Conservation of a Standing Male Sculpture (Athlete)

Report of Constantinos Vasiliadis SKD Research Fellowship 2015 (24 Oct. – 22 Nov. 2015)

The purpose of this project is the examination and cleaning of the previously restored sculpture of an athlete (Inv.Nr.: Hm 067), in the collection of the Staatliche Kunstsammlungen Dresden. The several phases of historical restorations and their identification, according to the period made, were also being examined beforehand.

The protocol of this approach was as follows:

- 1. A research for documents was made and collected from the archives of the SKD, to trace the several important phases of the statue.
- 2. Examination and condition report. The sculpture was evaluated in terms of condition and examined. A numerous of photos, UV and microscope images, as well as mapping drawings were made to document its current condition.
- 3. Cleaning tests. To evaluate and determine what might work best to clean the grime from the sculptured surface.
- 4. Surface cleaning, leaving a characteristic reference surface.
- 5. Removing of plaster and colors from the borders of the marble with the sealing surfaces and the plaster complements.
- 6. Restoration trials of sealing and borders among the marble and the plaster complements.
- 7. Major restoration process.
- 8. Aesthetic restoration with acrylics or temperas.
- 9. What it is left?
- 10. Observations made during treatment.

1. Brief Review of the Sculpture's History.

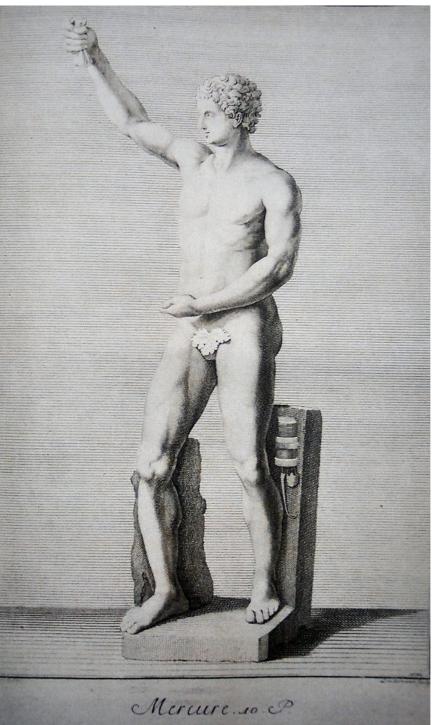
The aim of this chapter is to understand sculpture's present condition as well as the changing approaches in restoration, from the 17th to the 19th centuries. The sculpture was discovered in the 17th century in Frascati, in the Villa Vaini (named later Villa Petrizi), at Frascati, a city in the south-east of Rome (Italy).

In the 5th of June of 1665, acquired by Flavio Chigi (1631-1693), an Italian Catholic Cardinal and Duke of Ariccia, and transported it into his palace in Rome. The same year, Baldassare Mari restored the statue, putting a new head, a right arm and leg with a pillar in the shape of a timber.

Within the dates 1662-1672, it is described as "Una Statua di un Mercurio antica restaurata alta' in the catalogue of Chigi collection, with the number 77. In 1667 Ercole Boseli changed the head of the sculpture.

In 1728, the sculpture acquired for the Saxon princely collections and it was catalogued as 'Mercurio'. Few years later, in 1733 it appeared in R. Leplat: Recueil des marbles antiques (Dresden, 1733, Taf 121). It is the first depiction

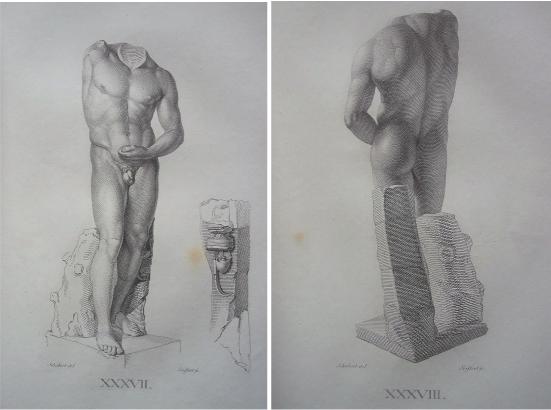
of the sculpture where it has complements of marble in the head, the right arm and leg and a vine leaf.



Depiction in R. Leplat, 1733 (Hm-067-Leplat Taf.121)

In 1765 it is referred either as 'Mercur' or 'Servente nei Bagni' and then as an 'Athlete' (Inventar, Casanova, Lipsius, Hase and Hettner).

It seems that sometime, at the end of the 18^{th} or at the beginning of the 19^{th} century, the head, the right arm and the vine leaf were removed. Cause they do not appear in the drawings commissioned by the former antiquity inspector G.W. Becker, for the so called 'Augusteum' within the dates between 1804-1808.



