4 | The Restoration History of the Bronze Apollo and Diana from Pompeii

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Introduction

The conservation of the Apollo Saettante (fig. 4.1) at the J. Paul Getty Museum in 2009 and 2010 provided the first occasion to understand the restoration history of this statue, which had undergone extensive interventions and alterations following its recovery in 1817 and 1818.[1] The inclusion of its sister statue, the bronze Diana (fig. 4.2),[2] in the exhibition *Apollo from Pompeii*: *Investigating an Ancient Bronze* (2011) presented the opportunity to undertake a parallel study.[3] This brought to light many points of similarity and difference between the two statues, and offers the basis to explore the practical and ethical issues associated with the restoration of archaeological finds in early-nineteenth-century Naples.

FIGURE 4.1. Apollo Saettante, 100 B.C.–before A.D. 79. Bronze, 147 × 55 × 114 cm (57⅞ × 21⅝ × 44⅞ in.). Naples, Museo Archeologico Nazionale (inv. 5629). The statue is shown after conservation at the J. Paul Getty Museum.

Discovery

The discovery of the Apollo and Diana has recently been well documented by Mario Grimaldi,[4] so only the salient points will be noted here. The Diana was found in March 1817, in what is now identified as the Temple of Apollo. It was discovered, in the words of the excavators' reports, as "a half bust of bronze," with the eyes intact but missing "a portion of the left arm and the ring finger of the right hand."[5] Two and a half months later, the main fragments of the Apollo—"a most beautiful bronze statue"—were discovered; the figure was broken in three sections and was missing its right foot, an arm, and a hand.[6] A variety of topographical clues in the reports led Grimaldi to locate the discovery of the Apollo just northwest of the Forum, and he suggests that it could have been in the buildings that are today known as the *aerarium*.

Despite continued excavations in this area, it was not until over a year later that the missing parts of the statue were found, and then apparently by accident. The reports in volumes 1 and 3 of *Pompeianarum Antiquitatum Historia* (hereafter *PAH*) conflict on certain details, but the basics are consistent.[7] Two soldiers (or a hunter, according to volume 3 of *PAH*) were out strolling along the northern city walls. Seeing a fox, they gave chase, only for it to slip away. In doing so, however, the fox led them underground, whereupon they came across bronze fragments—a right foot, a right hand, and a fragment of an arm accompanied by some drapery.[8] These pieces were

FIGURE 4.2. Diana, 100 B.C.–before A.D. 79. Bronze, 54 × 45 × 48 cm (21¼ × 17⅝ × 18⅞ in.). Naples, Museo Archeologico Nazionale (inv. 4895)

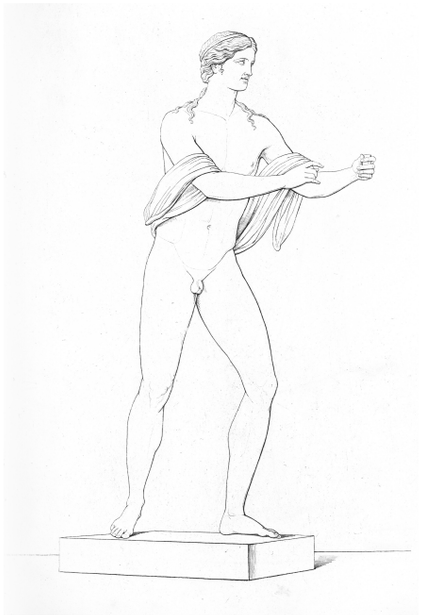

FIGURE 4.3. Unknown artist. Engraving from Raffaele Gargiulo, *Raccolta de monumenti più interessanti del Re. Museo Borbonico e di varie collezioni private* (Naples, 1825), pl. 10. Los Angeles, The Getty Research Institute

FIGURE 4.4. Schematic depiction of fragments of the Apollo Saettante

demonstrated as joining to the Apollo—in spite of initial disbelief from some quarters, given the location of this discovery and the delicate, feminine form of the finds—leaving only the figure's left hand missing. Days later, the report in volume 1 of *PAH*, for October 23, 1818, records the discovery of this hand in a store deposit of material that had already been unearthed,[9] and it was sent to the Real Museo Borbonico in Naples on the very morning it was identified.

In studying the Apollo during its conservation at the Getty Museum, we have verified the excavators' accounts of the fragmentary nature of the statue and its missing parts. To our knowledge there are no records pertaining to the reconstruction of the Apollo, which was presumably executed by the staff of the Real Museo Borbonico (discussed further below), but museum inventories and catalogues give evidence for when the work was completed. The statue is recorded in the museum's *Inventario Arditi* of 1819 as being on display,[10] and was published as such in Gélas's catalogue of bronzes of 1820 (where the entry briefly recounts the story of the statue's discovery, and states that it was "very well restored").[11] The earliest illustration (fig. 4.3) occurs in Raffaele Gargiulo's *Raccolta de monumenti più interessanti del Re. Museo Borbonico* . . . , published in 1825, and shows the figure to be flawless, lacking only the bow.[12]

Apollo Saettante: Reassembly and Reconstruction, First Phase (ca. 1817–1820)

Given its state on recovery, the Apollo required an extensive intervention to reunite the fragments and produce a displayable statue. As noted above, the physical evidence coincides well with literary sources that describe the excavations. The Apollo was reconstructed from seven primary pieces (fig. 4.4): the torso (including the head and right arm), part of the left arm with drapery, the remainder of the left arm, the right hand, the left leg, the right leg, and the right foot. The damage to the head demonstrates the strength of the forces that broke the statue; there are multiple fissures throughout the hair and large cracks running along the right side of the neck (fig. 4.5). The overall damage appears to have been most severe on the left side, where the bicep and midthigh were fractured into numerous small fragments, many of which were not recovered. By contrast, the right side was in much better condition, with the hand and foot separating at their ancient joins and the right leg fracturing along the transitional line between the leg and the lower torso.

The fragments were reassembled around a single square-sectioned length of wrought iron that travels vertically through the entire figure (fig. 4.6). The rod is connected to the left leg at the midthigh, in the lower back, and at the left side of the neck. Iron straps straddle the armature at these three points, and they are fixed to the ancient bronze with brass screws. The curvature of the iron bar follows the interior shape of the sculpture, indicating that it was not inserted into the reassembled figure; rather, the fragments were assembled sequentially around it. The iron bar

