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edited by Dávid Bartus, Zsolt Mráv and Melinda Szabó

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Edited by
Dávid Bartus – Zsolt Mráv – Melinda Szabó

Budapest, 2024

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Introduction

by Dávid Bartus, Zsolt Mráv and Melinda Szabó

The *International Congress on Ancient Bronzes* conference series has been around for more than five decades. The first conference, held in 1970 in Nijmegen, was followed by others every 2-3 years. The seventh iteration of the series in 1982 was the first one with close ties to Hungary, as it was hosted by the Szent István Király Museum in Székesfehérvár. The idea to hold the conference in Budapest first arose in 2017. Originally, the event was scheduled for 2020, but it was postponed first to 2021 and then to 2022 due to the pandemic. Finally, it became realized in September of 2022 as an event co-hosted by the Faculty of Humanities of the Eötvös Loránd University and the Hungarian National Museum. More than 120 participants registered from 22 countries, including archaeologists, art historians, conservators and natural science experts from renowned museums, research institutes, and universities. The conference was a hybrid event, about half of the participants attended personally, the rest joined in online. The conference comprised 50 presentations in 11 sessions in English, German, and Spanish.

Although the series has 'ancient' in its name, it does not focus only on bronze objects from the Antiquity but every archaeological period from prehistory up to early modern times (though most presentations discuss finds from the Greek and Roman cultural sphere). The topics include large statues and statuettes, bronze vessels, pieces of attire and instruments, statistics in archaeology and the analysis of material and technological characteristics. Following tradition, the conference started with the Large Bronze statues session: in the opening lecture, Gunvor Lindström presented a new research project into Hellenistic and Parthian statues from Iran. Next, Colleen Snyder and Seth Pevnick presented a new 3D model and various technological observations made on a near life-sized statue of the "Cleveland Apollo". Andreas Vordos and Georgianna Moraitou reported on the results of iconographical and material analyses conducted on a fragment of a colossal statue from Aigio.

Topics related to Italy, including votive bronze statues from the Diana sanctuary in Nemi (by Federica Grossi), bronze objects from the Mantua region (by Margherita Bolla) and Late Roman bronze workshops in the Marche region were featured in the Rome and Italy session. Despite being in Italy, Pompeii and Herculaneum were granted their own session, where Kenneth Lapatin and Erik Risser presented new hypotheses about the satyr statue from the Villa dei Papiri. Valeria Meirano presented the impact that the 1943 bombing of the Museo Pompeiano had on its bronze statues. A series of presentations focused on a DFG project, titled "New Light from Pompeii," by Ruth Bielfeldt; the lectures by Ute Klatt, Alessandra Giumlia-Mair, Ruth Bielfeldt, Susanne Bosche and Johannes Eber all discussed bronze candelabra and other lighting equipment from the 1st century AD.

Ancient Greece also had a session of its own. Sophie Descamps, Benoît Mille and Pascale Richardin gave presentations discussing the Apollo sanctuary in Didyma. Stephanie Stoss presented a Late Hellenistic candelabrum depicting a centaur, and András Patay-Horváth proposed an entirely new reconstruction of the Serpentine Column in Delphi.

Nadin Burkhardt and Aura Piccioni organized a session with six presentations on the large bronze statue record of the Roman provinces. The reports following the two introductory lectures by Nadin Burkhardt and Norbert Franken presented bronze statue fragments from Germania (Claudia Sarge

and Ulrike Wolf), Lusitania (Trinidad Nogales), Hispania (David Ojeda) and Raetia (Aura Piccioni and Roland Schwab). Three lectures focused on Pannonia: László Borhy presented a new piece of an ornamental horse armour discovered at Brigetio, now in the collection of the Hungarian National Museum, while Csilla Sáró surveyed enamelled brooches from the territory of Komárom-Esztergom County in Hungary. Finally, Zsolt Mráv gave a summary of figural bronze ornaments recovered from wagon burials in Pannonia.

The session on bronze vessels has always been among the most important ones at our conferences. Accordingly, the topics covered a great variety of subjects including Campanian vessels from the 1st century AD (Klara De Decker), Sarmatian burials (Mikhail Treister), and vessels from the Hun (Orsolya Heinrich-Tamáska and Stephen W. Merkel) and Migration Periods (Tivadar Vida and Stefan Lehmann). The session was completed by presentations from Silvia Mustată and Sorin Cociş on an assemblage from Cluj-Napoca, and by Miroslav Vujović on bronze vessels from Serbia.

The session on small bronze statues included presentations on artefacts related to oriental cults in the territory of Albania, finds from Wareswald (Philip Kiernan), and a bust of Alexander from Oarda-Bulza (Mariana Egri, Matthew McCarty, and Aurel Rustoiu). Péter F. Kovács outlined a connection network based on bronze objects between the Middle Tisza Region and the Northern Balkans in the Late Iron Age. Fabienne Karl demonstrated how a new software may be used in analysing the production of bronze casting moulds.

The final day of the conference started with the session Do ut des, organized by Arianna Zapelloni Pavia, discussing questions related to votive bronze artefacts. Five presentations addressed different aspects of votive bronze objects from Olympia to Pre-Roman Italy (Cristina Biella, Arianna Zapelloni Pavia, Raimon Graells i Fabregat, Vana Orfanou and Azzurra Scarci).

The last two decades saw a significant increase in the number of lectures focused on statistics in archaeology, as well as on technological and material analysis. Accordingly, the last session of the Budapest conference, on archaeometry, was the largest. Francesco Cantini and Francesco Grazzi held two presentations on behalf of their sizable team on the application of non-invasive neutron-based techniques, focusing on imaging and the neutron diffraction method. Anna Patera and her colleagues demonstrated the results of a recent conservation project of a statue, the Winged Victory of Brescia. Rosemary Jeffreys held a technical presentation on the manufacturing method of Hellenistic wires. Uwe Peltz discussed how the teeth of ancient large-sized statues were produced. The chronological endpoint of the conference was marked by a lecture by Omid Oudbashi and his colleagues on the material analysis of Early Modern Armenian church bells. The conference concluded with two presentations on iconography: Thomas M. Weber-Karyotakis surveyed the iconography of Apollo, while Ádám Szabó presented a Mithric plate discovered in Brigetio.

In addition to the presentations, four posters were displayed during the congress. One focused on bronzeworking in the Roman Period Gerasa (Stefanie Becht). Another addressed the results of the material analysis of the patina of the Winged Victory statue from Brescia (Francesco Cantini, Francesco Grazzi et al.). The third poster presented the new Bronze Age artefacts in the collection of the Musée National de Préhistoire (Pauline Rolland). The fourth examined 1st-century AD military equipment from the Crimea (Mikhail Treister and Nikolay Vinokurov).

The Hungarian National Museum welcomed the congress by organising two thematic chamber exhibitions. A Roman bronze statuette, donated to the museum in 2020, from the area of a Roman villa near Pomáz was selected as the *Artefact of the Month*. The almost complete statuette depicts a domestic Lar, a deity protecting the family inhabiting the villa at Pomáz. The other temporary exhibition, titled *Images cast in bronze. Roman figural bronze artefacts in the collection of the Hungarian National Museum* displayed 27 bronze items and statues of high artistic value from the museum's

archaeological collection. The exhibition included a thematic cabinet on the aesthetics of utilitarian bronze items, showcasing bronze vessels used for storage and serving, toilet requisites, bronze lamps that lit banquets and sleeping quarters, as well as lavishly embellished bronze accessories for wagons. One must highlight the embossed bronze plates that adorned wooden boxes, featuring figural motifs depicting characters of Greek mythology or biblical scenes, including apostles. Free-standing sculptures constitute the highest-ranked genre of Roman bronzeworking; the figurines comprise both miniaturised reproductions of popular and well-known Hellenistic and Roman stone sculptures and larger-than-life-sized reproductions of gods and emperors. The two main exhibits were also free-standing sculptures: a torso fragment of a gilded bronze statue depicting a centaur from Sarmizegetusa in Dacia and a Bacchus bust from Brigetio.

The concluding event of the conference was an excursion to Komárom. Participants visited the excavation led by the Department of Classical and Roman Provincial Archaeology of ELTE in the military camp of Brigetio, a collection of gypsum copies in the Star Fort and the permanent exhibit of the Klapka György Museum in Komárom. An abundance of positive feedback has reflected the success of the 21st International Congress on Ancient Bronzes in Budapest, an event of key importance in improving the recognition and connections of Hungarian archaeology and ancient art history.

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Fragmentation of votive offerings in the sanctuary of Olympia

First results

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Abstract: A new project at the Leibniz-Zentrum für Archäologie in Mainz is investigating the phenomenon of fragmentation of copper alloy votive offerings in the sanctuary of Olympia. By using a variety of methodologies, thousands of fragments have already been analysed to to gain insight into the function and significance of this phenomenon, when and how the objects were destroyed, and the reasons why they were recovered in large numbers.

Keywords: Olympia, votive offerings, fragmentation, scrap metal, European Bronze Age hoards

Introduction

Since January 2022, the project "Fragmentation of Votive Offerings in the Sanctuary of Olympia – Research on the Background of a Ritual Practice", which is funded by the German Research Foundation for the three-year period 2022–2024 (GA: BA 3197/2-1), is ongoing at the Leibniz-Zentrum für Archäologie in Mainz in cooperation with the German Archaeological Institute in Athens. The research is carried out under the supervision of apl. Prof. Dr. Holger Baitinger.

The project aims to investigate the phenomenon of fragmentation of votive metal offerings in the sanctuary of Olympia by applying different research approaches. It focuses on identifying specific fragmentation and breakage patterns in selected groups of material, analysing them statistically according to their measurements and weights, and investigating the spatial distribution of the objects and their relationship to specific functional areas of the sanctuary (e.g. workshops, altars, temples). The use of different approaches will provide the understanding of the significance of this phenomenon, how and when these votive offerings were destroyed and the reasons why they were recovered in large numbers.

Background

The practice of breaking bronze objects dates back at the Early/Middle Bronze Age.[1] Copper-based objects, both complete and scrap, were deposited for different reasons and at different times in hoards across Europe. The meaning behind this phenomenon has been intensively researched and controversially debated. Four main interpretations seem to prevail through studies:[2]

1 For a short history of fragments in hoards see Hansen 2016.

2 The four interpretations have been well summarised by Rezi 2011, 303–307; Lago 2020, 173–177; Knight 2022, 4–9.

- *Fragmentation for recycling*. Fragmentation of objects for recycling/recasting is one of the rather widespread hypotheses. According to this hypothesis, fragmentation and deposition in hoards (meant as founders' hoards/storage) had a profane meaning. The hoarded metal was a ready stockpile to be recast and reused. However, this hypothesis remains unconvincing for many because it does not explain why so much material was fragmented (an operation requiring specific expertise), deposited/hidden and never recovered.
- *Ritual fragmentation.* According to this hypothesis, the presence of deliberately destroyed objects in certain places defines hoards as ritual deposits. The deliberate destruction of objects (e.g. by fragmenting, twisting and bending them) has been connected to ritual practices, or even to ecstatic sacrificial rites. The theory of *pars pro toto* has frequently been proposed as an explanation for the presence of fragmented objects in hoards here full stop it has been compared to the deliberate deposition of broken votive offerings at Greek sanctuaries from the Geometric period onwards.[3]
- *Pre-monetary fragmentation.* A further implication of the occurrence of broken objects in hoards across Europe is that they were utilised as a form of currency and exchange value in pre-monetary societies. This assertion is supported by recent metrological studies of weight and weighing systems in Central and Eastern Europe. Metal objects may therefore have been fragmented in order to achieve the desired weight.[4]
- *Fragmentation for social exchange* (enchainment theory). Chapman's (and later Chapman – Gaydarska's)[5] theory of enchainment refers to chain of personal relationships established by the exchange of objects. Many objects were deliberately broken in two or more pieces that were then exchanged, reused and finally deposited in graves, deposits or other contexts. The exchange involved people establishing social relationships. Matching fragments, which originatede from the same object but had different biographies, served to create and manage social identities and relationships of personhood in societies.[6]



Fig. 1. Votive offerings from the Geometric period (after Barringer 2021, Fig. 6).

3 Hansen 2016.

4 Ialongo – Lago 2021 with further literature.

5 Chapman 2000; Chapman – Gaydarska 2007.

6 On this topic see also Brück 2016.

Scrap metal has been found not only in European Bronze and Iron Age hoards but also in Greek and Western Greek sanctuaries since the Geometric period.[7] In most cases, these were votive offerings or cult equipment intentionally manipulated and broken into fragments. The presence of scrap metal in Greek sanctuaries has been interpreted according to the same theories as those applied to the aforementioned hoards.

Among the sanctuaries that have yielded a large number of bronze fragments is that of Olympia, which was one of the most important in the Greek world, whose archaeological excavations began in 1875.[8]

The evidence of fragmented bronze votive offerings from the sanctuary of Olympia was first identified by A. Furtwängler during the excavation in the 'black layer' around the Pelopion at the end of the 19th century. The 'black layer' was spread in the north-western portion of the Altis and was the result of from the dismantling of the ash altar dedicated to Zeus, which occurred around 700 B.C. It contained ashes, bones, pottery and numerous bronze votive offerings from the late 11th century B.C. (Protogeometric period) to the early 6th century B.C. Among the bronzes were fragments of tripods, which A. Furtwängler had already recognised as a material class with a high fragmentation rate.[9]

In the following decades, other scholars also emphasised the phenomenon of the deliberate destruction of bronze votive offerings.[10] Among the various hypotheses put forth, that of H. Kyrieleis is worthy of particular attention. He interpreted the deliberately damaged votive offerings that were found during his investigation in the Pelopion area as intentionally preserved parts (*pars pro toto*) of votive offerings that were intended for recasting. The preserved fragments were then re-dedicated according to a policy of the sanctuary administration.[11]



Fig. 2. Cast griffin heads from Archaic cauldrons (Br 2575, B 4278) (after Heilmeyer et al. 2012, Kat. 2/125 –Kat. 2/126).



Fig. 3. Sicilian spearheads (B 358, B 1025, B 1704) (Photo: A. Scarci).

7 Baitinger 2021, 8, 20–21.

8 On the excavation story, see Senff 2022.

9 Furtwängler 1890, 2; Baitinger 2021, 5, 2. On the 'black layer' see Kyrieleis 2006, 27–55 and Barringer 2021, 21–22, 67.

10 Mallwitz 1972, 87; Heilmeyer 1979, 163; Baitinger 2001, 89–90; Frielinghaus 2006; Bocher 2013; Schweizer 2019, 300.

11 Kyrieleis 2006, 95–97; Baitinger 2021, 6; Bocher 2013, 357.

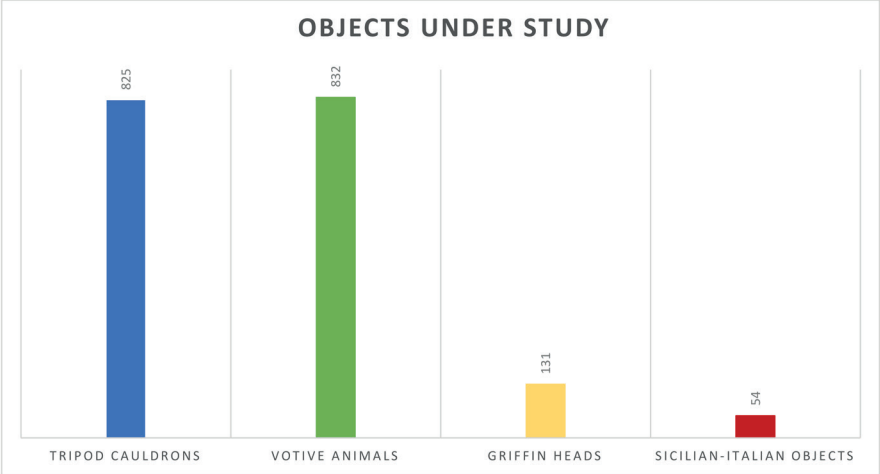


Fig. 4. Objects under study (Graphic: A. Scarci).

Aims and objectives of the project

The project represents the first systematic attempt to investigate the phenomenon of fragmentation in a Greek sanctuary using an approach that takes advantage of material, statistical and spatial analysis. Statistical analysis will allow the processing of large amounts of data in search of common fragmentation patterns, while spatial analysis will provide a better understanding of the distribution of the fragmentation phenomenon and the identification of cluster areas within the sanctuary boundaries.

The choice to investigate this phenomenon in the sanctuary of Olympia rather than at another sanctuary is based on the recognition of Olympia's unique potential. Indeed, the sanctuary has yielded more than 30,000 bronze objects, most of which have already been published. This means that fragmentation patterns can be developed even within individual groups of materials. Moreover, the findspot of each item is known quite precisely, which provides a better insight into the significance of fragmentation through the spatial distribution. The analysis of matching fragments scattered throughout the sanctuary will also be particularly fascinating.

The three-year project does not allow a complete analysis of the more than 30.000 bronze objects found in the sanctuary of Olympia. For that reason, three groups of materials were selected, which fulfil the main criteria of being made of copper alloy and having a high fragmentation rate:

- *Votive offerings from the Geometric period* (bronze tripod cauldrons and votive animals). The tripod cauldrons were chosen because, as A. Furtwängler had already pointed out, their components (legs and handles) were in a highly fragmented state. The votive animals were selected in comparison with the tripod cauldrons in order to verify the existence of similar fragmentation techniques in the Geometric period or to determine whether there were any differences (Fig. 1).
- *Votive offerings from the Archaic period* (cast griffin cauldrons). The group of cast griffin heads, which usually lack ears, tongue or beak, was chosen to extend the research from a diachronic perspective, to see whether other fragmentation patterns occur in the sanctuary of Olympia in the Archaic period than in the Geometric period (Fig. 2).
- *Sicilian–Italic bronzes* (spearheads, cauldron handles and axes). Although fewer in number, these fragments are of particular interest because they allow a direct comparison with the Sicilian-Italic bronzes from Iron Age hoards. By analysing these objects in comparison with

those from Sicilian-Italic hoards, it will be possible to determine whether these objects were brought to Olympia already as fragments or manipulated objects or as whole objects (Fig. 3).

The current number of objects under study is more than 1800, most of which are stored in the Archaeological Museum of Olympia, partly in the National Museum in Athens and in the Antikensammlung in Berlin, where the so-called 'duplicates' are kept (Fig. 4). These groups of material include not only objects in fragments, but also complete objects that have been undergone intentional manipulation (e.g. bending/folding, twisting, etc.) or attempted manipulation (e.g. notches, blow marks, etc.).

The project was split into four phases:

- *Phase 1* (already completed). A four-month phase, conducted at the Leibniz-Zentrum für Archäologie in Mainz, aimed to collate raw data pertaining to the material classes selected for the study. The objects are mostly already published in the *Olympische Forschungen* serie and in the excavation reports *Berichte über die Ausgrabungen in Olympia*. However, the information is not homogeneous, as it was published according to different methods and for different purposes. The objective of this phase was therefore to filter the already published information about the objects for the second phase, namely, the material analysis.



Fig. 5. Several flattenings on a fragment of a massive tripod leg (B 6347) (Photo: A. Scarci).



Fig. 6. Numerous and consecutives U-shaped notches on a bronze spearhead (B 4903) (Photo: A. Scarci).

- *Phase 2* (already completed). The second phase consisted of material analysis. This seven-month phase was carried out mainly at the Archaeological Museum of Olympia, with two short periods spent in Athens and Berlin. During this phase, the analysis was conducted with the support of the conservator Gerhard Stawinoga, an expert in the field of copper-alloy objects and metalwork wear analysis.

  The expertise of a conservator was required to distinguish between traces related to deliberate fragmentation and those resulting from other processes, including production, reworking, post-depositional anthropogenic processes, post-recovery processes (cleaning and restoration), corrosion or modern damage.

  The traces of destruction and manipulation on the objects were analysed using a stereo-microscope and ordinary magnification lenses (10× and 20×), as the traces were sometimes clearly visible to the naked eye. Each trace was then photographed under macroscopy.

Information such as size, weight, number of breakages, type of traces and their location, and other notes on the state of preservation of the object were recorded in Excel tables. Some of this information will be used for statistical analysis planned in the third phase. Where necessary, further data on the object was verified in the inventory books.

- *Phase 3* (ongoing). In the third phase, the data collected during the material analysis will be reviewed and subjected to a range of statistical analyses These will encompass not only weight and lenght but will also involve the computation of the index of deposited metal.[12] This will facilitate the identification of fragmentation patterns.
- *Phase 4.* The fourth phase will include spatial and contextual analyses in order to create a georeferenced mapping of the fragmentation phenomenon in the sanctuary of Olympia, including the distribution of matching fragments.

Preliminary results of material analysis

A microscopic investigation of the artefacts under study has revealed the presence of destruction indicators left by tools.[13] These indicators are mostly attested on all groups of materials, albeit in varying sizes:

Flattening with material displacement. It occurs in the case of an edge-vs-flat collision. The edge consequently deforms plastically under the stress of the impact. The material gets displaced producing flattening. This may be caused by a tool such as a hammer (not just of metal). In the case of Olympia, the flattening is often the outcome of using the surface as a support. Usually, the opposite side of the flattening shows blow marks or notches (Fig. 5).

Notches. They are the results of an edge-vs-edge collision. Notches are deeper than wide and can present either a V or a U shape (vertical or curved). As with other plastic deformations, they suffer a material displacement. They may be caused by the edge of a tool, such as a chisel, or by a bladed weapon (e.g. spear, sword or dagger) (Fig. 6).

Indentations with material displacement. Considered in the same way as notches, indentations are wider than shallow and have a rounded profile. They are caused by the impact of tools with a rounded shape (Fig. 7).

Blow marks. They affect the flat side of an artefact and are not located along the edges as notches or indentations. As the collision occurs over a larger surface area, the force of the impact is distributed more evenly (Fig. 8). This is also a reason why material displacement is less frequent. Rounded or oval blow marks can be attributed to the tips, while the edges of a blade (of a tool or a weapon) probably cause elongated blows.

Bending (also said curvature). It is a form of plastic deformation that occurs when a material is subjected to stress, with ductility responding to the force applied during bending. In the case of the sanctuary of Olympia bending is achieved by both cold mechanical force and, presumably heat (Fig. 9).



Fig. 7. Shallow indentation with material displacement on a massive tripod leg (B 2451) (Photo: A. Scarci).

Breakage (also said fracture). Breakage occurs when the stress on the material exceeds its

12 Gabillot 2004, 194.

13 Concerning terminology see Horn 2013; Gentile – van Gijn 2019; Knight 2021.



Fig. 8. Blow mark on the midrib of a Sicilian-Italic spearhead (Br 5405), just before the breaking point (Photo: A. Scarci).



Fig. 9. Mechanical bending on a tripod leg-plate (B 4264) (Photo: A. Scarci).



Fig. 10. Cast griffin head fragments (Photo: A. Scarci).

ductility. This results in the separation or loss of material, and consequently the breaking of an object into two or more pieces. If an object is broken into more than two pieces, it may be intentional; if a broken object does not suffer the detachment of pieces, it is called fissure not fracture. Distinguishing between an object that has been intentionally broken and one that has been broken accidentally can be challenging. However, the presence of marks associated with the breakage, such as tool marks or bending, can provide valuable insight in confirming that the damage is anthropogenic in origin (Fig. 10).

The analysis of the direction of bending (inwards or outwards), the position of notches/indentations, blows, flattening and breaking points is crucial to understand the rationale behind the destruction and dismantling of the objects in Olympia.

The fragmentation of the legs and handles of the tripod cauldrons, as well as the griffin heads, not only indicates that the objects were deliberately fragmented, but also provides evidence that they were initially dismantled from the cauldron. tThis is the initial step required to destroy complex artefacts. These cauldron parts were dismantled according to recurring patterns, which were identified through the material analysis. The majority of the observed damage is in the form of bending and loosening marks, which were caused by the application of force in multiple directions using a range of tools and mechanical movements. For instance, the fastening plates of the tripod legs and handles display evidence of bending and fracturing (Fig. 9, Figs 11–12). The cast griffin heads, on the other hand, show dismantling marks on the fastening ring (Fig. 13).

Once the artefacts were dismantled, further manipulations as fragmentation were carried out. At this stage of the project, it is not yet possible to precisely define when the dismantling of the tripod legs and handles and the griffin heads from their cauldrons occurred (already in the Geometric Period for the tripod cauldrons? In the Archaic Period or even

later?). The application of statistical and spatial analyses will facilitate a more precise definition.

In contrast, forty-four Sicilian-Italic spearheads (comprising fourteen complete examples or almost complete and thirty fragments),[14] some of them with two typical holes at the bottom of the blade (Fig. 3), exhibit a distinct destruction pattern from tripod and griffin cauldrons. These spearheads find comparison with those from the Bronze Age and Iron Age in the Southern Italian and Sicilian hoards.[15]

Such spearheads are quite rare in the sanctuaries and in the settlements of southern Italy,[16] making the finds at Olympia significant. Whether the spearheads arrived at Olympia whole or as fragments, potentially as scrap metal or with a pre-monetary value or a votive meaning, remains an open question. The material analysis has confirmed that there are similarities between the specimens from the Sicilian hoards and those found in Olympia. As previously observed by R. M. Albanese Procelli, the spearheads from the hoard of Mendolito di Adrano in eastern Sicily have unsharpened and thick edges, as well as blow marks on the midrib just close to the breaking point.[17] In the view of R. M. Albanese Procelli and H. Baitinger, the thick edges and the short socket indicate that these spearheads were not intended for use but were instead tokens used for votive purposes.[18] The spearheads from the sanctuary of Olympia show the same characteristics as those the hoard of Mendolito di Adrano. The majority displays unsharpened and thick edges, and in some cases there are blow marks on the midrib just before the breaking point (Fig. 8). Further usewears as notches were identified on the edges of the blades. However, it is challenging to distinguish whether these marks are the consequence



Fig. 11. Outward bending of a tripod handle plate (B 5033) (Photos: A. Scarci).



Fig. 12. Loosening marks on the bracket and the fastening plate of a tripod handle (B 5672) (Photos: A. Scarci).

14 Baitinger 2013, 219–225.

15 Albanese Procelli 1993.

16 For the finds from sanctuaries, see: Scarci 2019; de Cesare 2022, 140, Fig. 2; de Cesare et al. 2022, 173, Fig. 6.3; Tarditi 2022, 75, Fig. 14. For those from settlements, see: Baitinger 2016, 31–33, Pl. 4 with literature; Graells I Fabregat – Scarci 2021, 83–85, with literature.

17 Albanese Procelli 1993, 178, 207.

18 Albanese Procelli 1993, 178, 180; Baitinger 2013, 219.

of combat or if they were the result of deliberate destruction, given that both tools and weapons were used to destroy an object.



Fig. 13. Loosening marks on the fastening ring of a cast griffin head (Br 2575) (Photo: A. Scarci).

The similarity in the fragmentation pattern of the spearheads from the hoard of Mendolito di Adrano and Olympia does not indicate the existence of a 'distinct Sicilian way' of destroying spearheads.[19] Rather, it suggests the presence of a range of skills among craftspeople, including both indigenous people and Greeks. In only two cases is the method of destruction not comparable to that observed in Sicilian and southern Italian hoards. These two spearheads have undergone a transformation whereby the blade has been converted into a type of saw due to the presence of multiple consecutive notches. This particular treatment is currently only documented in Olympia (Fig. 6).[20]

Conclusion

The material analysis has revealed the existence of a precise and quite rational method for dismantling some of the most prestigious bronze votive offerings (tripod cauldrons and griffin cauldrons) from the Geometric and Archaic Period in the sanctuary of Olympia. In the case of the spearheads from southern Italy and Sicily, metalwork wear analysis has revealed similarities in fragmentation with the specimens from the Sicilian hoards. The integration of statistical and spatial analysis will facilitate a more comprehensive understanding of on this complex phenomenon.

A comparison with similar fragmented objects from other sanctuaries in Greece and southern Italy, as well as from Bronze and Iron Age hoards in Europe, will also be of great importance for a more in-depth comprehension of this phenomenon.

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19 Hansen 2016, 199.

20 Baitinger 2013, 223, Figs 102–103.

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Some Italic Heracles from the National Archaeological Museum of Madrid

Preliminary remarks

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Abstract: The paper presents an archaeometallurgical analysis made on a group of Italic bronze figures from the National Archaeological Museum of Madrid (MAN-Madrid) whose common theme is that they all represent Heracles in different attitudes.

Keywords: XRF analysis, votive figure, bronze forgery, Hellenistic period, pre-Roman Italy

The present paper considers a group of Italic bronze figures from the National Archaeological Museum of Madrid (MAN-Madrid) whose common theme is that they all represent Heracles in different attitudes. This research is part of a wider project that aims to study the collection of typologically Italic and Greek bronze objects from the Archaic, Classical and Hellenistic periods. This is a complex assemblage and we know almost nothing about the origins of the pieces. However, indirect information on the places where they were acquired allows us to identify reliable locations of production, such as the regions of Paestum, Numana or Locri Epizefiri. Moreover, these are ratified by the distribution areas of each of the types.

The little information available is contained in a brief catalogue of bronze objects published by R. Thouvenot in 1927,[1] which includes both previous publications and a large number of unpublished pieces. Subsequently, only a few metal objects have been partially and selectively studied.

The oldest set of pieces is the assortment from the Spanish royal collections, which was previously held in the National Library or the National History Museum.[2] Most of the others, on the other hand, are from private collections formed between the 19th and early 20th centuries by wealthy entrepreneurs and diplomats (the Marqués de Salamanca, Helguera, Castellanos, Asensi, etc.).[3] Finally, a more modest but extremely important group consists of objects from scholars and academics who acquired them or received them as gifts (e.g. de La Rada as part of the Arapiles expedition to the Aegean).[4] Lastly, there have been additions made up to the beginning of the 21st century, either on the international antiquities market or due to the acquisition of the Várez Fisa collection.[5]

1 Thouvenot 1927.
2 Hübner 1862; Mañueco 1993.
3 Martín Nieto 1993; Palma-Venetucci 2007.
4 See Graells i Fabregat – Rosamilia, in press.
5 Cabrera 2003.