1804-1808 the drawings for the so-called 'Augusteum' (Hm-067-Aug.-037-038)

A photo of the sculpture was taken in 1885 by Hermann Krone, in the Japanese Palace. Also, one of the first images of the statue, without head and right arm were taken during the dates between 1885 and 1888.

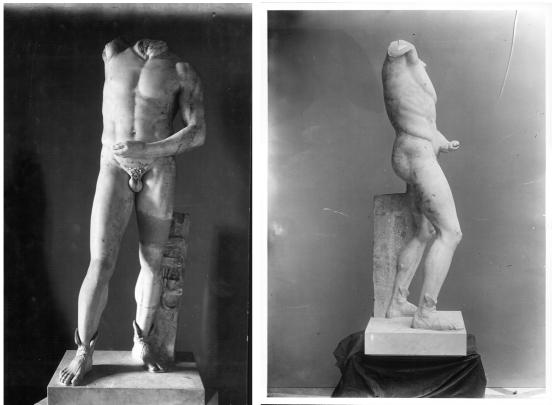


1885 - 1888 (Hm-067-Neg-94-138)

In 1893 Adolf Furtwaengler, refers to the wrong-shaped marble complement on the right leg with the pillar.

In the preparation for the establishment of the Albertinum museum in Dresden, the sculpture was altered for one more time by Georg Treu in 1897.

He re-examined the statue and with the sculptor Erich Hösel reconstructed the plinth, the feet and they add wings of plaster on the sandals. They also attached a small fragment on the neck.



After the interventions of 1897 (Hm-067-Neg-oN-033, Hm-067-Neg-433)



The fragments of the left leg with the attached pillar during the interventions of 1897 (Jm-067-Neg-431 - 432).



The removed right leg with the second pillar, and two more fragments, which saved by G.Treu (Hm-067-Plinthe-a-b)

The wings referred in description of the statue for the last time in 1914. It seems that after 1925 the wings were removed cause in 1932 in P. Hermann (S. 271 Nr67) the wings did not refer.



Photo after 1932 (Hm-067-Neg-oN-034)

It seems that the sculpture was displayed in this condition until the second world war, when the museums in Dresden closed

2. Examination and Condition Report.

The sculpture was evaluated in terms of condition and examined. For this purpose, a numerous of photos, UV and microscope images, as well as mapping drawings were made to document its current condition. From this examination derived that the sculpture was treated at least three times in the past.

In general, the statue is covered by en oily-carbon grime and dirt. There are also indications that it had been polished and over cleaned in the past. But there are some areas mostly located on the left-back side, where calcareous deposits, probably from the burial environment still remained on the surface. In some areas, it is difficult to distinguish the nature of these deposits. One can be easily confused with the oxalate patinas exist in most cases on ancient Greek and Roman sculptures. Thus in the mapping drawings, these areas, where the borders between the 'patinas' and the 'deposits are not discreet, where specially indicated in a different color. Also, there is always the possibility under the calcareous deposits to exist remains of the polychrome of the statue. Also, it can easily identify, Iron-oxides stains in several places, scratches, an area with red (probably ancient) pigment, cracks grease from hand-touching and materials from previous interventions.

More analytical:

1. Deposits

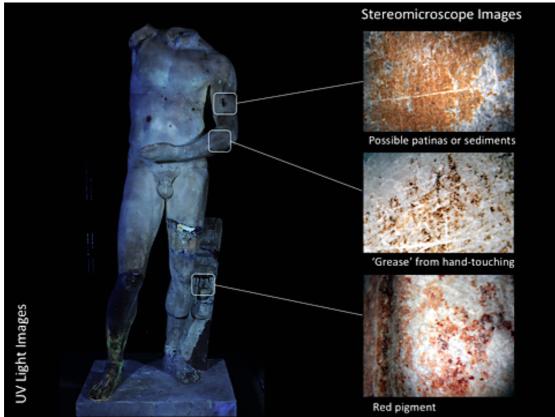
There are various types of deposits on the surface of the statue.

- Deposits from the burial environment of the statue, with significant thickness and brownish color. These deposits are located mostly in the left area of the statue, on the body under the left arm and the support of the left leg.
- Deposits from previous interventions, such as plaster remains glues (?) and paint, mostly in the connection areas and the parts they are close to the fillings. Also remains of glue(?) on the broken surfaces of the fingers of the left hand.
- Iron oxide stains in several places but mostly on the main part of the body. There is a big round stain in the front-side on the right abdominals and several smaller on the left part of the chest. There is also line-stain in the lower part of the body, caused probably by a corroded iron wire.
- There is an 'oily' stain from the touching of the statue by the visitors, on the lower part of the left arm.
- There is a dark stain (resin or asphalt?) on the right armpit.
- Finally, there are loose deposits on the horizontal surface and the pillar. Also on several selective places on the rest.
- 2. Patinas
- There are traces of a yellow-brown patina in the protective areas of the statue mostly on the left side and on the rock.
- Also there is a red pigment on the background of the stlegis and the aryballos, located on the support of the left leg.
- 3. Deterioration
- There are several scratches on the surface in several directions probably from the polish treatment of previous interventions.