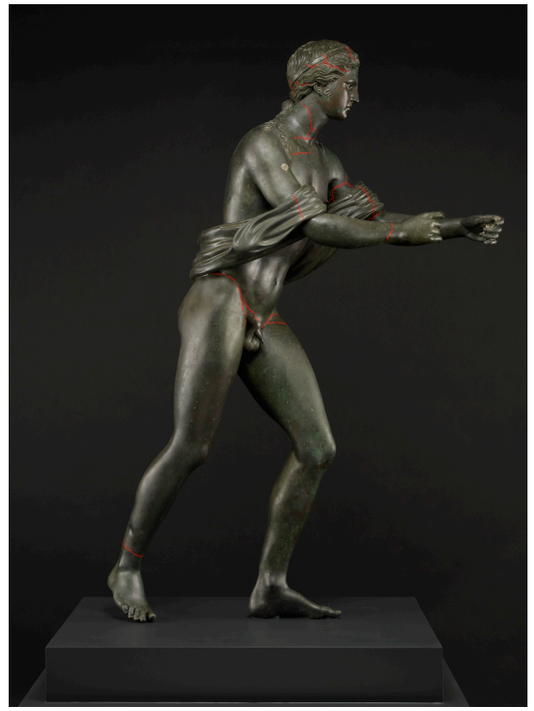

FIGURE 4.5. Apollo: digital rendering of cracks

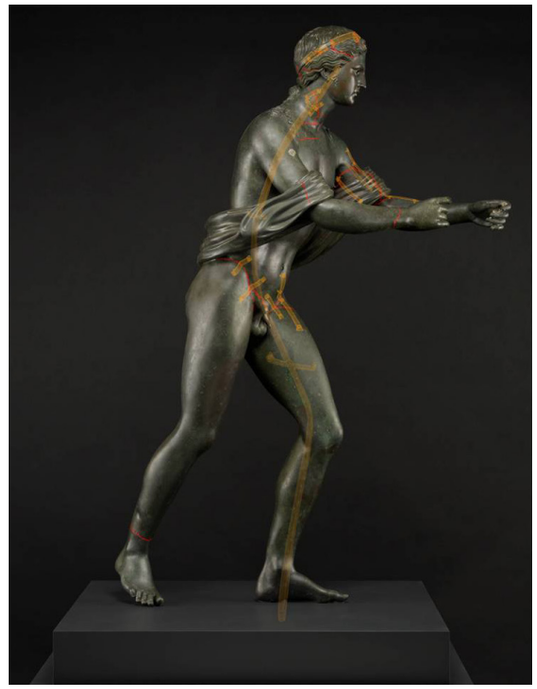

FIGURE 4.6. Apollo: digital rendering of internal armature, and straps and screws.

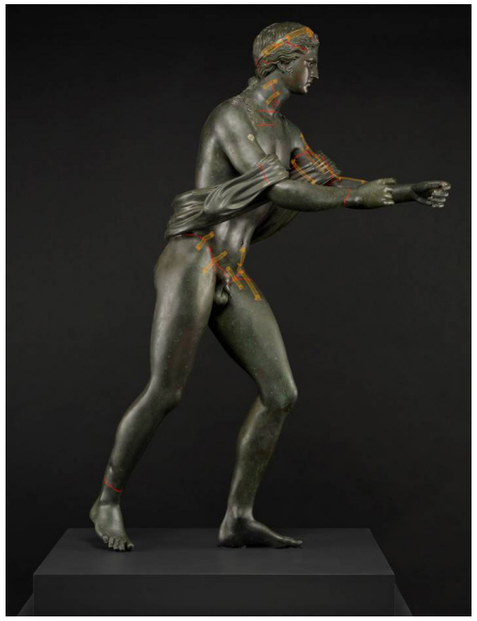

FIGURE 4.7. Apollo: digital rendering of straps and screws

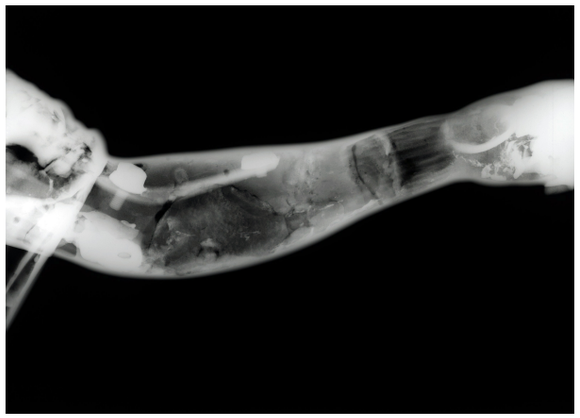

FIGURE 4.8. Apollo: detail, X-ray of straps in left arm

also has a threaded end, and so was intended to be the primary structural support for the display of the statue.

The individual joins between the seven principal fragments were secured with forged-iron straps (fig. 4.7). At each break, these flat straps were positioned perpendicular to the join and secured mechanically. They were initially fixed with lead solder to the interior of one side of the join, then drilled and threaded and secured with a brass screw. By fixing one end of an iron strap to a fragment, its adjoining piece could be positioned and its relation to the strap established. This second fragment was then drilled through its point of contact with the iron strap and another brass screw inserted, securing the two bronze parts to each other via the internal strap. Such a method was highly practical, permitting the spatial relationships of the fragments to be determined, while also allowing for the straps to be adjusted to the interior contours of the joins.

In areas of extensive damage, where multiple small fragments constituted the connection between two more fully preserved sections, the iron straps are more numerous and bypass the fragmentary area to connect the two larger portions of the sculpture directly. This can be seen in the left arm, where the fragments that make up the bicep have been soldered in place, while the shoulder and forearm are connected by three straps at approximately 120 degrees from one another (fig. 4.8). A similar construction is present in the left thigh.

In all instances the final stage was to solder the exterior break edges together to create a seamless transition from one fragment to another. Notably, the right hand and right foot were merely rejoined with solder, without recourse to internal iron straps. This demonstrates that internal reinforcements were used by the restorers only where necessary, and that a clear distinction was made between weight-bearing and non-weight-bearing elements of the sculpture.

The varying orientations of the brass screws (fig. 4.9) that were used in the reassembly—some with their heads outward, others inward—allows us to propose a probable sequence of reconstruction. The first step appears to have been the creation of a point to access the interior of the upper torso. This was achieved by opening up the ancient join at the crown of the head (which had been only partially fusion welded), which allowed the restorers to secure the internal armature as well as the individual reinforcements for the cracks in the neck.

The left arm and right leg seem to have been the first fragments to have been joined to the torso, since the screw heads at these points were secured from within. Beginning reassembly by reattaching these fragments makes sense, considering that neither was associated with the structural armature. Indeed, it would have been difficult to secure their reinforcement straps from inside with the armature in place. Furthermore, by securing the right leg, it would also have been possible to calculate the height of the figure, which would have helped in determining the length necessary for the iron armature (fig. 4.10).

FIGURE 4.9. Apollo: detail of screw heads and ends in thigh

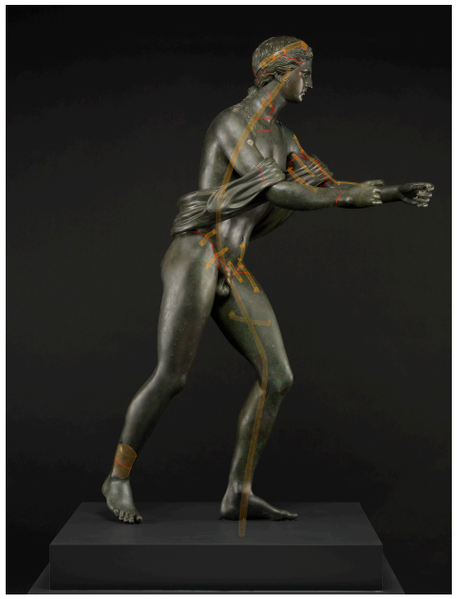

FIGURE 4.10. Apollo: digital rendering of internal armature, and straps and screws. This image also shows the later repair to the right ankle, as shown in figure 4.20.

