hundred miles from the coast, the textile provides strong evidence that heraldic models were available for reproduction in the interior near the beginning of the nineteenth century.

While the adinkra with Dutch arms is a unique early piece, British royal arms began appearing in Akan art with some regularity after most of the southern Gold Coast was officially annexed as a Crown Colony in 1902. A lion and a unicorn flanking a crown, excerpted from the British arms, is a frequent motif on the drums of traditional popular bands (Figures 13 and 14). According to elders of these drumming groups the motif demonstrated adherence to colonial regulations. Rivalries between groups and the drinking and revelry which accompanied performances led to recurring conflicts. To deal with this problem the British required permits for recreational drumming, and the heraldic arms on the drums are said to acknowledge this authority.

In view of the political associations of royal arms and heraldic lions it is curious that the greatest number of armorial images recurs on one of the least political of all Akan arts—the wooden comb. Elaborately carved openwork combs with relief or incised

53. A related piece from the same manufacturer in the treasury of the Nsukahene is illustrated in Kyerematen, Panoply, p. 98. In the background of the same photograph is a royal stool with a heraldic lion support, repeating a motif found on a sword ornament from the same state (Figure 2).
56. Other “pseudo-weight” lions are illustrated in Menzel, Goldgewichte, fig. 1271; Bassing, “European Inspired Akan Goldweights,” p. 20 top right.
57. For further discussion of adinkra, see Cole and Ross, Arts of Ghana, pp. 44-46 and 214.
58. Ibid., p. 175, figs. 348-351. The Akan also created their own heraldic designs to identify individual local states. See D. A. Sutherland, State Emblems of the Gold Coast (Accra, 1954).

decoration are traditionally owned by women, although they are usually commissioned by a man as a gift to his girlfriend, wife, daughter, or mother. These combs are unusual in African art because they are explicit statements of affection between a man and a woman, often formally depicted in the comb's design. Although heraldic compositions are common on combs, they are rarely represented correctly or with full detail. One of the most accurate has the lion (with crown) and unicorn supporters rampant on either side of the shield which has been translated into an oval from the garter-encircled prototype (Figure 15; cf. Figure 10). The shield has been quartered, but the lion charges have been omitted, and in their place a cross dominates the field with the letters L-O-V-E, an obvious reference to the human relationship which the comb capsulizes. Beneath the shield is the scroll without motto, while above, the helm is missing but the crest (a crown) is present. In spite of the modifications, this comb is unusual in the relative complete-
ness of the heraldic composition, which nonetheless seems to have no specific message other than the letting it frames.

More typically, the arms are abbreviated, with only the lion and unicorn supporters depicted (Figure 16). In this comb again the armorial images apparently serve simply a decorative function while the principal messages are conveyed in the incised representations of antelope, elephant, tortoise, and snail along the bottom of the handle. Two separate motifs are illustrated. The antelope and elephant form one unit and illustrate the adage “Despite the size of the elephant, we give the stool [chieftaincy] to the [wise] antelope” (Eson kunteen adowa na yedze egua yi rema no).60 This extolls the supremacy of wisdom over brute strength. Juxtaposition of the tortoise and the snail in Akan art inevitably depicts the saying “If it were only for the snail and the tortoise, the gun would not fire in the forest” (Ekaa nwa ne akyekyere nko a anka otuo rento wo kwae mu da).61 These slow-moving unaggressive creatures are valued foods collected by hand rather than hunted with a musket. The message emphasizes peace since neither animal prompts the use of firearms. Wisdom and peace, of course, are traits highly valued in interpersonal relationships and are thus appropriate in a gift for a loved one.

Leonine motifs on combs occur also in less specific armorial situations (Figure 17). The two lions statant guardant flanking a heart with a cross recall at first glance the Dutch royal arms (cf. Figure 9). In fact

60. None of the combs mentioned in this paper has been documented in the field, but the meaning of the elephant/antelope motif is standardized across object types. The version cited here was recorded on a Fante linguist staff in a field interview with Nana Edu III and his elders at Enyan Maim, Aug. 27, 1975.
61. This version of the proverb was recorded on a linguist staff belonging to a Fante sub-chief in a field interview with Nana Adoku V and his elders at Mankesim, July 27, 1975.

15. Detail of comb, Akan. Wood, W. 3¾ in. (9.5 cm.). Private collection (photo: Ross)


18. Detail of comb, Akan. Wood, W. 4¾ in. (12.4 cm.). Collection of Dr. and Mrs. Daniel J. Crowley (photo: Ross)
Akan artists occasionally confuse the Christian Sacred Heart with the cross-topped arched crown borrowed from European court regalia.\textsuperscript{62} Yet, since the comb is dated 1973 on the reverse, it is unlikely that the design is a mutant survival of the arms of the Dutch, who abandoned the Gold Coast in 1872. Once again the lions appear to have little connection with the function of the comb or with the images of two hearts joined by a cord and two hands shaking in a greeting of friendship, motifs which convey the same meanings for the Akan as they do for the Western world.

As a final example of combs with heraldic felines (Figure 18), four great cats flank an akua'ba, an image associated with fertility and feminine beauty. Three of the felines are in statant guardian poses with the large heads of lions, but they are spotted and lack manes. Thus the distinction between lion and leopard is confused here, suggesting that the distinction, at least in this case, is not even important. Below the felines the motif of two hearts joined with a chain or cord occurs again and frames the phrase OBI DO BI, which translates as “Somebody loves somebody.”

The carving of wooden combs is an ongoing Akan tradition which continues to utilize European armorial vocabularies even after the end of colonial rule with Ghanaian independence in 1957. The two-dimensional openwork structure of the combs probably encourages such compositions. The persistence of the heraldic lion in a context antithetical to themes of power and predation indicates its thorough entrenchment as a decorative device. The alien nature of the lion to the Akan is reflected in the narrow range of associated oral literature, for although the leopard appears less frequently in twentieth-century Akan arts than the lion, the leopard is still found in a greater variety of verbal and visual representations.

The lion is not the only motif from European heraldry to surface in Akan art. Such obvious subjects as the unicorn, griffin, Welsh dragon, and mermaid run throughout the military arts of the coastal Fante.\textsuperscript{63} These arts are among the most acculturated of all Africa, however, and are often not typical of the Akan as a whole. Still, the motifs demonstrate the far-reaching adaptability of European heraldry to an African context. Further research into the arts of the Akan and other African peoples may reveal related patterns of influence.