The collection[6] currently numbers slightly over 600 objects,[7] comprising:

- elements of personal ornamentation (mostly of Central Italic and Adriatic types, dated between the 8th and 5th centuries BC);[8]
- weapons, such as Italo-Calkidian, Etruscan and Attic helmets, Samnite bronze cuirasses, and Villanovan bronze spears and swords;[9]
- Etruscan- and Campanian-produced banquet vessels (horizontal-handled *kyathoi*, *lebetes*, various types of jugs and *olpai*, strainers, *simpula*, etc.);[10]
- an outstanding collection of Etruscan and Greek mirrors, a study of which we have almost ready for monographic publication;[11]
- a set of ca. 150 bronze figurines including both elements for vessel decoration and different types of *ex voto* that correspond to representations of Kouros, Kore or Herakles (in this case, all of Italic origin).

The enormous heterogeneity of the collection clearly includes votive offerings from different sacred spaces in pre-Roman Italy. The case of the representations of Herakles is probably the most complex if we consider the different models encompassed. Their lack of origin, which reduces the appeal for a contextual understanding of the pieces, if analysed from a different perspective (i.e., archaeometrically), can be useful for a later comparison with properly contextualized ones. In this way, series of materials from museum collections become active instruments for the construction of the historical discourse of the societies that created the objects studied. In order to achieve this, it is necessary to complete the documentation regarding the typology with the biography of each object and the archaeometry, as well as the cultural context in which its parallels are inserted, the analysis of the chronology and the archaeological contexts of its parallels.

Together with I. Montero, we conducted chemical analyses by X-ray Fluorescence (XRF) as well as lead isotope ones. These examinations serve two main purposes: first, to clarify the characterization of the alloy composition and second, to determine the origin of the raw copper material (or lead or silver).

We carried out our work with the Olympus Vanta M spectrometer from the archaeometry laboratory of the Instituto de Ciencias del Patrimonio (INCIPIT) – Consejo Superior de Investigaciones Científicas (CSIC).[12] This instrument is equipped with a Rhodium (Rh) anode X-ray tube (50 kV and 0.2 mA) and a large area silicon drift detector (SDD). We used a protocol based on the Olympus Alloy Plus software and optimized it for the analysis of archaeological alloys, working with the beam collimated to a 3 mm diameter and measurement times of 40 seconds. The spectra were quantified using the software developed by Olympus, which employs a fundamental parameter algorithm to automatically correct for inter-elemental effects, providing results normalized to 100 wt%.

The sample extraction protocol was carried out under the supervision of the curators of the MAN. A total of 100 XRF analyses were performed and 50 samples were sent to the laboratory of the University of the Basque Country (Advanced Research Facilities (SGIker) – Geochronology and Isotopic Geochemistry Research Service) for lead isotope analysis. Unfortunately, we have not yet received the results of these isotopic analyses, so we can only comment here on some of the results of the copper alloy composition ones.

6 Cabrera 1993.

7 Martelli 2007; Graells i Fabregat 2011.

8 Blázquez 1959; Martelli 2007.

9 Blázquez 1957; Martelli 2007; Graells i Fabregat 2011; Graells i Fabregat 2021.

10 Blázquez 1960a; Martelli 2007; Graells i Fabregat 2007; Graells i Fabregat 2023; Graells i Fabregat, in press.

11 Blázquez 1960b; Graells i Fabregat – Rosamilia, in press.

12 Rovira Llorens – Montero Ruiz 2018.

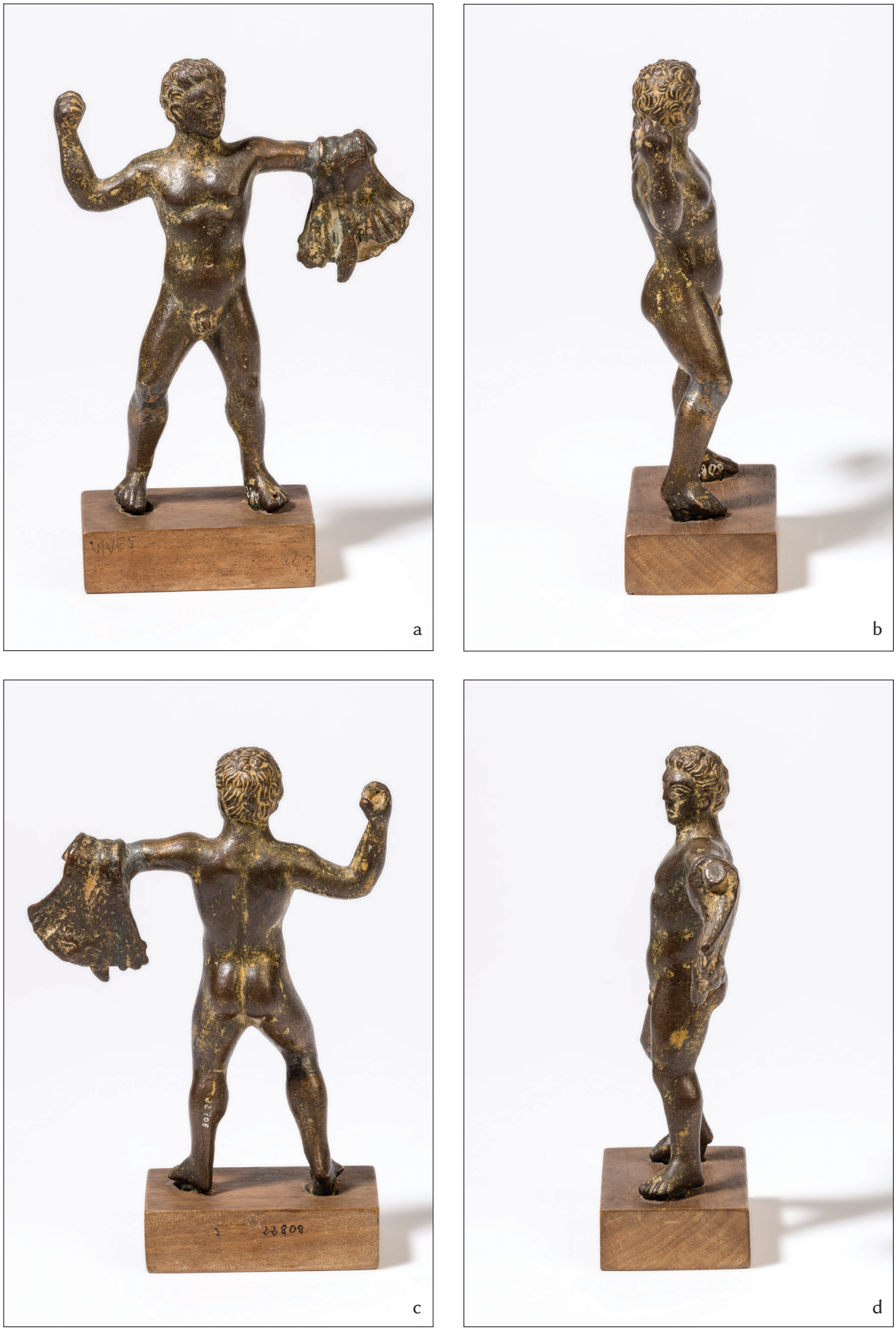


Fig. 1. Bronze Figure MAN-22808. © José Luis Municio García, MAN-Madrid 22808-ID002-5.

We have selected a group that stands out from the rest of the collection both for the size (between 13 and 25 cm) and weight as well as, in particular, the workmanship of the pieces. We have also sought to ensure that they correspond to various morphologies that are easily identifiable as belonging to different workshops and chronologies of recent types.[13] The purpose is to evaluate the figures that are to be analysed archaeometrically by means of an intentional selection in order to obtain a view that can be extrapolated to the collection as a whole.

Tab. 1. Summary table of results of archaeometric measurements.

Analysis No.	Inv. no.	Fe	Ni	Cu	Zn	As	Ag	Sn	Sb	Au	Pb	Bi	Other El.	Br/Hg
PA28893	2922	ND	ND	82.52	ND	ND	0.2	5.65	ND	ND	11.64	ND	ND	ND
PA28894	2665	0.55	ND	84.87	ND	ND	ND	5.78	ND	ND	8.8	ND	ND	ND
PA28898	3808	ND	ND	78.35	ND	ND	ND	4.8	ND	ND	16.85	ND	ND	ND
PA28899	2002-114-23	0.27	ND	87.76	ND	ND	ND	7.95	ND	ND	3.56	0.46	ND	ND
PA28900	3801	ND	0.06	78.66	ND	ND	ND	5.47	ND	ND	15.8	ND	ND	ND
PA28901	2921	ND	0.08	70.78	ND	ND	ND	7.63	ND	ND	21.51	ND	ND	ND
PA28902	3156	ND	ND	73.79	ND	ND	ND	7.32	ND	ND	18.89	ND	ND	ND
PA28903	2920	ND	0.07	72.75	ND	ND	ND	7.87	ND	ND	19.31	ND	ND	ND
PA28904	22808	ND	ND	82.67	ND	ND	ND	6.48	ND	ND	10.85	ND	ND	ND
PA28905	3800	0.12	ND	74.87	ND	ND	ND	8.53	ND	ND	16.47	ND	ND	ND

Among them, the one with the best workmanship is the Sabellic-type figure Inv. Nr. 2920,[14] a standing representation of Heracles on a plinth, unfortunately with missing arms. Its style is similar to that of the so-called Heracles of Birdoswald, typologically datable to the second half of the 4th century BC, which according to G. Colonna was of Campanian production.[15] The detail and plasticity of the hero's anatomy, on the one hand, and of the *leonté*, on the other, show the excellent and meticulous workmanship of an experienced craftsman capable of producing an object of outstanding dimensions and beauty, based on hours of work. The proportions and the minute details indicate a refined piece constructed in two stages, one involving the preparation of the wax model for casting, and the other, equally demanding, the cold work of polishing and the addition of incisions that complete and enrich it. If we observe the composition, (PA28903) we can note the presence of nickel, which interferes in a ternary bronze with a high presence of lead. As has been repeatedly proposed, the trace element data of the bronzes provide useful information for recognizing the parameters of different production series, so we will view the presence of nickel as relevant to the characterization of the origin to which this figure is attributed.

We also observe a series of cases with smaller dimensions that are very close in composition (PA28900) and with a similar weight of nickel as a trace element. Among these, I will only indicate the single case of Inv. No. 3801,[16] which shares stylistic criteria with the previous figure, and it can be suggested that they could have come from the same context (as it suggests that both were part of the same collection). It is a figure of Hérakles standing (the plinth has not been preserved), his legs parallel without any flexion but with some intention of mobility for the upper limbs, the right

13 For archaic types see Colonna 1970.

14 Hübner 1862, 216, Nr. 419.

15 Colonna 1997.

16 Thouvenot 1927, 43, No. 187.

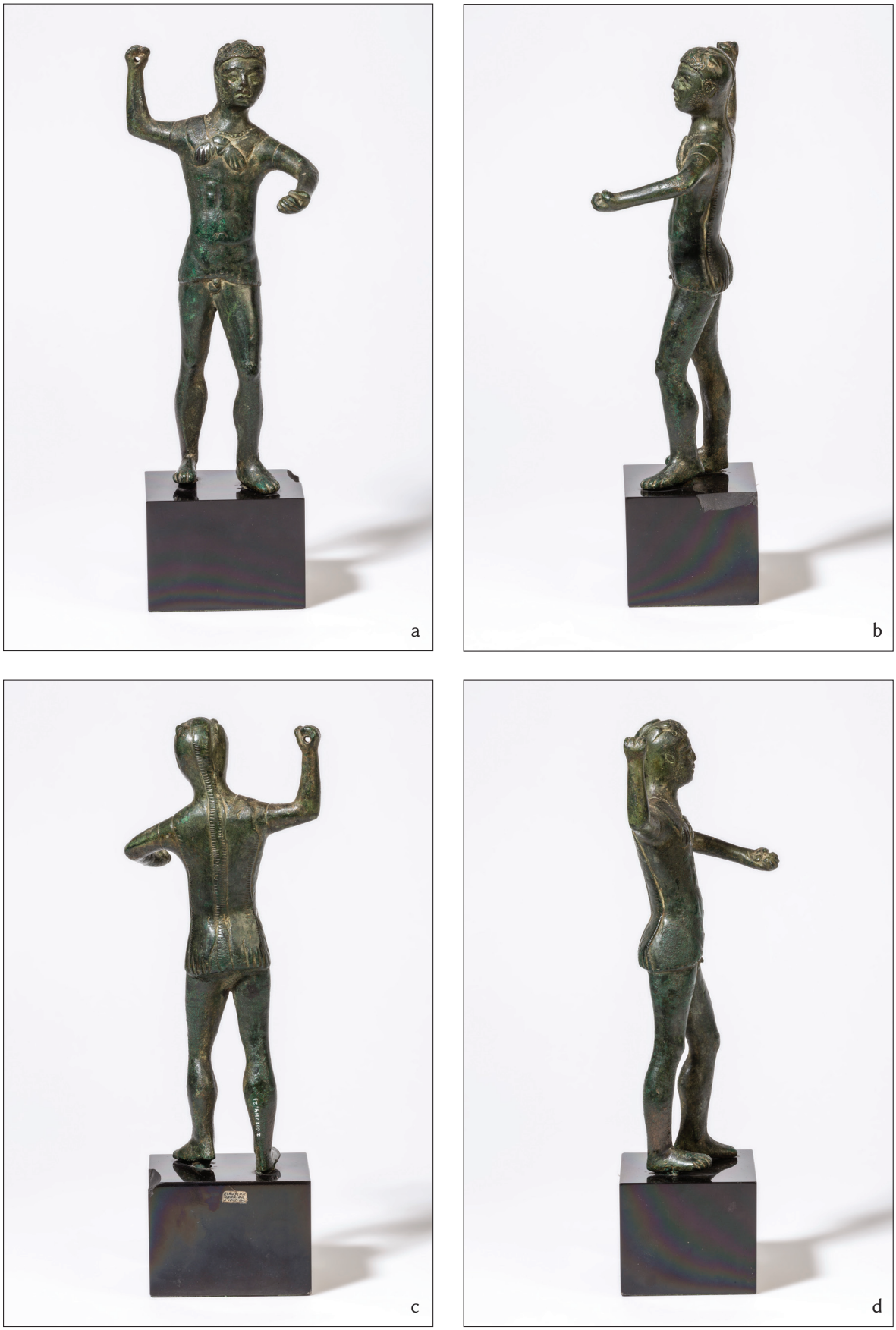


Fig. 2. Bronze Figure MAN-2002-114-23. © José Luis Municio García, MAN-Madrid 2002-114-23-ID009-12.

arm slightly folded backwards, frozen in the moment before striking a blow with the mace (not preserved) and the left arm extended forwards and covered by the end of the *leonté* (hanging over the arm, tied at the neck with a knot of the paws and covering the hero's head).

For other figures (Inv. No. 3156; H.: 130 mm),[17] which are typologically very close to each other and do not include the aforementioned trace element in their composition (see PA28902), it is difficult to attribute them to the same production series or to construction in the same workshop. In fact, the origins of these pieces provide confirmation of this inconsistency, as two of them are from the Salamanca collection and a third one from that of the Infante Don Gabriel. The first two were acquired in the mid-19th century and the other a century earlier, in Naples and Rome respectively.

If we consider other model design but still continue to examine large figures (such as Inv. No. 22808;[18] H.: 170 mm) (Fig. 1.a–d), we can see that the composition is completely different (PA28904), with a higher weight of copper and a decrease in lead. This figure, contrary to the previous ones, is not presented in a frontal position but from the side, with its legs open and its arms extended, the right one backwards preparing the blow with the mace (not preserved) and the left forwards and covered with a small *leonté*, which now no longer covers the hero but protects him as a shield. It is a contrasting, more complex representation that requires a different fluidity of the metal than the previous models, as it is more compact and vertical. However, the variation in the composition cannot be explained solely by the technical necessity of fusion but, most probably, by a different craft tradition, workshop or school, which we can justify with a differing geographical position if we accept that they are synchronous works or, more likely, by a combination of spatial and chronological distance between the two series.

The large figure (Inv. No. 2002-114-23; H.: 250 mm) (Fig. 2.a–d), which has a different composition compared to the aforementioned figures, seems to be more complicated. It has a very high proportion of copper, the highest of those analysed, and the lowest proportion of lead, four times less than the first group of figures discussed and half of the one discussed in the previous paragraph. It also has a notable presence of traces of iron and is the only figure that includes bismuth in its composition. In this case, the morphology of the figure is similar to the compact and vertical shapes of the first ones mentioned, but differs due to the careless finishing both of the wax model and of the post-fusion work, which is equally incomplete. Coincidentally, this figure has no strict typological parallels. Curiously, this object was acquired in the modern international antiquities market, as it was bought by Mr. Várez Fisa at Sotheby's New York. It is highly probable that it represents further evidence of the fraudulent antiquities market. In any case, once the isotopic analyses have been completed, we will be able to convey a much stronger opinion.

In view of what I have presented, the study of the Archaic and Classical Bronzes of the National Archaeological Museum in Madrid requires typological, archaeometric and historiographical research, and only in this way will the large number of pieces collected contribute to the knowledge of the complex repertoire of Italic Herakles *ex votos*. However, I would like to underline an important detail, which is that the main problem with this type of examination is the lack of analyses carried out on well-contextualized objects, so that, paradoxically, contextualized ones can continue to be studied from a typological perspective, limiting their informative potential.

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17 Thouvenot 1927, 79, No. 405.

18 Thouvenot 1927, 40, No. 171.

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Small bronzes as votive offerings from the Sanctuary of Diana in Nemi

A preliminary analysis on their context and iconography

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Abstract: The Sanctuary of Diana in Nemi is one of the most important archaeological sites in central Italy: the complex, built on different levels, consisted of three terraces with a great temple, a theatre, a nymphaeum and also other facilities, dating from the VII century BC to the Severian Age, with traces of destruction in the IV century AD.

Since 2003, the University of Perugia carried on archaeological excavations in various parts of the Sanctuary, cooperating with both the Soprintendenza of Lazio and, from 2014, the Ludwig-Maximilians Universität of München.
A considerable amount of materials has been brought to light from the site, of which votive bronze small-casted figurines are just a small part. Many of them represent gods, heroes and normal human beings, but there are also parts of human bodies or gods features.
So, aim of this paper will be a preliminary analysis of these figurines, primarily to identify the subjects and then to describe their productive techniques. Finally, starting from the contexts of provenance, each one will be described and put in relation with parallels, not only to find a suitable chronology, but also to understand the meaning behind their use in such an important historical and archaeological place.
Keywords: Nemi, sanctuary, offerings, bronze, figurines

Introduction

The Sanctuary of Diana in Nemi is one of the most suggestive places related to roman Gods and nature. Studies and excavations prove that the site was known since the Neolithic era and in the Middle Bronze Age,[1] but it was surely during the archaic period that the sanctuary really developed and also became a political centre: as a matter of fact, after the battle of Ariccia in 504 BC, "[...] some of the Latin cities attempted to break away from the Roman dominion, taking advantage of the internal turmoil in the city following the end of the monarchy".[2] Basing on a fragment of Cato, in Nemi there was an inscription with a list of Latin people who cleared and consecrated a space in the woods surrounding *Aricia*, called *lucus Dianius*, as a new headquarters to meet freely and far from the supremacy of Rome.[3] Then, starting from the 5th–4th century BC, traces of cults have been discovered thanks to the excavations.[4] During the 2nd century BC, various parts of the struc-

1 For the Neolithic period, Bruni 2014; for the middle Bronze Age, basing on samples coming from the middle terrace of the Sanctuary and calibrated with ^{14}C (Bruni – Calderoni 2009, 309–310).

2 Diosono 2020b, 21.

3 Diosono 2020b, 19–21.

4 Diosono 2014a, 42–43.

tures were rebuilt and reorganized following the scenographic and monumental characteristics of Hellenistic architecture—like others sanctuaries in ancient Latium at the same time—and the Sanctuary kept growing—religiously and financially—until the 2nd century AD, when there are traces of restoration. It remained active until the 4th century AD, when Christianity took place and many ancient religious sites were abandoned, destroyed and forgotten[5].

The main goddess of the sanctuary was Diana, in her triple aspect of huntress, protector of childbirth and guardian of the Afterworld,[6] but there were also small deities like Orestes (son of Agamemnon and Clytemnestra), Virbius (a local and bucolic god whose identity and connections with Hyppolitus are still controversial[7]), Egeria (ancient goddess of water sources linked with Diana and the site of Nemi[8]) and Isis with Bubastis (this is related to a large diffusion of Egyptian cults during the Empire and it is the reason why some very ancient roman goddesses were addressed and identified with her, like Fortuna or Fortuna-Tyche in *Praeneste*[9]).

The site of the sanctuary was known since the 16th century, but the first excavations took place a century after and went on for years. Some of the most important were the ones made by Lord Savile-Lumley at the end of the Nineteenth century: since he kept on finding a huge amount of objects, the Orsini family, who owned the land, decided to send him away with part of the materials and to proceed the excavation on its own.[10] This led to the development of modern collections: Lord Savile-Lumley brought his objects to Nottingham,[11] England, while the Orsini family sold her findings, that went part to Denmark and part remained in Italy, not counting what ended in America, especially in Boston and Philadelphia.[12] Eventually, the most recent excavations started in 1989 thanks to the Soprintendenza Archeologica del Lazio and kept going on in cooperation with the University of Perugia since 2003, under the scientific direction of Professor Filippo Coarelli and, at a later time, with the Ludwig-Maximilians Universität of München since 2014, under the scientific direction of Doctor Francesca Diosono.[13]

The contexts

At this regard, speaking of the broader context, the Sanctuary of Diana extends along the northern side of Nemi lake, counting the lake itself, a very dense wood (the ancient *nemus*) and three artificial terraces full of buildings and structures. Part of the upper terrace consists of a large *nymphaeum* (the

5 Diosono 2014a, 44–45.

6 Diana *Trivia*, Diana *Triplex* or Diana *Triformis* has been investigated for a long time, starting from a *denarius* of *P. Accoleius Lariscolus* dating to 43 BC and passing through numismatic (Alföldi 1960), religious (Green 2007, 112–144) and archaeological studies (Diosono 2014a, 44–45; Lancini – Diosono 2023, 241–244).

7 Diosono 2014b.

8 de Minicis 2014.

9 A marble inscription dedicated to the *fana* of Isis and Bubastis and a lot of findings for the goddess have been found during the excavations, many of them dating to the first half of the 1st century AD and related to Caligula: the emperor was so fond of the Egyptian goddess to celebrate the *navigium Isidis* on one of his ship (Ghini – Palladino 2012).

10 Blagg 1993, 103–109.

11 Blagg 1983a.

12 It seems that, at the end of the Nineteenth Century, Professor Arthur L. Frothingham and Carl Jacobsen bought many finds coming from Nemi, that ended up at the University of Pennsylvania Museum in Philadelphia and at the Ny Carlsberg Glyptotek in Copenhagen (Guldager Bilde 1998; Moltesen 2000).

13 I take the occasion to heartily thank Doctor Diosono, not only for including me in the awesome project regarding Nemi, but also for giving me the possibility to study all the metal objects coming from the Sanctuary.

other parts are private property, out of reach for every kind of excavation), that is connected to the lower terrace with a stair going through the middle terrace, the smaller one. On the contrary, the lower terrace consists of an enclosure, parts of different *porticus*, a series of parallel rooms traditionally known as 'celle donarie' since the 19th century, many other facilities with various functions and the temple. The Great Temple or Temple K, as it is also traditionally known, was a majestic structure with three building phases, dating from the end of the 6th century BC and the 5th century BC to the first half of the 1st century BC. It stands in the middle of the lower terrace and all the small bronze figurines that we are about to discuss here come from surrounding levels. The first building phase corresponds to the Latin period, dating from the end of the 6th century BC to the whole 5th century BC, while the second phase A starts from the end of the 4th century BC, after the dissolution of the Latin League in 338 BC. The second phase B dates to 270–225 BC and the third phase to the 1st century BC (75–50).[14]

A very large number of sondages has been done inside and outside the structures of the Sanctuary: as the plan shows (Fig. 1), there are different areas with the letters A, C, F, G1, G2, I and J for the inner rooms and others with the letters B, D, E, H and K for the outer spaces, all around the temple. From every single area comes a huge amount of various objects and materials and, for the bronze part, there are many interesting items like this nucleus of full-casted small figurines. The majority of them comes from the outer parts of the temple, right in front of it, but from levels that have many differences in chronology.



Fig. 1. Plan of the Temple of the Sanctuary in Nemy with the names of the different surveys (plan: F. Diosono).

14 Diosono 2020a, 95–97; Diosono 2024.

Starting from the most ancient samples, this nucleus is composed by:

- two female standing figurines and part of a hand holding an attribute, coming from the destruction of the slide that probably gave access to the temple of the first phase (US 9544, US 9546);
- part of a foot from a level laying on the podium of the second phase, later included in the podium of the third phase (US 8930);
- three female standing figurines, one sitting female figurine with an infant and one male standing figurine, coming from the K area, probably from the second or even third phase (US 9070, US 9434, US 9512, US 9598);
- one male standing figurine and part of a hand holding an attribute from some levelling actions of the front area for the second or third phase (US 9165, US 9289);
- one female standing figurine coming from the levelling for a new floor in front of the temple during the Julio-Claudian period, but probably pertaining to a previous deposit (US 9427);
- one female standing figurine, one small herm with a pedestal, a very stylized male figurine, part of a hand, part of an arm and part of an arm holding a jug. These are more difficult to understand, because they have been found in a very large and heterogeneous level in the K area (US 8032), that was in some way connected to the third phase of the temple, but that was also devastated by modern excavations and other activities during the nineteenth century.

Finally, there are four more samples surely coming from non-reliable contexts and representing two standing female figurines and a stylized female figure (US 8945, US 9395, US 9413) that just dates to interventions and activities always related to the 19th century.

Iconography

In this heterogeneous group of items, we can distinguish four male figures, twelve female figures and nine parts of bigger objects, many of them clearly related to female subjects. None of them has been restored, so it may happen that some details, facial features and small attributes or objects are difficult to see—and understand—due to dirt and corrosion. I have summarized them in seven groups, based on their aspect, clothing, gesture and attributes.

The first group is the one obviously connected to the goddess Diana. She is recognizable in these six figurines by her usual outfit, consisting of a loose-fitting and knee-length chiton, pinned on the shoulders and tied with a belt under the breasts; she also wears boots and has her hair styled both with a knot on top of the head or with two braided-style locks around the face, finishing in a low ponytail on her back. According to the numerous representations of Diana, the *Lexicon Iconographicum* describes a lot of her characteristic positions, but with our items it is very difficult to define what she is acting for, because hands and attributes are missing and we can just try to infer case by case. For example, two of the figurines are represented standing with her left hand abandoned along the side and the right hand extended forward, maybe with some kind of attribute that now is missing, the posture and the gesture are similar to the representations of Diana offering a libation, standing with a *phiale* in her right hand[15] (Fig. 2.c–d). Two other figurines portrait the goddess standing, with the right hand on the waist and the left hand holding something, maybe a torch: as a matter of fact, some parallels can lead to think of a Diana *Dadophora*,[16] but also of an impetuous

15 LIMC II, 1, 695–696, nn. 387–389; LIMC II, 1, 645–649, n. 330. There are multiple types of this portrait, all basing on a statue—now in Paris—who is likely coming from Nemi (LIMC II, 1, 645, n. 250, Versailles Type). There are also a lot of similar examples in different kinds of action in roman small bronzes (LIMC II, 1, 813-814, nn. 67–98).

16 LIMC II, 1, 655–661, nn. 496–498.

Diana with a short spear in her raised hand, as she is also known from gems and coins[17] (Fig. 2.a–b). Finally, two of them are recognizable as Diana but, at the same time, they are too worn and corroded or not as good in details, to understand what the goddess was up to (Fig. 2.e–f).



Fig. 2. Small votive bronzes representing the goddess Diana (Photo: F. Grossi).

The second group has just one item, representing a female subject wearing a long tunic with sleeves and also a long veil draped around her waist and head, laying on the shoulders. She is standing, with her left hand holding something similar to a plant or a flower[18] and her right hand extended forward, probably holding some other kind of attribute. There is a lot to debate about this figurine, since the subject presents many different characteristics, starting from her aspect. Her clothes reflect kind of a sacral behaviour and her gesture—the gaze pointed above, the arm extended forward—indicate a more mature composure, a stronger awareness, if compared to the wilderness and freedom of the Dianas of the first group. Moreover, despite we can see the right hand is missing something, the presence of a flower or a plant as an attribute in her left one is really significant, because it could lead to a certain identification. Unfortunately, the figurine is really encrusted and all we can see are three stems, each one with its top enlarged in a shape similar to a pinecone. Regarding the general aspect of the figurine, there are some parallels with representations of Ceres, especially on gems and coins,[19] but no one is a perfect match with this item and this goddess seems too far from the context of Nemi. However, there is the possibility of a thin link between Ceres and Diana: first of all, considering that, as already discussed, in Nemi the goddess has the triple identity of Diana, Selene and Hecate, she is someway related to Ceres due to the fact that Hecate helped Demeter finding her daughter with flaming torches, as is described in the Homeric hymn to Demeter.[20] Considering also that Hecate, as the silent goddess of the Afetrworld, has the asphodel as her

17 LIMC II, 1, 800–805, n. 19/2. For gems and coins, LIMC II, 1, 827–828, n. 259, and LIMC II, 1, 823–824, nn. 195, 204.

18 Like one of the figures that are represented on the *denarius* of P. Accoleius Lariscolus (see Footnote 4).

19 She is represented standing, with a torch in her right hand and ears of corn in the left one (LIMC IV, 1, 893–901, nn. 61–41; 112–119).

20 Homeric, Hymn to Demeter, 59–61.

symbol—because it was said to grow alongside the graves[21]—and that the flower is also dedicated to Demeter,[22] maybe we can suggest a possible identification of the figurine with a rare small bronze representation of Diana/Hecate, holding three asphodels in her left hand as a symbol of her triple aspect and with a missing torch in her right one. Otherwise, she could also be a worshipper, *capite velato*, offering a flower to the goddess or maybe using a particular kind of flower that was relevant for the cult[23] (Fig. 3.a).