FIGURE 4.11. Apollo: detail of break edges at underside of left arm

FIGURE 4.12. Apollo: detail of left thigh, with nineteenth-century restoration patch removed during conservation to show break edges

Thereafter, following the insertion of the two straps in the neck and the screws securing the pubic area, three straps were introduced in the left leg. All three were soldered in the upper portion of the join, then drilled and bolted in place to receive the leg. It was at this stage, before the leg was secured in place, that the armature would have been introduced, as is suggested by the nature of its attachment in the middle of the left leg below the break join. Here, a cross brace was affixed to either side of the leg with screws secured from the exterior. The armature passes in front of the brace and contacts its surface, where a strap straddles and secures it. Since the brace is in the detached portion of the leg, its orientation and position could have been determined only after the position of the leg had been decided, requiring that the armature and all three flat straps were already fixed in place.

In most instances the break joins matched well to one another. In a few cases, however, the restorers filed, cut, and reshaped irregular break edges in order to fit pieces together. This is clearly seen on the underside of the upper left arm, where the quantity of small fragments appears to have been a hindrance to proper realignment and rejoining (fig. 4.11). Similarly, the edges at the front of the join in the left leg were likely distorted during fracture, and these areas were cut back for the insertion of brass patches that created a smoother transition from one side of a join to the other. As is evident with a large portion of the left thigh (fig. 4.12), when dealing with missing areas, the restorers simplified edges so as to be able to incorporate large brass patches to complete the form.

There is no record that the original hanging ends of the Apollo's drapery were ever found. However, the descriptions of the statue in the *Inventario Arditi* and Gélas's catalogue record that there was drapery around the back and over the arms, and this is consistent with a number of nineteenth-century illustrations of the restored figure that show the drapery to be complete (see fig. 4.3; figs. 4.13, 4.14).[13] Evidently, therefore, the drapery ends were reconstructed as part of this first phase of restoration. Museum inventories of 1844 and 1849 explicitly record that these new drapery ends were made of plaster.[14] During conservation at the Getty Museum, the threaded drill holes in the arms that were used to attach these new parts were revealed, and as is fitting given the other techniques employed in reassembling the figure, they were evidently attached by means of screws.

Apollo Saettante: Surface Treatment

Upon arrival at the Getty Villa in 2009, the exterior of the Apollo varied between areas of exposed reddish-brown copper alloy and relatively smooth sections of mottled black and dark green. Endoscopic examination of the interior, however, revealed large irregular patches of cuprite, malachite, and azurite (fig. 4.15). All three corrosion products are typical of, and

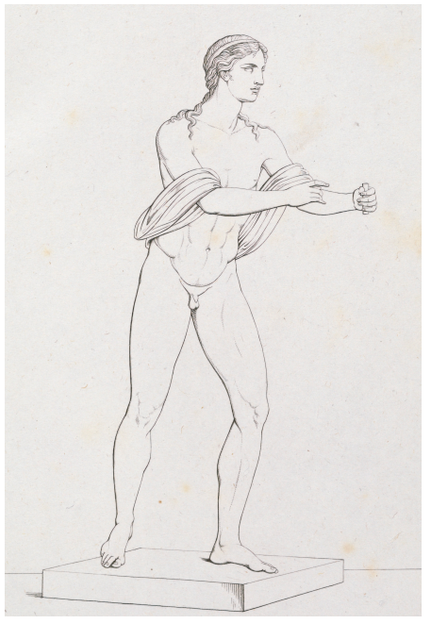

FIGURE 4.13. Unknown artist. Engraving from *Real Museo Borbonico* (Naples, 1832), vol. 8, pl. 60. Los Angeles, The Getty Research Institute

FIGURE 4.14. After Ferdinando Mori (Italian, 1782–1852). Engraving from Domenico Monaco, *Les monuments du Musée national de Naples…* (Naples, 1884), pl. 91. Los Angeles, The Getty Research Institute

FIGURE 4.15. Apollo: detail, endoscope photo to show interior corrosion

FIGURE 4.16. Apollo: detail of traces of rasps on surface

consistent for, an ancient bronze and should indicate what the statue would have looked like at the time of recovery. Their complete absence on the exterior indicates a major intervention—and numerous traces of chisels, rasps, and files on the Apollo's surface plainly demonstrate that the statue was cleaned mechanically (fig. 4.16). Since the natural corrosion products remain on the interior, any acids or chemical agents that might have been used in the cleaning were evidently not applied universally. Indeed, although the possibility that chemicals were employed for cleaning cannot be excluded outright, no traces of their use have been documented.

The ancient metal is far from fully mineralized, and areas of exposed bronze would most likely have been a bright raw-copper color after cleaning. After the Apollo Saettante had been reassembled, therefore, it would have had a highly irregular and patchy coloration, varying between the bright raw metal and dark areas of corrosion. Furthermore, there would have been many traces of the restorers' work: irregular silvery solder lines, tens of shiny brass screw heads, and several prominent and smooth brass patches. Clearly, therefore, the greenish color of the statue that is evident today was the result of the application of a new patina, which served both to disguise the evidence of intervention and to achieve a homogenous and even tonal quality (fig. 4.17). Very little of the original corroded surface has survived; there are only trace amounts of cuprite and remnants of malachite in deep sculptural recesses. Instead, what is visible is a highly painted surface made up of multiple pigments and various binding media. The Apollo's exterior surface is therefore a nineteenth-century conception of what an ancient surface should look like.

Samples taken from representative portions of the sculpture contained varying amounts of natural and synthetic yellow and blue pigments: iron oxide, potassium ferrocyanide, azurite, and lead chromate. The synthetic pigments, in particular Prussian blue and chrome yellow, were in circulation at the time of the Apollo's discovery and so are appropriate to the proposed dates for its initial restoration. Individually, whether natural or synthetic, these pigments offer varying intensities of yellow and blue. By mixing them together, various shades of green can be obtained, ranging from brilliant to dark, almost black. The individual pigments themselves may also be lighter or darker and give colors and saturation that can vary from orange to reddish to black. The multitude of possible colors and tones is consistent with what one would expect on an ancient bronze, making the application of pigments a highly effective technique for repatination.