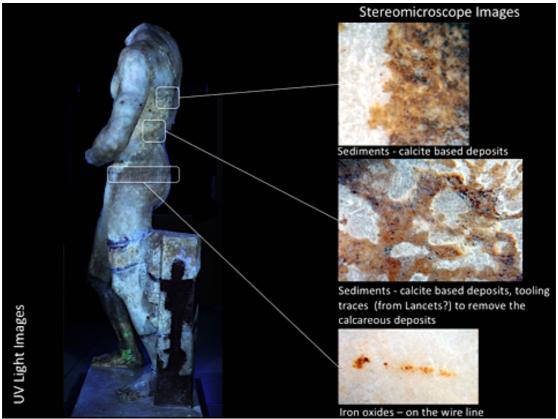
- There are some small cracks on the statue located in the connections of the legs, mostly on the seelings.
- Deterioration of the surface of the complements in several parts, and some losses on the sealing of the joint parts of the left leg.
- 4. Previous interventions
- There are indications of surface polish in the past. There is a loss of the original surface except on the protective areas and the areas with 'raff' elaboration (support of the left leg).
- Reinforcements with iron dowels of the connections of the several fragments and the additional parts made of plaster.
- On the neck there are traces of tools and a sealed hole, indications that probably a head of a different statue was added in the past and then it was removed. The same can be seen on the right armpit.
- Also on the neck and on the right armpit, there are attached two small fragments
- There are several sealed connections and reconstructions made of plaster in different stages.
- A plinth made of marble was added also in previous interventions to support the statue.
- On the borders of the plaster complements as well as of two jointed marble fragments, there are sealings made mostly of plaster. In most cases painted plaster has covered the marble surface and the borders between them are not clear.

The following materials from previous identified during the cleaning process of the sculpture:

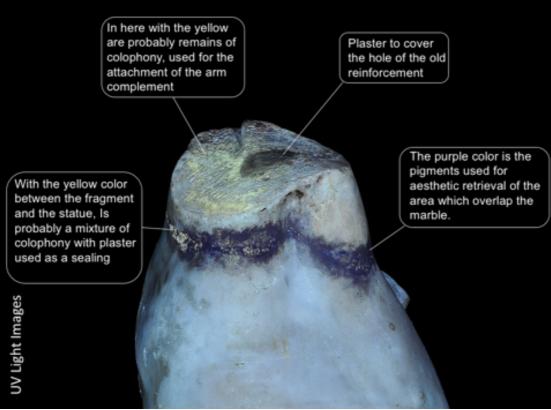
- Plaster, used as material to create new complements on the missing parts
- Plaster as a sealing material, to fill gaps and cracks.
- Sorel cement(?), found under plaster as a filling material, but also as adhesive media on the left leg, and on the fragment of the neck.
- Colophony as adhesive media of the fragment on the right solder.
- Colophony mixed with plaster, as a sealing material on the same area (as in 4).
- Remains of different kind of materials like glues or asphalt(?) on the right shoulder and the left hand.
- Attributed to the mold production, were found clay, in holes of the right leg and plaster, into the left hand.
- Finally, the big complement made of other type of marble or limestone on the left leg and upper part of the pillar.
- 5. Additional information
- There are tooling traces of the original elaboration on the lower back side of the body, and on the support of the left leg.
- In general, the best originally preserved parts of the statue are the support of the left leg but also the surfaces of the left part, covered either from the patina or from thick calcareous deposits. These areas were not over-cleaned and polished during the previous interventions.



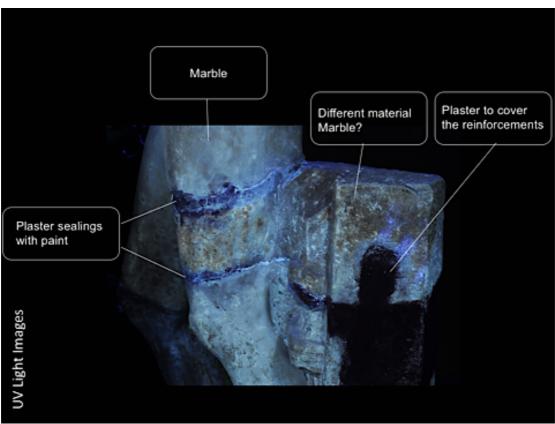
UV Light Image showing the condition of the statue in combination with Stereomicroscope images.