Fig. 3. Small votive bronze representing Diana/Hecate and bronze applique representing a nursing scene (Photo: F. Grossi).

The third group consists of three items representing a female subject in a long chiton without sleeves and with a belt under the breasts, standing with her right hand holding a *phiale* and the left hand on the waist or either raised or bent forward with some kind of unreadable attribute. One of them is clearly wearing a *stephane* on her head, which is curious since this attribute has a particular connotation that varies if it is worn by a goddess or by a woman (Fig. 4.b), while the others have less detailed futures and are difficult to identify due to their bad conditions. There are similarities with some representations of the roman goddess Juno (and here the *stephane* could be an indicative attribute)[24], but it is unlikely that a so different and powerful goddess was also worshipped with a secondary role in a sanctuary completely devoted to Diana herself, especially considering that there was an important sanctuary completely devoted to Juno in the nearby *Lanuvium*. So, a possible explanation could be the one who sees these figurines as simple representations of priestesses or female worshippers, standing for a libation in front of the goddess[25] (Fig. 4.a–c).

Also the fourth group has just a single item, that was clearly made with some artistic purposes, due to its flattering features and the pathos of the scene. The object represents a woman, sitting on something that is now missing, and firmly holding a baby with her left arm, while the right one is curved as to protect him or to cover herself while breastfeeding. She wears a long tunic that leaves her feet uncovered and has a veil that is draped around her waist and gets to cover head and shoulders. The presence of sleeves is not sure because there are some carved lines that resemble the collar of the tunic or maybe the craftsman ultimately tried to represent her breasts. The woman faces right

21 Lucianus, Cataplus 2; Menippus 11 and 21.

22 For more associations between the asphodel and other chtonic deities, see Reece 2007, 396.

23 A very similar item is now in Nottingham Museum, identified probably as a priestess, with a patera in her right hand and maybe a fruit in her left hand (Blagg 1983a, 56, N. 626).

24 Babelon – Blanchet 1895, 20, nn. 41–43.

25 Some parallels are now in Nottingham (Blagg 1983a, 54–56, N 615; N 627; N 631; N 632).



Fig. 4. Small votive bronzes representing female worshippers (Photo: F. Grossi).

and her expression seems to be stressed or fearing something, but while she is well executed and with some nice details, the infant she is holding is just approximately done, with the body barely visible within the folds of the fabric (Fig. 3.b). From the iconographic perspective, there are parallels with representations of *Mater Matuta*, Mother Earth (or *Tellus*) or the ancient *Diva Rumina*,[26] but especially with a generic *Dea Nutrix*,[27] recalling images of fertility and growth from the Greek concept of *kourotrophia*. As a matter of fact, a lot of clay figurines representing nursing mothers is known,[28] especially coming from the ancient *Latium*: some of them represent only mothers with their child—like the sample from Nemi[29]—while others frequently portray mothers enthroned with also a male figure along their side, under the same veil or mantle, but also two female figures. They usually come from sanctuaries, like the one of *Mater Matuta* in *Satricum*, the one of Juno in *Gabii*, the one of La Vignaccia in *Caere* and also from Rome, Veii Portonaccio and Veii Campetti.[30] So, being Diana Nemorensis also protector of pregnancy, childbirth and breastfeeding in part of her *triformis* essence (*Diana Lucina*), we can hypothesize that this figurine is not the representation of a goddess, but more likely of a thankful mother or *nutrix*.[31] Furthermore, from a functional perspective, we can say that the object was probably not a votive offering *per se*, but just a part:

26 She is cited by Varro as an ancient goddess related to the *Ficus Ruminalis* (Hadzsits 1936).

27 LIMC VI, 1, 936–938, nn. 1–18. A very interesting study on the subject is a PhD Dissertation discussed by Matthew Fittock in Reading in 2017 (Fittock 2017).

28 They are known from Gaul and dating to the 2nd century AD, but also in Britain at the same time, probably as objects of trade or personal possession of immigrants (Jenkins 1957, 38).

29 There are also many votive terracottas like the ones now in Nottingham Museum (Blagg 1983b, 46–52, N 66; N 133).

30 Pedrucci 2018; Pedrucci 2020.

31 This is not an isolated case: in 1895, a bronze spear point now in Villa Giulia (Inv. no. 6754) was found in a votive deposit near the Sanctuary, with an inscription by a *noutrix Paperia* (CIL I^2, 45; Barnabei 1895; Holland 2008).

as a matter of fact, it seems designed to be placed on top of something with a square angle, so maybe the mother/*nutrix* was sitting on a throne, now missing, or was a sort of *applique* or decoration for a wooden box or a *cista*.



Fig. 5. Small votive bronzes representing Mars, Priapus and Apollo (Photo: F. Grossi).

The fifth group has three items that represent male subjects: the first one is easily recognizable as a small herm of *Priapus* emerging from a pillar, covered with a hood but with the phallus erected and emerging by under his vest (Fig. 5.b). Parallels are known in different kind of objects such as gems, paintings and statues,[32] but it is very interesting to note that there are also similarities with small chthonic deities like the *Genii Cucullati* that, in some cases, are represented with their phallus evident under the cape.[33] This similarity is quite interesting, not only because all these deities are related to wealth and fertility, but also because the *Genii Cucullati* are often interpreted as healing spirits thanks to their connection with *Hygieia* and *Aesculapius*.[34] So, finding an ithyphallic ex-voto like this in the sanctuary of Nemi could be both an auspicious gift to the goddess to obtain something in exchange or the sign of a thankful worshipper that has seen his prayers fulfilled. The second subject is most likely Apollo: we can see him standing, completely naked, with his right hand on his waist and his left arm missing, but with some remains of clothing on the shoulder, leaning on a pillar as

32 LIMC VIII, 1, 1028–1044, nn. 24, 28, 37, 55, 133, 147.

33 Despite being very often represented in a set of three (such as the *matres* or *matronae*), there are some lamps and statuettes of a single *genius cucullatus* in an ithyphallic mode, probably connected to a fertility cult (Bolla 2000).

34 Antal 2014, 201.

he is frequently represented, especially in small terracotta votives[35] (Fig. 5.c). The third one is a little more difficult, since the subject is very encrusted, missing a lot of parts and not showing any detail. Francesca Diosono suggests an interpretation as Orestes, since the western *cella* of the temple—built in the second quarter of the 1st century BC—was dedicated to him,[36] but the figurine could also be recognizable as Mars. He is young and beardless, standing with his right arm up, originally holding a spear, and he is wearing an armour and a Corinthian helmet without crest (the statuette is missing it on the top of his head); he also seems to carry a *patera* in his left hand. Even though it is very curious to find an *ex-voto* representing a warrior god in Nemi, the identification seems convincing: this Mars can be related to the Type C (*Censorenfries*) described by Erika Simon in the *Lexicon Iconographicum*, basing on the figure of Mars on the relief with a *lustrum* scene pertaining to the altar of *Domitius Aenobarbus*, and it is extremely common in small bronze representations;[37] also, the addition of the *patera* as his attribute is documented in mixed types,[38] maybe to make him at the same time immediately recognizable and more suitable as a gift to Diana (Fig. 5.a).



Fig. 6. Parts of small votive figurines from the Sanctuary (Photo: F. Grossi).

In the sixth group there are all the small parts pertaining to bigger objects, some of them votive figurines, but some also statues of medium dimensions, like four arms and hands: two of them are female, very well done, polished and preserved, one holding a jug[39] and one with a bracelet; the third one is probably also female, with a bracelet, but in very bad conditions, and the fourth comes

35 Similar items for position and gesture can be seen in Nottingham, despite the identification is unsure or debated (Blagg 1983b, 52, N 46; N 48; N 118).

36 Diosono 2020a, 96–97.

37 LIMC II, 1, 520–521, nn. 90–107.

38 LIMC II, 1, 520–521, nn. 108–117.

39 This one (Fig. 6.b) resembles the statuary type of the Pouring Satyr of Praxiteles for its position and for the gesture of pouring from the jug.

from a small figurine, but there are no elements to identify its owner (Fig. 6.a–d). There are also a foot, two torches (one of them is held by a hand) and two quivers (also held by a hand), so probably they were all parts of statues of Diana because the foot is wearing a characteristic boot while the torch and the quiver are attributes of the goddess (Diana *Lucifera*) (Fig. 6.e–i).

Finally, there are two more figurines that are really different in style and that do not seem to correspond perfectly to roman gods but to more ancient deities. The first one is a stylized male subject with long legs and arms that are firmly pressed along the sides of the body, almost without shoulders; the head is very elongated too, with a face that shows incredible big and empty eyes, flat nose and round cheeks, with many hair and a beard. The object is very encrusted so it is not possible to see every detail, but the figure seems naked or, more probably, the stylization of its traits is also a choice to make it neutral, since there are no visible male attributes (Fig. 7.a). The second one is a female figure, also really stylized: she is thin and slender but with her calf muscles, breasts and bum prominent, with rough and undefined features. She seems to wear a partial hood or a headdress—her hair are coming out of it on the back—and a vest from her waist to feet, underlined just with some carved diagonal lines; her breasts, arms and shoulders seem to be naked (Fig. 7.b). In both cases, style, features and shape suggest an earlier chronology and similar parallels confirm that these two objects may refer to the Etruscan period. The first one could be read as a young *ephebus*,[40] with a slender and elongated figure[41]—and the absence of male attributes could also be part of his representation[42]—, while the second one is very similar to the Etruscan bronze *korai*, representing young girls often with a pointed cap or *tutulus*. For this subject there are many convincing parallels coming from the whole Etruscan area, such as Vulci,[43] *Satricum*[44] and Arezzo. Basing on the description of this last deposit, now in the Archaeological Museum of Florence, there are two types of *korai*: while the recent one shows a little bit of movement with the left-hand rising part of the chiton, the ancient one consists of figurines with their arms firmly pressed alongside the body, probably dating to the half of the 6th century BC.[45] Surely, at the present moment of the studies, we cannot say that this is the exact chronology also for the item from Nemi yet, but it is a good starting point for making some hypothesis.

Conclusions

So, in conclusion, regarding the use and function of these figurines, the majority of them can be clearly read as a votive offering, because they were given to the sanctuary as a gift to obtain something in exchange or as a gift to thank for something they already obtained, probably praying one god or another basing on their needs. All the objects were made with the full casting technique and sometimes it is possible to see on them how the moulds were ruined or too worn out due to a long use, leaving less details or imperfections on the surfaces and making their traits difficult to interpret. Also, bronze was not the only metal used in this process: since many of them show a little protuberance under their feet (Fig. 2.a–b, Fig. 4.b, Fig. 5.c, Fig. 6.e, Fig. 7.a–b), it is reasonable to

40 Monaco 1942, 520–521, n. 3.

41 There are many interesting observations about this point, that can help to hypothesize why these subject were represented this way by the Etruscans (Terrosi Zanco 1961), like the so-called 'Ombre della sera'.

42 A similar figurine is now in Nottingham, dating back to the 6th century BC (Blagg 1983a, 54–55, N 650).

43 Guarducci 1936, 41–42.

44 Bonacasa 1957, 561–563, nn. 17–19.

45 The votive deposit found in Arezzo has many bronze statuettes that are very similar to the one found in Nemi. They were probably pertaining to a sanctuary outside the city and were found in 1869 by the antique dealer Francesco Leoni along with pottery, small jewellery and *aes rude* (Lazzeri 1927; Bocci Pacini 1980).

think that they had a pedestal that was carved with a hole on top to fix the figurine and that was also filled with lead to increase the grip. So, a religious purpose for all these items seems to be the right choice, basing on the context and the circumstances of their finding, except in the case of the mother and baby figurine, for which it is probably better an interpretation as an *applique* for something more complex, as previously discussed.



Fig. 7. Probably Etruscan votive figurines representing a stylized man and a kore (Photo: F. Grossi).

On the contrary, about a specific chronology, at the moment we can just infer some information basing on data coming from stratigraphy and on their different styles, starting from the fact that there are many standardized items. The most ancient among them are probably the two figurines with an Etruscan style (Fig. 7.a–b): despite the fact that they come from not very reliable layers destroyed by many excavations during the 19th century (US 8032, US 9413), they seem to have good parallels with other items dating to the 6th century BC. Two bronzes of Diana and a quiver come from the destruction of the slide that gave access to the temple of the first phase (US 9544, US 9546), so they are probably dating between the end of the 5th century BC and the beginning of the second phase A at the end of the 4th century BC (Fig. 2.d,f, Fig. 6.h). The figurines coming from the K area (US 9070, US 9434, US 9512, US 9598) can be related to the second or, most likely, to the third phase (Fig. 2.a,e, Fig. 3.b, Fig. 4.c, Fig. 5.a) and the same goes for the two samples (US 9165, US 9289) coming from some levelling actions of the front area (Fig. 5.c, Fig. 6.g); probably, also the single item from the Julio-Claudian layers is to consider residual and pertaining, at least, at the third phase (75–50 BC) (Fig. 3.a). Truth is that figurines like these were made in series, especially during roman times, and had a great market in the past, so it becomes essential to relate to other materials from the same contexts in order to obtain more reliable chronologies for each one of them. On the other hand, some of these items—like the stylized young man or the pseudo-Etruscan *kore*—are evidently more ancient, and their presence will be very useful to confirm, maybe, the chronology of other items in their contexts.

As a matter of fact, at the present moment, many further steps need to be done before trying to discuss the general outline of metal findings from the sanctuary, starting from an inventory of all the items, of which these figurines are just a part. Obviously, and luckily, a huge team of scholars is always working in and on Nemi—as it is expected for a complex like this—, so I hope that this short insight will be followed soon by new interesting and extensive researches.

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The reconstruction of the Serpent Column in Delphi

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Abstract: There are two basic versions for reconstructing the famous victory monument at Delphi: either with a large or with a small tripod cauldron. Comparisons with other contemporary monuments (tripod of Gelon and that of the Crotonians) and other practical considerations point to the conclusion that a large cauldron can be definitely ruled out. Consequently, the small version is accepted but with a small addition/modification: there must have been an intermediate element (upper part of a column shaft with a capital) joining the serpent heads and serving as a base for the cauldron legs, which was made most probably of marble or stone. This solution can definitely account for the position of the serpent bodies and heads and may also solve the technical and historical problems related to the small reconstruction.

Keywords: Greece, Classical Period, Persian wars, victory monument

The Serpent Column is a rare historical document of the 5th century BC and it has received particular scholarly attention. Its history is well-known, but despite intensive discussions, the correct reconstruction of the monument is still debated. Two solutions have been proposed, with no decisive argument for either: the first would place the serpent column underpinning the cauldron at its centre and the legs of the tripod framing the column; the other proposed solution places the feet of the tripod on the serpent heads. The first proposal results in a huge tripod measuring 7–12 metres in height; the other proposal results in a much smaller one of 1–2 metres high at the most.[1] From a purely technical/structural point of view, both are feasible and since the tripod itself is completely lost and iconographic parallels can be adduced for both reconstructions, the arguments have to be taken from literary testimonia and from the partly preserved base of the monument (which was not correctly identified until recently[2]). The latter would definitely argue for a small tripod but, because of its fragmentary nature, one can assume that its lost parts supported the legs of a large vessel. This suggestion was made most recently by M. Steinhart, who argues that there is no compelling reason in the literary record for a small tripod, and that both Herodotos (8. 82) and Thukydides (3. 57) imply that the seprent column must be an integral part (i.e. the central support) of a large tripod cauldron, and not just the supporting base of a small one. I think, however, this conclusion is not borne out

1 A third version (proposed by Ridgway 1977) envisages the cauldron between the freestanding necks of the three serpents with the heads projecting above the rim. This would result in a medium-sized cauldron, which would, however, have an unparalleled shape and highly atypical proportions; thus, it is rightly not considered in later discussions.

2 Laroche 1989.

by the evidence and it is not only the fragmentary base, but all the literary, historical and practical considerations point to the small reconstruction.[3]

First, a general consideration already advocated points to the small tripod: in Delphi, it was customary to place dedications on a high pedestal. In this way, the dedication was more highlighted and was much more visible on the sloping terrain. Two other practical factors are the costs and the stability issues: even if the booty from the Persian Wars had possibly been sufficient for financing a large tripod as well, making it from pure gold would have been extremely expensive and would have resulted in an extremely fragile construction.

As for the historical circumstances, we have to consider two basic problems: when was the tripod erected and why? The answer to the first question is fortunately quite straightforward: after 479 BC and almost certainly already in 478 BC.[4] As for the second question it is quite clear that the tripod was erected from the booty taken at Plataiai. It is, however, equally clear (both from the preserved inscription and from Herodotos 8. 82) that it did not commemorate this victory alone, but explicitly included those poleis as well, which had played no part in this battle, but had supported the Greek case in the previous year at Salamis. Two circumstances make this combination seem odd: the naval victory of 480 BC had already been commemorated quite appropriately by a monumental bronze statue of Apollo at Delphi (Herodotos 8.121);[5] on the other hand, contrary to Salamis, the Delphic oracle had not played any part in the Battle of Plataiai,[6] and was clearly not supporting the Greek resistance during the entire campaign.[7] There must have been therefore some different and quite profound reason why Delphic Apollo was honoured in this spectacular way. This can be sought, I think, in the competition between Greeks erecting victory monuments in the sanctuary. At the beginning of the 5th century BC, there was already a longstanding tradition of intensive competition between dedicators in international sanctuaries which has been best described as peer polity

3 The literary evidence has already been treated elsewhere (Patay-Horváth 2022a, 250).

4 Gauer 1968, 93 opts for a slightly later date, 477 (also accepted by Yates 2019, 29–30), mainly because in this year Pausanias was recalled to Sparta and had to stand a trial. But he was acquitted (Thukydides 1. 95 and 128) and it is quite unlikely that in such a situation, when he was accused of numerous crimes and "appeared to exercise his command more after the fashion of a tyrant than of a general" he would have dared to place his infamous inscription on the monument in Delphi. The whole story of this epigram seems to have been a later fabrication (see Patay-Horváth 2022b) and has no relevance for dating the monument. Jung 2006, 248 n. 78 gives full bibliographic details and concludes that "Eine Datierung in die Jahre unmittelbar nach der Schlacht muß als gesichert angenommen werden, sie ist 478/477 v. Chr. wahrscheinlicher anzusetzen als 479 v. Chr."

5 Zahrnt 1993, 361, note 28 (followed by Zahrnt 1993, 65) assumes that the sanctuary was not secure for the allied Greeks until the battle of Plataia and therefore this monument was erected roughly at the same time as the Plataian tripod. But this is by no means indicated by Herodotus who lists this monument along with other war memorials obviously dedicated immediately after the battle of Salamis. During the winter 480/479, the Persian forces left southern Greece and even the Athenians returned to their home. They (and all the other allies) had every reason (and were certainly able) to complete and to send the dedication to Delphi as soon as possible and there is absolutely no reason to assume that this was somehow not permitted by the local authorities, cf. also Kienast 1995, 130–131.

6 At least according to Herodotos, whose narrative is otherwise heavily influenced by Delphic sources or informants. It is only Plutarch (Aristides 11.3) who gives such details, but these are rightly considered as later additions (Marincola 2016, 113–115).

7 See most recently Rop 2019, 425–431 offering a very good overview of previous scholarship but not mentioning Kienast 1995. Delphi clearly supported the Medizers until the winter 480/479 when the uncertain situation and the victory monuments offerred by the Greeks may have induced a slight change in its politics (if there is some truth in the various stories reported by Herodotus, but D. Kienast (Kienast 1995, 130–132) is certainly exaggerating this change).

interaction.[8] In this case it was Gelon, the tyrant of Syracusae who dedicated a golden tripod and a Nike from the spoils of Himera (Diodorus Siculus 11.26.7),[9] and one can reasonably assume that this dedication (whose inscribed base has been preserved [ML 28]) had already been set up during the following year, i.e. 479 BC.[10] It was an extravagant dedication indeed, especially because of the large amount of gold[11] (which had previously been employed only by Gyges and Kroisos[12]); it must have overshadowed every other monument made of bronze, including the twelve cubit high Apollo dedicated by the Greeks after Salamis. Given the large size of the booty from Plataiai, it was surely possible to compete with the Syracusan tyrant and presumably it was therefore decided to dedicate another golden tripod. Furthermore, since the intention was to compete with a victory achieved in 480, and because the main forces in both years came from the same poleis, it was quite natural to include the smaller participant states of 480 as well.

Now, it has been shown, that the tripod of Gelon also stood on a cylindrical base made of metal, so most probably on a column.[13] And if the allied Greeks wanted to compete with this monument, they were likely to chose the same form: a golden tripod on a bronze pedestal. This was the most economical option and even supposing a small tripod, it surely resulted in a quite expensive dedication. The Greeks decided to improve on the pedestal which might have been higher than that of the Syracusan tripod and was certainly much more elaborate and innovative. But basically, it was likely to be recognizably similar to the one erected by Gelon. This observation may be of use for the precise reconstruction suggested below as well and we will return to it later. For the moment it is sufficient to note that the monument erected by Gelon for his victory at Himera served as a model for the Greeks and therefore suggests that the serpent column supported a small tripod made of gold.

8 Snodgrass 1986.

9 Adornato 2005 suggested that the dedication actually had nothing to do with the Battle of Himera, because the preserved inscription does not mention it. However, as A. Jacquemin already observed, this is an *argumentum e silentio* and it seems better to accept the ancient tradition, than to expect too much information from the dedicatory inscriptions (Jacquemin et al. 2012, 44).

10 A. Jacquemin is mistaken, I think, in placing this dedication, without any reason, after the Plataian tripod (Jacquemin 1999, 176). The reason was given by M. Zahrnt (Zahrnt 1993, 363, note 35), but seems to be weak, cf. note 9 above.) The sequence proposed here is not only based on the natural assumption that the battles were commemorated, as soon as possible, by victory monuments but is implicitly corroborated by the observation made by two ancient researchers (see next note). Detailed discussions of the date: Krumeich 1991, 48–49 and Privitera 2003, 408–412 who are of different opinion concerning some details but agree on the date. Herodotus 7.163 clearly shows (even if the story seems to be fictive, at least in part) that Gelon had close connections to Delphi already by 480 and he was certainly able to dedicate the monument only before his death in 478. Strangely enough, I think, F. Krumeich (Krumeich 1991, 52) definitely rules out the possibility that the tripod of Gelon could have been imitated by the Greeks, because Gelon had refused to participate in the war against Xerxes. Quite to the contrary, I think this circumstance could even have been an incentive for the Hellenes to compete with the Sicilian ruler.

11 There is some evidence on this, even if it is not entirely reliable. Diodoros (11.26.7) gives a figure (16 talents) for the gold. It can be understood as the weight of the gold, but it is more likely to denote the value of the dedication in silver (Privitera 2003, 413) and is in this way entirely credible or realistic. Another piece of evidence is an epigram preserved in the Anthologia Palatina (VI. 214) and attributed to Simonides. In this case a different figure is given (50 talents and 100 litra) but even if the epigram is authentic (and not just a later literary exercise, as occasionally assumed), it may refer to another dedication made by the Deinomenids. For a detailed discussion see Privitera 2003, 419–425.

12 As stated by Phanias and Theopompos (according to Athen. 6.20) and duly emphasized by P. Amandry (Amandry 1987, 85).

13 Amandry 1987, 81–90. This suggestion is unanimously accepted since then. Amandry has not provided a reconstruction drawing but two slightly different versions were published recently by A. Jacquemin and D. Laroche (Jacquemin – Laroche 2020, 140, Fig. 15 (drawing with a special type of column capital), 148, Fig. 19 (color snapshot of a 3D model featuring a Doric column).

On the other hand, there was another tripod dedication made at the same spot and just a few years later, certainly not more than a decade. This was the huge tripod of the Crotonians which stood on the base previously attributed to the serpent column and which was made entirely of bronze.[14] This tripod had no central support, stood directly on the stone base and was clearly intended to eclipse the previous tripod dedications made in its immediate vicinity. Had the Plataian tripod been of similar dimensions, this Crotonian monument would have been pointless, because it was not made of gold but just of bronze. It is quite logical that it was the sheer size of the tripod dedication which mattered for the Crotonians: they enlarged the dimensions and produced the largest tripod instead of producing yet another one made of gold. Besides being impressive, this was an economical choice. Of course, the entire monument would have been pointless if the Plataian tripod had had similar dimensions. So the earlier tripod dedication, i.e. the one erected after Plataia must have been a small one, like the one dedicated by Gelon.

So the small reconstruction is definitely to be preferred or can be regarded as almost certainly correct even if the material remains would allow the large reconstruction as well. There is only a small technical detail which remains to be clarified. How were the legs of the tripod fastened to the pedestal? In 1987, Amandry objected correctly that the preserved snake head does not seem to provide a sufficient base for fastening a tripod leg strongly enough and even if this was mastered and the head fastened the leg securely for more than a century, how were the Phocians able to remove the tripod without damaging the serpent heads? That they succeeded in doing this is clearly illustrated by all the Byzantine and Medieval drawings clearly showing all the three heads in a perfectly intact condition.

Some sophisticated solution was supposed therefore in the form of a bronze ring connecting the three heads and stabilizing the three legs at the same time.[15] From a technical point of view this is surely feasible but has no parallels, I think from Antiquity and leaves a detail unexplained. This detail is the empty space between the snake necks and heads. Considering the special form of this empty space, again well documented by the extant drawings, and the fact that tripods were usually erected on stone bases, one can make a simple suggestion which offers a solution for the problems raised by Amandry. He correctly observed[16] that there is no base for the tripod in the small reconstruction but he was wrong in claiming that there was no room for such a base: the space between the snake heads was perfectly suitable for this purpose and was, I suspect, indeed filled by a stone basis which in turn supported the legs of the small golden tripod (Fig. 1).

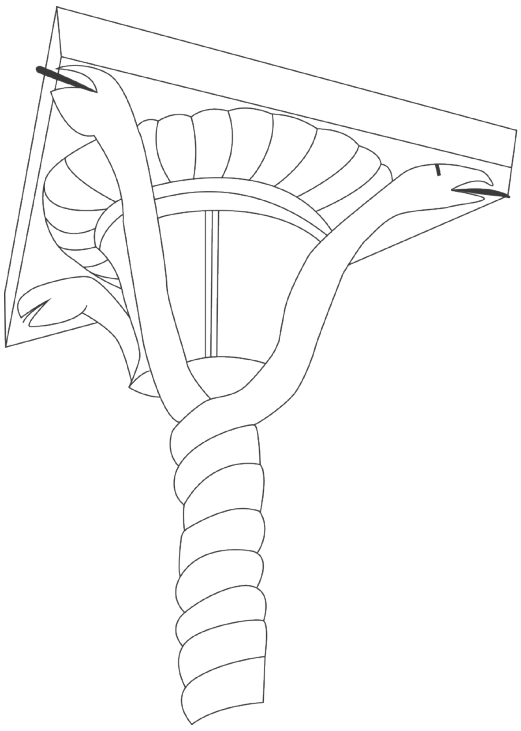


Fig. 1. Reconstruction of the upper part of the monument (drawing by D. Román).

This solution may have provided a simple, robust and at the same time easily removable fastening

14 Jacquemin – Laroche 1990.

15 This detail of the reconstruction is perhaps generally accepted (suggested or assumed e.g. by Gauer 1968, 81 Abb. 4) and is most clearly visible at https://didierlaroche.wixsite.com/delphes/sd-440-trepied-de-platees (accessed 03. 07. 2023), but I have found no discussion of it.

16 Amandry 1987, 112.

for the golden tripod without requiring robust joints at the snake-heads. The base would follow a type which is documented at Delphi (on the head of the so-called ex-Knidian caryatid) and would enable fastening the tripod to a stone base in the usual way. Its lower part can be imagined as a cylinder fitting into the hollow space created by the winding serpent bodies providing the additional advantage of preventing the flow of rainwater into the serpent column. This lower part did not have to be especially long or heavy; if fitted exactly into the round hollow space, it provided an extremely strong and stable base and the echinus on top of it had to be joined to the snakeheads just for the sake of additional security. The serpent heads fitted below the rapidly widening echinus and on top of this part there possibly was an abacus serving as the base of the tripod cauldron. We cannot know if this abacus was rectangular (as the bases of the tripods in the Ptoon[17]) or had some other form (e.g. triangular or round) or was missing as in the case of the acanthus column in Delphi[18]. Any of these solutions would have been feasible, the triangular abacus being the most simple and most probable one in my opinion.

In this way, the three serpents were not shown winding up and balancing the tripod without any internal support (an idea which would be strange indeed) but they were imagined and depicted as twisting up around a column, the capital or upper part of which was visible for everyone.[19] The overall dimensions of the serpent column perfectly fit the hight/lower width ratio of a typical ionic column and the supporting base of the tripod cauldron was therefore probably conceived as a column indeed.

The golden tripod was thus placed on a column, similarly to the monument of Gelon already referred to above. The column of the Sicilian tyrant is not preserved, but most obviously it consisted of a relatively simple fluted shaft and some kind of a capital, which was made either of bronze or of stone. The victorious Greeks after Plataia adopted basically the same structure but striving to outdo the other monument, they chose to improve on the base by adopting a more interesting design. Intertwined serpents winding slightly diagonally around the shaft of a column while concealing it may have provided an attractive alternative to the simple vertical fluting.

The serpent column and this hypothetical stone base were practically held together by gravity and it was an easy game for the Phocians in the 4th century to remove the entire upper part without damaging the bronze parts. They melted down the gold and threw the stone away. It was most probably not inscribed and obviously not valuable nor very important, so it got lost quite soon. As Pausanias (10.13.9) told quite correctly, it was only the bronze part which remained.

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17 Guillon 1943, Pl. 13.

18 For this monument see https://didierlaroche.wixsite.com/delphes/sd-509-colonne-dacanthe (accessed 03. 07. 2023) and Jacquemin – Laroche 2020, 131–144, Figs 15–16, 19.