Further analysis showed the presence of three organic materials on the surface, all of which are common binder types. All samples taken contained a drying oil. The ratio of palmitic to stearic acids present suggests linseed or walnut oil, or a combination of the two. These drying oils were the principal binder used to apply the pigments to the surface. Some of the samples removed from seams, particularly those of the drapery around the back and at the arms,

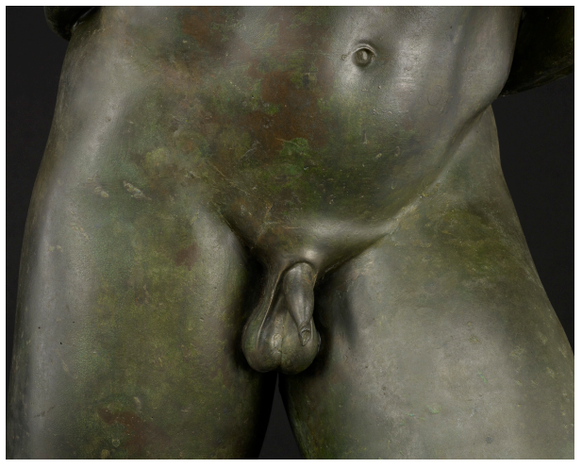

FIGURE 4.17. Apollo: detail of patinated surface

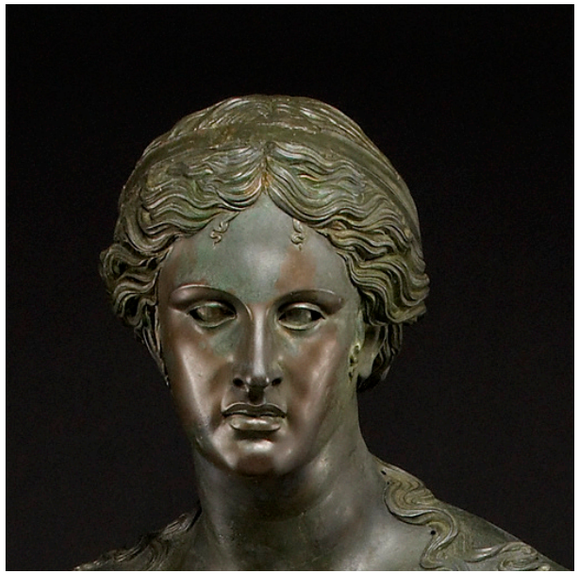

FIGURE 4.18. Apollo: detail of face showing areas of reddish-brown color

contained rosin in the form of a coniferous exudate, most likely colophony. Where employed, the rosin appears to have been used more as an adhesive mastic or grouting substance to fill larger voids. A few samples—from the right foot and the areas around the attachment of the two hanging drapery fragments—contained proteins that indicate the presence of animal glue. As will be discussed below, these are areas that were treated during a later intervention.

The application of pigments as a method of patination has a clear logic, especially considering the extreme color and textural variations that would most likely have presented themselves on the cleaned and reassembled statue. Aesthetically, pigments would have covered and disguised the new elements and areas of overcleaning or greatest variation. Practically, the greater controllability of the technique—as compared to chemical methods—in both its application and the predictability of results would also have been a benefit, as were the easy availability and relative low cost of the materials involved.

There is, nonetheless, a distinct possibility that another method of patination was also used. The face, chest, and front of the thighs are a reddish brown (fig. 4.18). The absence of corrosion in these areas is most likely due to its complete removal during cleaning (rather than to preferential or uneven corrosion in the burial environment). Their color, however, cannot be attributed simply to the application of pigments. Rather, it may have been achieved through the heating or flaming of the bronze surface, to force its oxidation prior to the addition of any natural or synthetic colors.

Although this technique cannot be demonstrated scientifically, it may be hypothesized by contrasting the reddish-brown color on areas of the face, chest, and thighs with the golden-yellow color around the fracture at the right ankle, which was visible when the Apollo arrived at the Getty Villa in 2009 (fig. 4.19). As will be discussed below, this was part of an intervention in the 1860s. What is of interest here is that the color of the bare metal had been exposed by filing and rasping, and had remained unchanged ever since that intervention took place some 150 years ago. As noted above, the face, chest, and front of the thighs had been cleaned of their corrosion products around 40 years earlier. Yet their appearing not golden but reddish brown is difficult to attribute simply to natural surface oxidation during this period. The discrepancy suggests that these areas underwent another type of treatment. Acids can be excluded, given the absence of any trace of metal salts such as chorides, nitrates, or sulfates. Heating, however, should result in the formation of superficial cuprite, and cuprite is indeed present in many of the samples, particularly those taken from the reddish-brown areas. The coloring of these areas could therefore have been the result of flaming or torching.

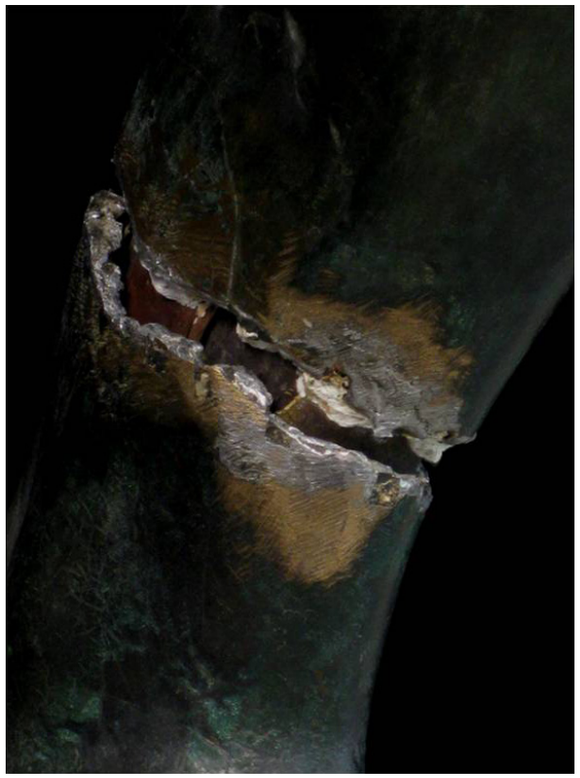

FIGURE 4.19. Apollo: detail of right ankle fracture, showing golden yellow color of exposed metal

Apollo Saettante: Second Intervention (ca. 1860)

Having outlined the various aspects of the statue's first phase of restoration, we turn to a second phase of intervention that was undertaken at a later date, most probably in the early 1860s. As noted above, the right ankle underwent an additional phase of repair. This is documented by a note in the archive of the Naples museum dated January 5, 1861, wherein the museum's head of restoration, Raffaele Gargiulo, recorded that the right ankle of the Apollo was detached at the site of the earlier repair.[15] Solder had been used for this, and evidently had proved insufficient some forty years later. To reinforce the join, a commercial brass sheet was rolled up and wedged into the interior cavity of the ankle with shims and plaster (fig. 4.20). This is a marked change in approach from the previous repair, and also a departure from the use of iron straps. Furthermore, the treatment of the surface to reinstate the solder was drastically different from what had been done previously. As noted above, the surface was roughly filed and rasped to expose bare metal in order to increase the efficacy of the solder.