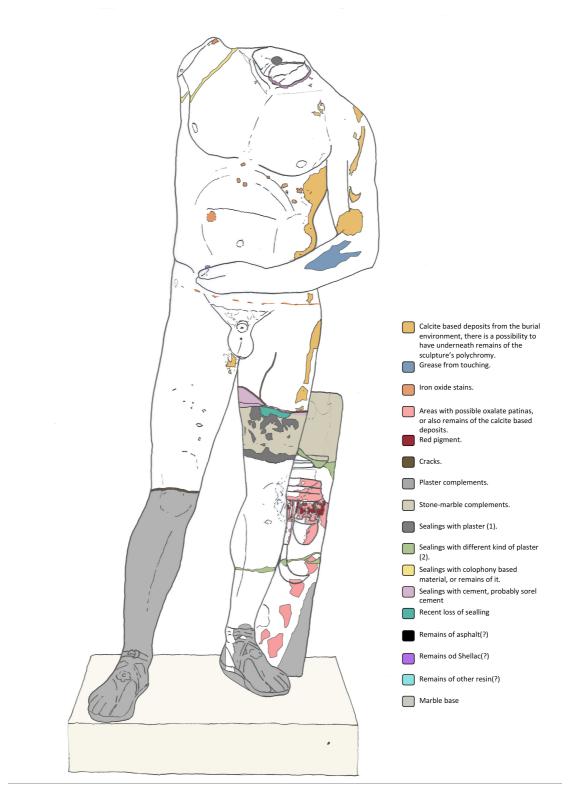
UV Light Image showing the condition of the statue in combination with Stereomicroscope images.



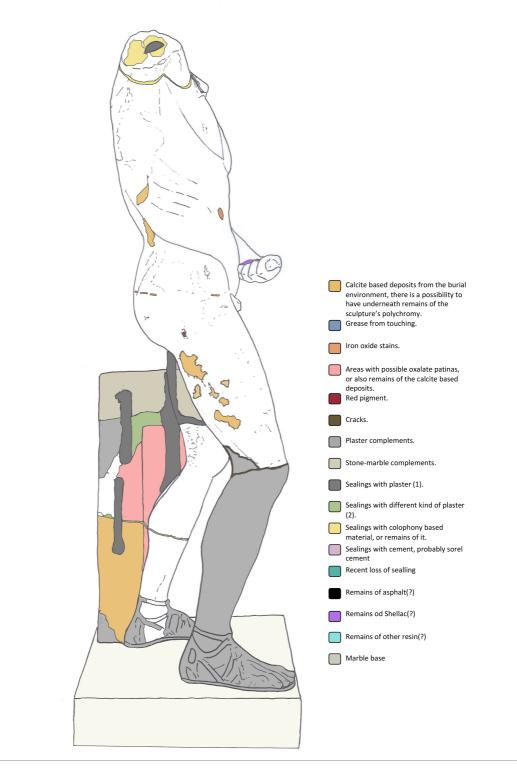
UV Light image with notes on the materials from previous interventions



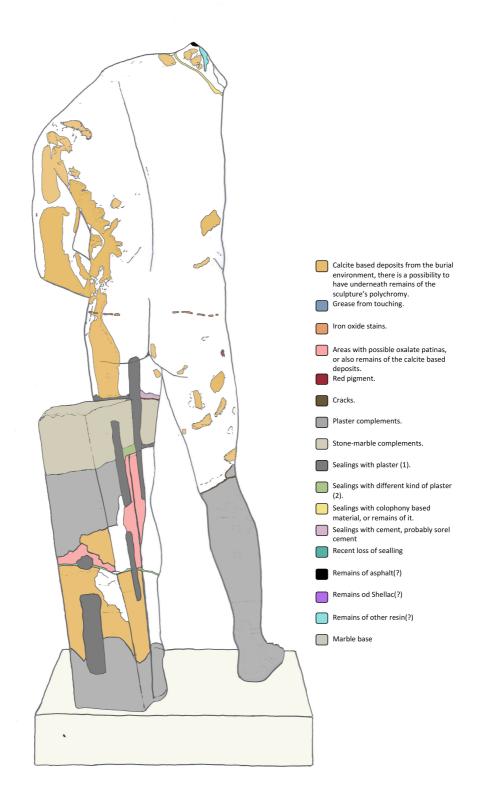
UV Light image with notes on the materials from previous interventions