19 Large serpents winding around columns (or without any support) occur quite often in Archaic Laconian vasepainting (e.g. Louvre E 669, Vatican 16592, cf. Perfetti 2013) but they never have any object on their heads. The intertwined serpents of Asklepios or on the kerykeion of Hermes also have an internal support and do not balance anything on their heads. The single exception (if it is really genuine) is a mirror stand made up of two serpents (Jantzen 1937), but even in this case, the mirror is not directly placed on the heads but there is an intermediary palmette.

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Tooth for tooth

The shining white smile of the large bronzes

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Abstract: Until the Hadrianic period, large bronzes had a naturalistic appearance due to polychrome elements. One element on the statues of gods, heroes and portraits that has been studied rarely are the inserted white teeth. They were invented in the late archaic or early classical period and disappeared on the large statues with the decline of the Hellenistic foundry art. Usually the upper incisors where visible behind the opened lips.

The upper front teeth—and sometimes the lower once—were made of white metal (silver plating, tinning), light stone (marble), or more appropriately, bone (bone, ivory, tusks). It was still able to reconstruct four variants with several variations used for the installation of teeth in the open mouths. They could be fixed with glue. Other options consisted of hanging rows of teeth on hooks and brackets. In addition, the teeth rows were mounted in front of and on tooth backplates. Often, the installation of teeth was carried out in combination with the fitting of red lips.

Keywords: large bronzes, technology, polychromy, teeth, lips

Ancient large bronzes were almost never just bronze coloured until the Hadrianic period.[1] With the Late archaic knowledge of casting larger figures, the craftsmen also managed to give the statues a naturalistic appearance. Thus, the eyes, which have been intricately assembled from many individual parts, where copied from highly archaic masterpieces like the sphyrelata and the griffin promotes. The eyebrows were highlighted with inlays of copper in the span of time from the archaic to the early classical and then again in the archaizing period. The same material was used to highlight lips, nipples or even bleeding wounds. For the polychrome design of decorations on garments and attributes, other materials such as gold, silver and the black niello have been great as inlays and overlays. It is also conceivable that the surface of the bronze has been coloured by patination or painting. White teeth, on the other hand, set a less conspicuous accent. Other than many

1 Summarizing the polychromy of antique large bronzes see Born 1993; Lahusen 2010, 69–71, Fig. 2.15–20; Formigli 2013; Mattusch 2014, 87–88, 92–93, Figs 65, 68, 69, 77; Descamps-Lequime 2015 6; Giumlia-Mair 2015, 176–179, Fig. 11.1,6a–d,8. Many thanks for kind help to V. Brinkmann (Frankfurt), S. Descamps (Paris), A. Furger (Basel), I. Hertel (Berlin), F. Higelin (Geneva), K. Lapatin (Los Angeles), Ch. Lincke (Speyer), C. Mattusch (Clifton), B. Mille (Paris), G. Moraitou (Athens), E. Risser (Los Angeles), C. Sarge (Bremen), A. Stanislawski (Berlin) und A. Wilhelm (Wiesbaden). Thanks a lot to J. Stanislawski (Berlin) for help in translating the manuscript into English and final corrections. Many thanks to D. Greinert (Berlin) for creating the graphics. First results about inlayed teeth will be published soon in German language, see Peltz in press (a.

polychrome features on the Bronzes of, gods heroes and portraits, the teeth are rarely preserved. And yet the few examples we do have access to are a perfect showcase for the great technical skills needed to make the slightly opened mouth of the large statues appear perfectly natural by incision of the white teeth.

Lips

First of all it is worth mentioning that the installation has mostly been discussed in association with the fitting of red lips. It is noticeable that the installation of teeth has so far often been discussed in association with the fitting of red lips.[2] The oldest bronze statues with lips are the Poseidon from Livadostra (490–480 BC), the Youth from Herodou-Attikou-Street in Athens (c. 480 BC) and the Warrior from the Athenian Acropolis (480–470 BC).[3] Setting a contrast to this are the Zeus of Olympia (end of 6th century BC) and the slightly younger Head of Kythera (Fig. 1).[4] Which, even although they are already characterized with copper eyebrows and hair bands, are made without inserted red lips. Both their invention and respectively the turn of focus towards a more natural look of the statues, is therefore dateable to the first decade of the 5th century BC.

However, red lips do not become the standard even in the following centuries. Perhaps only a few foundries had the ability to produce this polychrome element. Or maybe the production was expensive, so that it was often avoided. If that's the case, inserted lips become another important indication of the outstanding position of a bronze sculpture. The Berlin Bacchus from the Balkans (2nd half of the 1st century AD; Fig. 2) illustrates as probably the youngest known example of the red accented lips,[5] which apparently disappeared soon after. This reduction is closely related to the general phasing out of polychrome accents, most of which could probably only be produced by specialists. Their skills were less and less in demand since the developed imperial period.



Fig. 1. Head of Kythera (Collection of Classical Antiquities, National Museums in Berlin, Inv. Misc. 6324) with copper inlays on the eyebrows and the Krobylos but without red lips (J. Laurentius, Staatliche Museen zu Berlin, Antikensammlung).

However, the fact that more bronze statues had inlaid lips than is known today can perhaps be illustrated by some roman marble portraits based on the Greek originals. An example is the Antonine replica of the portrait of one of the 'Seven Sages' at the Prado in Madrid, whose

2 About the technical and chronological development of lips with partly different considerations see Bol 1978, 90–92, Fig. 10; Bol 1985, 149, Figs 104–105; Lahusen – Formigli 2001 6, 489–490, Figs 38–41; Formigli 2013, 282–285, Figs 353–362; Descamps-Lequime 2015, 154; Giumlia-Mair 2015, 179.

3 About the polychromy of Poseidon of Livadostra see Houser 1987, 56–57, 63; Dafas 2019a, 19, Pls 4–5a. About this to the Young Man's Head from Herodou Attikou Street see Zachariadou – Stampolidis 2000, 198, Figs. About the lips on the Athenian Warrior see Houser 1987, 73.

4 About the inserts at the Zeus of Olympia, see Mattusch 1988, 65, Fig. 4.15; Dafas 2019a, 119. About this topic at the Youth from Kythera see Heilmeyer 1988, 63.

5 About the lips with 1 mm thickness see Rohnstock 2002, 228, Fig. 10.

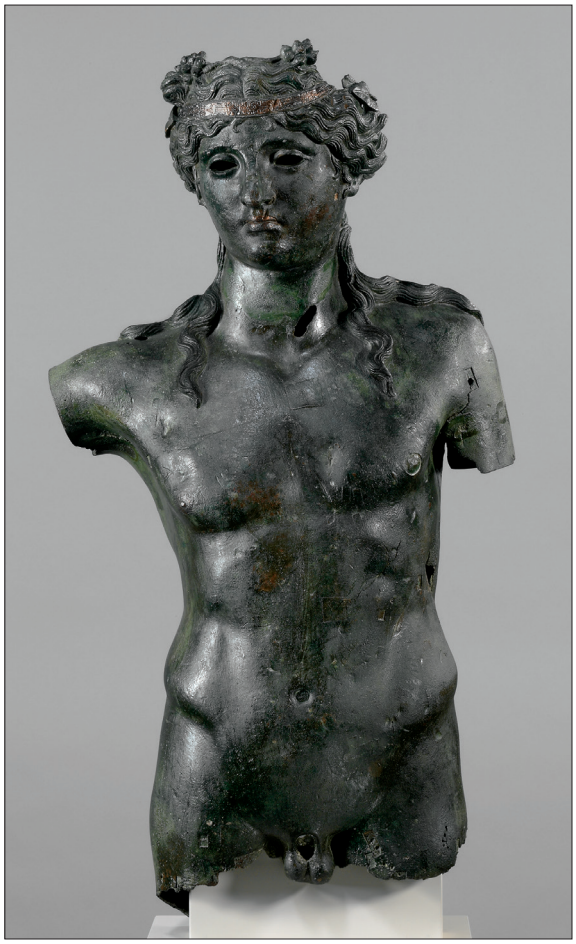


Fig. 2. Bacchus from the Balkans (Collection of Classical Antiquities, National Museums in Berlin, Inv. Misc. 7469) with copper inlay on the lips next to other polychrome elements (J. Laurentius, Staatliche Museen zu Berlin, Antikensammlung).

original dates to around 300 BC[6] (Fig. 3). Its presented with a deep lip contour, which is typical for bronzes with an inlay. The question is whether a work made of this material can be assumed as the model, and if so, whether the adoption of the dividing line can be understood at the same time as a stylistic device for the reference to the bronze original and its importance? The technical realizations of the lips on large bronzes are dividable in either casting the lips or forming them from sheet metal. The technical realization of the lips on the large bronzes can be divided into those that were cast and those that were formed from sheet metal. The Youth from the Via dell Abbondanza in Pompeii is the youngest statue right now, with the cast lips.[7] It seems that the inlayed lips disappeared henceforth. After that, if at all, only the lips made of sheet metal were used. The earliest example of this technique is probably the Apollo Chatsworth (470–460 BC).[8] The material used for the lips made out of sheet metal was pure copper.[9] The cast inserts were made out of copper or low-alloyed copper.[10] For these materials, it was known that even a very small amount of tin improved their casting properties. But the amount of tin had to be very small for lips to avoid impairing the bright red colour. It is difficult to cast copper with a smooth and uniform surface because it tends to form bubbles during solidification. But it appears as the craftsmen used this property quite intentionally. It certainly is an explanation of the porosity often observed in the lips, which helps imitating a natural texture.[11] Currently there are three possible methods for casting lips, in the general discourse. The first method is shown by a statue's lips from Olympia.[12]

6 About the portrait in detail see Schröder 1993, 88–90, Cat. 15, Figs.

7 Formiglii 2013, 284, Figs 359–360.

8 Craddock – Giumlia-Mair 1993, 32.

9 To this view without data of material analyses see for instance Formigli 2013, 284–285; Descamps-Lequime 2015, 154.

10 About the assumption that cast lips are made of copper without evidence of any analyses see Formigli 2013, 282–284; Descamps-Lequime 2015, 152. About this topic at the Riace-Warriors see Donati 2013, 273; Formigli 2013, 282; Dafas 2019a, 56. About this at the God of Artemision the Youth from Antikythera see Dafas 2019a, 42, 75. For the Delphi Charioteer, XRF-Measurements on the lips indicated pure copper, see Descamps-Lequime et. al. 2019, 49–50. For this identical to the Boxer from Quirinal see Mercuri et. al. 2018, 38. On the view that the casting material in the classical to the Hellenistic period contained only about 2% tin, see Giumlia-Mair 2015, 179. On such results on Sophocles and the Head from Cyrene at the British Museum see Craddock – Giumlia-Mair 1993, 32.

11 Sannibale 1999a, 288, Fig. 16; Sannibale 1999b, 114, Fig. 3; Formigli 2013, 284, Fig. 356; Descamps-Lequime 2015, 152; Giumlia-Mair 2015, 167, caption of Fig. 11.1.

12 Bol 1978, 91; Bol 1985, 123–124, 149; Wünsch 2003, 135.

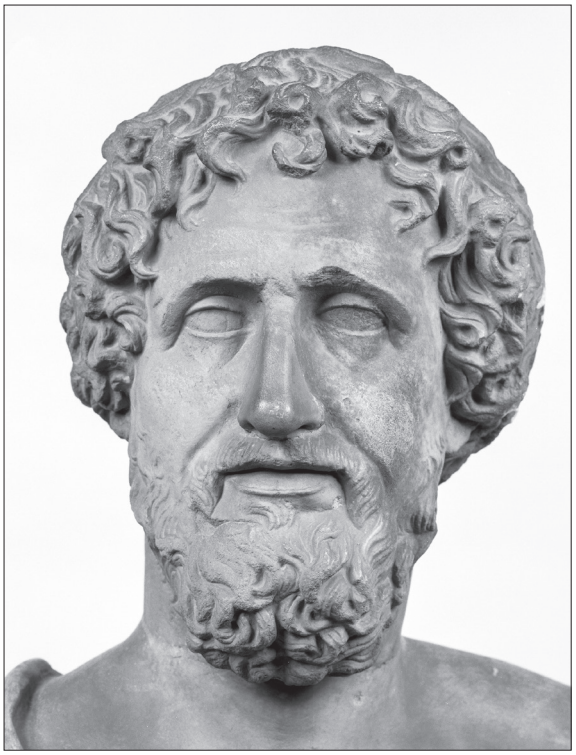


Fig. 3. One of the 'Seven Sages' (Prado Museum Madrid, Inv. 399-E) with sharply contoured lips (P. Witte, Deutsches Archäologisches Institut, Madrid, D-DAI-MAD-WIT-R-33-89-12).



Fig. 4. Lips of a statue (Collection of Classical Antiquities, National Museums in Berlin, Inv. Ol. 10647 [relocated due to the war: Moscow, Pushkin-Museum]) probably with solder traces and references to an iron pin to fix the teeth (Staatliche Museen zu Berlin, Antikensammlung, Fotoarchiv, ANT Neg. 4796).

The first step was to cast the head and lips independently of each other in the lost wax process. The head had a rudimentary mouth and the lips were inserted into this opening from the inside or from the outside. The Berlin archaeologist Karl Anton Neugebauer claims, before the Second World War, to have seen "traces of a thin layer of tin [...] from a soldering"[13] on a pair of lips (mid 5th century BC) that reached Berlin (Fig. 4). Those inserts had to have a cross-section that could easily fit into the openings that are located at the mouths. If the lip inserts have an undercut or a spherical shape they were manufactured by the casting-on technique (*Überfangguss*). One variant is the cast-on of the lips to the bronze head.[14] In this method, the craftsman fitted lips of wax into the opening at the mouth. After that, the whole head or just the area with the mouth was covered with a casting mould. After melting out the wax, the mould could be filled with melted bronze. However, more commonly assumed is another casting-on process. In this process, the lips had been casted first, which were then inserted into the wax model of the head. This was followed by preparing the casting mould for the head, melting out the wax and filling the mould with liquid bronze. Important examples of this technique are the Riace Warriors (approx. 460 and 450 BC), the Youth of Antikythera (340–330 BC), the Arundel Head (2nd century BC) and the Boxer from the Quirinal (4th–mid 1st century BC), as well as very probably the portrait of a North African from Cyrene (approx. 300 BC) and the Antisthenes from Brindisi (mid 4th century BC).[15]

13 Neugebauer 1951 , 66. The lips were damaged by fire immediately after the Second World War and were afterwards transported with many Berlin antiquities to the Pushkin Museum in Moscow. The lips are among the objects that were not restituted at the end of the 1950s. The soldered lips are also discussed for the Antisthenes from Brindisi, see De Palma – Fiorentino 2002, 181, Fig. 9. Other research assumes the casting-on technique, see Note 15.

14 Wünsch 2003, 135.

15 About the Boxer, see Mercuri et. al. 2018, 38. About the Arundel Head, the Riace-Warriors, the Youth from Antikythera, the Antisthenes of Brindisi and the lips from Olympia see Formigli 2013, 282–284, Figs 353–358. In summary see Descamps-Lequime 2015, 152–153. At least about the Youth of Antikythera see Dafas 2019b, 62, Fig. 6.8. About this statue with the opinion, the separately casted lips were inserted from the inside see Dafas 2019a, 75, Pl. 70c. With the opinion, the lips were not necessarily fixed as discussed here see Dafas 2019a, 58.

Teeth

Although it is still unclear for the Charioteer of Delphi (478–474 BC) whether its inset lips were cast or plated with sheet metal, it is to be considered the oldest large bronze with preserved teeth at the moment (Fig. 5.a–b). In the essential parts, this figure already unites the aesthetic aspects also found in the statues from the following centuries.[16] For all of them it is true that the white teeth behind the slightly opened red lips contributed as one of many polychrome elements to the overall lifelike appearance of the statues. Mainly, the accentuation of teeth focused the upper four or even six front teeth. And, the centuries are marked by a contradiction. On the one hand it was very complicated to realize teeth. On the other hand, sometimes, there was no significance in seeing the teeth in the barely opened mouths: You had to stand 'face to face' to be able to perceive the white behind the lips!

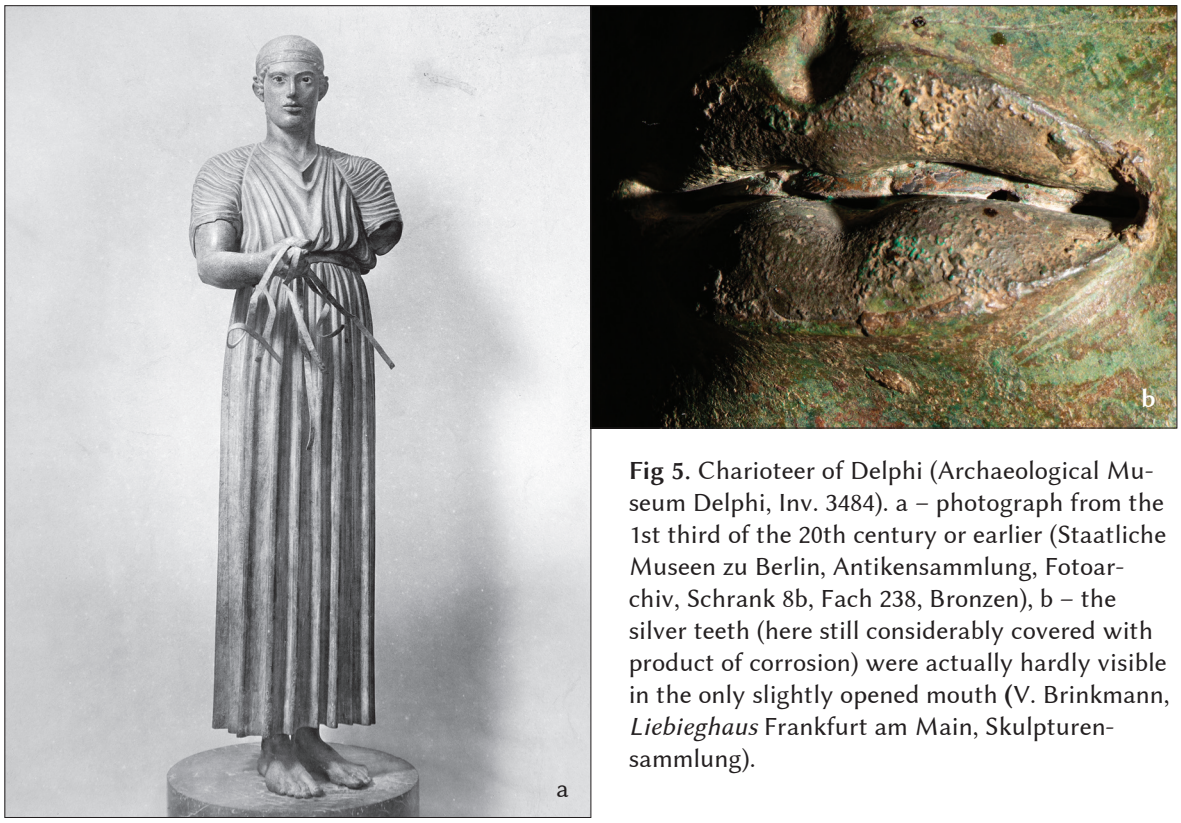


Fig 5. Charioteer of Delphi (Archaeological Museum Delphi, Inv. 3484). a – photograph from the 1st third of the 20th century or earlier (Staatliche Museen zu Berlin, Antikensammlung, Fotoarchiv, Schrank 8b, Fach 238, Bronzen), b – the silver teeth (here still considerably covered with product of corrosion) were actually hardly visible in the only slightly opened mouth (V. Brinkmann, *Liebieghaus* Frankfurt am Main, Skulpturensammlung).

Consequently, the teeth in the figures that where placed on pedestals—the charioteer was situated on a chariot and this one on a stone base[17]—were probably not visible to the viewer standing on the ground. Apparently being able to actually see the teeth was less important. More important was the approach to the real human anatomy. This is the only way to explain the enormous technical ef-

For the opinion, with Antisthenes the separately cast lips were soldered to the mouth see De Palma – Fiorentino 2002, 181, Fig. 9. For the portrait from Cyrene, it has been published at least about separately cast lips see Craddock 1977, 113; Craddock et. al. 1995. However, the photographs that are accessible there suggest the working process discussed here. Discussed otherwise lately, the lips were inserted from the inner side see Dafas 2019a, 137–138. Recently, a casting mold for lips was found in a Greek foundry during excavations in Athens' Syntagma Square. For a short note about the casting mold see Descamps-Lequime et. al. 2019, 50. It can only be assumed that the lips were inserted into the wax model of the head afterwards (casting-on technique). The soldering technique cannot be ruled out.

16 About the statue, its production and the polychrome design elements see Descamps-Lequime et. al. 2019.

17 Adornato 2008.

fort that was made to create a polychrome feature that hardly anyone could perceive on most of the statues. It is striking that simply bronze-coloured teeth are not found in human large bronzes; at least there is a lack of examples so far. In contrary, teeth were made of white metal (silver plating, tinning), light stone (marble) or closer to naturalistic colour bone (bone, ivory, tusks). The insertion of the teeth into the head probably was done before the head was placed on the body, because after this the mounting of the polychrome element was hardly possible. In this regard, it is important to say that ancient craftsmen were skilled enough to produce those joints with flow-welding, even without significant temperature transfer to the surrounding bronze. This knowledge was revealed by experiments carried out a few years ago to verify the theories considerations on joining seams and making repairs with the flow-welding technique.[18] This reflection is significant in that the high temperature would have damaged certain dental inlays.



Fig. 6. Head of Marsyas (Collection of Classical Antiquities, National Museums in Berlin, Inv. Sk 206) with contoured upper and lower incisors (F. Vu, Staatliche Museen zu Berlin, Antikensammlung).

Again, in the case of the life-size animals, the naturalistic white did not seem to fit the artistic trend. This also applies to the gilded roman equestrian statues. With their monochrome gold layer, those statues where intended to represent the power and the status of the portrayed person. For the time being, the production of teeth in animals can be classified into two basic techniques. Either they were cast together with the jaws or they were mounted as separate casts. The Horse Head from the Medici Collection in Florence (2nd half of the 4th century BC) as well as the one from Waldgirmes (4th BC–16th AD) are two evidences for the first technical possibility in horses.[19] The Hellenistic Aachen Bear probably illustrates this solution for predatory teeth.[20] In contrast, the teeth and tongues on the Horse from Trastevere (2nd quarter 5th century BC) were cast separately and welded in the mouths afterwards.[21] The same happened with the galloping animal from the shipwreck of Artemision (150–140 BC).[22] Another technical possibility was the fastening with rivets and pins. This was probably used to attach the now lost upper and lower incisors to the drilled holes in the mouth of the Etruscan Chimera from Arezzo.[23]

18 About such experiments using the example of the Trapezophori of Xanten see Lehner – Rossmann 2011; Peltz 2017, 226–228, Figs 4–7. About the flow-welding technique on this statue and the develop on others see Peltz 2011a, 49–51, 56–58, Figs 21–26, 35–39; Peltz 2011b, 124–125.

19 About the teeth made out together with the wax model of the Horse Head in Florence see Salvioli 2017, 323–325, Fig. 39.7–10. About this topic on the Waldgirmes-Horse Head see Rasbach – Ulbrich 2013, 9, Figs 11–12a–b. Currently, A. Wilhelm (Wiesbaden) is investigating the presumably Roman-period characteristic of presenting dentitions with more than just the six regular incisors. Wilhelm pointed out that, for example, the horses from San Marco and the head from Augsburg have more than six incisors. In contrast, the Greek head from the Medici collection and the horse from Artemision are characterized by anatomically correct teeth.

20 About the teeth without any notes about casting separately or any hints of mounting see Künzl 2002, 11–15, Fig. 20.

21 Parisi Presicce 2013, 178, Fig. 181.

22 Hemingway 2004, 67.

23 Siano et al. 2012, 218–219, Figs 13, 42, 43.



Fig. 7. Boxer from the Quirinal (National Museum of Rome, Bath of Diocletian, Inv. 1055). a – photograph from the 1st third of the 20th century or before (Staatliche Museen zu Berlin, Antikensammlung, Fotoarchiv, Schrank 8b, Fach 239, Bronzen), b – The open mouth with red lips was probably intentionally toothless or perhaps rather designed with gaps in the dentition (U. Peltz, Staatliche Museen zu Berlin, Antikensammlung).

Considering the Bronzes of great gods, heroes and portraits with open mouths it is reasonable to assume, that far more of them had teeth than we can prove today. This is again indicated by marble copies after greek originals, which were most likely made of bronze. Two impressive examples can be seen in the Berlin head of the Hanging Marsyas (Fig. 6) and in the portrait of an Old Woman at the British Museum.[24] In the case of the maltreated demigod, the rows of teeth in the consumedly opened mouth emphasize the naturalistic expression of the inconceivable pain. And the woman looks her age not only by the wrinkles, but also by the state of her teeth. When we think of the bronzes, statues as the early classical Youth (approx. 470 BC) in Copenhagen's Glyptothek leave room for discussions about teeth lost today.[25] Because if this bronze really depicted a singer, logically it is to assume that there were teeth in the wide opened mouth. For the bronze head from Herodou-Attikou-Street, which is nearly ten years older, a slightly open mouth is described.[26] If teeth were inserted behind the lips, the statue would be evidence of the prominence of polychrome inlays even in this early period. A more recent example is the Jockey to the Horse from the Artemision wreck, for which teeth are discussed, but technical evidence is lacking.[27]

But, precisely because it seems tempting to want to add teeth to open and now toothless mouths,[28] some caution should be exercised with this these. For the Riace Warrior B it can be said with some certainty that, in contrast to his probably little older counterpart, the Riace A, he did not have any

24 About the Marsyas see Flashar 1992, 169–171, Fig. 151. About the Elder Woman see Adornato 2015, 58, Fig. 3.6.

25 About the statue see Bell 2000.

26 Zachariadou – Stampolidis 2000, 198, Figs.

27 Hemingway 2004, 77.

28 Houser 1987, 338.

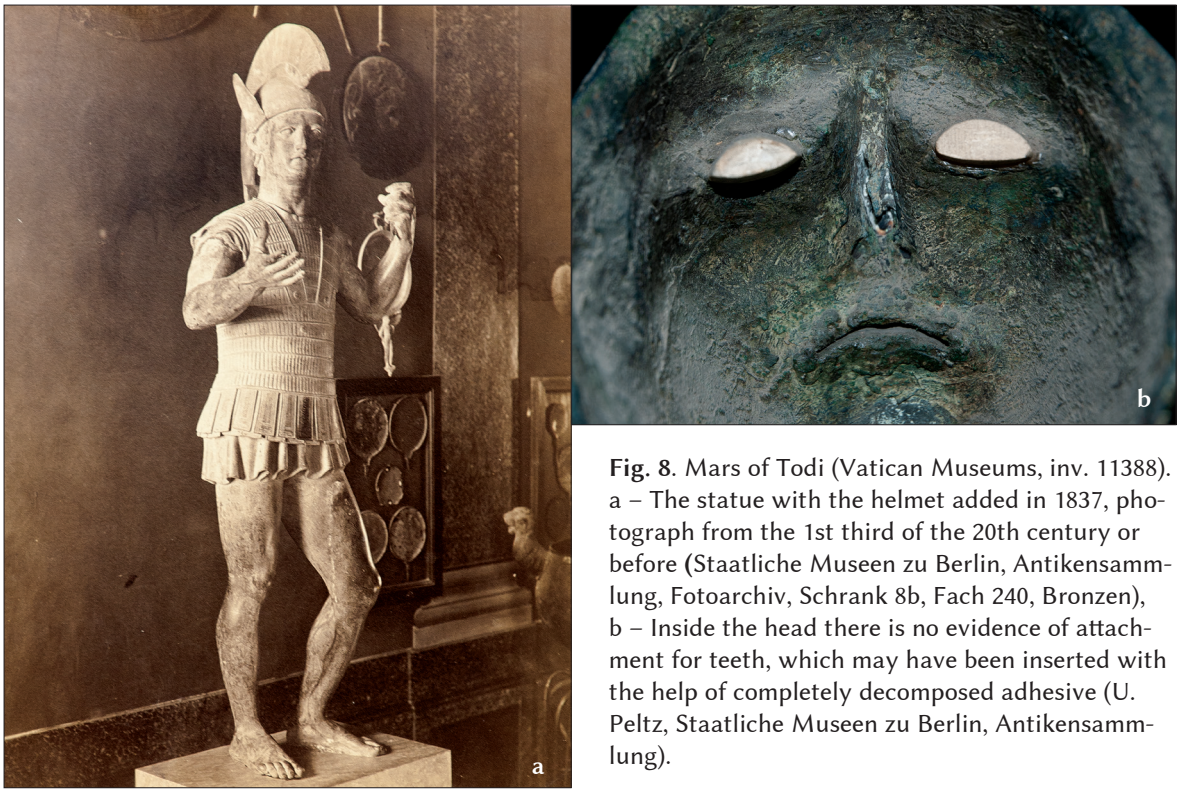


Fig. 8. Mars of Todi (Vatican Museums, inv. 11388). a – The statue with the helmet added in 1837, photograph from the 1st third of the 20th century or before (Staatliche Museen zu Berlin, Antikensammlung, Fotoarchiv, Schrank 8b, Fach 240, Bronzen), b – Inside the head there is no evidence of attachment for teeth, which may have been inserted with the help of completely decomposed adhesive (U. Peltz, Staatliche Museen zu Berlin, Antikensammlung).