FIGURE 4.20. Apollo: X-ray of right ankle, showing brass insertion

The other important facet of the second intervention was the replacement of the plaster drapery ends (and the big toe on the right foot) with bronze parts. Early archival drawings (see figs. 4.3, 4.13, 4.14) show the Apollo with drapery ends intact, but these differed substantially in form and detail from the bronze parts that were attached to the statue when it arrived in Los Angeles in 2009 (figs. 4.21a–b). Further study corroborated these visual differences. First of all,

FIGURES 4.21a–b. Apollo prior to conservation at the Getty Museum, showing the bronze drapery ends

FIGURE 4.22. Apollo: detail of left arm with holes for screws

the chemical composition of the bronze drapery ends was distinct both from the ancient bronze alloy and from all the other materials employed in the first restoration. The drapery ends were also technologically dissimilar from the rest of the statue: both were sand-cast in several parts and welded together. In addition, the joins for the two drapery fragments were much more poorly matched than other repairs on the figure, and solder appeared to be used more as a transitional material for incongruities between the two sides of the join. Finally, when the bronze drapery ends were removed, a discrepancy was revealed in the number of drill holes in the arms versus the number of screws in the drapery, clearly illustrating the later addition of these drapery ends in place of the earlier plaster reconstructions (fig. 4.22).

In the absence of archival documentation, the motivation for the change from plaster to bronze can only be speculated upon—damage, a shift in taste, or a desire to use a material more closely related to the ancient. Notably, the number of folds on the latex nineteenth-century additions does not match with what survives of the ancient drapery. Their juxtaposition is so awkward as to suggest that the nineteenth-century bronze drapery ends were not created specifically for the Apollo, and may have been from—or intended for—another sculpture (which might suggest that necessity—that is, damage—was the impetus for the substitution). We can at least provide a terminus post quem and a terminus ante quem for the change. The latest inventory to record plaster drapery dates from 1849; the earliest photograph to show the Apollo with the bronze drapery is Robert Rive's, datable to 1864 or 1865.[16] The substitution may well have happened at the same time as the repair of the right ankle (ca. 1861).

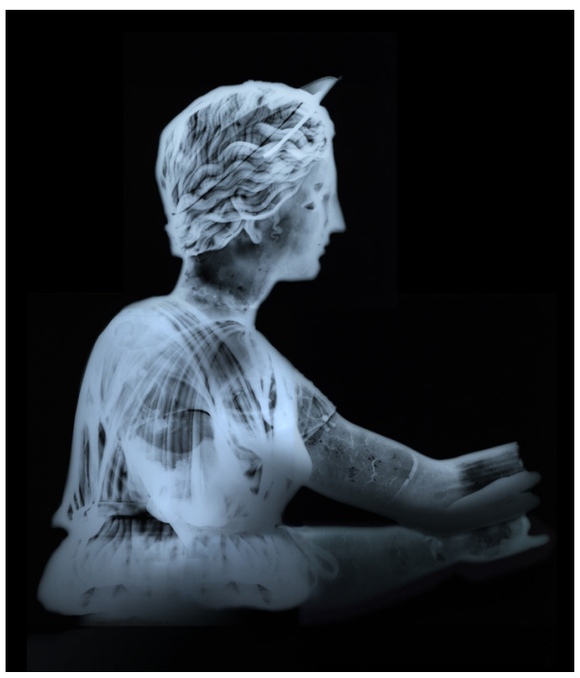

FIGURE 4.23. Diana: X-radiograph

Diana: Restoration and Surface Treatment

The restoration history of the Diana (see fig. 4.2), which was recovered in 1817 just before the Apollo, is in some respects much simpler, in others more complex. The statue seems to have been discovered as a single fragment, and so required a much less extensive intervention than the Apollo. There is, for example, little to note regarding gap filling and joining, and X-radiography (fig. 4.23) has revealed no internal structural armature or individual metallic reinforcements. The only exception is the join between the crown of the head and the head itself, where much of the seam has been filled with a coniferous exudate, most likely colophony. Curiously, the ancient join does not appear to have separated—there is no sign of any disruption in the interior corrosion at the front of the head. Perhaps it had been distorted or the seam was felt to be more aesthetically pleasing when filled.

The cleaning of the Diana following its discovery appears to be similar to that performed on the Apollo. Endoscopic examination reveals interior corrosion very similar to that seen on the Apollo, with vibrant blues and greens in the form of azurite and malachite (fig. 4.24) as well as

FIGURE 4.24. Diana: endoscope photo of interior

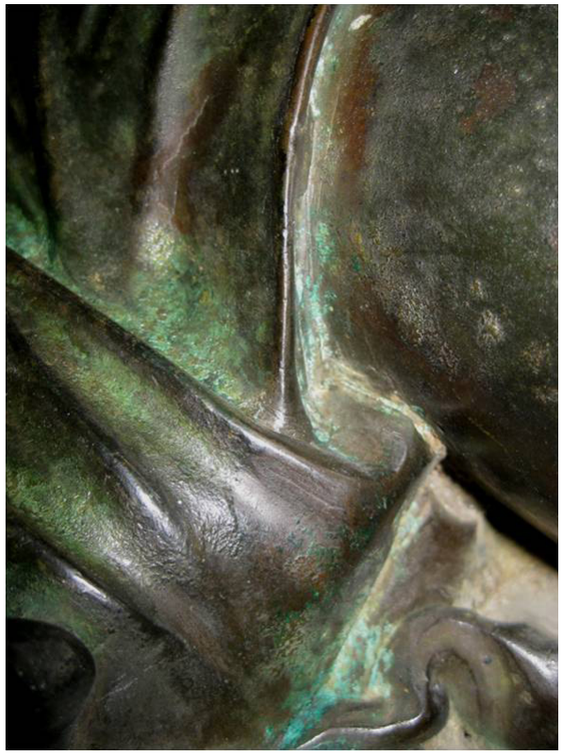

FIGURE 4.25. Diana: detail showing rasp marks and traces of corrosion

reds (cuprite). And as was true for the Apollo, these are largely absent from the exterior surface. Physical traces of rasps and files are still visible in recesses and hard-to-reach areas of the sculpture, suggesting a mechanical cleaning similar to the Apollo's. The continued presence of residual amounts of corrosion products deep in the folds of the drapery (fig. 4.25) suggests that acids or chemicals were not used, as they would most likely have removed or altered these in some way.

The extent to which the Diana was repatinated after cleaning is less clear. Analysis has identified the presence of azurite and malachite, mars yellow, mars red, carbon black, ultramarine, and thalocyanine green. These pigments are variously present in samples taken from representative areas of the figure, but are most highly concentrated toward the lower extremities. They are applied in ways similar to those used on the Apollo, insofar as—in combination or individually—the colors created a palette that was consistent with the appearance of natural corrosion products. However, whereas the pigments on the Apollo were a mixture of natural and synthetic, on the Diana they are mainly synthetic. Furthermore, many of them postdate the early nineteenth century, which suggests that they may be evidence for a much later intervention or repristination of the exterior surface—perhaps related to the transfer of the figure to its current marble plinth.

Of the natural pigments that have been identified on the Diana, azurite and malachite could be natural corrosion products that remained after the initial cleaning. Alternatively, they may have been reapplied in an attempt to tone the surface of the sculpture. Any conclusion depends on the degree to which the Diana required repatination after cleaning. Since there was no need for an internal armature, reinforcements, solder seams, or restoration patches, there are unlikely to have been any areas of new, raw, or otherwise differently colored metal. In sum, it seems likely that the Diana would have required a much less extensive overpainting than the Apollo to make it presentable.