Finally, it would be misleading to refer to the Akan lion as solely a product of European influence. The initial Akan conception of the lion was undoubtedly transmitted orally from the savanna regions north of most Akan states where the lion was endemic, but this paper presents evidence that the lion had relatively little verbal or visual impact on Akan culture until the barrage of European-produced lion images saturated the interior of the country during the nineteenth and twentieth centuries. Although the Akan borrowed the conventionalized posture of the feline from the Europeans, they interpreted it in a variety of traditional contexts. Perhaps the sophisticated pre-European matrix of images associated with the leopard allowed for the easy substitution of the lion and its assimilation into Akan iconography. In any case, today the lion must be seen as an indispensable and “traditional” element of Akan art.

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\textsuperscript{62} Another potential stimulus to the Akan conception of the feline is the assortment of lion images associated with Christian iconography. These images, however, generally lack the conventionalized heraldic pose and probably served only to reinforce lions associated with the more influential armorial situations.

Appendix

NOTES ON THE FUNCTION AND DATE OF A PAIR OF LIONS IN THE METROPOLITAN MUSEUM OF ART

The Metropolitan Museum's cast-gold lions (Figure 1) have been nondescriptly identified as "royal emblems," but the functional context of the pair has not been explored. The flat bases circled with four small holes obviously indicate that they once adorned some item of royal regalia. Unfortunately, the possibilities are numerous and the medium, scale, and multiple nature of the lions are consistent with many royal objects. Yet, in a study by the author of the treasuries of thirteen of the fourteen Asante paramount chiefs, lions were consistently represented on only five object types: linguist staffs, umbrella tops, rings, sword ornaments, and the skull caps of sword bearers. The first three of these can be quickly and confidently dismissed as potential sources because of dramatic differences in structure and medium. On the other hand, there is a striking similarity between the Metropolitan Museum's two lions and the three Asante sword ornaments (abosodee) with lion motifs in the treasuries of Ejisu, Juaben, and Nsuta (cf. Figures 1 and 2). All five are in the statant guardant posture with horizontal S-shaped tails, and only the Ejisu ornament lacks a projecting tongue. Even the triangular cutouts on the lion's body are shared by all five and are typical of sword ornaments as a whole. Nevertheless, two factors preclude identification of the Museum's lions as sword ornaments: the lions are too small (about half the height of the extant ornaments) and, more important, sword ornaments never occur in matched pairs.

The scale of the Metropolitan Museum's lions and the fact that there are more than one of them raise the distinct possibility that they once adorned the headdresses of sword bearers. Two lion-adorned skull caps still exist at Juaben and Kokofu (Figure 19), although the lions are facing forward and are gold-leafed wood carvings rather than castings. At Juaben the hat is worn by the same individual who carries the sword with the lion abosodee. A similar situation exists at Kumawu where the regalia of the court is quite rich. Of the eight swords with cast-gold ornaments, five are paired with hats adorned with small gold castings which duplicate the motif on the sword. It is quite possible that the Metropolitan Museum's lions served a similar function as ornaments on a skull cap that was once associated with a sword displaying...
a lion abnormal. The strong resemblance of the Metropolitan Museum pair to ornaments whose function is known reinforces this likelihood. Since one lion is turned to the left and its mate to the right, one can imagine them positioned symmetrically on either side of the hat.

A second, more speculative possibility exists. The Asantehene, principal chief of the Asante, has in his treasury a pair of sandals with a recumbent cast-gold lion ornamenting each (Figures 20, 21). Kumasi elders maintain that lions on sandals are the exclusive prerogative of the Asantehene and that this is the only such pair. The sandals are worn when the Asantehene is presiding over important traditional judicial proceedings which may involve one or more of the thirteen lesser Asante paramount chiefs. Elders say that the lions represent the power, strength, and wisdom of the Asantehene.68

The lion ornaments now in Kumasi postdate the exile of Asantehene Agyeman Prempeh I from 1897 to 1924 and could be as late as 1935, when his successor Prempeh II was officially installed as Asantehene and when many new items of regalia were created to celebrate the occasion. The Metropolitan Museum's lions, on the other hand, are consistent in quality and style with earlier castings. They compare favorably with many examples of goldwork in the British Museum taken from Kumasi by the British in the Asante wars of 1874 and 1900. There is no question that the New York lions are Asante—other Akan groups simply did not produce such accomplished work. If the prerogatives of the Asantehene were honored by other chiefs (unfortunately, not always the case), then we must conclude that the lions in the Metropolitan Museum came from the Kumasi treasury prior to the exile of Prempeh I, probably among the large quantity of gold objects taken out of Kumasi in 1874. The scale of the lions fits comfortably on the typically large Asante chief's sandals.

Whether the New York lions were headdress ornaments—as is the more likely—or sandal ornaments, a pre-1874 date for their manufacture seems most probable. This would place them near the beginning of the lion's assimilation and conventionalization in Asante art.

68. Field interview with Asantehene Opoku Ware II and his elders at Kumasi, Oct. 2, 1981.
The Evolution of
Sir John Everett Millais’s Portia

LUCY OAKLEY
Research Assistant, Department of European Paintings,
The Metropolitan Museum of Art

Sir John Everett Millais’s Portia (Figure 1), now exhibited in the André Meyer Galleries of the Metropolitan Museum, shows a life-size, three-quarter-length female figure with reddish blond hair piled up on her head, wearing a scarlet silk dress under a darker red velvet robe lined to match, and standing before a warm brown and green background with shadowy forms of pots and leaves, perhaps a tapestry. At her right is a monumental gray column. She holds her cap in her right hand and a legal document in her left. The finely detailed rendering of her head contrasts with the more summary treatment of costume and background. Hidden beneath the picture’s surface lie clues to Portia’s genesis. Discovered only recently, they shed new light on the aesthetic aims and working methods of a great Victorian artist.

Signed with Millais’s distinctive monogram and dated 1886, Portia is a typical example of his later art. At the beginning of his career, in the early 1850s, he made elaborate preliminary drawings for most of his compositions and painted many of their background landscapes out of doors, in natural light.¹ These pictures were executed in a linear, finely detailed, brilliantly colored Pre-Raphaelite style. The 1860s were for him a period of experiment and transition. Toward the end of the decade Millais finally settled on the technique which Mary Bennett has described as “characterized by fluent handling of paint, rich impasto, and fully worked out portrait heads combined with almost impressionistic detail.”² For stylistic and thematic inspiration he turned to such painterly old masters as Titian, Velázquez, Van Dyck, Sir Joshua Reynolds, and Thomas Gainsborough.