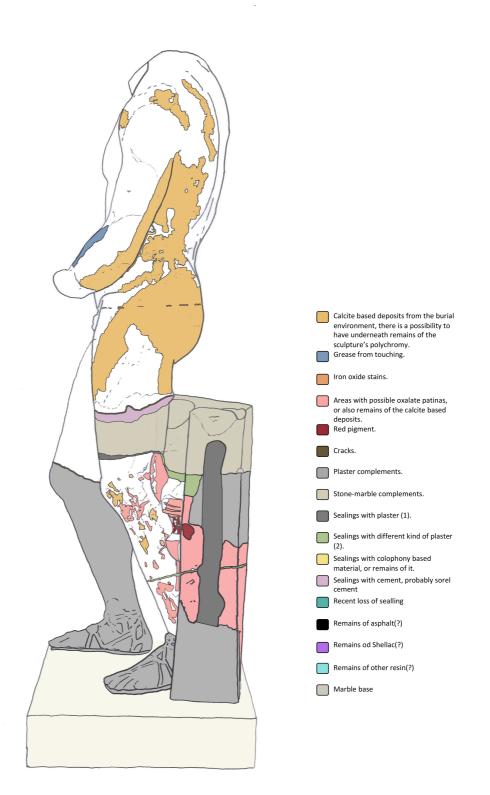
Mapping drawing of the front side



Mapping drawing of the right side



Mapping drawing of the back side



Mapping drawing of the left side

3. Cleaning Tests

Before any cleaning test there were some basic questions had to reply in order to define the goals of the treatment:

a. Why to clean?

To remove the unwanted deposits and materials from previous interventions and reveal details of the sculpture (as the texture of the marble) as well as the borders of the original material covered by plaster and paint.

- b. What had to be removed? The 'grime', an oily carbon layer with dirt that covers the surface. Also, a variety of plaster, plaster with resin mixtures, resin remains and paint, often overlapped the original surfaces.
- c. What will be the reference surface? To define the reference surface, small cleaning points were evaluated to determine what might work best to clean the grime and residue from the sculpture. The reference surface should also have identified and assure that the sculpture could be cleaned to a relatively consistent appearance.

A cleaning test survey was carried out, in small discrete and representative areas on the back side of the left leg and the pillar. The tools and the materials used were chosen so as not to harm the surface and the intention was to leave some indication of patina (where it exists).



Tools and materials used for the cleaning tests

The cleaning approach was as follows:

- 1. Soft erasers to mechanically reduce the surface grime.
- 2. Tap-water on swabs.
- 3. Deionized water on swabs.
- 4. Deionized water on swabs and gentle brushing with sponges.
- 5. Blotting paper compress containing tap water 15minutes.
- 6. Blotting paper compress containing tap water for 25 minutes and then gentle brushing with sponges.
- 7. Blotting paper compress containing tap water for 15 minutes and then gentle brushing with sponges.

From these tests it should be noted that cleaning was made much easier with the application of water-compress and then swab. Deionized water was avoided since it would be too aggressive instead, tap water was used. In some areas, difficult to be cleaned, the compress was repeated for more times.

Remains of adhesives and resins, removed by using cotton compress with ethanol, or acetone or combination of these too, and mechanical reduction.



Cleaning tests: On the left photo with soft eraser and on the right with blotting paper compress, saturated in tap water

4. Surface Cleaning Process

The method of cleaning used for the removal of grime, as it derived from the cleaning tests, was compress made of blotting paper saturated in water for about 30 minutes and then gentle brushing with sponges. For more stubborn deposits this process was repeated. In narrow areas, such as the fingers under the left arm etc. cotton swabs were used instead of compress with blotting paper.

The cleaning process took place from the upper to the lower parts and firstly on the right half of the statue, to record the cleaning effect. Iron oxide stains, calcite deposits and other details of the surface, did not affected from the cleaning. Reference surface was left on the inner part of the left leg. Removal of resin or glue remains, achieved by using cotton compress saturated in ethanol. In some cases, these compress succeeded (on the fingers of the left hand) but not in areas where the remains were absorbed by the marble as in the right shoulder.

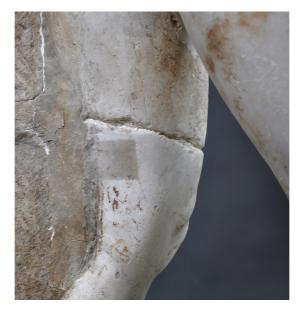
Paint from the aesthetic retrieval of the sealings and the plaster complements, was easily removed by using sponges and water. Except in the cases of the right leg and part of the left paw, where probably used pigments in acrylic medium. These paint layers had to be removed, since after the general cleaning of the statue, they looked much darker than the marble. So it would be more easy to paint again these areas, if the plaster is clean.



During the cleaning process, with the left part of the statue cleaned



Removal of grease from the left arm with water- compress and sponge.



The reference surface of the condition before treatment, on the inner part of the left leg



Right armpit: removal of paint with sponge and water. A mixture of Colophony with plaster used for sealing, has revealed.

5. Removal of sealing materials

Removal of plaster and other sealing materials from the borders of the marble took place the same time with the surface cleaning. These materials removed mechanically, with lancet and rubber hummer after softening with water. In the right armpit, where a mixture of colophony and plaster was used for sealing, cleaning was made easily.