Interpretation and Discussion

The restorations of the Apollo and Diana have a number of aspects in common, which is to be expected, given their near-contemporary discovery and the likelihood that they were worked on in a similar context. There are also significant differences, many of which are to be associated with their different states on recovery. Compared to the Diana, the highly fragmentary—but more complete—Apollo necessitated an extensive structural intervention, which also had significant implications as to the extent of repatination. These variations are a valuable reminder that many aspects of restoration work were done on a case-by-case basis, and it is difficult to identify a single methodological approach. However, both the similarities and differences can be more fully appreciated by situating them within a broader historical context. Recent scholarship has furnished

valuable information regarding the repairs that were made to ancient bronzes during the eighteenth century at the Royal Foundry at Portici, and consideration of this background (as well as restorations of other antiquities in the early nineteenth century) sheds valuable light on the cultural environment that influenced the decisions involved in restoring the Diana and Apollo.[17] We focus here on three categories: the methods and techniques of repair; the methods and techniques of repatination; and the choices as to what was restored and what was left fragmentary.

Given the greater degree of intervention, the Apollo is obviously more informative. The first feature to note is the method of patching lacunae. As discussed, the broken edges of the ancient metal were filed down and the gaps filled with brass sheeting that had been cut and shaped to fit (see fig. 4.12). These new patches were fixed in place by solder, and subsequently rendered invisible by the repatination of the whole statue. The approach is akin to the standard practice for similar repairs to bronzes from Herculaneum in the eighteenth century, but there are key differences in technique and material. In the Royal Foundry, gaps were filled by casting new fragments in bronze or brass in situ, on the figure. These were then secured by drilling holes through both the new and the ancient metal, and inserting screws. The method used for the Apollo is clearly simpler and more economical, and arguably demanded a less specific set of skills.

Another curiosity is the re-creation of the Apollo's missing parts. Aside from the lacunae noted above, the statue was largely complete by the time its extremities were found in 1818. The only substantial pieces that were never recovered were the ends of the drapery and the big toe on the right foot. Rather than being fabricated in metal, these were initially fashioned in plaster. Study of the large bronzes found at Herculaneum in the eighteenth century indicates that plaster was occasionally used in restoration work, but mainly for filling (particularly the eyes). More substantial reconstructions were done directly in bronze. Like the use of brass sheeting for the patches, the use of plaster suggests—at the very least—a simpler and more practical methodology.

Furthermore, although it is not entirely surprising that the Apollo's bow and quiver were never reconstructed, it is noteworthy that its eyes appear never to have been restored. In the eighteenth century, the missing eyes of bronze statues were almost always restored in some way. Some restorations were effected with little detail and presented a relatively blank expression, so it is conceivable that the Apollo's appearance may not have been too disconcerting. However, given that the Diana's ancient eyes were preserved—and the two statues were recognized as a pair from an early stage—the decision not to restore the Apollo's eyes seems significant. The Diana provides an even more compelling instance of restraint. The statue was displayed essentially as a bust (fig. 4.26), and nothing appears to have been done to restore the left arm or even the missing finger on the right hand. This is in sharp contrast, for example, to the statue of Agrippina Minor from Herculaneum, which received extensive additions to complete its right arm and much of

FIGURE 4.26. Diana: frontal view

the drapery around the shoulder, chest, and head, or the Sleeping Satyr from the Villa dei Papiri, with its shattered torso and missing right arm.[18]

Finally, consider the surface treatment of both Apollo and Diana. To clean and repatinate bronzes was, for all the criticisms that it received, well established and conventional in the eighteenth century. To do so, the Neapolitan restorers regularly used a paste composed of plaster and filings of natural corrosion products that had been collected during cleaning.[19] This use of an applied patina is consistent with evidence from the Apollo statue, less so with findings about the Diana. In both cases, however, synthetic pigments and binding agents have also been identified. No record of the use of these materials—which seem more at home on a painter's palette than in a bronze workshop—in earlier bronze restorations at Naples has yet been uncovered. Their presence on the Apollo and Diana suggests a different approach to a standard practice.

In sum, when compared to restorations undertaken in the Royal Foundry in the eighteenth century, the Apollo and Diana reveal both the broad continuation of a tradition and also significant changes in methods and materials. We have yet to find receipts or other archival documentation relating to the restoration of these bronzes, but a number of practical and historical contexts can assist in interpretation. Apollo and Diana were the first major bronzes to be discovered at Pompeii, and perhaps kindled the prospect of a trove of bronzes similar to that which had previously been found at Herculaneum. Their emergence was well timed politically, too, coming shortly after King Ferdinand IV's return from exile in 1815. The excavation reports reveal a desire for the king to be informed of the discoveries;[20] indeed, both statues would have been perfect additions to the recently renamed Real Museo Borbonico, where patinated plaster copies had substituted for bronzes from the royal collection that were absent from Naples during the king's exile.[21] Therefore, efficiency, practicality, and the availability of resources are all factors that may have dictated the methods used and decisions taken in cleaning and restoring the Apollo and Diana.

The specifics of activity at the museum may be another factor. During the early nineteenth century, extensive reorganization was ongoing at the Real Museo Borbonico.[22] For our purposes, it is sufficient to note only the museum's workshop for bronze restorations. Repairs to ancient bronzes had previously been undertaken at the Royal Foundry at Portici, but by 1807 this work appears to have been brought inside the museum at Naples.[23] The principal restorer of bronzes was Carlo Ceci (1723–ca. 1812), who was succeeded by his son Giacomo (1774–1816). Both had previously worked on the bronze restorations at Portici, and their activity in the new museum indicates that there was a continuation of the established tradition. When Giacomo died, he was succeeded by Raffaele Trapani (ca. 1700–after 1854), who is reported to have learned all Ceci's skills. However, Raffaele Gargiulo (1785–after 1870) was appointed to oversee Trapani's work.

Gargiulo is most famous for his work on ceramics, but was no less adept with metals: he won a medal in 1834 for his reproduction of a bronze tripod, and also seems to have been known for his own patina formula.[24] The discovery of Diana and Apollo in 1817 and 1818 coincides with the time at which he was appointed to oversee bronze restorations, these two bronzes may well have been among his first major projects (and it bears noting that the Apollo was illustrated in his *Raccolta de monumenti*, as mentioned earlier). Any differences from previous approaches—perhaps most obviously the materials used for repatination—may be attributable to this change in personnel.