The immense popularity of Millais’s later style made him the wealthiest and best-known painter of the Victorian era. His income in 1886, the year of Portia’s completion, was £30,000.³ He was showered with honors. In 1885 he became the first artist ever created a baronet, and in 1896, the year of his death, he was elected president of the Royal Academy. Early in the twentieth century, however, his reputation suffered an eclipse. Roger Fry, writing in the Athenaeum in 1905, called Portia “lamentable proof of the destructive effects of popularity.”⁴ With the recent revival of interest in Victorian art, Millais’s pictures have again been acclaimed and exhibited.

4. [Roger Fry], “The Grafton Gallery” [review of exhibition of the Staats Forbes collection], Athenaeum, May 27, 1905, p. 664. This unsigned article is marked with Fry’s name in the Athenaeum’s files at the New Statesman and Nation Publishing Company; see Donald A. Laing, Roger Fry: An Annotated Bibliography of the Published Writings (New York, 1979) p. 133, no. C396. Ironically, Fry was the Metropolitan Museum’s buying agent in Europe at the time Portia was acquired. He arrived in New York to begin work as the Museum’s Curator of Paintings on Feb. 8, 1906, and Portia was shipped from Liverpool on Feb. 24 (according to documents in MMA Archives; see also Frances Spaulding, Roger Fry: Art and Life [Berkeley/Los Angeles, 1980] p. 88).

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METROPOLITAN MUSEUM JOURNAL 16
1. Sir John Everett Millais (1829–1896), Portia, signed and dated (lower right): jem [monogram]/1886. Oil on canvas, 49 1/4 x 33 in. (125.1 x 83.8 cm.). The Metropolitan Museum of Art, Wolfe Fund, Catharine Lorillard Wolfe Collection, o6.1328

Portia represents the heroine of Shakespeare's Merchant of Venice when, in the fourth act, she appears in the courtroom disguised as a doctor of law from Padua. Subjects drawn from Shakespeare had been popular in British art since the seventeenth century, and many Victorian painters depicted scenes from his plays.5 Shakespeare ranked second only to Jesus Christ in the Pre-Raphaelites' list of Immortals.6 Millais drew themes from Shakespeare throughout most of his career.7 Ophelia (1852; Tate Gallery, London), one of his most ambitious early works, represents an offstage scene from Hamlet. His last known Shakespearean painting, dated 1888, depicts Shylock’s daughter, Jessica, in a scene from The Merchant of Venice.8

Millais's interest in the theatre extended into his social life; in 1855 he became a member of the Garrick Club, and, according to his son, he “was very fond of going out in the evening, either to the Garrick or to a theatre, with some of his particular friends.”9 Among such friends were Sir Henry Irving (1838–1905), the principal Shakespearean actor-manager of his time, whose portrait Millais painted in 1883 (Garrick Club, London),10 and Dame Ellen Terry (1847–1928), Irving's leading lady and best-known star. Terry played Portia to Irving's Shylock in his enormously successful production of The Merchant of Venice, which premiered at the Lyceum Theatre in London on November 1, 1879, enjoyed an unprecedented run of 250 performances, and was revived nearly every season for twenty-four years.11 Portia became one of Terry's most popular roles; by her own estimate she played it more than a thousand times.12

For many years after the Metropolitan Museum acquired Portia in 1906, it was mistakenly exhibited as a portrait of Ellen Terry even though there is ample visual and literary evidence to refute this identification.13 In a letter to Millais dated March 30, 1886 (Figure 2), preserved in the Pierpont Morgan Library in New York, the actress agreed to lend him a dress, almost certainly the one shown in this picture:

Dear Sir John Millais

Of course I will lend you the dress (here it is) or anything in the world that I possess, that could be of the very smallest service to you.

The dress was away in Scotland being cleaned for storing, or I should have sent it to you before—

Yours sincerely

Ellen Terry

March 30. 86.

Comparison of Portia with a portrait of Terry in her red robes by G.W. Baldry dated 1885 (Figure 3) shows that the actress herself did not pose for Millais but that he did dress his model in her costume.

Contemporary productions of opera and historical drama provided useful visual resources for nineteenth-century artists' reconstructions of scenes from the past,

10. Ibid., p. 422. Millais presented the portrait to the Garrick Club in 1886. See A Catalogue of the Pictures in the Garrick Club (London, 1936) p. 114, no. 382, ill. (engraving). Irving was one of the pallbearers at Millais's funeral.
12. Ellen Terry’s Memoirs, with preface, notes, and additional biographical chapters by Edith Craig and Christopher St. John (London, 1933) p. 191. (The memoirs were first published in Terry’s lifetime; see Ellen Terry, The Story of My Life [London, 1908].)
13. Portia is identified as a portrait of Ellen Terry in an article entitled “What Sir Caspar Purdon Clarke Says of This Picture” (clipping in the Robinson Locke Collection of Dramatic Scrapbooks, vol. 454 [Ellen Terry, vol. 1] pp. 82–83 [Billy Rose Theatre Collection, New York Public Library at Lincoln Center]; the clipping is inscribed as taken from the World [New York], Mar. 18, 1906, but it does not appear on microfilms of the newspaper for that date at the Columbia University Library or at the New York Public Library). I am grateful to Della Sperling for calling my attention to this reference. An excerpt from

particularly since original period clothing was often prohibitively expensive or nonexistent. Theatre costumes were sometimes far from historically accurate, and the taste of stage designers did not always correspond with that of artists, but adapting stage dress for pictures was less costly than having garments custom made and more satisfying than trying to extrapolate from two-dimensional images in books of historical costumes, as Stella Mary Newton has noted. 14 Millais prepared for painting *A Huguenot, on St. Bartholomew's Day, Refusing to Shield Himself from Danger by Wearing the Roman Catholic Badge* (1852; private collection, England) by accompanying Holman Hunt

3. G. W. Baldry, *Ellen Terry as Portia*, signed and dated (lower left): G. W. Baldry/1885. Oil on canvas, 38 x 28 in. (96.5 x 71.1 cm.). London, Garrick Club (photo: ET Archive, Ltd.)