Right armpit: after the removal of sealing

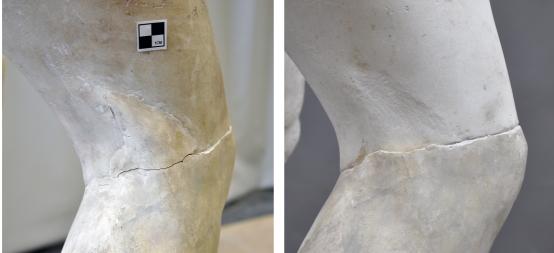
In other areas such as these of the left leg, under a thin plaster layer, there was a hard cement filling. Probably it is Sorel Cement. Before removing the cement with lancet, the area was covered with compress with water to soften.



Left leg: Before and after the removal of the plaster and cement (Sorel?) sealing



Detail of the left leg during the removal of the plaster and cement (Sorel?) sealing



Right leg: Reveal of marble surface, elaborated with rasp. under the plaster complement



Detail of the back side of the left leg, with the empty mortise

During sealing removal on the left leg, it was found that the mortise, opened to accommodate a dowel, during previous intervention was empty. So probably these type of dowels removed during the restoration of G. Treu.

6-8. Restoration

Since there was not enough time to fulfill the restoration process, some trials of how the complements and sealing might look like were made, as examples for discussion. The main issue is that the restoration work should have different character on specific parts of the sculpture. This imposed from the oddity of this sculpture with all these historical alterations. The following examples are only suggestions and not 'instructions' to be followed.

To explain better these suggestion, an example from the many of the Altes Museum in Berlin is used. It is the Funerary relief of a girl, the so-called Stele Giustiniani (Sk 1432).



The so-called Stele Giustiniani (Sk 1432)

In this artefact, the complements and the sealing of plaster differ according to the side they are. On the front side they have the same level with the sculptured surface, but on the back side they are about 3mm in a lower level.

This is related also with the way the stele surface was elaborated in the antiquity. On the front side the surface is very smooth, and although the levels are the same, the borders between the marble and the plaster parts are also clear. On the back side the ancient surface is rough, so the level of the plaster sealing is lower in order to have more clear borders.



Plaster sealing paradigms, on the right knee and on the pillar

Similar to the abovementioned paradigm, there were made two examples on the sculpture. The first one is on the border between the plaster complement and the marble of the right leg. Here the plaster level was kept 0.5mm lower than the marble one, and the border is clear. The second case is on the 'rough' surface and the plaster sealing of the pillar. Here the plaster lever has lowered about 3mm than the marble one.

On the back side of the right knee, it was decided to re-attach the plaster reconstruction of the 19th century intervention, to cover the elaboration with rasp of the 17th century. But here the level of the plaster is higher than the marble. If it was decided not to relocate this plaster infill again, then the geometry of the leg would be interrupted from an unusual 'step'.



The right knee, after the restoration



Example of restoration with plaster on the left leg

The solution proposed, is just to have clear borders between the plaster part and the marble, in order not to change the character of the old intervention.

In the case of the left leg the restoration is more complicated. The additional fragment, is alteration from previous intervention. Probably it was located in the 17th century, but used also on the last interventions of the end of the 19th century.

As it can be seen on the old photos of the sculpture (see page 3, Hm-067Neg-94-138) it is difficult this additional part to be distinguished from the sculpture. It looks as if the left leg was intact. The covering from plaster and paint on the top was part of this baroque(?) intervention. Since this complement will not be removed, it should be restored as it was in the past.

Having the abovementioned in mind, the surface of the complement was isolated with tape and then a thin layer of plaster was located on top to see the aesthetic result. During this process it was noticed that the level of this additional part is a slightly lower than the other parts, and does not follow the exact geometry of the leg.

The level of the plaster was kept 0.5mm lower of the marble, to make more clear the borders between them but also to have allowance for the thickness of the paint on the top.

9. What it is left?

- According to the abovementioned, it has to be decided in the extend of the new restoration of the gaps sealing and the character of the intervention.
- Main restoration process and aesthetic retrieval.
- Analysis of the marble and of the complements, to identify the kind of materials used.
- X-ray analysis to detect the condition of the metal reinforcements inside the marble.
- Analysis of the red pigment and of the several calcareous deposits and patinas, will give answers about their consistence and origin.
- Final report.

10. Observations made during treatment

Starting from the upper to the lower part of the statue, we will discuss the several elements observed and revealed during the conservation treatment.



The attached fragment of the neck by G. Treu, does not appear in the drawings of 1804-1808. The material used to be attached are probably Sorel cement(?) with plaster sealing. The surface of the neck was elaborated with 'needle' and 'rasp' to fit the head complement. There is also the hole for the reinforcement, of the head, sealed with plaster. Probably this fragment broke during the removal of the head from the sculpture at the end of the 17th century.