Finally, the broader history of restoration practice should be considered. Orietta Rossi Pinelli, among others, has demonstrated that the late eighteenth and early nineteenth centuries should be seen as a critical period in the history of restoration of ancient sculpture, and in particular has focused attention on two key events involving the sculptor Antonio Canova.[25] The first occurred in 1803, when he famously declined the opportunity to restore the sculptures from the Parthenon. He kept to this opinion when he saw them in London in 1815. Displayed without modern intervention, the fragmentary marbles had a major impact in artistic and erudite circles. Their display seems to have played a role in the second key episode. After Canova had returned to Rome, in 1816, new regulations for acquisition by the Vatican museums were drawn up, and the basic criterion was the extent of restorations: "Only those monuments that are preserved unaltered in their original, ancient form, without restoration, will be bought."[26] Notably, Canova's studio also issued a legal proposal requiring that any sculptor obtain official authorization before he embarked on a restoration. This was posted throughout Rome and subsequently enshrined in law in 1820.[27]

Contemporary concerns about restorations were no less potent in Naples, and recent scholarship has done much to highlight the critical reactions that were generated by the repairs—and more—made to ancient vases during these years.[28] A ceramic loutrophoros whose conservation is the subject of a collaborative project between the Getty Museum and the Antikensammlung in Berlin is emblematic.[29] It was almost certainly restored in Naples in the early nineteenth century and illustrates the extent and quality of contemporary vase restorations. The words of James Millingen, published in 1813, are worth quoting in full: "Several artists, especially at Naples, have brought the art of vase restoration to the highest degree of perfection. One could even speak of a perfection that is dangerous to Knowledge, given the difficulty of distinguishing the areas that have been restored."[30] Such concerns were reflected in a royal decree of January 15, 1818—that is, right in the midst of the recovery of the fragments of the Apollo—that endeavored to limit the extent of additions that were made to ancient artifacts.[31] The ruling established that "restorations are an obstacle to the certain interpretation of ancient monuments, which come to be permanently altered if the restorers are not fully informed as to the style as much as the ideas

that guided the ancient craftsmen in their work," and asserted that "it is universally desired by scholars that ancient works of art are left in the state in which they are found, adding fragments only in a way that does not alter the ancient ones." Andrea Milanese has considered this decree in relation to the vase restorations of Raffaele Gargiulo and his colleagues, and in particular the development of a middle way—a so-called *mezzo restauro* (half restoration)—that acceded to these demands.[32]

Turning to marble sculpture, the decree advised that restorations be done in plaster rather than marble,[33] "in order to avoid the inconvenience that ill-executed restorations need to be changed, with a waste of expense and little honor for the restorer." Alba Irollo provides an instructive example in a study of two marble statues from the Macellum at Pompeii that had been discovered in 1821.[34] The restorations, which had been executed in plaster in 1825 and 1826, were subsequently replaced by marble repairs in 1834 and 1835. This mirrors the opinion expressed in the 1818 decree, and prompts speculation as to whether the plaster restorations for the bronze Apollo could be viewed in this context**.** The addition of the drapery ends (and toe) in this medium may have been a concession to the legislation. These were elements that were critical to the visual success of the statue but that, in contrast to the filling of gaps, required a degree of creativity from the restorer. Their fabrication in plaster, rather than bronze, could thus be understood as a means of complying with the new regulations. The treatment of the Diana provides an even more striking example. Its presentation as a bust—that is, as a fragment—asserts that the figure had not been restored. Consequently, it may have been deemed inappropriate to reconstruct the missing left arm and finger—even though, with the discovery of the Apollo, there appeared an unequivocal model for such reconstructions.

However, if the treatment of the Apollo is to be seen as in some way(s) following this new order, it bears noting that the 1818 decree also featured a ruling specific to bronzes, namely that the patina should not be removed, since it provided a sure sign of the antiquity of the object. This was not the first time that this concern had been expressed—in September 1742, the Neapolitan king Charles VII had already seen fit to repeat an existing prohibition.[35] As has been demonstrated, it is clear that the Apollo's ancient patina was removed, and so this appears to be an outright contravention of the 1818 decree.

It is intriguing, therefore, to conclude with two documents that pertain to an amendment to this decree.[36] The first is a letter from Giovan Battista Finati, the inspector general of the Naples museum, to the museum's director, Michele Arditi, dated July 15, 1821, which noted that the scope of the restorers' work had become greatly circumscribed. Finati asked for the 1818 decree to be modified so that restorations could be resumed, acknowledging that the patina should suffer as little damage as possible. A document dated September 3, 1821, from the Marchese Ruffo, the

minister of the royal household, to Arditi suggests that the complaint was understood. It records royal approval that bronzes that came intact from the excavations ought simply to be cleaned of the dirt that was attached to them; that where the correct positioning of handles could be identified, they should be reunited without removal of the patina; and that bronzes that were heavily degraded should be set aside, and studied by a commission made up of the museum director, two members of the Reale Accademia Ercolanese di Archeologia, an artist from the Accademia di Belle Arti, Raffaele Trapani (the restorer of bronzes), and Raffaele Gargiulo (the restorer of vases). Most telling is the decree's stipulation that the reconstructions were first to be proposed in drawings, and then the restoration work done using a modern patina. Although repatination was permissible, it could be undertaken only following close study, documentation, and consensus. The strictures of the 1818 decree had been moderated, but any new freedom was dependent upon transparency and formal approval. By 1821 the Apollo had already been reassembled, repatinated, and put on display. Yet given that the work had only recently been completed (by 1819), it is hard not to have it in mind when reading these documents. Whether or not the restoration of the Apollo Saettante could have been an impetus to the adjustments to the 1818 decree, its treatment offers a valuable insight into the formalization of concerns regarding the methods and materials used by restorers in early-nineteenth-century Naples.

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1 Naples, Museo Archeologico Nazionale, inv. 5629. All translations are our own.

2 Naples, Museo Archeologico Nazionale, inv. 4895.

3 "Apollo from Pompeii: Investigating an Ancient Bronze," J. Paul Getty Museum, http://www.getty.edu/art/exhibitions/apollo_pompeii/.

4 M. Grimaldi, "Il Tempio di Apollo a Pompei nella *Pompeianarum Antiquitatum Historia*," *Rivista di studi pompeiani* 20 (2009), pp. 39–48.

5 G. Fiorelli, ed., *Pompeianarum Antiquitatum Historia*, vol. 3 (Naples, 1864), pp. 10–11 (hereafter *PAH*).

6 G. Fiorelli, ed., *Pompeianarum Antiquitatum Historia*, vol. 1 (Naples, 1860), p. 192; *PAH*, vol. 3 (note 5), p. 12.

7 *PAH,* vol. 1 (note 6), pp. 214–15; *PAH*, vol. 3 (note 5), p. 17. The story is dated September 23 in *PAH,* volume 3, but around October 12 ("in the last few days") in *PAH,* volume 1.

8 *PAH*, vol. 1 (note 6), p. 215. *PAH*, vol. 3 (note 5), p. 17, differs, noting the finds as a foot, a hand, and part of a leg. Our analysis of the statue shows that *PAH,* volume 1, is correct.

9 *PAH*, vol. 1 (note 6), pp. 216–17, 219.

10 Naples, Soprintendenza per i Beni Archeologici di Napoli e Pompei, Archivio Storico, *Inventario Arditi*, no. 8: "Life-size male statue of Apollo. Entirely nude except for a strip of drapery fluttering from the shoulders. The drapery folds over both of the arms, which are in the pose of drawing a bow. H. 5½ palms." The mention of its height indicates that it had been pieced together by this date.