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Ellen Terry's memoirs appeared under the title "My First Appearance in America," *McClure's Magazine* 31 (1908) pp. 121–132, accompanied by a reproduction of *Portia* (p. 128) identified as a portrait of Terry. The illustrations to this article differ from those in the book and must have been chosen by the editors of the magazine. The error was repeated by Bryson Burroughs in the Metropolitan Museum's *Catalogue of Paintings* (New York, 1914) p. 183, no. M61–1. On Apr. 24, 1916, Augustin Rischgitz wrote the Museum to communicate Ellen Terry's statement that *Portia* was not a portrait of her (present whereabouts of letter unknown, but see H. W. Kent's reply of May 8, in MMA Archives). *Portia* was still exhibited as a portrait of Ellen Terry in 1927, when Mabel Terry Lewis wrote to protest that "the portrait is not of her and was never intended to be her. Sir John Millais was an intimate friend of my Aunt Ellen and asked her if she would lend him the dress she wore in *The Merchant of Venice* as he wanted to paint a picture of Portia" (letter to Edward Robinson, dated Jan. 16, 1926 [sic for 1927], in MMA Archives). *Portia's* title was finally corrected in the 9th edition of the Metropolitan Museum's *Catalogue of Paintings* (New York, 1931) pp. 245–246, no. M61–1. Yet as late as 1944 the picture was exhibited as a portrait of Ellen Terry (*Stars of Yesterday and Today*, exh. cat. [New York: Wildenstein Galleries, 1944] no. 89).

based partly on archaeological research by Terry's intimate companion, the architect Edward W. Godwin. According to Alice Comyns Carr, a close friend of Terry's who later designed many of her costumes, the actress's legal robes in the Bancrofts' production were not red, but black. Terry's original costume for Irving's production of 1879 was also black, with a brocaded robe (Figure 4). but by 1883 she was wearing the version she lent Millais, "an undergarment of pomegranate-colored silk made like a dressing-robe, and girdled above the waist with a broad band of the same; her dainty cap was of the same hue and texture; and an over-dress, made like a doublet, of rich crimson plush, with deep sleeves lined with the lighter color." In Millais's picture, to see Meyerbeer's opera The Huguenots "to study the pose[s] and costumes of the figures," according to Millais's son.

Ellen Terry's legal robes not only served as an appropriate period costume for Portia; they also evoked a connection in the nineteenth-century viewer's mind between Millais's picture and the popular actress in one of her best-known roles. Terry's costumes for The Merchant of Venice evolved through several versions during the decades she played Portia. She made her debut in the role on April 17, 1875, in the Bancrofts' exquisitely mounted but short-lived "Aesthetic" production of The Merchant of Venice at the Prince of Wales's Theatre in London, with sets and costumes

19. Herald (Boston), Dec. 13, 1883, quoted in Hughes, "Irving's Tragedy of Shylock," p. 261. According to Molly Thomas, curator of the Ellen Terry Memorial Museum, Tenterden, Kent, Terry had a "fair number" of Portia costumes, "since it was a role much played." Two robes of red corded silk, one dress of red uncorded silk, one red cap, and a pair of silver acorns are preserved at the Terry Museum. The precise reason for changing the costume from black to red is not known. According to Godwin, the black brocaded robe was archaeologically correct; however, the red version must have made a more striking effect on the stage. It also strongly resembled the full academic dress of the Doctor of Civil Laws of Oxford and Cambridge: a scarlet robe with bell-shaped sleeves, lined in a lighter shade of red.

Terry's white collar and cuffs and the two silver acorns she wore at her neck are missing (since these parts of the costume were detachable, he may never have received them), the underdress is left open at the neck, its sash is narrower, and the model holds the cap in her hand rather than wearing it on her head. As a result, Millais's Portia is even softer and less masculine than Terry's.

The picture was nearly complete by July 24, 1886, when it was mentioned in the *Athenaeum*'s "Fine-Art Gossip" column as one of several unfinished works by the artist "which are probably destined for next year's Academy." The writer called it:

a brilliant and rich exercise in deep rose colour, contrasting with the carnations of a handsome, fair-haired damsel and a dark, warm background. It is named 'Portia.' A life-size figure is standing fronting us, and seems to be waiting an opportunity to speak. In one hand is a scroll, in the other her red cap. The costume is that of an Italian advocate.20

This unsigned column was in all probability written by Frederick George Stephens (1828–1907), a founding member of the Pre-Raphaelite Brotherhood who had given up painting to write about art. From 1860 until his retirement in 1900 he was the chief art critic for the *Athenaeum*, a weekly journal.21 Stephens must have been in close contact with Millais in 1886, for he organized the special exhibition of the artist's work at the Grosvenor Gallery that year.

On August 2, Lord Ronald Sutherland Gower reported seeing "a 'Portia' in Ellen Terry's red dress in that part, but not a portrait of that actress" in Millais's studio.22 However we can now establish that Millais began this painting before he borrowed Terry's costume. John Guille Millais, in his biography of his father, illustrated a sketch that he called *Study of a Girl in Greek Dress* (Figure 5). It shows the same model in the same pose as Portia but wearing a classical tunic instead of lawyer's robes. X-ray radiographs (Figure 6) and pentimenti, which reveal the crossed straps of the Greek dress below Portia's surface, clearly show that *Study of a Girl in Greek Dress* is not a separate painting but the Metropolitan Museum's canvas in an earlier state.23 A photograph of Millais in his studio at Palace Gate (Figure 7), probably taken late in 1885 or early in 1886, shows *Bubbles* (1886; A. & F. Pears Ltd., London) and *Study of a Girl in Greek Dress* on easels; the scale of the latter corresponds to that of

23. I am grateful to the conservator Alain Goldrach, formerly of the Metropolitan Museum and now at the Museum of Fine Arts, Boston, for making the X-ray radiographs and discussing them and the pentimenti with me.
7. Photograph of Millais in his studio at Palace Gate, with Study of a Girl in Greek Dress and Bubbles on the easels, ca. 1885–86. Collection of Sir Ralph Millais, Bart.

Portia. A print of Figure 5 in the collection of Sir Ralph Millais, Bart., is inscribed on the reverse of its mount, “R.P. Dec 6 1885.” According to Malcolm Warner, the initials R.P. refer to Rupert Potter (father of Beatrix Potter), an amateur photographer who often shot objects and models for Millais’s use, and also recorded his canvases in various states. Millais apparently changed his mind about the picture’s subject sometime between December 6, 1885, the date on the photograph, and the following March 30, when Terry sent her costume.