Fig. 9. Installation of teeth on large bronzes. Variant 1: teeth installed with adhesive. 1 – upper lip, 2 – lower lip, 3 – row of teeth, 4 – adhesive (D. Greinert, Staatliche Museen zu Berlin, Museum für Vor- und Frühgeschichte).

teeth.[29] Those, or at least hints of them, would have come to light during one of the restorations or at the least during the final removal of the casting core material from the head a few years ago. For the Boxer from the Quirinal it is assumed that his open mouth with copper-red lips remained intentionally toothless. The statue is supposed to represent Amykos, the ruler of Bithynia, and shows him after Polydeukes has knocked out all his teeth[30] (Fig. 7.a–b). On the other hand, the looser might as well have had some teeth left after he met the Argonaut.[31] Possible technical hints for the installation of any amount of teeth will be discussed in a moment.[32]

However, even if those features are missing, there is no certainty that the lost teeth were not inserted with an adhesive that decomposed completely. This is assumed for the Etruscan Mars of Todi (mid-4th century BC; Fig. 8.a).[33] In this case, the inner surface of the red mouth is

29 Donati 2013, 270–273. Recent to contrary view see Dafas 2019a, 56, note 281.

30 About the interpretation, see Brinkmann – Koch-Brinkmann 2018.

31 About the assumption that the teeth of the Boxer were only knocked out on the upper jaw see Zanker 2005, 34.

32 See Fig. 7.a–b.

33 Sannibale 1999a, 284; Sannibale 1999b, 114.

actually free of any technical traces of tooth attachment (Fig. 8.b). So, whether the Mars had teeth or not in ancient times is indeed hard to find out. Anyway, gluing for example with tree resin, wood pitch, bitumen, wax and others even a mixture of them[34] seems quite probable as a simple technical method for fitting teeth, called Variant 1 (Fig. 9).

The Charioteer of Delphi is also the earliest example for covering a tooth backplate with a sheet of silver including a contoured tooth stand.[35] This construction is to be understood as the Variant 2a (Fig. 10.a). For the charioteer, the exact method is currently being studied.[36] Therefore, right now it is not possible to say with absolute certainty whether the piece of lead once removed from the head of the statue can be addressed as a tooth backplate, already mentioned it being made of lead. For the Riace Warrior A, the exact shape of the backplate—here made of bronze—is not entirely clear. It is very likely that the backplate was cast together with the head with only a small cross-section. Whether it already shows the outline of the individual six upper teeth there has been a different discussion.[37] It is assumed that fixing the covering made of a quite thick silver sheet was done mechanically. The silver was pressed into the corners of the mouth using a precise hit with a pointed punch.

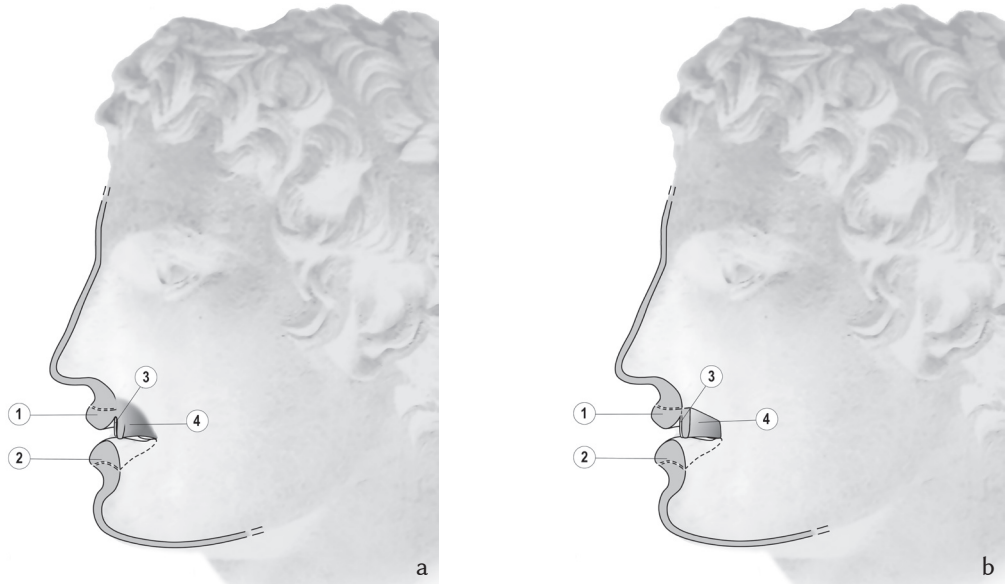


Fig. 10. Installation of teeth on large bronzes. a – Variant 2a: silver plating on a tooth backplate of bronze (and perhaps lead), 1 – upper lip, 2 – lower lip, 3 – silver plating, 4 – tooth backplate (D. Greinert, Staatliche Museen zu Berlin, Museum für Vor- und Frühgeschichte); b – Variant 2b: tinning on bronze tooth backplate, 1 – upper lip, 2 – lower lip, 3 – tinning, 4 – tooth backplate (D. Greinert, Staatliche Museen zu Berlin, Museum für Vor- und Frühgeschichte).

34 About ancient metal adhesives see Anheuser 2001, 247–263; Furger 2009, 31–32; Koller et. al. 2001, 99–112; Volke 2009, 587–592; Willer et al. 2008, 35–37; Peltz 2013, 121–126, Figs 39–43; Peltz in press (b.

35 About the teeth in the Charioteer see Formigli 2013, 285–386; Descamps-Lequime 2015, 154, Fig. 10.4; Descamps-Lequime et al. 2019, 50, Fig. 5.6; Dafas 2019a, 28. For other statues, the material silver is sometimes assumed for inserted teeth without any evidence of this. About such considerations for the Mars of Todi see Sannibale 1999a, 284; Sannibale 1999b, 114. The same for the Portrait in the Getty-Villa see Daehner 2015a, 206, Cat. 11. The same for the Arundel Head see Daehner 2015b, 244, Cat. 27, Fig.

36 The current research at the Charioteer will be published soon by S. Descamps (Paris) and B. Mille (Paris). Thanks to both for a lot of information.

37 Donati 2013, 269–270, Fig. 309. On the opinion that the silver teeth were set on a flat base, see Formigli 2013, 285–286, Fig. 353. Recently about the teeth see Descamps-Lequime 2015, 153–154, Fig. 10.3; Dafas 2019a, 56, Pls. 44–45b.

This Variant 2a is most commonly used and can even be found in smaller formats beyond the greek foundry tradition. An example of silver plating with punched outlines for again six upper incisors is seen in the St. Louis Boy (2nd – mid 1st century BC) with the eyes also inlaid in silver.[38] The same applies to the Head of a Centaur[39] in Speyer (mid-late 1st century BC;[40] Fig. 11.a). However, it has an upper and additionaly a lower row of teeth behind the wide opened red lips, which were probably cast and mounted. Both tooth backplates have been cast together with the head and on both of them the interdental spaces were contoured with punching after casting (Fig. 11.b). On the upper six teeth, the correspondingly structured silver plate is preserved until right above the grinding surfaces of the tooth crowns. The precious metal overlay is missing on the lower row of teeth. The separation of the rows of teeth presented for the first time the opportunity to get a small peek of the inside of the mouth with its well-formed silvery white front teeth. In even smaller bronzes, the technique of silver-plated tooth backplates is found on high-quality statuettes as well as appliqués and attachments of vessels from the classical to the roman period; even on artworks made of iron, teeth were plated with silver.[41]

An advancement of Variant 2a can be discussed as Variant 2b (Fig. 10.b) for the Drunken Satyr from the Villa dei Papyri (late 1st century BC).[42] As the evaluation of the technical examinations shows, the teeth backplate was made out of bronze, mounted by soldering and covered with a silver-colored tin coating.[43]



Fig. 11. Head of Centaur (Historical Museum Speyer, Inv. HM_0_15044). a – current appearance (P. Haag-Kirchner, Historisches Museum der Pfalz Speyer), b – behind the opened copper-red lips the upper incisors with silver plating can be seen, which has been lost at the lower row of teeth (U. Peltz, Staatliche Museen zu Berlin, Antikensammlung).

38 Mattusch 1996, 238–239, Cat. 25, Fig. 25.c.

39 Petrovszky 2016, 253, Cat. 192, Fig. Many thanks to Ch. Lincke (Speyer) for the possibility of own examinations on the head with new results about the technique and the condition of the teeth.

40 The Centaur's Head was changed to a weight for a scale in roman times. Previously, with its height of approximately 15 cm, it may have been the partial piece of a figure slightly more than half life-size. This statue was probably created before the beginning of the imperial period. This is indicated by the type of joint between the head and neck, see Fig. Peltz in press (a.

41 About such examples see Peltz in press (a.

42 So far, only one variation of variant 2 have been discussed see Peltz in press (a.

43 See Risser et al. 2024, 237, Fig. 13. Many thanks to E. Risser und K. Lapatin (Los Angeles) for a lot of information. So far about the teeth see Mattusch – Lie 2005, 321, Fig. 5.275. Study at the J. Paul Getty

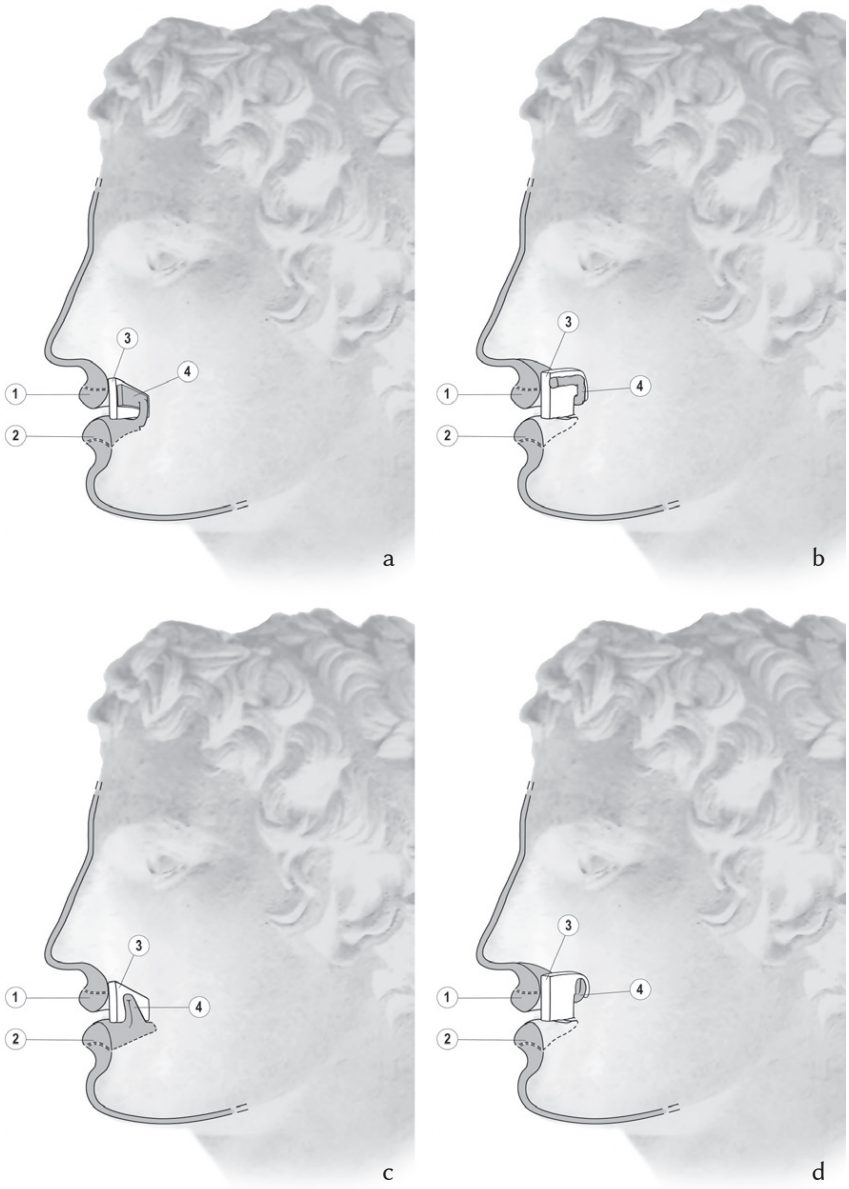


Fig. 12. Installation of teeth in large bronzes. a – Variant 3a1: teeth hooked in bracket below the lips, 1 – upper lip, 2 – lower lip, 3 – row of teeth made of bone, ivory, marble, 4 – bracket; b – Variant 3a2: teeth hooked in bracket above the lips, 1 – upper lip, 2 – lower lip, 3 – row of teeth made of bone, ivory, marble, 4 – bracket; c – Variant 3b1: teeth mounted on hooks below the lips, 1 – upper lip, 2 – lower lip, 3 – row of teeth made of bone, ivory, marble, 4 – hooks; d – Variant 3b2: teeth mounted on hooks above the lips, 1 – upper lip, 2 – lower lip, 3 – row of teeth made of bone, ivory, marble, 4 – hooks (D. Greinert, Staatliche Museen zu Berlin, Museum für Vor- und Frühgeschichte).

So, the Satyr is an example, in the context of large bronzes, for what was very common for other genres in that time.[44] That is, that the craftsman substituted the expensive silver by the less expensive tin for the same polychrome effects.

Museum of the Diana from Pompeii (1st century BC) found that the lips were cast as part of the head but that she too has a teeth backplate that, if indeed ancient, may well have been covered in silver or tin. On this and on polychrome see Risser – Saunders 2015, 90. Many thanks for kind help and numerous information to E. Risser.

44 About the ancient technique to tinning the surface of bronze see Peltz in press (b. About the pre-roman tinning see Born 2014, 138, note 1075.

Until the Hellenistic period it is observable that the teeth made of white stone and bone or ivory where used and attached on brackets and hooks.[45] These structures devices were part of the separately made lips or were obtained during casting the head, if it had co-cast lips. It is possible to specify the methodology concerning the placement of the hooks and brackets: either they are located below the lower lip or to the left and right of the philtrum (Variant 3a1, 3a2, 3b1, and 3b2;[46] Fig. 12.a–d).

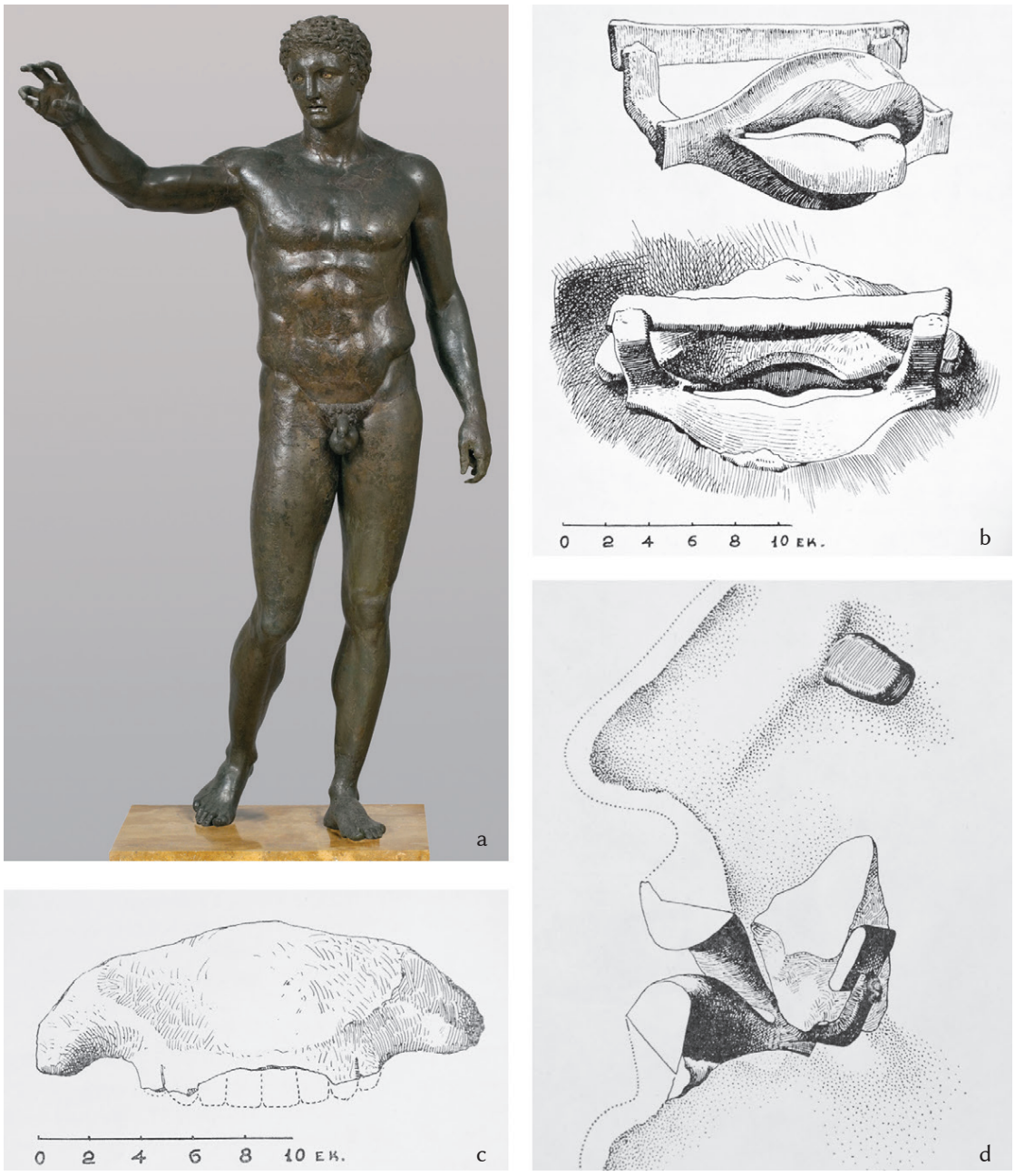


Fig. 13. Youth of Antikythera (National Archaeological Museum of Athens, inv. 13396). a – current appearance (Archäologisches Nationalmuseum Athen), b – separately cast lips with bracket to inserting the upper jaw, reconstruction drawing (see Karousos 1969, Figs 1–3); c – stone upper jaw, drawing with reconstructed incisors (see Karousos 1969, Figs 1–3), d – lips inserted in the head with bracket and upper jaw attached to it, sectional view (see Karousos 1969, Figs 1–3).

45 General about teeth made out of bone on large bronzes see Descamps-Lequime 2015, 154.

46 So far, only two variations of this variant have been discussed see Peltz in press (a.

For the Youth of Antikythera (Fig. 13.a), the construction of Variant 3a1 (Fig. 12.a) became apparent during its new restoration in the 1950s, and the drawings published in 1969 did not require any further explanation in order to understand the crafting process.[47] Together with the separately cast lips, a bracket was created which attaches to the back of the corners of the mouth (Fig. 13.b). Firstly, the bracket fulfilled a task during the casting process. After inserting the lips on the wax model of the head, the bracket stuck out into the casting core material. In this way, it secured the position of the lips in the casting mold after melting out the wax. Recently, it has been suggested that Figure 1 (Fig. 13.d), published in 1969, shows a stone hooked to the bracket, which assisted in stabilizing the bracket in the casting core.[48] However, the illustration shows the inserted upper jaw without the lost eight teeth as a sectional view. Its reconstructed appearance in the jaw can be seen in Figure 3 (Fig. 13.c) published at that time. Whether the ancient craftsman only hooked the jaw with teeth into the bracket or additionally fixed it, cannot be exactly seen on the published photograph of the head inside.[49]

If the lips were not a cast which was mounted, but rather were cast together with the head, it is of course equally possible to use internal casting channels as a suspension device for the teeth. However, that even with this consideration a certain caution is required proves a somewhat larger-than-life portrait of Aphrodite in the British Museum.[50] In the head, the bridge-shaped channels in the area of the hairstyle as well as on the chin may have simply enabled the better flow of the molten metal during the casting process. This assumption is obvious because the channels are not located in positions where teeth could have been attached.

On the other hand, in the portrait of a Woman with Corkscrew Curls (1st century BC) from the same Villa, the mouth is slightly open.[51] Inside, a bracket spans the corners of the mouth, which has also only been interpreted as a casting channel so far. Its exact position cannot be made out in the published photography. However, it appears that the casting channel runs along the upper lip. It would additionally supply the neuralgic point during the casting process—the abrupt change to the forward-jumping nose—with molten bronze during the casting process. This kind of support was common, as become clear in a moment on other statues. However, the casting channel in the Head of the woman certainly have been used afterwards as a bracket for holding teeth. This Variant 3a2 (Fig. 12.b) differs from Variant 3a1 (Fig. 12.a) by the apparently better position for the installation of the upper incisors. A stone upper jaw with inserted teeth could just as well be attached to a bow like the one described for the Youth of Antikythera. The advantage would be that it would not have to be too massive.



Fig. 14. Lips of a statue (Olympia Archaeological Museum, Inv. Br 14431) with hooks for hanging in a row of teeth (G. Hellner, Deutsches Archäologisches Institut, Abteilung Athen, D-DAI-ATH-1972/3602).

47 About the drawings published without any comments see Karousos 1969, 63–64, Figs 1–2, 66, Fig. 3. Chr. Karousos noted on page 61 the author of the drawings is V. Zissis. He worked at the museum in Athens in the conservation laboratory as a chemist. Thanks to G. Moraitou (Athens) for this information. About the drawings extensively see Houser 1987, 187, Fig. 11.9–11. About the mounting of the teeth recently see Dafas 2019a, 75, Pl. 70.c; Dafas 2019b, 62, Fig. 6.8.

48 Formigli 2013, 284; Descamps-Lequime 2015, 154.

49 Karousos 1969, 73, Fig. 9.

50 Mattusch 1996, 303–304, Cat. 42, Fig 2; Lapatin 2015a, 235, Cat. 23, Fig.

51 Mattusch – Lie 2005, 232, Fig. 5.104.

A separately cast pair of lips from Olympia reveals Variant 3b as a single find even without further assistance[52] (Fig. 14). On the back, there are hooked attachments at the corners of the mouth with an approximately round cross-section and tapering ends. They are to be understood as the remains of cast channels. Even before they were shortened, they certainly had the same function as the bracket on the Youth of Antikythera. They connected the lips to the casting core of the head and kept them in the right position after the wax was melted out. Only after this they were further used as hooks for hanging teeth. This essential function was already recognized by Peter C. Bol in 1978 with the reference that "the attachments of the cramps […] held the teeth pressed on from the inside"[53] (Variant 3b1; Fig. 12.c). The dating of the pair of lips is difficult, but its creation in classical times cannot be ruled out. The portrait of a North African from Cyrene (Fig. 15.a) and the so-called Arundel Head at the British Museum furthermore the Antisthenes of Brindisi demonstrate the spread of the technical solution in the later classical until the Hellenistic period.[54] Regarding the portrait from Cyrene, an examination report reads: "The [four] teeth, which are now black, were examined […] and identified as being of bone […]. They are held mechanically to the lips on the inside of the hollow casting"[55] (Fig. 15.b). It should be added that this upper row of teeth was made from a thin, elongated oval strip of bone. On the Arundel Head there are very similar, only slightly smaller remnants of casting channel, and on the portrait of Antisthenes only a little more than their foot points are preserved.



Fig. 15. Head from Cyrene (British Museum London, Inv. 1861,1127.13). a – current appearance, b – interior with remains of the casting channels like hooks below the lips for the attachment of the upper incisors in form of bone strips (discoloured black) (The Trustees of the British Museum, London).

52 Bol 1978, 91, Cat. 408, Pl. 67.408. About the lips see Formigli 2013, 284; Descamps-Lequime 2015, 152.

53 Bol 1978, 91.

54 Formigli 2013, 284; Descamps-Lequime 2015, 152–154. The head of a boxer from Olympia (330–320 BC), currently being restored at the National Archaeological Museum in Athens, shows, after its own brief autopsy, the same evidence of the lips being cast separately and finished with hooks as the bronze heads mentioned above.

55 Craddock et. al. 1995. Sometimes corroded silver is assumed, see Houser 1987, 174; Mattusch 1996, 83; Dafas 2019a, 138. Recently with a short note about the teeth see Lapatin 2015b, 247, Cat. 28; Fig; Dafas 2019b, 62, Fig. 6.8.



Fig. 16. Portrait of a Man (J. Paul Getty Museum Los Angeles, Inv. 73.AB.8). a – current appearance (U. Peltz, Staatliche Museen zu Berlin, Antikensammlung), b – interior with remains of the casting channels like hooks above the lips (left and right of the philtrum) (U. Peltz, Staatliche Museen zu Berlin, Antikensammlung).

The teeth are lost in both cases. For them we can assume ivory or bone rather than stone as the material: A row of teeth made out of stone would be not malleable enough to clamped between the mounting points.

A noticeable variation of the Variant 3b1 in classical times is perhaps shown by the already mentioned pair of lips from Olympia with the soft solder remains.[56] As indicated, it is no longer available for autopsy, but Neugebauer wrote: "Behind at the ends on the right as well as on the left are irregular thickenings with a short fold at the top; through them on both sides at the bottom from front to back passes an iron nail, the rusted remains of which are preserved".[57] Is it possible that a thin row of bone incisors was hooked onto the iron pins at the thickenings of the corners of the mouth?

Another technical solution for mounting teeth was discussed a few years ago for the Portrait of a Man in the J. P. Getty Museum (1st century BC; Fig. 16.a).[58] Inside the head, there are hook-shaped formations above the corners of the mouth to the left and right of the philtrum, which are easily recognized as shortened cast canals (Fig. 16.b). It is only logical to think that these hooks were again used to hold an upper jaw with teeth (Variant 3b2; Fig. 12.d).

However, some caution is required when identifying this variant for attaching a row of teeth. An example is the bust of an equally slightly larger than life style Young Man from the Villa dei Papiri.[59] For this bust, the ends of cast channels above the corners of the mouth inside the head are mentioned. Even though the mouth is deeply cut between the lips, it is just not open. Therefore, it would be unusual to insert teeth that could not have been seen.

On the other hand, in approximately the same places, the most recent technical examinations of the Boxer and the Ruler of the Quirinal revealed equally hook-shaped formations.[60] And their mouths actually open. However, it is assumed that the Boxer should be the Amykos and was intentionally portrayed without any teeth in the open mouth.[61] The question is whether the hook shaped objects

56 See Fig. 4; Neugebauer 1951, 66, Kat. 60, Taf. 28.60.

57 Neugebauer 1951, 66. P. C. Bol interpreted the iron rust as possible remains of mounting points for teeth, see Bol 1978, 134, Cat. 407, Pl. 67.407.

58 Daehner 2015a, 206, Cat. 11.

59 Mattusch – Lie 2005, 268, Fig. 5.177.

60 Alessandri – Ferreti 2018, 106, 110–111, Figs 124b, 134a, 135.

61 See Fig. 7.a–b.

are again just remains of internal casting channels or did they serve another function? If so, think about the intensity of a tooth stand with significant gaps. This would support the drama of the beaten and battered fighter more clearly than a completely toothless mouth. What applies to the Boxer should also applies to the Ruler. He certainly had a row of teeth too, which, however, will have been without gaps.

Looking at the large bronzes of Piraeus, the attention immediately move to three statues with teeth still preserved today behind the inserted red lips. For Artemis A (mid-4th century BC), Caroline Houser wrote in 1987: "The teeth, upper row only, are carved of marble and suspended in place like those of the Piraeus Athena, through an oval wire support which fits under the projecting marblestruts which extend from the teeth".[62] For Athena (4th century BC) herself, teeth made of ivory have been mentioned.[63] And for Artemis B (1st half of 3rd century BC) we can only read: "Behind her parted lips is a white indistinguishable mass, the remains of inset teeth".[64] However, they can only be those made of stone or bone.[65] Before a precise examination it can only be assumed that the installation technique used for the teeth of the three goddesses is to be classified as one of the four possibilities from Variant 3. Nevertheless, the last variant discussed here is also thinkable.

This Variant 4 (Fig. 17) for the installation of teeth on the large bronze sculptures was discovered at one of the conservation control patrols on the Berlin Museum Island during the COVID19 pandemic. Although the Trapezophori from Xanten (Fig. 18.a) was extensively published in art technology a few years ago,[66] it was only in the bright light of a new type of lamp that the protuberances of corroded bronze behind the slightly open lips became visible (Fig. 18.b). Approximately at the ancient position between the anterior and lateral maxillary incisors are two pins; the left one is bent. Both pins are probably drilled into the bronze behind the upper lip. The pins end approximately in the centre of the open mouth. A bronze strip behind it, only slightly thicker at its lower edge, is corroded to such an extent that it can only be vaguely determined how far it protruded into the open mouth. However, it was not much bigger than the largest preserved part on the left. Inside, the width of the strip extends beyond the corners of the mouth. White particles are hidden in the internal gaps between the corners of the mouth and the strip. The particles are somewhat discoloured by green copper corrosion and inter-



Fig. 17. Installation of teeth in large bronzes. Variant 4: teeth installed with pins in front of a tooth backplate made of bronze, 1 – upper lip, 2 – lower lip, 3 – row of teeth made of bone or ivory, 4 – mounting pins, 5 – tooth backplate (D. Greinert, Staatliche Museen zu Berlin, Museum für Vor- und Frühgeschichte).

62 Houser 1987, 199. P. C. Bol published in 1978 about teeth that can be seen "flashing out of the slightly opened mouth" (Bol 1978, 91). About the marble teeth again see Haynes 1992, 110, note 30.

63 Houser 1987, 199, 215–216. About the ivory teeth again see Haynes 1992, 110, note 30.

64 Houser 1987, 245.

65 For the assumption without further conclusion that the Athena as well as the Artemis statues have marble teeth see Dafas 2019a, 107.

66 Peltz – Schalles 2011.



Fig. 18. Trapezophori from Xanten (Collection of Classical Antiquities, National Museums in Berlin, Inv. Sk 4). a – current appearance, b – slightly opened lips with inner backplate and two pins in front to fix the upper incisors (J. Laurentius, Staatliche Museen zu Berlin, Antikensammlung).

spersed with fine craquelure. Their very low UV-Fluorescence indicates bone rather than ivory.[67] This information leads to the conclusion, that the bronze strip was cast together with the head and was used as an inner tooth backplate. In front of the backplate was the row of upper incisors held by pins. Variant 4 is therefore a mixed technique from Variants 2 and 3. From the second type we find the veneered tooth backplate and from the third the choice of the material for the row of teeth. Their mounting with drilled pins however is the characteristic feature of Variant 4.

Time for teeth

The temporal horizon, in which red lips, inserted eyebrows or even the inset eyes each gave a natural appearance to the ancient large bronzes, has already been discussed.[68] Therefore, certain polychrome highlights are helpful indicators to even more precisely determine the time period of a statue's creation. Another feature could be the inserted teeth. As became clear, we can consider the inserted white teeth on the large bronzes as an achievement of the late archaic or early classical period. A comparatively large number of large bronzes illustrates that from the beginnings to the Hellenistic period teeth are typical for very high-quality statues. With the decline of the late Hellenistic foundry art, the teeth in the large bronzes disappeared and were not continued by the roman workshops. For them, just the silvery-white teeth on large and small statuettes, anthropomorphic attachments and appliqués can be observed.