11 M. Gélas, *Catalogue des statues bronzes, exposées dans une grand salle du Musée Bourbon à Naples* (Naples, 1820), pp. 7–8, no. 8. Diana is also noted (p. 25, with a find date of 1818). We are grateful to Luigia Melillo for alerting us to this publication. Both Apollo and Diana are recorded on display in the 1831 guide to the museum (F. Verde, J. Pagano, and C. Bonucci, *Guide pour le Musée royal Bourbon* [Naples, 1831–32], p. 215, no. 9; p. 222, no. 65). The Diana is visible in Achille Morelli's illustration of the bronze gallery (A. Morelli, *Musée royal Bourbon: Vues et descriptions des galeries* [Naples, 1835], pl. 17).

12 R. Gargiulo, *Raccolta de monumenti più interessanti del Re. Museo Borbonico e di varie collezioni private* (Naples, 1825), pl. 10.

13 In addition to Gargiulo, *Raccolta de monumenti* (note 12), see, for example, *Real Museo Borbonico* (Naples, 1832), vol. 8, pl. 60; D. Monaco, *Les monuments du Musée national de Naples* (Naples, 1884), pl. 91.

14 Naples, Soprintendenza per i Beni Archeologici di Napoli e Pompei, Archivio Storico, *Inventario Avellino* (1844), no. 81; *Inventario San Giorgio* (1849) no. 81. We are grateful to Andrea Milanese for sharing this information. The same archival sources indicate that the big toe on the left foot was also a plaster reconstruction—and so presumably the original was likewise never recovered. The toe in question is, in fact, that of the statue's right foot.

15 Naples, Soprintendenza per i Beni Archeologici di Napoli e Pompei, Archivio Storico, XXI C8, 23. We are grateful to Luigia Melillo for bringing this unpublished document to our attention.

16 A. Milanese, *Album Museo: Immagini, fotografiche ottocentesche del Museo Nazionale di Napoli* (Naples, 2009), p. 110.

17 On the restoration of ancient bronzes in Naples, see Andrea Milanese, Carol Mattusch, and Luigia Melillo in this volume; C. C. Mattusch, *The Villa dei Papiri at Herculaneum: Life and Afterlife of a Sculpture Collection*, with H. Lie (Los Angeles, 2005); G. Lahusen and E. Formigli, *Grossbronzen aus Herculaneum und Pompeji: Statuen und Büsten von Herrschern und Bürgern* (Worms, 2007); U. Pannuti, "Ritratto di Epicuro in bronzo, dalla 'Villa dei Papiri' di Ercolano," *Atti della Accademia Nazionale dei Lincei*, 8th ser., 39, nos. 3–4 (1984), pp. 101–16; L. A. Scatozza Höricht, "Restauri alle collezioni del Museo Ercolanese di Portici alla luce di documenti inediti," *Atti della Accademia Pontaniana*, n.s., 31 (1982), pp. 495–540; and T. Caianiello, "Restauratori di sculture antiche a Portici: Dai 'primi errori sì decantati da piùgente' all'acquisizione di un metodo di intervento (1739–1781)," *Dialoghi di storia dell'arte* 6 (June 1998), pp. 54–69. We are grateful to Delphine Burlot for the last reference. On the history of the Naples museum and its restorers, more generally, see Milanese in this volume.

18 On the Agrippina Minor (Naples, Museo Archeologico Nazionale, inv. 5612), see Lahusen and Formigli, *Grossbronzen* (note 17), pp. 61–63; on the Sleeping Satyr (Naples, Museo Archeologico Nazionale, inv. 5624), see Mattusch, *Villa dei Papiri* (note 17), p. 318.

19 See Lahusen and Formigli, *Grossbronzen* (note 17), p. 171.

20 In *PAH*, vol. 1 (note 6), p. 215, Apollo is described as "if not the first bronze statue, certainly among the first in our king's Museo Regale Borbonico."

21 See Milanese, "Museo Reale" (note 17), pp. 392–93.

22 See Milanese in this volume.

23 See E. Taglialatela, "Michele Arditi (1746–1838) tra scavo e museo," in *Musei, tutela e legislazione dei beni culturali a Napoli tra '700 e '800*, ed. A. Fittipaldi (Naples, 1995), p. 132.

24 See Milanese in this volume. In a debate over the authenticity of a bronze *quadrusse,* reference was made to Gargiulo's having worked in Naples with Giacomo Ceci thirty years before. See R. Gargiulo, *Osservazioni del Professore Raffaele Gargiulo intorno al parere dato da alcuni archeologi romani su di un quadrusse creduto vero-antico da loro, mentre lo è falso-moderno* (Naples, 1843), and the response in *Bullettino dell'Instituto di Corrispondenza Archeologica* 4 (1844), pp. 49–67.

25 See O. Rossi Pinelli, "The Surgery of Memory: Ancient Sculpture and Historical Restorations," in *Historical and Philosophical Issues in the Conservation of Cultural Heritage*, ed. S. N. Price, M. Kirby Talley Jr., and A. Melucco Vaccaro (Los Angeles, 1996), pp. 288–305.

26 Quoted by Rossi Pinelli, "Surgery of Memory" (note 25), p. 297.

27 The regulations were promulgated by Cardinal Bartolomeo Pacca. See Rossi Pinelli, "Surgery of Memory" (note 25), p. 298.

28 See, most recently, A. Milanese, "De la 'perfection dangereuse,' et plus encore: La restauration des vases grecs à Naples au debut du XIX^{e} siècle, entre histoire du goût et marché de l'art," in "'Une perfection dangereuse': La restauration des vases grecs, de Naples à Paris, XVIII^{e}–XIX^{e} siècles," ed. B. Bourgeois and F. Matz, special issue, *Technè* 32 (2010), pp. 18–30.

29 Berlin, Staatliche Museen, Antikensammlung, inv. F3264. See M. Svoboda, "Exploring the Restoration History of an Apulian Vase from Berlin," in "'Une perfection dangereuse': La restauration des vases grecs, de Naples à Paris, XVIIIe–XIXe siècles," ed. B. Bourgeois and F. Matz, special issue, *Technè* 32 (2010), pp. 47–53.

30 Quoted by Milanese, "De la 'perfection dangereuse'" (note 28), p. 20.

31 Quoted in full and discussed by A. Irollo, "L'Officina dei restauri dei marmi del Real Museo Borbonico: Spunti per la storia, le figure professionali e i metodi," in *Gli uomini e le cose,* vol. 1, *Figure di restauratori e casi di restauro in Italia tra XVIII e XX secolo*, ed. P. D'Alconzo (Naples, 2007), pp. 59–79. Irollo gives the date of the decree as January 25, but Andrea Milanese (see his essay in this volume, note 20) confirms that it is January 15.

32 See Milanese, "De la 'perfection dangereuse'" (note 28).

33 The use of plaster in the restoration of ancient marbles also served as a means by which reconstructions could be tested and approved. See C. Gasparri, ed., *La collezione Farnese* (Naples, 2009), p. 115.

34 See Irollo, "Officina dei restauri dei marmi" (note 31).

35 See Lahusen and Formigli, *Grossbronzen* (note 17), p. 157.

36 Naples, Soprintendenza per i Beni Archeologici di Napoli e Pompei, Archivio Storico, XXI C8, 6. We are indebted to Andrea Milanese for sharing and discussing these as yet unpublished documents.

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