The attached fragment on the right shoulder also, does not appear as broken in the drawings of 1804-1808. The material used to be attached defers from the previous one. It is probably Colophony(?) and a mixture of Colophony and plaster as a sealing material. Probably colophony was the material of attaching the right arm complement, since traces of it revealed during the imaging with UV lights.

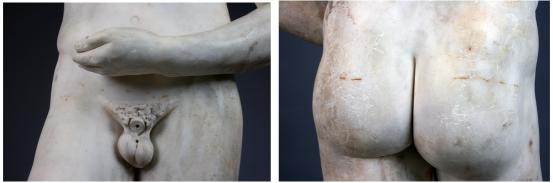
The surface was elaborated to fit the arm complement. The tooling traces in here indicate the use of 'tooth chisel' and 'rasp'. Similar to the neck, there is the hole to accommodate the reinforcement, sealed with plaster. The edges of the fragment are quite sharp, which indicates that it broke quite recent with the date of re-attachment.



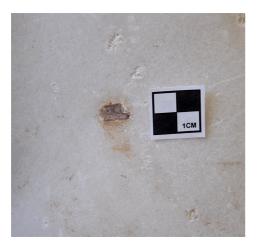
The indications that the figure does hold nothing on its hand are the following:

- The very well elaboration of the belly, of the hand and of the marble tenon, which connects the arm with the body.
- Traces of drilling tool where found to elaborate the inner part of the fingers. This tool needed also space for its use.
- The lack of space between the thumb and the second finger,
- and finally the impossibility the figure to hold something with its upper part of the fingers.

However, the broken surfaces of the three inner fingers is a problematic point, since it is difficult to break without break the outer fingers too. Probably the figure hold something made from a separate piece of marble or other material (metal).



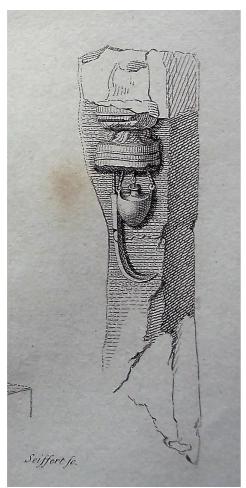
There is a continuous line of iron oxides in this level. Probably in the past they wanted to hold a cover for the groin, which should have probably remained for



a long period. Also, in the same area there are two holes. The first one probably accommodated the reinforcement for a complement of the penis and the second for the vine leaf, which located at the 17th century.

During the cleaning process were located some remains of clay(?) on the right leg. These traces are attributed to the molding for the cast production of the statue.

On the drawings of the period 1804 – 1808 the pillar was sketched separately.



Detail from Hm-067-Aug.-037



The main body of it has more details and shadows compering to the upper and the lower parts.

So probably they wanted to declare the difference on its materials and to distinguish it from the ancient fragments.

The lower part is for sure made of plaster and then it was painted. Additionally, from the mortise visible on its surface, it should be accommodated one of the main reinforcements that supports the whole structure. At first sight, the upper part seemed that it is an ancient fragment attached with the others of the pillar. But, in this fragment extends and it is also part to the leg and has a slightly different color than the rest statue.

This became clearer, after the cleaning process and the removal of the sealing. This part has also different level of weathering compering to the wrest. So there are indications that it is not an original fragment reattached on the sculpture but a complement.

On the back side of this leg, at its connection with the upper part of the pillar, there is an unusual trace that projects in level. This trace is probably the genesis of the original upper part of the pillar from the leg. But the newer part is at a lower level.

Except of this detail and the color tone, there is a slight difference on the temperature of the two materials. The main body of the sculpture is cooler than this part. This difference in temperature indicates also different kind of material.

Probably another kind of marble or of limestone, which excuses also the different level of weathering.



The upper part of this fragment, on the leg, seems that constitutes of many small pieces glued them together with Sorel(?) cement. Probably in this joint there was an iron reinforcement which had corroded from moisture and start to break the upper part of this fragment. This dowel was probably removed at the end of 19th century, and replaced by another. Or it was conserved.

The way of breaking is indication of a different material from the statue's marble. Especially if it is compered it with the crack on the upper part of the left leg.



This crack was probably made from the same iron dowel. But since this material is harder, the level and the way of the crack differs significantly.

There are few possibilities to say that this fragment probably belonged to a different statue and attached into this. Cause it would be difficult to find a fragment that would include both the part of the leg and the upper part of the pillar in this exact size and shape.