Tracking back to the statues discussed here, the view falls once again on the bronzes of the Quirinal. Their dating varies between the late 4th and the middle of the 1st century BC. Now, the aforementioned Male Portrait in the Getty Museum (Fig. 16.a) is said to have been cast in the 1st century BC. And the discussed female portrait with the corkscrew curls was created at approximately the same time. The question arises: Is it possible that the invention of the hooks cast above corners of the mouth with the head had an impact on the dating of the two statues in Rome? And a decade ago, a number of technical characteristics were listed for the Xanten Trapezophori, which suggested that this statue

67 Many thanks to I. Hertel (Berlin) for the UV-Fluorescence-Analysis. The fluorescence of the particles by the UV-Light rules out the possibility that they are inorganic substances from the find context. The reason for the low UV-Fluorescence is the considerable degradation of collagen, which occurs more rapidly in archaeological bone than in ivory.

68 See page 52.

was created in a foundry that was still in the late hellenistic tradition of craftsmanship.[69] Now even the teeth in his mildly smiling mouth point to the casting in the course of the 1st century BC.

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Some techniques for producing copper wire in late Classical and Hellenistic Macedonia

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Abstract: This paper discusses different techniques for making copper wire in the fourth and third centuries BCE in ancient Macedonia (Northern Greece). Wire was used to form stems on gilded wreaths, and to support berries, leaves and rosettes. Stems were made in one piece with the leaves, and are likely to have been formed in at least two ways: one involved cutting them out of sheet copper about 0.5 mm thick, which was creased and then hammered into shape; the other involves using copper rods 1mm square. Some of the square copper rods can be seen on the wreaths, and their regularity suggests they may have been formed on a swaging block. Berries were joined to the wreath circlets by round wires, formed in some cases, it is suggested, by hammering sheet metal around a central core; in other cases, these stems may have been formed by rolling a rod between stone slabs. No evidence, such as longitudinal striations, was found of drawing. Some examples of strip-twisted wire were found, but there are fewer cases of this than of wire formed by hammering. The most expensive gilded wreaths at Derveni, cist grave A, Phoinikas cist grave 5 and Sedes, sometimes had special features, such as gilded copper tubes ('branches') with smaller stems on either side, or square wires formed into spirals.

Keywords: wire, gilded wreaths, swaging, hammered, strip-twisted

Introduction

This consideration of copper wire arose from the author's study of gilded wreaths for her doctoral thesis.[1] She examined some 170 gilded wreaths at first hand, from four regions in Greece and Southern Italy. The earliest date to the first quarter of the fourth century BCE, and they continued in use until approximately the arrival of the Romans. They are mostly in fragments in museum storerooms, although a small number have been restored and placed on display (an example is at Fig. 1). Most have been cleaned, but have not necessarily received further conservation work. Gilded wreaths have been very little studied, partly because of their fragility and state of preservation, but their fragmented state makes it easier to study aspects like wire, since the fragments can be examined under the microscope and non-destructive analysis done without sampling. Gold wreaths are better preserved, and study of some aspects of them can help to understand the gilded wreaths.

In her thesis, the author divided the gilded wreaths into seven categories; similar materials were used for all of them but they were put together differently, and it was this which provided the basis for her categorisation.[2] The majority found in Macedonia, Northern Greece, were of her Type 2, which have copper leaves and stems and circlets of bone and wood, but there were two examples

1 Jeffreys 2019. An article summarising the main findings was published as Jeffreys 2022.

2 The seven categories are described in Jeffreys 2022, 231–235.



Fig. 1. Wreath from Aineia Grave III, MTh7570, on display (© Archaeological Museum of Thessaloniki, Hellenic Ministry of Culture and Sports – Hellenic Organization of Cultural Resources Development; photo by the author).

of her Type 1, the distinguishing feature of which is that one end of the stems was twisted around and anchored in the bone circlet. There were also a few of her Type 3, which had clay rosettes, and a few of her Type 6, which had painted clay flowers. It is the stems from the gilded wreaths, used to support leaves, berries, rosettes and flowers, which form the basis for this discussion, made from wires produced using several techniques.

All gilded wreaths known to the author have been excavated to date from graves, both inhumations and cremations, and were found with men, women, girls and boys. It can be seen from the other goods buried in the same grave that the deceased were wealthy. Most of the wreaths represent myrtle, but a few represent oak, ivy or olive. In Macedonia, many of the men were buried with weapons, as well as wreaths and other items, and are likely to have served with Philip II or Alexander the Great. The possible reasons for burying individuals with gilded wreaths are discussed elsewhere,[3] but they clearly include a wish to honour the dead. In some cases in Macedonia, in particular at Aineia III and Phoinikas cist grave 5, several wreaths were buried with the same individual, and in a few, gold wreaths were also found in the same grave, though whether this was to add to the honour bestowed or for some other reason is unclear.

3 See Jeffreys 2022, 247–251.

Chronology and location of wreaths found in Macedonia/Western Thrace

Excavations have not yet brought to light any wreath workshops, but it seems likely, in view of their fragility, that the wreaths were made locally to where they were buried, although there may be one or two cases of a shared workshop, as for example in the case of the very similar wreaths found at Derveni and Aineia, which are only about 50 km apart. However, the method used to make any of the wreaths could have been transmitted by travelling craftsmen or women, or by word of mouth.

The earliest gilded wreaths known to the author were found on the island of Thasos in the east and some 400 km away in what is almost certainly a royal grave at Aiani in the western part of Macedonia. Both were buried during the first quarter of the fourth century BCE and are of the type categorised by the author as 1. Relatively well-preserved wreaths of Type 2 dated to around the middle of the fourth century were found at Phoinikas near Thessaloniki (Fig. 2) and at Vergina/Aigai, in graves at Stenomakri Toumba, but the majority of gilded wreaths of this type were made in the second half of the fourth/early third century BC, and were buried in graves at sites in Macedonia and Western Thrace including Aineia, Akanthos, Derveni, Ano Komi, Sedes, Pella and Nikisiani. Sedes and Akanthos also had Type 3 wreaths and Akanthos and Karyochori had Type 6.

Methodology and summary of analytical results

The main method of study of the stems by the author was by observation of a selection of the wreaths from Macedonia involving use of a Canon SLR camera with a macro-lens and an optical microscope coupled to the camera as well as a digital microscope. She also did some analytical work on most of the wreaths which she studied for the doctorate. XRF (hand-held)

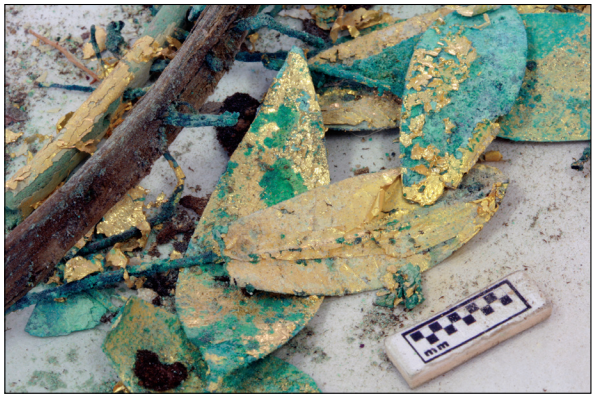


Fig. 2. Leaf and stem made of folded wire. Phoinikas, Grave 5, wreath 3, 3rd qu. 4th century (unnumbered, MTh) (© Archaeological Museum of Thessaloniki, Hellenic Ministry of Culture and Sports – Hellenic Organization of Cultural Resources Development; photo by the author).



Fig. 3. Berries mounted on round stems. Aineia, MTh 7571, 3rd qu. 4th century (© Archaeological Museum of Thessaloniki, Hellenic Ministry of Culture and Sports – Hellenic Organization of Cultural Resources Development; photo by the author).

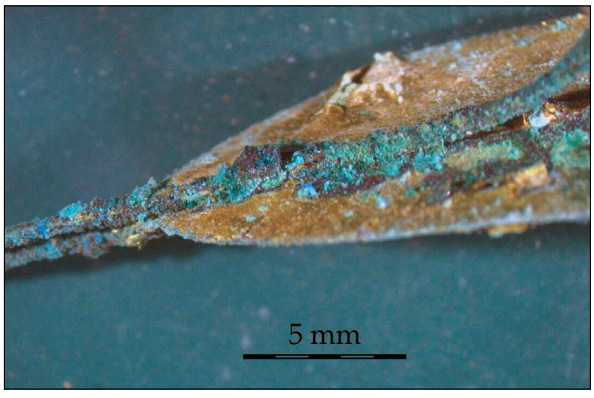


Fig. 4. Folded stem from Phoinikas Grave 3 (© Archaeological Museum of Thessaloniki, Hellenic Ministry of Culture and Sports – Hellenic Organization of Cultural Resources Development; photo by the author).



Fig. 5. Square stem from Derveni MTh D20 (© Archaeological Museum of Thessaloniki, Hellenic Ministry of Culture and Sports – Hellenic Organization of Cultural Resources Development; photo by the author).



Fig. 6. Leaf and stem from Derveni MTh D20 (© Archaeological Museum of Thessaloniki, Hellenic Ministry of Culture and Sports – Hellenic Organization of Cultural Resources Development; photo by the author).



Fig. 7. Bronze anvil, BM 1872,0329.16 (© Trustees of the British Museum. Note the groove which could have been used for shaping a small rod to the right).

was used on virtually all the wreaths; a selection from Macedonia were also examined using micro-XRF or SEM/EDS. There was not time, within the parameters of the doctoral study, to seek sampling permission and metallographic examination was not done.

In the analytical work, the leaves and stems of virtually all the wreaths were found to be copper and the berries, rosettes and flowers were clay. Bone, wood and lead were used for the circlets and thin gold leaf, which was almost pure gold, was applied on most of the surfaces. Table 1 shows a selection of results from all the regions within the scope of the thesis which are relevant to study of the stems, from which it can be seen that the copper used was fairly pure, with no more than a trace of lead and no tin.[4] The results from analysis of the leaves are included because these were generally made in one piece with the stems. The author's results are consistent with those of other researchers, including Asderaki and Rehren, who studied fragments of wreaths from Demetrias in Thessaly.[5]

In the view of the present author, the wreath makers chose to work in copper because it is more malleable and easier to cut than bronze.

Different techniques used to make wire

Most studies of wire have been done on gold, which does not corrode like copper, but examination of the copper stems on the gilded wreaths has produced some interesting information.

The wire stems were used to support leaves, berries and sometimes rosettes or flowers. One end of the stem was placed in a hole in the circlet(s) and sometimes bent back. The stems on the finer wreaths were generally gilded, and the leaves always were. The gilding technique used on these and all other elements of the wreaths involved applying gold leaf which was about

4 The full results of the analytical work can be found in Jeffreys 2019, Vol. I, Chapter 6. In only two cases, from Pergamon, was bronze detected, on wreaths which must have been used on statues and in the author's view date to the very end of the period.

5 Asderaki – Rehren 2008, 508–509.



Fig. 8. Round stem from Sedes Γ, late 4th/early 3rd century (© Archaeological Museum of Thessaloniki, Hellenic Ministry of Culture and Sports – Hellenic Organization of Cultural Resources Development; photo by the author).

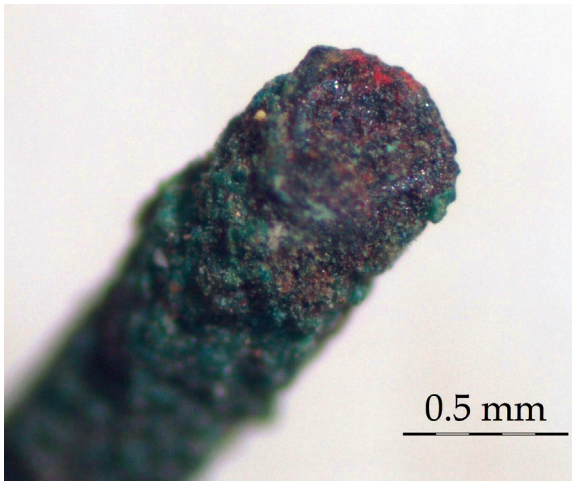


Fig. 9. Round stem from Derveni B, late 4th/early 3rd century (© Archaeological Museum of Thessaloniki, Hellenic Ministry of Culture and Sports – Hellenic Organization of Cultural Resources Development; photo by the author).

1 micron thick above a clay coating (Fig. 2).[6] The wire was generally under 1mm square or in diameter, but on some wreaths, as at Sedes, it was larger (up to 2 mm square or in diameter) to support large rosettes. Ogden comments that copper wire was generally made by hammering[7] and this is borne out by the present study.

The leaves were made of sheet metal about 0.5 mm thick and weighed only a few grams, as did the clay berries, but the rosettes were much larger and many times heavier. The leaves were made in one piece with the stems, for which no soldering was required, but the stems were attached to the clay berries and rosettes by a hole in the clay which was probably pierced by the stem while the clay was still soft (Fig. 3). The berries were not necessarily fired, but could have been left to dry in the sun.

Some of the stems with the leaves were rounded, as on the examples from Phoinikas (Fig. 2, Fig. 4). It seems that they were cut from a single sheet of metal, about 0.5 mm thick, which consisted of a rectangle at one end and a leaf shape at the other. A groove was made through the centre of both rectangle and leaf, as can still be seen in Fig. 2. The rectangle was then hammered into a C shape —what Oddy calls 'folding'.[8] The copper would have had to be annealed at all stages and it is suggested that the hammering would have been done against a hard core, which could have been of bronze or iron. The opening along the length of the stem is clearly visible in Fig. 4. This would obviously have been extremely fine work, given the dimensions involved.

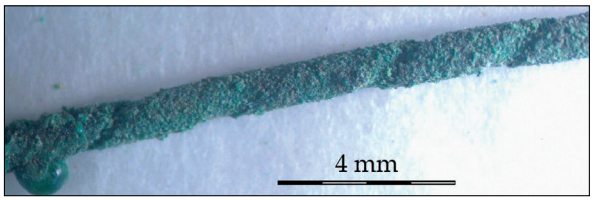


Fig. 10. Strip-twisted wire from Sedes, last qu. 4th c. MTh (© Archaeological Museum of Thessaloniki, Hellenic Ministry of Culture and Sports – Hellenic Organization of Cultural Resources Development; photo by the author).

Some of the stems are square, and in this case the starting point would have been a copper rod which was square in cross-section (Fig. 5), one end of which was hammered out to form a leaf and the other end left square (Fig. 6).

6 For discussion of the gilding technique see Jeffreys 2022, 243–245.

7 Ogden 1982, 51.

8 Oddy 1987, 177, Fig. 1.

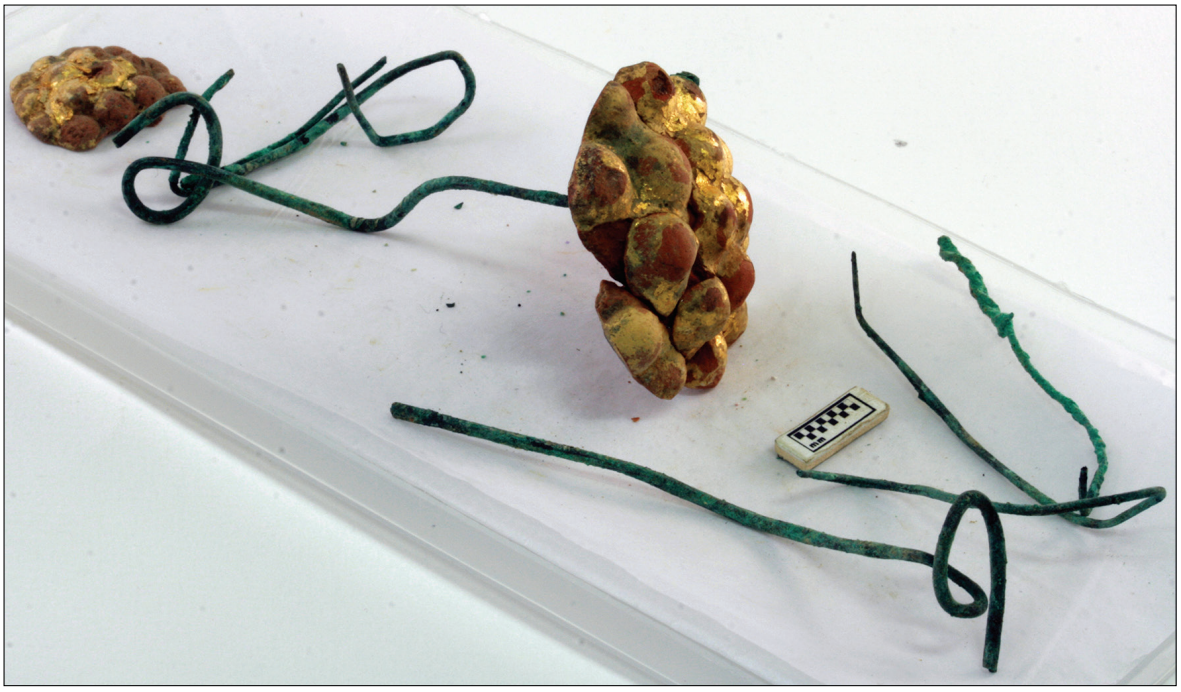


Fig. 11. Stems around 2 mm square in cross-section from Sedes, last qu. 4th c. MTh. 5535 and 15370. Rosette and stem assembled by the author for the purpose of study.

The square stem in Fig. 5 is very even, suggesting that it may have been made by swaging rather than a chisel.[9] This is a process which generally involves hammering or pressing a piece of metal into a groove on an anvil. Nowadays it is done using a pair of grooved tools, but it seems that in the Bronze Age, only one tool, an anvil, was grooved, which was struck from above by a hammer.[10] Oddy commented in an article published in 1977 that a swage block may have been used to assist in the production of wire by hammering, but observed that the origins of the swage-block were obscure.[11] Since then, more research has been done, including that by Ehrenberg. She studied anvils from Northern and Central Europe, and observed that many would have been melted down, but that in any event small bronze anvils would not have been common since they would only have been used for fine and delicate work.[12] The author has not so far been able to discover any evidence of small grooved anvils from Greece, but it seems possible that they were used there, since some complex anvils with a groove (semi-circular, V or W in cross-section) have been found further north, dating to the Bronze Age,[13] and there is evidence of the technique being applied in Egypt. Ogden discusse how a swaging technique might have been used to produce some types of wire and illustrate this by a swage block dating to the Late Bronze Age from Mâcon which has a semi-circular groove in which the rod would have been shaped (Fig. 7).[14] He also refer to some unfinished pieces of gold jewellery from Egypt, dating to Ptolemaic times, which he comment show microscopic evidence for having been swaged but which is not visible in the accompanying pho-

9 Ogden 1982, 52.

10 Ehrenberg 1981, 20.

11 Oddy 1977, 83.

12 Ehrenberg 1981, 14.

13 Ehrenberg 1981, 20.

14 BM 1872, 0329.16, illustrated in Ogden 1982, Fig. 4.36. See also Ehrenberg 1981, 20; the block from Mâcon is no. 24 in her article.

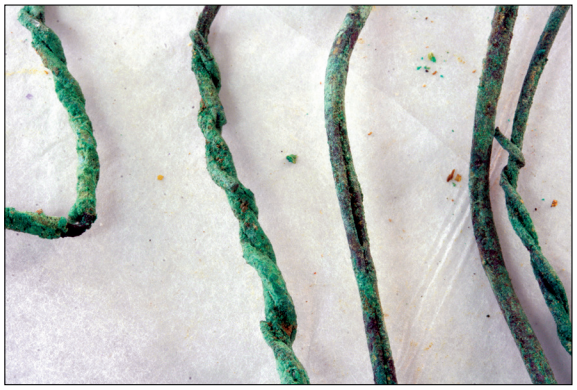


Fig. 12. Two strips of wire twisted together (wires second from left and far right) from Sedes. In centre, piece of folded wire. The wire second from right appears to be two pieces of wire laid alongside. MTh 15370 (© Archaeological Museum of Thessaloniki, Hellenic Ministry of Culture and Sports – Hellenic Organization of Cultural Resources Development; photo by the author).

tograph.[15] Looking closely at the cross-section in Fig. 5, showing a square stem from Derveni, a slight overhang is visible on the top edge, which would be produced if the wire was a little larger than the groove, providing support for the suggestion of swaging.

On the berries, round stems were used which can be seen to have been made in several different ways. Some appear to have started with a strip of sheet metal which was hammered into a tube[16]—the 'folding' method put forward by Oddy. This could then have been rolled between stone slabs, perhaps with an organic substance that has now disappeared. This method would leave a hollow core. If the edges of the long sides overlapped, the sheet metal would have formed into a shape like a G or the numeral 6 in cross-section. A possible example of a stem made in this way is from Sedes (Fig. 8). The outer part of the tube is copper as is the inner core, with corrosion in between.[17] As will be suggested below, a piece of thread would have been wrapped around the tube to give support while it was being rolled. I suggest that stone slabs would have been used for rolling in order to give some friction and stop the metal sliding.

Alternative methods might have been to roll a square copper rod between stone slabs or hammer

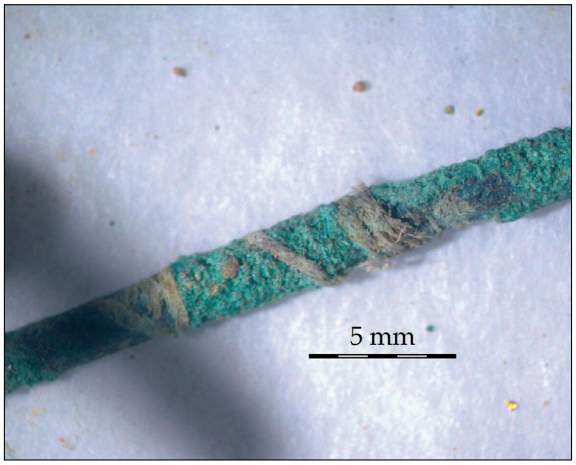


Fig. 13. Detail of stem from Sedes Γ with original linen thread which has been flattened. MTh 28254 (© Archaeological Museum of Thessaloniki, Hellenic Ministry of Culture and Sports – Hellenic Organization of Cultural Resources Development; photo by the author).

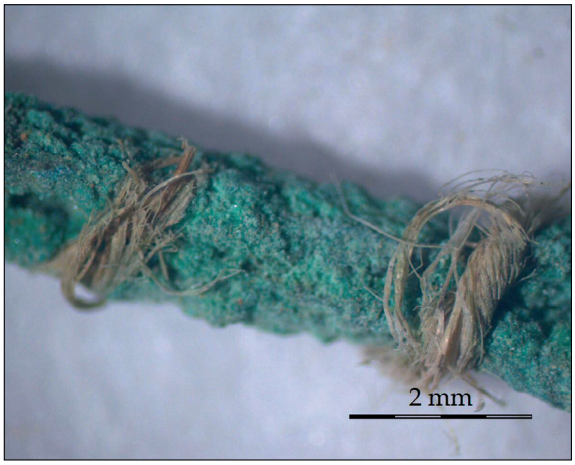


Fig. 14. Detail of thread used to bind two stems together on wires from Sedes Γ. MTh 28254 (© Archaeological Museum of Thessaloniki, Hellenic Ministry of Culture and Sports – Hellenic Organization of Cultural Resources Development; photo by the author).

15 Ogden 1982, 52, Fig. 4.39 showing a ring (BM 1887, 0101.518) and an unfinished necklace (BM 1887, 0101.570), both made from square wire.

16 See Ogden 1982, 48; Oddy 1987, 177.

17 A photomicrograph of a similar stem in cross-section can be seen in Asderaki – Rehren 2008, 510, Fig. 7.

copper in a rounded groove on a swaging block,[18] either of which would leave a solid core. It is difficult to be sure because of the corrosion, but the stem from Derveni in Fig. 9 appears to have a solid core and could have been made in this way.

The possibility that the rods were drawn through holes in beads cannot be completely ruled out, but the author did not find any evidence of this such as longitudinal striations. The wire did not need to be of any great strength, so it seems unlikely that the method of drawing suggested by Özşen and Willer for iron chain mail (of a later date) would have been used.[19]

Some examples of twisted wire were found with berries, though this was not common. The method of making strip-twisted and block-twisted gold wire is too well known to dwell on here, but in brief, strip-twisted wire was formed by wrapping a strip of sheet metal around a core and block-twisted wire by twisting a copper rod.[20] The author found examples of strip-twisted copper wire on wreaths from Vergina dating to the mid-fourth century BC and also at Sedes (Fig. 10), Nikisiani, Aiani and Ano Komi, as well as one piece of twisted wire which appears to have a solid core at Pella. The craftsmen working at Pella and Vergina, both royal cities, would have had access to the workshops where gold and copper wire were being produced for several purposes including jewellery and they may have obtained the berry wires ready-made.

At Sedes, some of the wires used on wreaths were larger, about 2 mm square and several different methods seem to have been used there to make strong stems for rosettes (Figs 11–12). There are examples of two wires twisted together (Fig. 12), and it looks at first sight as if the craftsman was developing a way of making strip-twisted wire, but since there is evidence of strip-twisted wire on a wreath from the same grave, it is more likely that he or she was experimenting with different kinds of stems in order to provide support for the heavy rosettes.

Use of thread

A feature of the gilded wreaths is the thread sometimes found wrapped around the stems, which was used not only to bind several stems together but also around individual stems. The original linen thread has survived probably because it was mineralised in part, a gradual process whereby at least part of the organic material is replaced by copper or iron corrosion products; the copper salts are toxic to micro-organisms and help to preserve the organic matter.[21] A well-preserved example on a single stem is at Fig. 13. This use of thread on single wires is interesting. I suggest that it was used in the manufacturing process to give more friction and stability when the wire was being rolled. The thread shown in Fig. 13 seems to have been flattened by strong pressure and can be contrasted with the thread used to bind several stems together shown at Fig. 14 which does not have similar flattening. In many if not all cases the threads would have been kept in place for added tensile strength while the wreaths were assembled, partly



Fig. 15. Wires from Derveni D which appear to have been bound with thread, last qu. 4th century (MTh D20) (© Archaeological Museum of Thessaloniki, Hellenic Ministry of Culture and Sports – Hellenic Organization of Cultural Resources Development; photo by the author).

18 See Ogden 1982, 48.

19 Özşen – Willer 2016.

20 See for example Swaddling et al. 1991, 9–11, Fig. 17.

21 Anheuser – Roumeliotou 2003, 23.

because the stems needed to be handled and bent into position. If the stems were gilded, the gold leaf was applied on top of the thread which would then barely have been visible (Fig. 15).

Special features

Special features were found on some of the most expensive fourth c. BC wreaths. In addition to gilding on the stems, mentioned above, spirals, made of square wire, were used in some places including Phoinikas to support some of the berries (Fig. 16). The spirals appear to have been used for purely decorative effect, but would have taken time and skill to make.

Derveni Cist Grave A contained a gilded oak wreath buried with a wealthy man which had oak



Fig. 16. Gilded spirals made from square wire. Phoinikas cist grave 5, wreath 1. 3rd qu. 4th century (© Archaeological Museum of Thessaloniki, Hellenic Ministry of Culture and Sports – Hellenic Organization of Cultural Resources Development; photo by the author).

leaves and complicated stems[22]. Some of these are made of tubes with smaller stems coming out of the main 'branch' (Fig. 17). The tubes were made of sheet copper. The sheer skill required to make something of this size and intricacy can only be admired.



Fig. 17. Gilded tubular (branch) with slender stems inside. Derveni cist grave A, last qu. 4th (© Archaeological Museum of Thessaloniki, Hellenic Ministry of Culture and Sports – Hellenic Organization of Cultural Resources Development; photo by the author).

Conclusions

The wires used on stems to support leaves, berries and rosettes on gilded wreaths from the fourth century BCE in Macedonia were produced using several different methods. Most of the methods seem to have involved hammering and creasing, with a few examples of twisting, and all would

22 Jeffreys 2019, Vol. 2, 44–50.

have involved rolling between slabs. These methods are proposed following close observation of the actual stems. It is hoped that the suggestions made here will be confirmed in experimental work, which the author intends to pursue at a later stage.

Acknowledgements

I am grateful to the organisers of the conference, and in particular Dávid Bartus and Melinda Szabó, for the invitation to speak at the conference in Budapest. I was privileged to be allowed to study many gilded wreaths and leaves for the purposes of my DPhil (2019) and wish to thank most warmly the curators and conservators in Archaeological Museums and staff in Ephorates who entrusted me with their material in Thessaloniki, Athens, Aiani, Pella, the National Archaeological Museum in Taranto, Vergina and Volos, whose material is discussed, and in some cases illustrated, in this article. In addition, I must thank the chemists at the Archaeological Museum of Thessaloniki, Christos Katsifas and Ioannis Nazlis, as well as Ioannis Karapanagiotis (then at the Higher Ecclesiastic Academy in Thessaloniki) for their assistance with the analytical work. My heartfelt thanks go also to my supervisors, Maria Stamatopoulou and Christopher Doherty (both University of Oxford), as well as to Despina Ignatiadou (National Archaeological Museum, Athens) for their generous advice and encouragement. I am also grateful to Ilias Özşen for talking over some of the questions with me. At a much later stage I had the benefit of discussing some of these ideas with Akis Goumas, who gave me several valuable insights based on his own work with reconstructions of tools and objects and I look forward to continuing discussions and perhaps some experimental work with him. I must also express particular thanks to my husband Henry Fitzhugh, who drew on his own knowledge as an engineer to assist me. The faults are however entirely my own.

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Tab. 1. Table of selected results from analysis. The results of the analysis using µXRF and SEM/EDS are given in weight percent but because of the uneven surfaces are semi-quantitative. They have been normalised to 100% and calculated to one decimal point, averaging several iterations. Results for aluminium and silicon on these surfaces obtained from the HHXRF analysis are unreliable.