If not Ellen Terry, who did pose for Portia? In 1886 a critic writing in the Athenaeum, again most likely F. G. Stephens, described the figure as “mainly studied from” the young American actress Mary Anderson (1859–1940). She had made her debut on the London stage in 1883 and enjoyed several successful seasons there before her early retirement in 1889. It seems particularly unlikely that Stephens was mistaken in identifying Anderson as Portia’s model because he had recently pointed out that she did not pose for Frederic, Lord Leighton’s "Serenely Wandering in a

24. This photograph was first published in Geoffroy Millais, Sir John Everett Millais (London, 1979) p. 20.
25. See also Bennett, Millais, pp. 11–12. For accounts of Rupert Potter’s photographing for Millais, see The Journal of Beatrix Potter from 1881 to 1897, transcribed from her code writing by Leslie Linder (London, 1966), passim.
26. [Frederick George Stephens], “Minor Exhibitions,” Athenaeum, Nov. 6, 1886, p. 606. The passage is quoted in full below; see note 44.
Trance of Sober Thought," as a journalist had erroneously assumed.27

A celebrated actress in her day, Mary Anderson was often painted and photographed.28 For example, she appears as the allegorical figure of the Middle Ages, along with Ellen Terry as England, in Edwin H. Blashfield’s mural The Progress of Civilization (1896), in the collar of the dome of the Main Reading Room of the Library of Congress in Washington, D.C.29 Anderson’s statuesque figure and her classic features were legendary; the leading historian of New York theatre called her “the most beautiful woman I ever saw on the stage, or, for that matter, off the stage.”30 An undated photograph by Elliott & Fry (Figure 8) shows her striking good looks. With her tall figure, long straight nose, prominent cheekbones, and light auburn hair, she does bear some resemblance to the model in the Metropolitan Museum’s painting.

She and Millais must have been acquainted, for both were prominent in the London art world of the 1880s. The actress heroine of Mrs. Humphry Ward’s first published novel, Miss Bretherton (1884), a thinly veiled portrait of Mary Anderson, spends much of her spare time in the company of Royal Academicians who clamor to paint her. In G. Grenville Manton’s watercolor of 1891, The Royal Academy Conversazione (National Portrait Gallery, London), Anderson appears among a host of artists and theatre personalities, including Millais, Ellen Terry, and Henry Irving.31

Had Millais intended Portia as a portrait of Mary Anderson, however, he would surely have identified it as such. Curiously, Anderson did not mention Millais in either of her two autobiographies, although she discussed her friendships with Edwin Austin Abbey,

8. Elliott & Fry, Mary Anderson. Cabinet portrait photograph, 6 1/2 x 4 3/4 in. (16.5 x 10.5 cm.). New York, Brander Matthews Dramatic Museum Collection, Rare Book and Manuscript Library, Columbia University (photo: Columbia University)

Sir Lawrence Alma-Tadema, George H. Boughton, Frank D. Millet, John Singer Sargent, and other artists who gathered in the rural village of Broadway, Worcestershire, where she frequently visited and eventually settled.32 She also devoted several pages to

28. For several representations of Anderson, see Richard Kenin, Return to Albion: Americans in England, 1760–1940 (New York, 1979) p. 122. Contrary to Kenin’s assertion, she does not appear in E. A. Abbey’s watercolor of 1885, An Old Song (Yale University Art Gallery, New Haven); according to E. V. Lucas, Edwin Austin Abbey, Royal Academician: The Record of His Life and Work (New York, 1921) I, pp. 135, 145, Anderson posed for the original singer in the picture, but Abbey later wiped her out and repainted the figure from a professional model.
George Frederick Watts, who painted her portrait around 1885–87. Since she was on tour in America from September 1885 until June 1886, she was not available to pose for Millais during most of the year the picture was in his studio. Besides, Mary Anderson as Portia is an anomaly: perhaps because she found Ellen Terry’s performance in the role “dazzling,” she never tried it herself, and it seems highly unlikely that Millais would ask an actress of her reputation to pose in another star’s costume.

Anderson did, however, play several parts in classical dress, including Parthenia in Maria Lovell’s Ingomar (Figure 9), and Galatea in W. S. Gilbert’s Pygmalion and Galatea. In 1887, she doubled the roles of Hermione and Perdita in Shakespeare’s Winter’s Tale. She wears a diaphanous Greek tunic in her portrait by Watts. In her memoirs she tells how she abandoned the velvet gowns, heels, wigs, and stays commonly worn in classical roles, and adopted simple, flowing draperies instead. In her quest for archaeological exactitude and artistic effect she consulted F. D. Millet and Alma-Tadema, both painters of classicizing subjects, and E. A. Abbey, who collected period clothing and books on costume history. Contemporary theatre critics raved about her appearance in Greek dress. In 1883, following her London debut as Parthenia, this encomium appeared in the Morning Post: “Miss Anderson’s beauty is of Grecian type, with a head of classic contour, finely-chiselled features, and a tall statuesque figure, whose Hellenic expression a graceful costume of antique design sets off to the best advantage. You fancy that you have seen her before, and so perhaps you have upon the canvas of Angelica Kauffman.”

The type of Greek costume Mary Anderson wore on stage served as one of the prototypes for Liberty & Co.’s “Aesthetic” dresses. Late Victorian dress reformers considered loose, flowing gowns more healthful than traditional women’s fashions, and encouraged the adaptation of such “hygienic” garments for everyday wear in the English climate. In 1891, an article entitled “Fashion’s Slaves” appeared in the Arena (Boston), calling for the liberation of women from the hoops, corsets, bustles, and trains of contemporary dress, and reproducing the photograph of Anderson shown in Figure 9, asking whether “from artistic, hygienic, economical, and ethical points of view, to say nothing of common sense and comfort, is not the simple and beautiful costume of Parthenia incomparably superior to that which marked the second decade of the past generation?”

33. Sale, Sotheby’s Belgravia, Oct. 6, 1980, no. 47, color ill. in catalogue.
36. Ibid., pp. 117–119.
37. Ibid., pp. 118, 148; Lucas, Abbey, I, pp. 132–133.
So perhaps Anderson was instrumental in inspiring Millais to tackle an antique subject; such themes are extremely rare in his work. Study of a Girl in Greek Dress suggests that Millais was looking to various classicizing tendencies in late Victorian painting, to the work of Alma-Tadema, Leighton, Albert Moore, Sir Edward Poynter, and G. F. Watts. For some unknown reason, perhaps Anderson’s absence from England, Millais abandoned his Greek study, and ultimately painted over it.