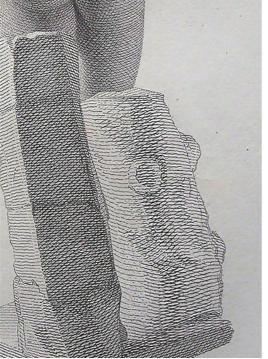
Another interesting point is that in some areas the sculptured level of this fragment is slightly lower. Also the anatomy does not follow exactly the one of the leg. These are indications that it was covered by a thin plaster layer and then painted. All these details suggest that this complement is probably an addition made much later, maybe in the Baroque time.





Stereomicroscope image of the string

Ancient red pigment (hematite?) was found on the pillar in the background of the aryballos but also on the two parts of string that hold it. This is probably remain of the sculpture's polychromy, but the same time indicates that the middle part of the pillar is ancient.



Detail from Hm-067-Aug.-038

On the right leg, the loss of marble mass and of sculptured details as well as tooling traces of a rasp, show that this part was elaborated to attach the leg and the second pillar.







Detail from Hm-67-Neg-oN-033

Hermes or Athlete?

The traces of possible 'wings' on the left leg, excuses the decision of G. Treu to put wings on the statue. This trace does not defer only in tone, but It seems that it was especially elaborated with sculpturing tools from the antiquity.



A trace of a tenon(?) to support the internal wing Is also visible in the inner part of the left leg.



Under the astragal there are also tooling traces of a rasp. The same traces can be also found on the marble complement of the heel (Inv. Nr.: 277). This fragment was probably removed by G. Treu. The 'rasp' traces in both the sculpture and the complement, indicate that the final 'Shaping' of the last was given, when it was attached into the sculpture.



Hm-067-Neg-432

This is the photo from G. Treu interventions, where this complement has been removed but the hole of the reinforcement exists. There is also a cutting on the marble, probably to accommodate the complement. This space was covered by a plaster complement.



The remain of this motive in the shape of a clover, from the left heel not visible under the plaster, was copied to the right leg complement.

A problematic point in the hole structure, is the complement of the right leg. It is much thicker than the left one, probably to accommodate one of the main supportive reinforcements. Also, the position of this leg is not in the right place, which it is changing in a way the general shape of the sculpture.

Based on the documents and on the different materials found during the conservation process, there is a number of traces indicates at least three restorations.

- The use of colophony as an adhesion of the small fragment on the right armpit also probably of the right arm (cause of its traces found with UV imaging) and the left-leg complement made of stone, are attributed to the intervention of the 17th century. The polishing of the statue is probably dated on the same period.
- 2. The removal of the head, the right arm and the vine leaf, are dated at the beginning of the 19th century. This is proved from the depictions of the statue on the drawings of the period 1804-1808.
- 3. At the interventions of the 19th century, of G. Treu are attributed: the marble plinth, the replacement of the right leg complement, the removal of the little complement on the left heel, of the iron dowels from the mortises of the pillar, the complements on the right paw and heel and reattachment of the small fragment on the neck. Materials used for these interventions are mostly sorel(?) cement as adhesive, and plaster for the complements and for the sealing.



Examining the main characteristics of the marble, there were noted the following:

- Fine and uniform grain size.
- No porosity
- White color, a bit orange in places where the original patina is preserved
- Gray veins, visible after cleaning.

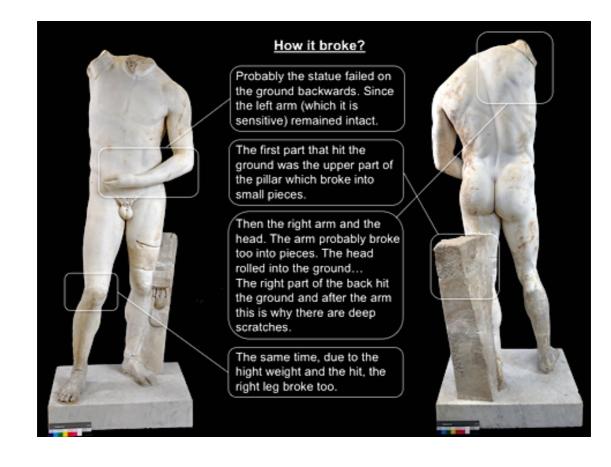
All the abovementioned suggest that the marble is probably originated from Penteli mountain in Attica - Greece.



The use of the marble veins appeared in diagonal direction. From the right side of the statue (up) to the left side (down). This structure indicates the following:

- The left leg with the pillar belongs to the statue, since the same veins are answered below the knee.
- The volume of the statue was oriented in a way so as to give the strong part of the marble into the extend right arm. So the arm (at least up to the angle) should have followed the direction of the veins. Its broke caused from a violent incident, probably failure.
- This suggests that the whole structure was probably built from one block of marble, with no additional parts (arm and head).

The abovementioned and the way of sculpturing, suggest that the sculpture, even though it is a Roman copy from the Lysippus circle, is a product of a sophisticated workshop.



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Respectifully submitted

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