Method	Wreath	Date	Al	Si	Ca	Fe	Cu wt%	Sn	Au Wt%	Pb	Ag	Hg	Additional elements
Leaves from gilded wreaths (substrate)													
HHXRF	Olynthos	First half 4th			tr	tr	✓	×		×			
HHXRF	Potidaia	Late 4th	✓	✓	✓	tr	✓	×	✓				
µXRF	Phoinikas Cist Grave 3	2nd qu. 4th					99	×	1				
µXRF	Phoinikas Mac. Tomb	After 320			Tr		98	×	2				
SEM/ EDS	Aineia Grave 3 Anth 7572	3rd qu. 4th			0.7		97.4	×	1.9				
SEM/ EDS	Derveni D	After 320	2				98	×					
SEM/ EDS	Phoinikas Cist Grave 5 wreath 3	2nd qu. 4th	0.5	0.9	1.4	2.6	94.1	×					
SEM/ EDS	Phoinikas Cist Grave 5 wreath 3	2nd qu. 4th		0.5			82.7	×	3.3				Cl (8.4) Mg (0.4) S (3.2)
Stems													
HHXRF	Thessaly Pilaf Tepe NAM 12081	2nd q.3rd	ns	ns	x	tr	✓	×	✓	×	×	×	
	Taras MaRTA 51681	2nd half 3rd				✓	✓	×	x	tr			
	Taras MaRTA107617	2nd q.3rd					✓	×		tr	×	×	

(✓ – indicates presence, × – indicates not found, tr – is trace)

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New research on the Cleveland Apollo

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Abstract: This paper presents new technical details on the original manufacture and modern reconstruction of the Cleveland Apollo, a nearly life-size ancient bronze sculpture of the youthful god acquired by the Cleveland Museum of Art in 2004. Although previous studies had shown the sculpture to be an indirect lost-wax casting, few joins had been discussed in detail. Recent, more comprehensive radiographs, combined with extensive external and internal visual analysis, now permit a more thorough explanation of the assembly, from work on wax models through casting (in at least six sections), patching, and finishing, as well as post-manufacture damage. Together with radiography, analysis of numerous and varied modern restoration materials provides a fuller picture of the way the object was more recently re-assembled. A new digital 3D model of the sculpture, now available, will be essential for future study, interpretation, and display.

Keywords: Cleveland Apollo (*Sauroktonos*), large-scale bronze assembly, reconstruction

Introduction

The nearly life-size bronze sculpture now known as the Cleveland Apollo received its initial scholarly presentation in Bucharest, Romania, in 2003, at the 16th International Congress of Antique Bronzes, when Lucia Marinescu recalled having seen it in pieces in 1992.[1] Nothing is known of the sculpture's modern discovery, but it is said to have been part of a family collection in Leutwitz, Germany (near Dresden) since the nineteenth century. Rediscovered when the estate was reclaimed following the reunification of Germany, the sculpture was sold to an antiques dealer and eventually reassembled. Marinescu described the sculpture as missing its left arm and right forearm and belonging to a German private collection. By 2003, it was with Phoenix Ancient Art in Geneva, Switzerland, from which it was acquired by the Cleveland Museum of Art in 2004, together with the non-joining left hand and creature.[2]

1 See publication: Marinescu 2004, 303, note 23; see also Bennett 2013, 61–62, 66–67, where Marinescu is said to have seen the sculpture in 1994. The sculpture is now in the Cleveland Museum of Art, Severance and Greta Millikin Purchase Fund 2004.30 (https://clevelandart.org/art/2004.30 [last access 23. 02. 2023]).

2 Bennett 2013, especially 10, 14, 54, 65–67, 71–72.

Since then, the sculpture has been extensively studied and published, including as the subject of a small Cleveland Museum of Art exhibition and monograph in 2013–2014.[3] It has not been exhibited outside Cleveland, however, and thus may remain less well known to scholars than other large-scale bronze sculptures of similar size and quality.[4] As preserved (Fig. 1), the sculpture consists of four parts: A) the head and body (including both legs and feet and the upper right arm) of an adolescent male figure, standing on his right leg but leaning to his left; B) the non-joining left hand and forearm; C) a four-footed serpentine creature; and D) a nearly rectangular baseplate.[5] Studies have shown the sculpture to be an indirect, lost-wax casting, with its figural components all from the same high-lead, low-tin bronze melt. The nearly rectangular baseplate, similar but not identical in composition, has been thought to be a later addition or reworking, though its corrosion suggests long exposure to elements.[6] Based on the pose and the distinctive *krobylos* hairstyle, the sculpture was initially labelled *Apollo Sauroktonos*, corresponding to a type long known by scholars and connected to a brief description by Pliny the Elder within his description of bronze sculptures by the Classical Greek artist Praxiteles (active in the 4th century BC; Plin. *HN* 34.19). More recently,



Fig. 1. The four extant parts of the bronze sculpture. A – head and body, B – left hand and forearm, C – serpentine creature, D – baseplate (Unless otherwise noted, all images are courtesy of The Cleveland Museum of Art. Photography by Howard Agriesti).

3 *Praxiteles: The Cleveland Apollo* (Focus exhibition, Cleveland 2013–2014: https://www.clevelandart.org/exhibitions/praxiteles-cleveland-apollo [last access 23. 02. 2023]; Bennett 2013).

4 Although not exhibited in *Praxitèle/ΠΡΑΞΙΤΕΛΗΣ* (Paris, Athens 2007) or *Serial/Portable Classic* (Milan, Venice 2015), the Cleveland Apollo does appear in chapters in the associated catalogues: Bennett 2007; Bennett – Snyder 2015.

5 Note that "right" refers to "proper right," and "left" to "proper left" throughout this report. More images are available online at https://www.clevelandart.org/art/2004.30# (last access 15. 02. 2023).

6 See Snyder et al. 2017, 333–338 for these and other technical details, which do not disagree with the received modern history of the piece (as described briefly above).

Michael Bennett and Antonio Corso have each suggested that the sculpture could be from the hand or workshop of Praxiteles himself, and Bennett has proposed that the name of the sculpture should be changed to *Apollo the Python-Slayer*.[7] Jenifer Neils, on the other hand, has suggested that the sculpture may not represent Apollo at all, but simply an "androgynous youth taunting a lizard."[8]



Fig. 2. The auto-aligned composites of x-ray films obtained in 2021 provide undistorted, 1:1 images of the entirety of the figure from both frontal and lateral views. (All radiographs digitized by David Brichford).

7 Bennett 2013, 80–85; Corso 2013, 26–28.

8 Neils 2017, 26.

While recognizing the importance of these and other questions of iconography and attribution, here we focus on this particular sculpture—the sole surviving large-scale bronze of this type—looking specifically at technical features of its ancient manufacture, post-manufacture damage, and modern reconstruction. Our findings are based on new and more comprehensive radiographs[9] (Fig. 2), combined with extensive visual and technical analysis. Additionally, the creation of a new digital 3D model allows a clearer delineation of these findings as well as the potential to consider multiple different virtual reconstructions of the non-joining and missing sections of the original sculpture.

Ancient Manufacture

Previous studies have recognized that the sculpture was cast in multiple sections but have focused primarily on two easily visible joins – one a fusion weld on the right foot of Apollo, the other with a pin on the small, separately cast serpent/lizard-like creature.[10] Our study, described further below, supports previous suggestions of at least six and as many as ten separate cast sections for the surviving portions of the main figure (Fig. 3): 1) head to mid-neck; 2) torso and right leg (including the heel and back of the foot); 3) front of the right foot; 4) right arm (upper); 5) left arm (lower, with hand), and 6) left leg—with the possibility that the penis may be separately cast and that the right leg may be separately cast from the upper thigh down (2a–c), the left hand may be separately cast and joined at the wrist (5a–b), and the left leg may be cast in two sections, possibly joined at mid-foot (6a–b).[11] Additional extant castings include the front and back of the creature plus the base, while non-extant sections likely included a tree or other support; it is possible that the right hand would also have been cast separately, giving a larger total of 15 or more original cast sections. In addition to details of casting, such as joins and chaplet holes, we also note below the location and form of multiple ancient patches and other finishing techniques and technical features.

Head and Neck

At least two square chaplet holes survive on the head, both on the right side: one just above the headband, the other toward the back (Fig. 4). The finely detailed strands of hair show some evidence of cold working, though most modelling appears to have been done in the working wax model. The head includes eyeholes for separately made eyes, one of which (the right) has been called ancient and said to be made of a white stone of unspecified type.[12] This eye includes a circular depression, now empty but presumably meant to hold a separately made iris and pupil. When viewed from the interior of the head with a borescope (Fig. 5), the eye has a roughly conical shape that fits neatly into its socket with two split bronze tabs helping to hold it in place. No sign of lashes appears, nor is there any indication of eyebrows, perhaps a reflection of the youth of the figure.

9 Radiographs taken in 2003, when the sculpture was being considered for acquisition, showed most of the sculpture (above the knees) in a nearly frontal view, plus two separate views of (1) the right lower leg and foot (from above), and (2) the non-joining creature and right forearm/hand. See Snyder et al. 2017, 332, Fig. 40.2b for head, neck, and shoulders. Though the museum installed a system for digital radiography in the interim, the high lead content of the bronze necessitated imaging with a higher energy system. The new radiographs were taken with a 2-million-volt linear accelerator with a source-to-film distance of 8.5 feet and a 2-mm focal spot. A custom easel setup was used to streamline the process and ensure individual plates would overlap, and each shot was taken at 80 rad for 18–20 seconds. Three different types of Agfa industrial x-ray film were included to obtain as much usable information as possible.

10 Bennett 2013, 2–4 (foot); Snyder et al. 2017.

11 For previous discussions of cast sections on this sculpture, see Bennett 2013, 60, 68 (citing unpublished reports).

12 Bennett 2013, 60. For further discussion of the material of the right eye, see below: *New Analytical Findings*.

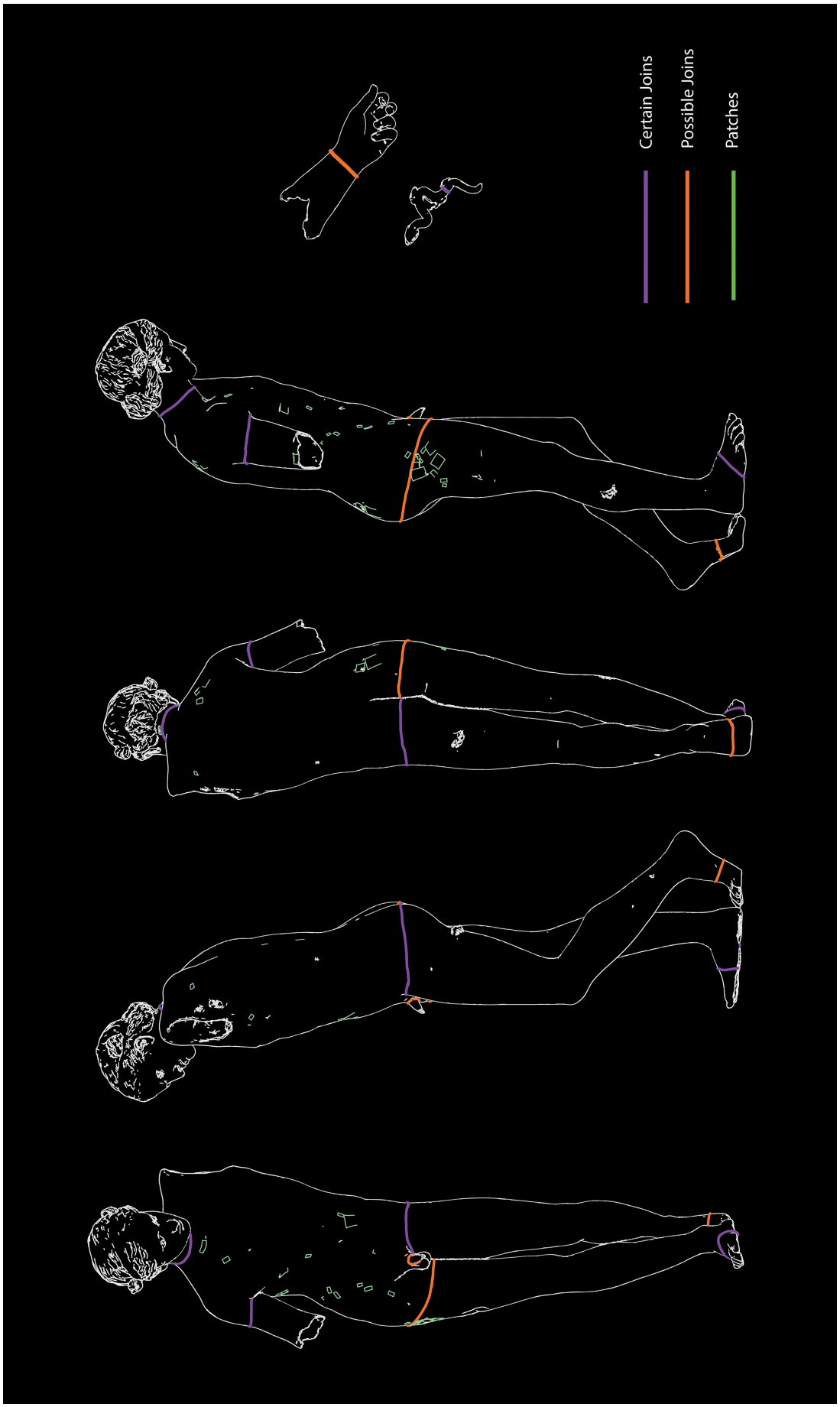


Fig. 3. The figure is comprised of six to ten surviving cast sections. These line drawings indicate both certain and possible joins, as well as the locations of patches visible on the surface. (Line drawings created from 3D model by Dale Utt III).

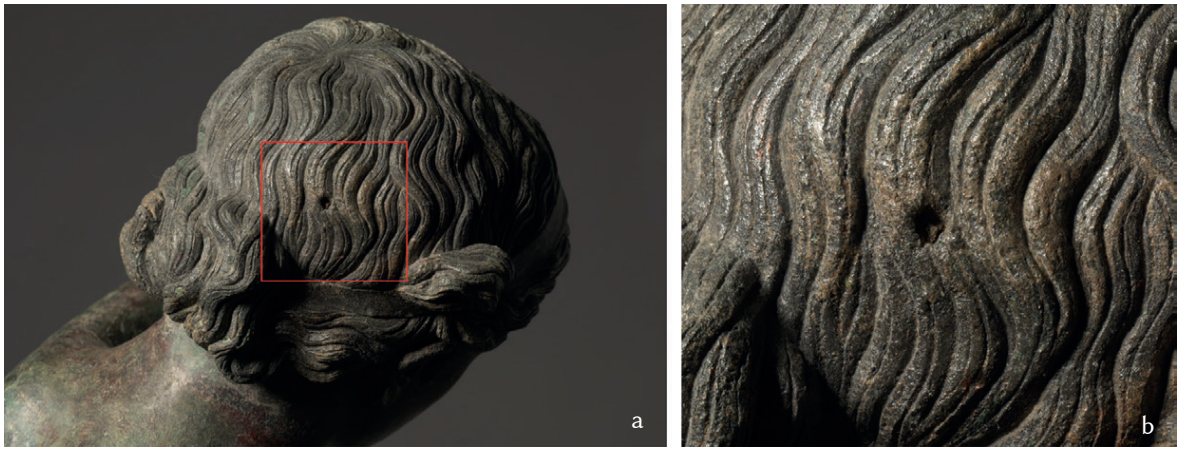


Fig. 4.a–b. Adjacent to the detail of one square chaplet hole on the head, there is evidence of cold working to delineate the strands of hair.

Another notable detail on the head is the use of copper inlay for the lips (Fig. 6). Deeply incised lines around the lips suggest that they had been hammered into very shallow channels, as on other ancient bronzes. This was confirmed by radiography and interior views with the borescope showing no internal attachments for the lips.[13]

Finally, the entire cast section of the head undoubtedly extends to mid-neck, revealed clearly for the first time in the new radiographs (Fig. 7). Although no evidence of the neck join appears on the surface of the sculpture, as much of this area is heavily damaged and restored, one missing ancient patch on the back of the neck seems to fall near the line of the join.

Torso and Right Leg

This represents the largest cast section of the sculpture, including the torso with right shoulder,[14] genitals, and at least part of the right (support) leg. Perhaps due to its large size, this section exhibits several areas of high porosity, particularly around the right mid-torso and upper right hip and thigh. This porosity, visible on radiographs and in occasional small holes on the surface, likely explains the high number of patches in this area (at least seven, delineated in Fig. 3), which also appears more susceptible to distortion, dents, and fractures, whether in antiquity or more recently. Extensive modern restoration may occlude additional ancient patching. Two unusual three-sided polygonal features also appear in this area, one just below the right nipple (Fig. 8) and the other some 3 cm left of the navel. Each of these may constitute three sides of a patch, still in place, with the fourth side hidden, though they could also relate to modern restoration.[15]

13 Note similar incised lines around the lips, often inlaid, of large bronzes across several centuries: e.g., Riace warriors (lower lips only); Apoxyomenoi in Vienna, Zagreb, and Fort Worth (Kunsthistorisches Museum, Antikensammlung, inv. VI 3168; Croatian Ministry of Culture; Kimbell Art Museum, inv. AP 2000.03a; Daehner – Lapatin 2015, 272–277, Cats 40–42); Head of a North African Man, from Cyrene (London, British Museum, inv. 1861,1127.13; Daehner – Lapatin 2015, 247, Cat. 28); Beneventum Head (Paris, Musée du Louvre, inv. Br 4; Daehner – Lapatin 2015, 302, Cat. 53). A Head of a Youthful Dionysus in Malibu features copper-tin alloy lips within a deeply incised line and set into a cast cavity with five holes (J. Paul Getty Museum, inv. 71.AB.447; Mattusch 1996, 195–198, Cat. 5).

14 The left shoulder has been lost but may also have been included in this section. An unrestored area near the left armpit reveals a seemingly finished edge of metal that may represent what is left of that original cast edge.

15 These less regular polygonal shapes are most often seen in locations where the sculpture's curvature requires something other than a standard rectangle. Near the lower patch on the abdomen, joined by



Fig. 5. The back of the right eye is seen with the help of a borescope placed through the empty left eye socket (a), revealing a conical shape held by two split bronze tabs (b). The shiny, saturated surface at the top is modern restoration adhesive.

Both nipples are copper inlays, and, like the lips, appear to have been hammered into shallow depressions in the bronze. Both are fully preserved, and a gouge on the right nipple reveals the bright pink color of the base metal. Handheld XRF analysis in this location reveals a high purity copper.



Fig. 6. Deeply incised lines around the inlaid lips indicate they were hammered into shallowly cut channels. This is further supported by the absence of detail seen in this area inside the head or on radiographs (see Fig. 7).

The penis may be separately cast, and the rest of the genitals join to the right leg (rather than the left), just above a clear stepped join on the medial thigh (Fig. 9). The horizontal line of this join appears to continue around towards the front (anterior) of the thigh before receding from view on the lateral side. The line may correspond to a dark horizontal line on the radiograph, as well as to a possible oval marking from a flow weld at the right hip. This falls just below the most extensive area of patching on the sculpture, with as many as twelve rectangular patches, the largest 2.0 × 3.5 cm (Fig. 10). One patch has been partially broken and lost, and the remainder lifted away to reveal the casting flaw it once covered (0.4 × 0.2 cm).[16] Another large patch (2.2 × 2.4 cm) has been lost on the upper right buttock, once covering a hole.

Two square chaplet holes appear on radiographs of the right leg, each with an associated ring of flashing (one just below the knee, the other about one-third of the way up the leg; Fig. 11). Neither

a crack, is another straight line and additional pitting. Again, modern epoxy and other restoration materials make it difficult to determine entirely what is ancient repair and modern intervention. The sides and back exhibit less patching—one just below the opening for the left arm (0.6 × 1.2 cm) and another near the left shoulder blade.

16 Some denting of the surface here has opened small cracks into the interior of the sculpture, while a much larger indentation appears farther down the leg; see below (Post-Manufacture Damage).

can be easily connected with anything visible on the surface. The core pins likely caused fractures in the core when inserted, allowing the metal to flow in during the pour.

Finally, a long straight, dark line runs down the shin on the frontal radiograph, perhaps corresponding to a dark and blotchy line running down the surface of the shin. While this less dense line in the radiograph may correspond to tinted epoxy added to the surface, its remarkably straight verticality and central position appear purposeful. Though it is uncertain what this represents, we continue to look for clues in better preserved bronze statues, perhaps related to ancient manufacture or internal supports.[17]

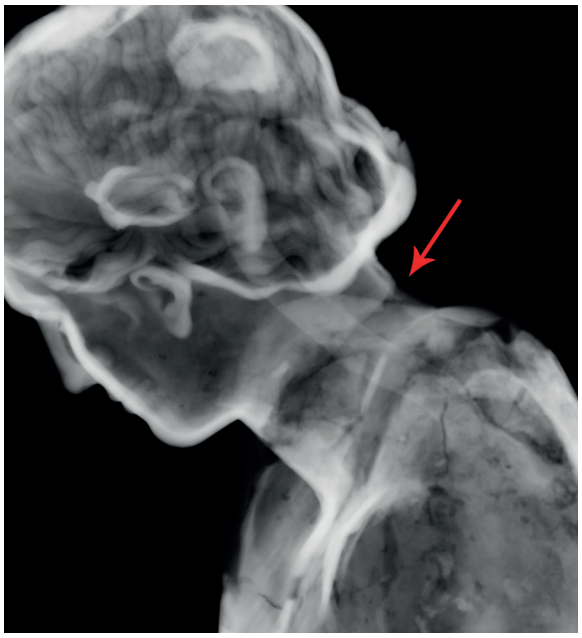


Fig. 7. The radiograph of the neck and shoulders clearly reveals the original cast edge of the head at mid-neck.

Right Foot (front section)

This is the most clearly visible join on the sculpture, with three roughly aligned ovals running across the upper surface, each measuring between 4–5 cm in length and approximately 2 cm in width (Fig. 12.a). A small hole is visible within the outermost oval, the result of a small loss due to corrosion, but there is no evidence of patching or cracking here or elsewhere along the join. The precise line of the join is even more readily visible on the hollow underside of the foot where not covered by modern epoxy (Fig. 12.b). The casting of the toes includes only those surfaces visible to the viewer, with much of the underside left open. Additionally, clear gaps appear between each of the toes, most notably between the second and third. These gaps are visible but not distracting to the viewer; it is uncertain whether they were always present or represent small losses. The separate casting of the front of the foot finds numerous parallels on other large-scale bronzes, presumably to facilitate mounting (see below [*Left Leg*] for additional discussion).[18]



Fig. 8. A three-sided polygonal feature, perhaps an ancient patch, can be seen beneath the right nipple, shown here. A gouge on the inlaid copper nipple itself reveals the pink-toned base metal.

17 During the conservation campaign of Riace B, for example, it was discovered that an iron bar was inserted in the right leg during manufacture for additional internal support. This was incorporated into the bronze casting and now appears as a vertical crack down the shin (Formigli 1984, 108–113; Giumlia-Mair 2015, 174–175). No trace of such an iron armature has been found within the Cleveland Apollo.

18 Examples include the Livadhostro Poseidon (Mattusch 1988, 82–83; Dafas 2019, 19), the Artemision god (Mattusch 1988, 137; Dafas 2019, 41), and the Riace warriors (with middle toes also separately cast: Mattusch 1988, 137, 204; Dafas 2019, 56). Additional examples may include the Antikythera youth (Dafas 2019, 73), the Marathon boy (though the front of the right foot is missing; Dafas 2019, 87–89), and the Piraeus Apollo (based on seams visible beneath the feet; Dafas 2019, 103). C. Mattusch (Mattusch



Fig. 9. The surface of the medial right thigh exhibits evidence of a stepped join, which may correspond to features seen on the radiograph (see Fig. 15).



Fig. 10. Numerous rectangular patches of varying sizes have been identified just below the right hip.



Fig. 11. Arrows indicate where two square chaplet holes are visible on the right leg in radiographs, with associated white rings of flashing.

Right Arm (Upper)

The upper right arm joins the torso section just below the shoulder, with a small gap of a few millimetres visible at the axilla, where the inner arm meets the chest. Inside the hollow upper arm, a significant flashing of bronze appears on the anterior wall, projecting over 1.5 cm into the hollow (Fig. 13.a). Lesser amounts of flashing are seen all around the circumference of this join. The flashing appears as a denser area on radiographs, where a concurrent fine line of less density indicates the join running all the way around the arm (Fig. 13.b). Although no flow-weld ovals are readily visible on the exterior surface, these can be seen in a panoramic radiograph image taken with a cut piece of film inserted into the arm (Fig. 13.c). The interior surface of the upper arm appears to show other evidence of manufacture in the form of a straight vertical line on the lateral wall, perhaps from a wax-to-wax join. Other possible signs of working techniques on the interior include a series of very small bronze globules, likely indicative of porosity within the core material. It is estimated that these were produced when the first layer of liquid core material was quickly brushed on, trapping small air bubbles that were then reproduced in the final bronze. On the exterior, three sides of an engraving for inserting a rectangular patch (1.2 × 2.7 cm) appear at the broken lower edge of the arm, on the lateral side, meant to cover a still-visible casting flaw. The thickness of the casting measures 5.55 mm.



Fig. 12. Three ovals seen on the top of the right foot (a), and a horizontal line across the underside (b) represent the most clearly visible join on the sculpture.

Left Arm (Lower, non-joining)

The upper left arm is entirely missing. The surviving portion of the left forearm and hand begins roughly 15 cm above the wrist at the greatest extent, though its broken surface is quite irregular (Fig. 1.b, Fig. 14). Within, just above the wrist, a significant flashing of bronze nearly fills the interior, though much of the upper hand is hollow.[19] The thumb and fingers are solid cast, with the nails and folds of the palm finely worked in the wax model. A square chaplet hole is visible on

1988, 137) also mentions several fragmentary front halves of feet from Olympia, and the Porticello foot and leg fragments show cast edges at mid-foot, the preserved front half with separately cast middle toe (Ridgway 1987, 75–80, 95, Cats S6–S8); see also Dafas 2019, 60–61. Two separately cast front sections of feet from the Roman period are now in Malibu (J. Paul Getty Museum, inv. 71.AB.229, 72.AB.103: Mattusch 1996, 212–215, Cats 18–19).

19 It is unclear whether this resulted from a (sloppy) join between separate cast sections, or from shifting or breakage of core material (as in Tampa Museum of Art, inv. 1986.142: Mattusch 1996, 215, Cat. 19, Fig. 1; 226, Cat. 23, Fig. 1). Separately cast hands are known in other sculptures, such as the Artemision god (Dafas 2019, 41) and the Riace warriors (Mattusch 1988, 204; Dafas 2019, 56), and also appear in the workshop scene on the Foundry Cup (Berlin Antikensammlung, inv. F 2294, BAPD 204340).

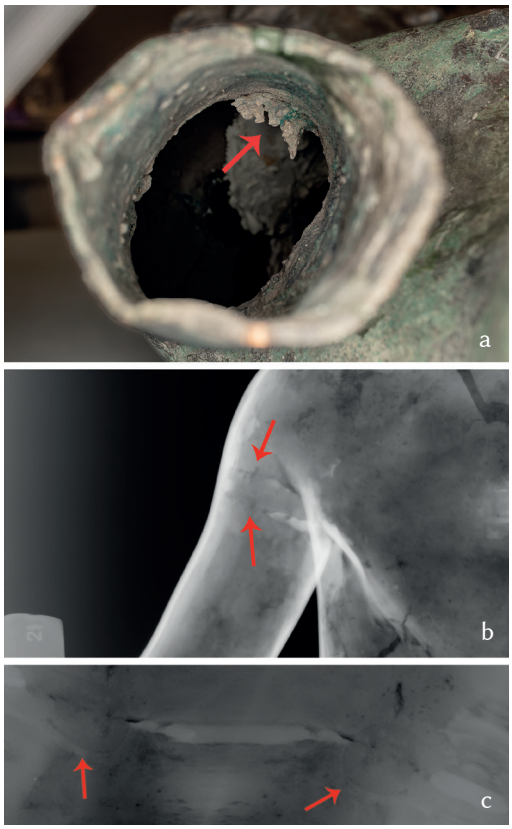


Fig. 13. Flashing within the upper right arm (a) is also seen on the radiograph as a spot of white density at the axilla (b). Arrows indicate a visible circle of less density in this region, which appears as a series of concentric circles on the panoramic radiograph (c).

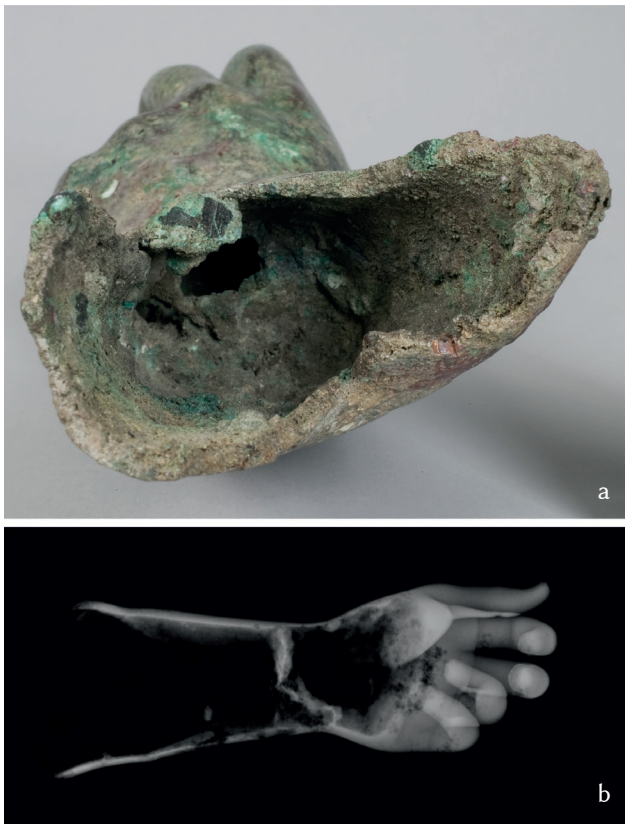


Fig. 14. Detail of the interior (a) and radiograph (b) of left forearm and hand, which show significant flashing that fills nearly the entirety of the interior in this location.

radiographs just above the wrist, possibly corresponding to a square mark on the lateral surface. The casting measures approximately 5.7–7.0 mm thick at the broken edge.