As he transformed Study of a Girl in Greek Dress into Portia, Millais may have worked from another model. His son relates the following incident, placing it at the end of 1885:

My father was on the look-out for a model for one of Shakespeare’s heroines that he intended to paint, and while we were sitting at lunch the butler announced that a lady had called to see him on the subject. Being engaged in an interesting conversation with Matthew Arnold, my father said to me, “Here, Johnnie, run down and see if she will do.” I accordingly went downstairs, and found myself in the presence of one of the most beautiful women I have ever seen. “Well, do you think I shall do?” she said, after some preliminary conversation. “Oh, certainly,” I replied. “Come at ten o’clock on Monday morning.”

About five minutes later in came the butler again. “Another lady downstairs, please, Sir John.” “Oh, go along and see her too, Johnnie,” said my father impatiently. I went, and behold! another lovely creature, whose charms almost rivalled those of the first applicant. After a short interview, she said, “When may I come?” “Ten o’clock on Monday morning,” I replied, and went back to the dining-room. By this time, however, my father had flown, and not until next day could I tell him of the success of my mission. Then, in glowing terms, I painted to him the charms of the two models I had engaged; but, to my surprise, he did not seem at all pleased. Forgetting for the moment his instructions to me, he had himself engaged two other models for ten o’clock on Monday morning, and all I got as he walked off to his studio was, “Ah! that’s the worst of sending young fellows like you to interview pretty girls. You’d engage every blessed hour that stepped inside the place, if you got the chance!”

When Monday came all the four ladies turned up; but, following the example of the “wise child who goes out of the room to laugh when the old man has hit his thumb with a hammer,” I refrained from entering the studio that morning. Enough for me to learn, as I did a little later on, that one of my ladies—Miss Dolan, a favourite model of Lord Leighton’s—had been selected.40

Since Portia is Millais’s only known Shakespearean subject from 1885–86, the passage surely refers to this picture. Moreover, illustrated in the pages immediately following the account of Dolan’s selection are Study of a Girl in Greek Dress and a picture identified as Head of Portia (Figure 10), probably a detail from a photograph of Portia in an earlier state. A photograph in an album belonging to Sir Ralph Millais, Bart., showing Portia unfinished and inscribed “Miss Dolan” also links this passage with Portia.41 The same model may be represented in a drawing by Sir Edward Coley Burne-Jones (Figure 11), signed and dated 1890, and said to be a portrait of Kate Dolan.42

Millais’s Portia is therefore not a portrait of Ellen Terry, of Mary Anderson, or of Miss Dolan, though all seem to have contributed to the picture. The evidence suggests that Anderson served as the artist’s initial inspiration, that Terry’s costume and her interpretation of the role informed Millais’s alteration of the canvas, and that Dolan stood in as model while he completed Portia.

The picture was first exhibited in a group show that opened to the public on November 1, 1886, at Thomas McLean’s Gallery in the Haymarket, accompanied in

40. Millais, Life and Letters of Millais, II, p. 192. Richard Ormond informs me that he has never come across Miss Dolan in his research on Leighton. A model named Miss Dolan is mentioned in a letter from G. F. Watts to Briton Riviere, dated Sept. 21, 1893 (my thanks to Barbara Coffey for this reference). Personality magazine (New York) reproduced Portia in color on the cover of its Dec. 1947 issue, offering a prize to the first reader to identify the model. Since the Metropolitan Museum’s catalogue still incorrectly called Portia a portrait of Ellen Terry and the Museum’s files contained conflicting opinions about the model’s name, the magazine queried J. G. Millais through Heinemann’s in London. According to their reply, the model was a Miss Donovan—easily a slip for Dolan, made 42 years after Portia was painted (see correspondence between Ralph H. Graves, editor of Personality, Henry W. Kent, Metropolitan Museum Secretary, and Winifred Howe, the Museum’s Editor of Publications, Nov. 25, 26, 28, 29, and Dec. 6 and 7, 1927, in MMA Archives). Not surprisingly, no one won the contest (Personality 1, no. 4 [ Feb. 1928] p. 110).


The Magazine of Art's critic praised the execution, singling out "the firm modelling of the head, the life gleaming from the eyes, the rich broken tints of the red robes;" but he objected to the characterization of the figure, complaining that:

the effect of the whole is, alas! strangely commonplace, not to say vulgar; the picture is, as it were, a kind of glorification of all that is most prosaic, most soulless, and least distinctive in the beauty of English womanhood. It adds another to the long list of "pot-boilers," which will do nothing to enhance the reputation of our ablest master of the brush, from whom seems to have departed all ambition to rise above the dead level of a certain superficial and mitigated imitation of the outside realities of human nature.45

The art critic for the Saturday Review took the opposite point of view, finding Portia "well conceived but somewhat coarsely painted."46

Two of these writers criticized Millais for emphasizing Portia's physical beauty rather than her moral strength. Portia's ravishing appearance may be attributed in part to Millais's tendency in his later pictures to appeal to popular taste, but his vision of the character also corresponds to Ellen Terry's. Several theatre critics complained that her performance in the trial scene was too refined and ladylike. "That a pretty woman cannot be induced to disguise herself, is said to be an article of faith with managers, but it ought

the catalogue by a quotation from Shylock's lines in act 4, scene 1 of The Merchant of Venice: "A Daniel come to judgment! Yea, a Daniel!"45 In a review entitled "Minor Exhibitions" in the Athenaeum, the writer gave Portia qualified praise:

At Mr. McLean's the most attractive picture is Sir John Millais's Portia (29), the nearly whole-length, life-size figure in a doctor's gown, which we have already briefly described. The figure is more animated than the spectator at first thinks warranted; in like manner, the impression that the picture lacks finish is modified, but not dispelled, by continued study of the admirably handled flesh and the rich, brilliant, and soft rose-coloured gown, which are its telling elements. The figure is mainly studied from Miss Mary Anderson. Bareheaded, with a scroll in one hand and her cap in the other, this Portia stands as if she waited her turn to speak, and is so far an excellent representation of the character. On the other hand, she does not look in the least like a Daniel come to judgment.44

43. The Annual Exhibition of Oil Paintings by Artists of the British and Foreign Schools (London: T. M'Lean's Gallery, Haymarket, 1886) no. 29. According to Alfred Lys Baldry, Millais, Masterpieces in Colour (London/New York, 1908) pp. 64–65, during the 1880s Millais produced more than he could exhibit at the Royal Academy, "so he sent many important works to the Grosvenor Gallery, and most of his subject pictures to the galleries of the dealers by whom they were commissioned." By 1888, when Portia was shown in the Fine Art Loan Exhibition, St. Jude's School House, Whitechapel, London (no. 29), it belonged to the wealthy railroad executive James Staats Forbes (1829–1904), who also owned Millais's Orphans (1885; sale, Property of the executors of the 2nd earl of Iveagh, Christie's, London, July 16, 1976, no. 37, ill. in catalogue) and Clarissa: A Recollection of Gainsborough (1887; sale, Property of Major Philip Grible, Christie's, London, July 7, 1967, no. 114); see Millais, Life and Letters of Millais, II, pp. 483–484. Thomas Agnew and Sons acquired Portia from the Staats Forbes Estate, and sold it to the Metropolitan Museum in 1906.

44. The writer was almost certainly F. G. Stephens; see note 26 above.

46. Saturday Review (London), Nov. 6, 1886, p. 617.
not to hold good, or bad, in the case of such an actress as [Terry] is," declared the Spectator's critic, reproving her for "refusing to adopt the slightest precaution to prevent [her] recognition . . . by all the people in the court. . . . To say nothing of the absurdity of a quantity of curling hair under the beret of a lawyer in a piece costumed with such elaborate accuracy in other respects, the absence of all pretence at incognito. . . ." In a lecture on Shakespeare's "Triumphant Women," Terry herself, although she found "something independent, almost masculine" in Portia's character, repudiated the German tradition of playing the part as a "low comedy . . . in an eighteenth-century wig, horn spectacles, a barrister's cravat, and a fierce moustache," declaring that "no interpretation entailing a sacrifice of beauty, whether to mirth or to realism, can ever be satisfactory. Portia is the fruit of the Renaissance, the child of a period of beautiful clothes, beautiful cities, beautiful houses, beautiful ideas. She speaks the beautiful language of inspired poetry. Wreck that poetry, and the part goes to pieces." Like Terry's, Millais's Portia could never be mistaken for a man.

Instead, she is an alluring, vulnerable, late Victorian maiden who lacks the aggressive stance, the outward display of moral resolve traditionally associated with Shakespeare's heroine. Such passivity is, however, common in Aesthetic representations of Grecian women, notably those by Moore and Leighton.

Comparison of Portia with photographs of the canvas in its earlier incarnation as Study of a Girl in Greek Dress shows that it was revised but not entirely transformed in the course of its evolution. Portia's curious lack of courtroom drama probably derives more from the picture's hybrid nature than from any deliberate attempt on Millais's part to reinterpret Shakespeare's character.

Millais's characterization of a strikingly beautiful female and his exploration of tonal effects within a limited range of color also link Portia with Aesthetic concerns. Portia's individualized personality and her physical attributes—thick, wavy, reddish blond hair, prominent nose, full, sensuous mouth, strong cheek and jaw bones, and statuesque figure—are reminiscent of Dante Gabriel Rossetti's "stunners" and their Aesthetic successors. Ellen Terry's red costume, like the tunic of Study of a Girl in Greek Dress, answers the Aesthetic dress reformers' call for practical, comfortable garments based on historical precedents.


in his conception of Portia Millais was evidently attempting to keep in step with the more progressive trends in British art of the 1880s.

That Millais could transform the Girl in Greek Dress into Portia merely by changing her clothes underlines his fundamental lack of interest in the narrative possibilities of the subjects. In its emblematic approach, Portia differs from Millais's earlier essays on Shakespearean themes, such as Ferdinand Lured by Ariel (1849–50; private collection, England) and Ophelia. With her standard three-quarter-length pose and the column, appropriate for a courtroom setting but also a stock portrait prop, Portia belongs instead among the compositions "balanced between subject and portraiture, a balance which becomes a staple formula for

50. I am grateful to Della Sperling for pointing this out to me.
many of [Millais's] later pictures such as *Sweetest Eyes* and *Cherry Ripe,*” in the words of Mary Bennett. As she points out, these “fancy” pictures are clearly indebted to eighteenth-century British art, especially Reynolds.51

Millais's characterization of *Portia* as a full-blown, late Victorian beauty derives in part, then, from the picture's curious evolution, but it also corresponds with the artist's other depictions of women in the period. For, in the final analysis, *Portia* has less in common with Shakespeare's activist heroine than with the orphans, widows, and touching female subjects in many of Millais's other late “fancy” pictures.

ACKNOWLEDGMENTS

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51. Bennett, Millais, pp. 11–12.
The Construction of Some Empire Silver

CLARE LE CORBEILLER

Associate Curator, Department of European Sculpture and Decorative Arts,
The Metropolitan Museum of Art

The conventional way of attaching separate decorative elements to the body of a piece of silver is by soldering. In France, until the early nineteenth century, this generally amounted to little more than the application of handles, feet or foot rims, hinges of covers, and the like, as surface decoration was achieved by chasing, casting, and/or engraving. After about 1802, under the influence of the designers Charles Percier and Pierre-François-Léonard Fontaine, Napoleon’s arbiters of taste, a new style began to dominate French silver. From an integrated design comprising an interplay of techniques, the object became essentially a blank surface on which the repertory of Empire decoration—masks, swans, palmettes, classical figures—was to be displayed. In the work of Napoleon’s principal goldsmith, Martin-Guillaume Biennais, these motifs were applied in the traditional manner, by soldering.

It was Biennais’s contemporary, Jean-Baptiste-Claude Odiot (1763–1850), who introduced a method of construction which, though noted by previous writers, has been passed over without amplification. The method is illustrated here by two items from a 219-piece table service sold by Odiot in 1817 to Count Nikolai Demidoff (the service has been widely dispersed since it was first sold at auction in 1928). The cruets (Figure 1) is one of a pair, the large serving dish (Figure 3), one of four. Once disassembled, they show that Odiot pierced the main body of each piece with holes at the points of attachment (Figures 2 and 4), and provided the individual elements with threaded bolts (Figure 5), which were secured to the body by nuts. Each part to be applied, and its corresponding position on the main body, was coded. 1

The method of bolting had some precedent in silversmithing—notably in the drinking cups modeled as stages or other animals popular in Germany in the sixteenth and seventeenth centuries—but had more recently been practiced by bronze workers, particularly those supplying furniture mounts. 2 Odiot was clearly familiar with bronze techniques, and may have become so through his occasional collaboration with the bronze founder Pierre-Philippe Thomire (1751–1843). Together they produced an elaborate suite of furniture for the toilette of Marie-Louise in 1810 (destroyed by her order in 1832 on the pretext of raising money for hospitals during the cholera epidemic of that year) and, the following year, the cradle for the King of Rome. About 1827 Odiot presented the Musée des Arts Modernes du Luxembourg with bronze models of thirty of his silver pieces, including this cruet frame. 3 It was, indeed, quite probably his association with Thomire that prompted Odiot to adopt such a

1. On the cruet frame Odiot employed a combination of punched circles and scratched lines (not, apparently, intended as Roman numerals). The kneeling figures of the serving dish are coded with the numerals III and IV. Two other dishes of the set of four are numbered V and VI, and VII and VIII respectively; the fourth, which should be numbered I and II, is not coded.
3. Now in the Musée des Arts Décoratifs, Paris. The model for the cruet frame is inscribed l’original en argent en 1810.

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FACING PAGE:


2. The cruet disassembled
4. The serving dish disassembled

5. Supporting figure from serving dish, showing attachment bolts
method of construction for some of his larger sculptural pieces. It was an efficient method, suited both to the nature of current design and the character of Odiot's business. He was a prolific goldsmith whose work was in fashionable demand, and the practice would certainly have facilitated the production of his numerous table services with their repeated models and motifs, which could be readily assembled by any shop assistant.

In spite of its practicality, the method of assembly by bolting does not appear to have gained much currency in France or elsewhere, although it was employed between 1830 and 1835 by Jacques-Henri Fauconnier, formerly Odiot's chef d'atelier, for a monumental vase commissioned for presentation to the marquis de Lafayette.4 It recurs much later, however, in the Demidoff service: when the pieces were recently disassembled, it was discovered that the unidentified armorial plaques (see Figures 2 and 4), which are affixed in the same manner as the other applied elements, were made in London in 1863 by the firm C. F. Hancock. Although there are no export or import marks on the service to indicate it was ever out of France, it does nevertheless seem likely to have been in England at the time that the plaques were made and attached. Otherwise their placement and exact duplication of Odiot's techniques would hardly have been feasible.5


5. At least some English provenance is implied in the sale catalogue (Anderson Galleries, New York, Dec. 15, 1928), where the service is said to have been acquired by the grandfather of the vendor, "an anonymous English gentleman of title."
The Inscription in Manet’s The Dead Christ, with Angels

JENNIFER M. SHEPPARD
Junior Research Fellow, St. Hugh’s College, Oxford

In recent studies of Manet’s The Dead Christ, with Angels, the biblical reference which appears on the stone in the lower right section of the painting has been inaccurately transcribed (Figures 1, 2). The error in all cases concerns the v of the second line, which has been read as the Roman numeral V. In fact, it is a lowercase v: the style of the letter is comparable to that of the v in évang. of the first line and not to the more rigid strokes of the Roman numerals XX and XII in the second; there is also a period following the letter, indicating that it is an abbreviation, as is each of the words in the inscription except the name of the evangelist. The letter, therefore, must stand for vers, corresponding to chap. which stands for chapitre, and the inscription reads évang. s.l. Jean / chap. XX v.XII, referring us to verses 5 and 12, or to verses 5 to 12, but simply to verse 12: “And [Mary Magdalen] seeth two angels in white sitting, the one at the head, and the other at the feet, where the body of Jesus had lain.”

The correct reading of the inscription (noted but not commented upon by George Heard Hamilton) makes it possible to relate Manet’s painting quite closely to Ernest Renan’s book La Vie de Jésus, which was published in 1863, the year before the painting was submitted to the Salon. The main idea that the book propounds is that there are no such things as miracles. Consequently Renan argues that Christ did not rise from the dead. Anne Coffin Hanson has already pointed out that the presence of the dead body of Christ in the painting conflicts with the biblical source it cites and thus seems to reflect points made by Renan. But all four Gospels carry an account of the empty tomb. The particular significance of John 20:12 is that among these accounts it is the only one to report Mary Magdalen as alone at the tomb and to describe what she saw there. Renan draws attention to this feature of the fourth Gospel as support for his explanation of what he calls the legend of Christ’s Resurrection, namely that it was in large part due to the overactive imagination of the highly suggestible and emotional Mary Magdalen, who was once possessed by devils. So firmly had she convinced herself.

3. Renan’s name was linked with the painting by an anonymous critic in La Vie Parisienne on May 1, 1864, a fact first reported by Adolphe Tabarant, Manet et ses œuvres (Paris, 1947) p. 83, and first discussed by Hanson, Manet and the Modern Tradition, pp. 105ff.
5. Ernest Renan, La Vie de Jésus (Paris, 1863) p. 434 n. 3: “Dans le quatrième évangile (XX, 1–2, 11 et suiv., 18), Marie de Magdala est aussi le seul témoin primitif de la résurrection.”
6. Ibid., pp. 151–152: “L’une d’elles, Marie de Magdala, ... paraît avoir été une personne fort exaltée. Selon le langage du temps, elle avait été possédée de sept diables, c’est-à-dire qu’elle avait été affectée de maladies nerveuses et en apparence inexplicables. Jésus, par sa beauté pure et douce, calma cette organisation troublée. La Magdaléenne lui fut fidèle jusqu’au Golgotha, et joua le surlendemain de sa mort un rôle de premier ordre; car elle fut l’organe principal par lequel s’établit la foi à la résurrection.”

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that Christ would rise on the third day that when she looked into the tomb she saw not what was there, but what she wanted to see. John 20:12 is thus one of the most significant items in Renan’s evidence, and in conjunction with Manet’s representation of the tortured, lifeless, human body of Christ as described by Renan, it is a crystallization of Renan’s major thesis. It is therefore appropriate that Manet’s angels do not triumphantly announce the Resurrection, but grieving and distraught, mourn the death of the man whose decomposing body they display in the tradition of the image of the Man of Sorrows.

7. Ibid., p. 425: “L’atrocity particulière du supplice de la croix était qu’on pouvait vivre trois et quatre jours dans cet horrible état sur l’escabeau de douleur. L’hémorrhagie des mains s’arrêtait vite et n’était pas mortelle. La vraie cause de la mort était la position contre nature du corps, laquelle entraînait un trouble affreux dans la circulation, de terribles maux de tête et de cœur, et enfin la rigidité des membres. Les crucifiés de forte complexion ne mouraient que de faim… L’organisation délicate de Jésus le préserva de cette lente agonie. Toute porte à croire que la rupture instantanée d’un vaisseau au cœur amena pour lui, . . . une morte subite.”
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Tiziano Aspetti, St. Daniel Dragged by a Horse (detail). The Metropolitan Museum of Art