Left Leg

The left leg appears to join the torso at the groin and upper thigh, running below the iliac crest in the front, then to mid-buttock in the rear, where a small crack is visible, running into a hole visible on the surface and in radiographs (Fig. 15). A clear corner of the cast section is also visible in the profile radiograph, within the sculpture. The excess metal visible in the frontal radiograph near the outer edge of the left hip may be flashing from the join. Unfortunately, restoration material occludes much of this surface on the interior, preventing firm identification of the edge of the casting. Significant porosity appears in the radiographs of this leg and as pitting on the surface. At least two square chaplet holes are visible on the profile radiograph—one roughly one-quarter length up the thigh (above the knee), toward the outside, and the other on the ankle, likely related to a significant ring of flashing.[20] A slightly larger hole, nearly 1 cm square and not patched, appears roughly 13 cm above the heel.

20 As on the other leg, the rings of flashing could have resulted from slight weakening of the working model caused by piercing with chaplet. These chaplet holes cannot be easily located on the exterior surface, but the upper one is visible within the leg (with borescope).

Also of interest are three pairs of straight lines running vertically along much of the length of the left lower leg. These are visible in both radiograph views—one set towards the front of the leg, two towards the back. Because these are pairs of white lines, without increased density between them, they seem to represent a feature of the inner bronze surface, perhaps caused by long, slightly rounded strips of material pushed into the inner surface of the wax to ensure complete contact with the outer mold before additional core material was added. These very shallow furrows with slightly raised edges could also be seen on the interior with the borescope. We have not found similar examples of this in other large ancient bronzes.

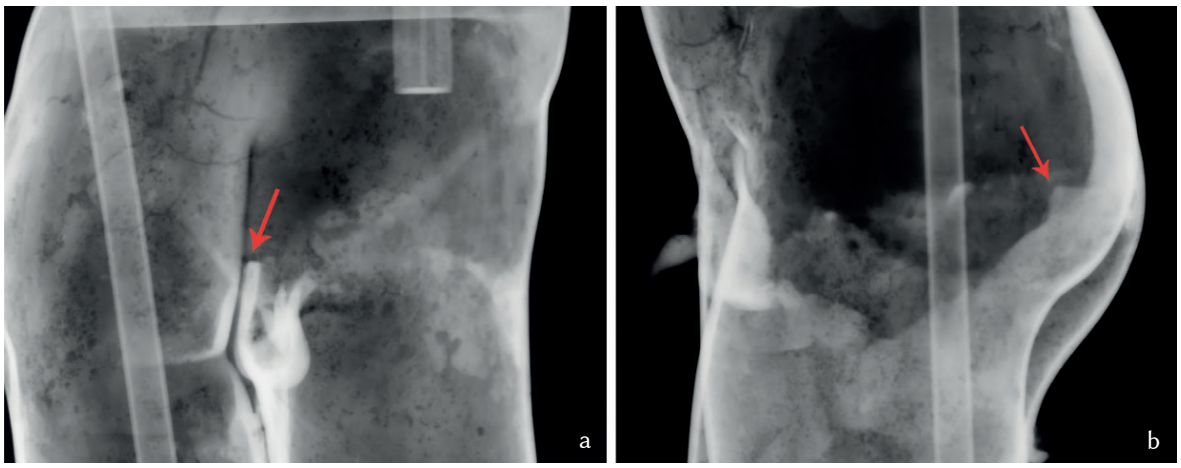


Fig. 15. The frontal view of the mid-buttock region shows a hole also visible on the surface (a), and the profile radiograph of this region (b) shows a corner of the cast section within the sculpture.

Finally, the underside of the resting surface of the left foot was left open (Fig. 12.b), permitting easy access to the interior, perhaps for divestment and/or anchoring. Within the opening, excess bronze at mid-sole may represent flashing from a flow weld, visible as a line of density on the profile radiograph (Fig. 16). Thus, although their positioning differs, both right and left feet may include separately cast front sections joined around the same point, as on other ancient sculptures.[21] A large white area appears in the heel on radiograph images, corresponding to a whitish mass clearly visible within. This material is relatively soft, scratching easily with a bamboo skewer, and was identified as lead carbonates with FTIR (Fourier-transform infrared), suggesting that it could be connected with an ancient tenon for anchoring.[22] The thickness of the casting in the foot measures 4.21 to 6.17 mm.

Creature

The four-footed serpentine creature (Fig. 1.c, Fig. 17.a–c) is clearly comprised of two solid-cast sections, with carefully delineated toes and shallowly incised scale patterns on the head, all made in the working wax model. The sections are now joined by modern green epoxy adhesive but also by means of a pin clearly visible in radiographs. This pin is magnetic and thus appears to be an iron alloy, though it has not been visually examined (which would require reversing the strong ad-

21 See above, with examples in note 18.

22 The best-preserved ancient lead anchoring tenons belong to the Riace bronzes, each with two flat feet; see: Formigli 1984, 135–137. But many other sculptures with one raised heel were cast with the resting surface of the partially raised foot left empty to allow for anchoring with lead tenons; on the Artemision god, for example, K. Dafas (Dafas 2019, 43) suggests that molten lead would have "reach[ed] probably to the level of the ankles."

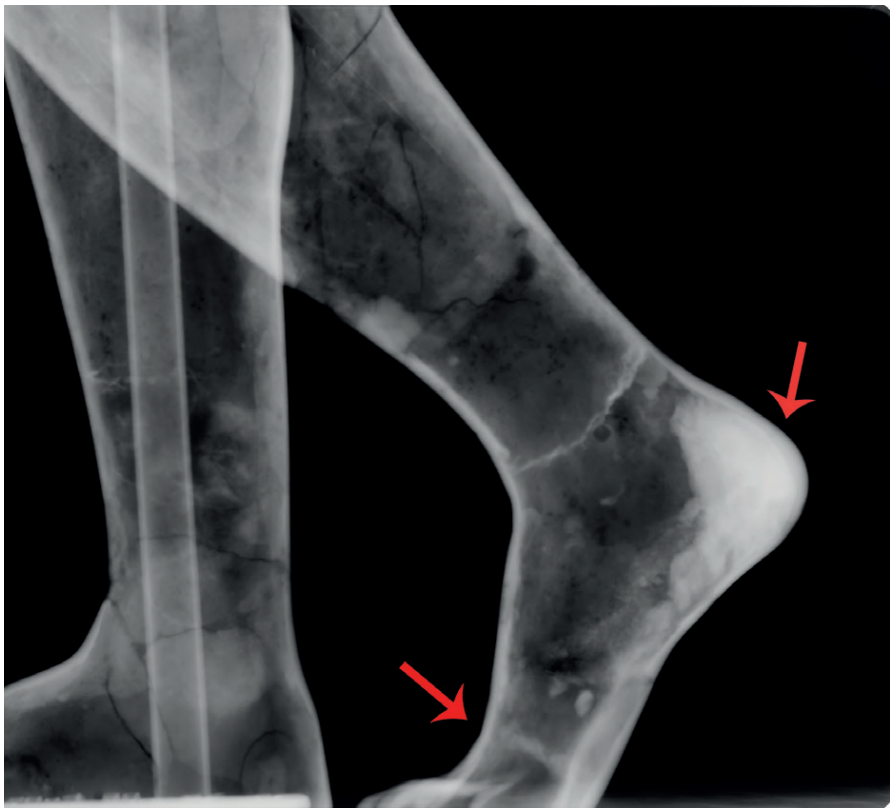


Fig. 16. Profile radiograph of the lower legs and feet. Arrows point to areas of density in the left foot, indicating a possible join at mid-sole and lead carbonates in the heel.



Fig. 17. A line of modern green epoxy bisects the creature at the point of the third leg (a) (Photography by Joan Neubecker). The radiograph (b) shows the metal pin repair and the more porous front half of the casting.

hesive join). Radiography shows much greater porosity in the front half than the back half of the creature, suggesting that perhaps the original back half was damaged during casting, necessitating a new or re-casting of that portion of the creature. The similar bronze composition of the two halves suggests that the failed back half was melted and re-cast, or that the new back was made from excess material at the same time. If true, this could help to explain why the fourth leg differs so much from the other three, and why it is located so far back on the body; originally, the fourth leg might have been significantly closer to the third leg, resulting in a slightly less unusual creature.[23]

Baseplate

The baseplate is nearly square in shape, measuring 40.3 × 45.8 cm, but without any truly square corners (Fig. 18). The two front corners are closest to ninety degrees, and the front and right sides closest to straight lines, while the left and rear edges are noticeably concave. A modern hole (with additional large, pie-shaped metallo-graphic cross-section taken in 2013) facilitates placement of the modern rod in the right leg (see below [Modern Reconstruction]), and marks show the placement of both feet, once attached with lead solder. There is evidence of the sculpture being pivoted around the rod while on the plate, seen in the form of circular abrasions to the bronze. In addition, a nearly circular lead solder mark about 7 cm in diameter located at the front left corner likely corresponds to the placement of a tree, now lost. A tree of this size would be notably smaller than those in the Roman marble versions of the Apollo Sauroktonos, a detail perhaps only partly explained by the higher tensile strength of bronze (in comparison to marble). The placement so close to the corner and edge of the plate (and still quite close to the figure) further suggests the alteration or re-use of the baseplate, as previously suggested on the basis of material analyses. Those material analyses also suggested, however, that a small amount of ancient solder remains on the left foot of Apollo, suggesting "that the toe was once attached to

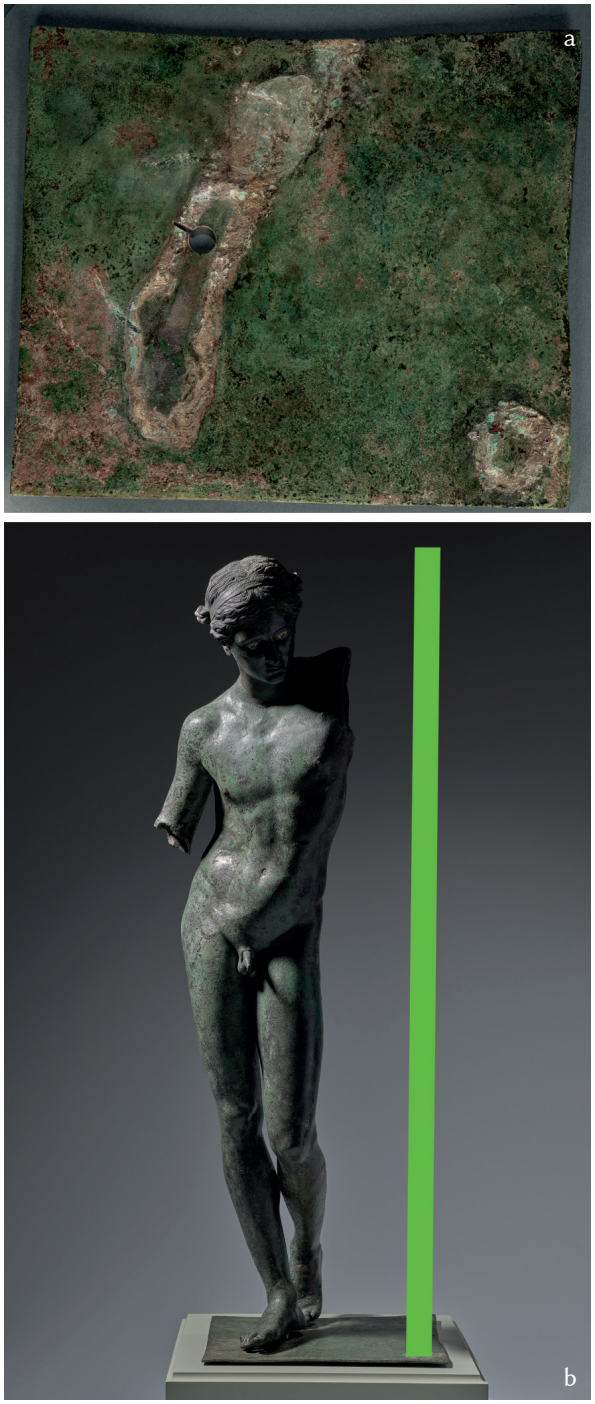


Fig. 18. The baseplate (a) has irregular edges. The solder circle seen in the corner seems to indicate a much thinner tree than seen in marble copies (b).

23 See Bennett 2013, 12–14, 80 for an alternative explanation of the unusual, asymmetrical creature: "rather than a lizard, this coiled reptile was Praxiteles's ingenious conception of the legendary Python, slain by Apollo before he took over the sanctuary" at Delphi (quotation from p. 80).

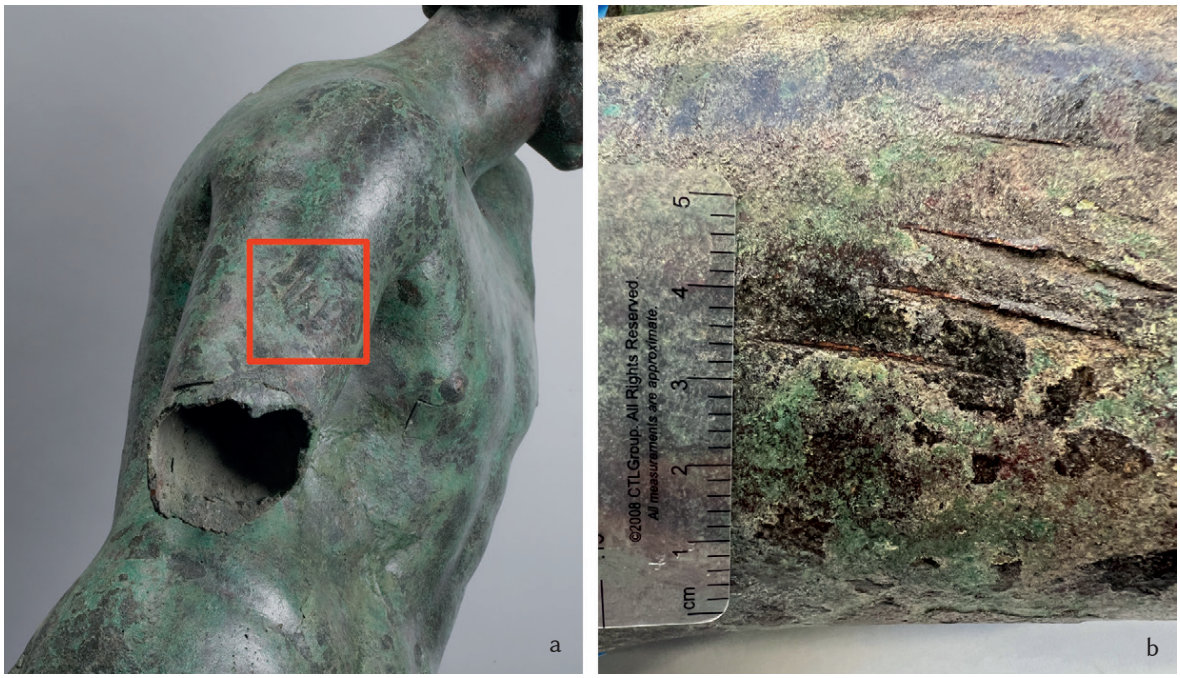


Fig. 19. The bronze has several parallel gouges on the right shoulder and upper arm (a). A detail shows these gouges from another angle, as Apollo lies on his back (b) (Overall photography by Joan Neubecker).

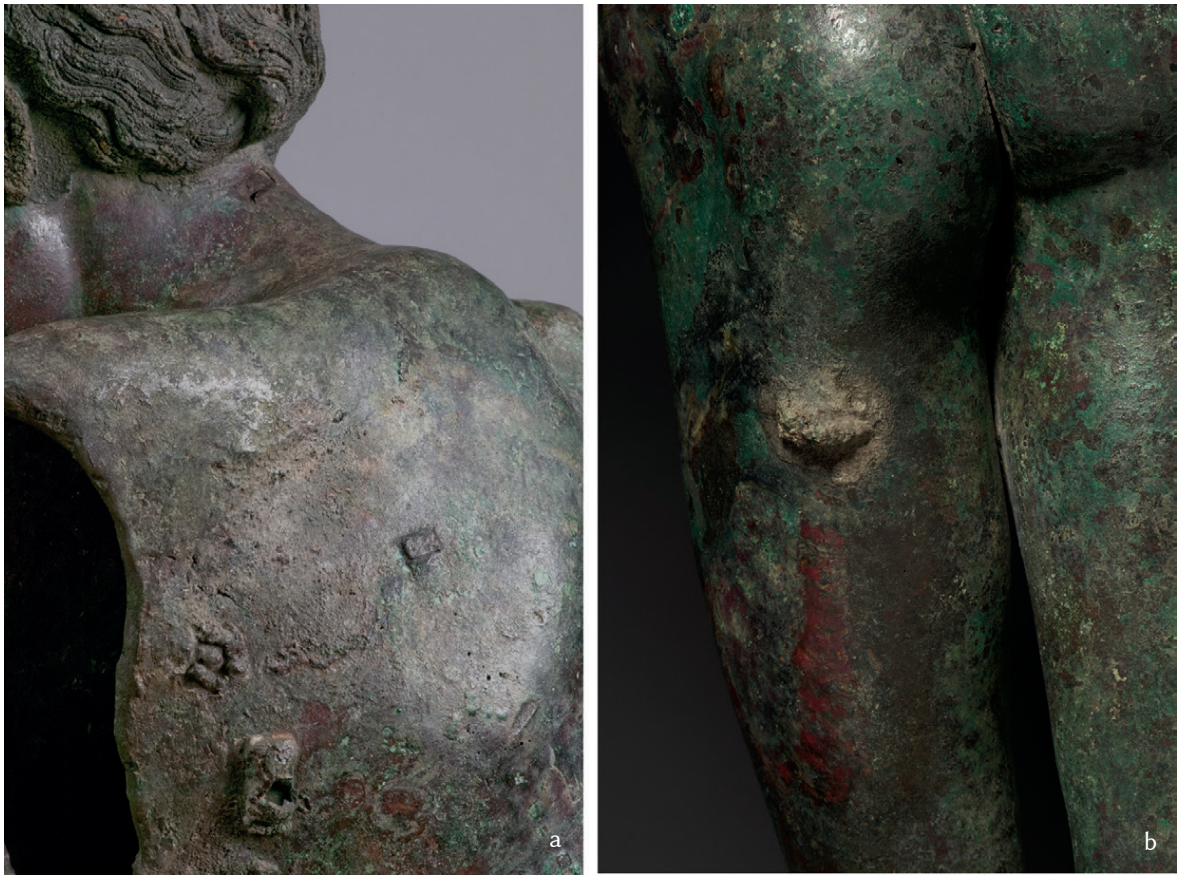


Fig. 20. The protruding lumps of metal on the left shoulder blade (a) and left upper thigh (b) appear in the same locations as tree branches on marble copies.

a piece of metal."[24] If the sculpture once stood on some form of this baseplate, one might expect more regular dimensions and the incorporation of holes or other features facilitating mounting both above (of the sculpture to the plinth) and below (of the plinth to a stone base). But perhaps such expectations are incorrect; given how few large ancient bronze sculptures survive with bronze baseplates, comparison remains difficult.[25]

Post-Manufacture Damage

Several aspects of the sculpture's condition seem related to post-manufacture damage rather than to original manufacture or modern restoration. First, the right side of the torso and right thigh exhibit numerous signs of deformation and breakage, now mostly repaired but with some small cracks opening into the interior of the leg. Second, a series of parallel gashes on the right shoulder and bicep must derive from some type of post-burial impact, as there is deformation of the corrosion layers, which are noted in the recesses of the marks (Fig. 19). The parallel alignment suggests contact with some type of tool that struck the bronze with enough force to displace a line of metal and push the edges upward and outward. Third, several curious lumps of metal are fused to the reverse at the left shoulder blade (2.8 × 1.4 cm) and left upper thigh (4.5 × 1.5 cm), protruding significantly from the surface (Fig. 20). Once thought possibly related to the now-lost tree, the lump on the thigh was shown by metallographic analysis "to have solidified from an oxygen-rich melt" during exposure to a high-temperature environment, such as a fire.[26]

Another protrusion of metal on the surface also appears to relate to high-temperature exposure but displays an entirely different phenomenon. On the lateral side of the right lower leg, approximately 32 cm up, an amorphous mass of metal sits atop a roughly 4 × 4 cm squarish area enclosing numerous small voids (Fig. 21). This seems to be a large casting flaw once covered by a patch, the bottom of which is still visible as a raised edge of bronze (approximately 3 cm long). If the sculpture was indeed subjected to high temperatures, the large patch, potentially composed of an alloy with a lower melting point than the surrounding bronze, could have begun to flow and then cooled into the resulting lumps now seen on the surface.[27]

24 Snyder et al. 2017, 336. For discussion of the baseplate and analysis of lead in the solder and in the bronze of the baseplate, suggesting "that perhaps the baseplate was reused or recast from the original sculptural assemblage," see Snyder et al. 2017, 336–337.

25 Other large bronze sculptures with bronze plinths include the under life-sized Livadhostro Poseidon (flat rectangular plinth with dedicatory inscription and four bronze feet beneath plinth to insert into stone base; see Mattusch 1988, 79, 82–83; Dafas 2019, 19); the Croatian Apoxyomenos (low rectangular plinth with flat top and four strips below, possibly modified in antiquity, feet of sculpture soldered to base without lead tenons; see: Saladino 2006, 47–48; Karniš Vidovič – Mille 2017); and the Washington Dionysos (flat hexagonal plinth with incised outline for foot and depression for big toe, traces of lead but no dowels or tenons for fastening; see Mattusch 1996, 230; now on loan to the Art Institute of Chicago, https://www.artic.edu/artworks/217295/statue-of-young-dionysos [last access 27. 07. 2024]).

26 Snyder et al. 2017, 331, 335–336, Fig. 40.5. The shoulder-blade lump requires further analysis, particularly given its possible proximity to a tree.

27 Jeffrey Maish discusses and illustrates the flawed casting and subsequently damaged patch in a 2022 internal report. Other possible evidence of exposure to a high-temperature environment came to light during exploratory handheld XRF of the bronze surface, undertaken in search of evidence for intentional patinas or protective coatings. Surprisingly, results indicated that the surface of the sculpture was 75–80% lead, far different from previous metallographic analysis (from cross-sections) that provided lead percentages of no more than about 15%. XRF of known bronze standards confirmed the machine was calibrated correctly during use. Though additional analysis is needed, the extremely high lead values seen on the surface may corroborate the earlier analysis that indicated exposure to fire; that is, the lead, with a lower melting point than copper, may have "sweated" to the surface during this event.

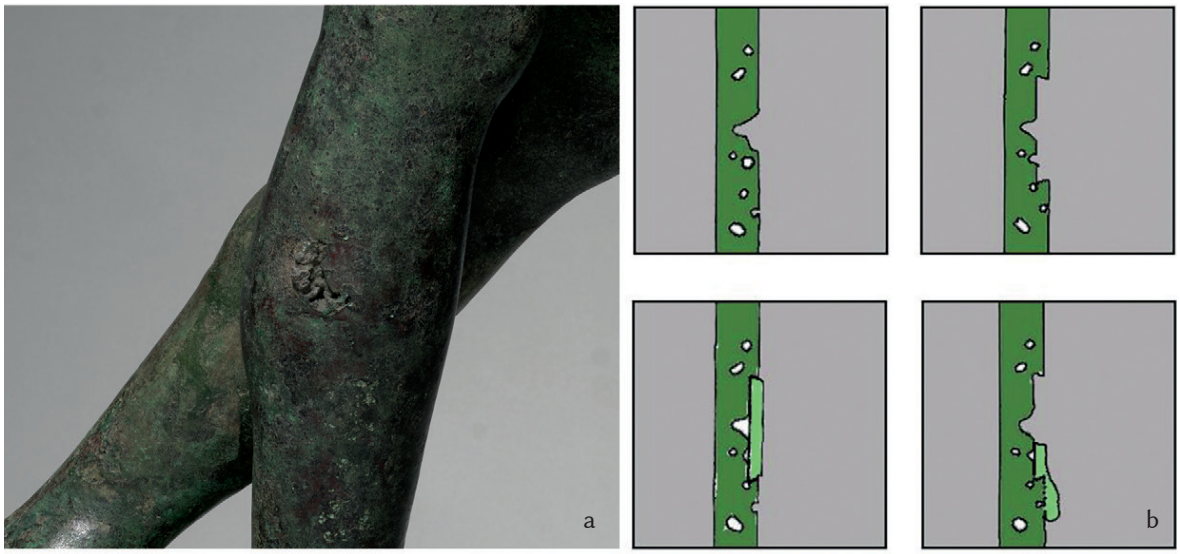


Fig. 21. The mass of metal seen on the right leg (a) appears to have a square outline visible. This illustration (b) suggests how a large patch could have partially melted in high temperatures (Illustration by Jeffrey Maish).

Modern Reconstruction

The modern reconstruction of the sculpture must have been done between 1992, when it was seen in pieces by Lucia Marinescu in eastern Germany, and early 2003, when it was with Phoenix Ancient Art in Geneva, Switzerland. The precise date of treatment, like the name and location of the restorer, remains unknown. Recent radiography and analysis of modern materials permits a better understanding of the extent of reconstruction, which has unavoidably influenced the interpretation of the sculpture since its initial publication.

Probably the most obvious aspect of the restoration is the long steel rod extending from the right hip through the entire right leg and continuing some 8.5 cm beyond the open bottom of the right foot, where modern materials completely seal off the opening into the leg (see Fig. 12.b). On the radiographs (see Fig. 2), the rod is seen running continuously from the opening in the foot, up the right leg, and ending at the top of the iliac crest on the outer right hip. This rod serves as a support for the sculpture when inserted into a hole in a modern structural base or platform (running through a hole in the accompanying bronze baseplate, presumably drilled at the same time the rod was inserted, based on evidence of machine cutting and lack of corrosion; see Fig. 18.a). When first acquired and photographed by the museum, the rod was positioned vertically, resulting in a very pronounced lean of the sculpture to its left side. In 2010, a new display platform was produced, with a slightly angled hole set at 10 degrees for the rod, reducing the lean of the sculpture to a more upright position, similar to those of several Roman marble versions of the Apollo Sauroktonos.[28] It is important to note that the feet of the sculpture do not sit entirely flush with the baseplate in either one of these configurations, perhaps due to differences in the relative positioning of the legs and torso between antiquity and the present. Additional internal modern interventions include a roughly horizontal plate composed of unknown material attaching the upper portion of the steel rod, at the right hip, to a squared acrylic rod running roughly vertically from within the midsection of the sculpture through the upper torso. There it is adhered to a horizontal squared rod spanning the

28 Despite this change in 2010, older photographs remain available online and appear in many subsequent publications; see, e.g., Bennett 2013, 82–83, with the Cleveland Apollo leaning farther than three marble versions.

interior from back to chest and supporting a second vertical rod that extends all the way into the top of the head. One rod terminates in the neck, while the other continues through the neck into the head of the sculpture, where it does not quite meet some foam adhered within the top of the head.

The ancient join at the neck had completely failed, and the area is extensively restored with a mix of plaster, wire mesh, fiberglass-bulked epoxy, and other materials supporting the acrylic rod and blocking the opening within the neck. On the exterior, tinted epoxy and toned plaster fills span the gaps, often covering the original bronze fragments to such an extent that ancient and modern materials are difficult to distinguish from one another. At the time of acquisition, the left eye was said to be a modern plaster replacement (which was itself replaced in 2014 for aesthetic and practical reasons).[29] Additional modern reconstructions include a large section of the left shoulder, the painted plaster fill clearly appearing as less opaque in radiographs. This was likely done for cosmetic reasons, to reduce the size of the opening into the torso and continue the line of the collarbones. Also notable is an area of fill running from one collarbone area to the other, across the upper chest (Fig. 22). Although the fill varies slightly in width, from 0.5–3.0 cm, the general contours of the areas above and below it roughly mirror one another, suggesting that the current positioning of the neck and head may be slightly higher than their original placement.[30] Alternatively, this fill may have been necessary to compensate for the considerable crushing and torsion of the abdomen and upper back, particularly on the right side. Here, too, several areas of fill are visible on the radiograph, as well as on the exterior, where the inpainting is slightly more visible than that up above. Finally, substantial portions of the crushed right abdomen and lower legs have been repaired and restored, with fewer losses and fills.

The extensive and varying modern restoration materials used in the 1990s or early 2000s have been generally noted in past reports, whether seen as a hard, green fill on the surface, or recognized in radiographs as areas of less density. However, they have not been identified until this point. In an effort to understand better the modern restoration materials used on the sculpture and thus aid in anticipating aging and preservation needs, small samples of three different restoration materials were analysed with FTIR spectroscopy. Analysis revealed that the rod in the foot is secured with a phenolic resin, a commonly found thermosetting epoxy. The green-coloured adhesive that secures and fills gaps between the broken fragments of bronze had a close match with Araldite, a phenolic resin.[31] The entire bronze was coated with a clear



Fig. 22. Detail of frontal radiograph, with arrow indicating dark, U-shaped line encircling the neck, where a large gap between pieces was filled.

29 The newly sculpted epoxy putty left eye more closely mimics the shape, colour, and gloss of the older right eye, and allows for easy removal when access to the interior is needed during study.

30 The one nearly straight edge and similarity to neck-bib joins seen on other ancient bronzes seems purely coincidental but should nevertheless be noted.

31 Epoxy and resin samples were removed with a scalpel and transferred to a diamond cell. The sample was compressed in a diamond anvil cell (Spectra Tech) and analysed between 4000 and 650 cm-1 with a Thermo Nicolet is50 with FTIR bench and Contiunμm Microscope. Spectra were collected as the sum of 32–64 scans at 4cm- resolution. Data analysis was carried out with OMNIC and OMNIC Specta software. This seems to indicate the same adhesive was used for multiple types of repairs and supports throughout the object, with colorants added where they would be most visible.

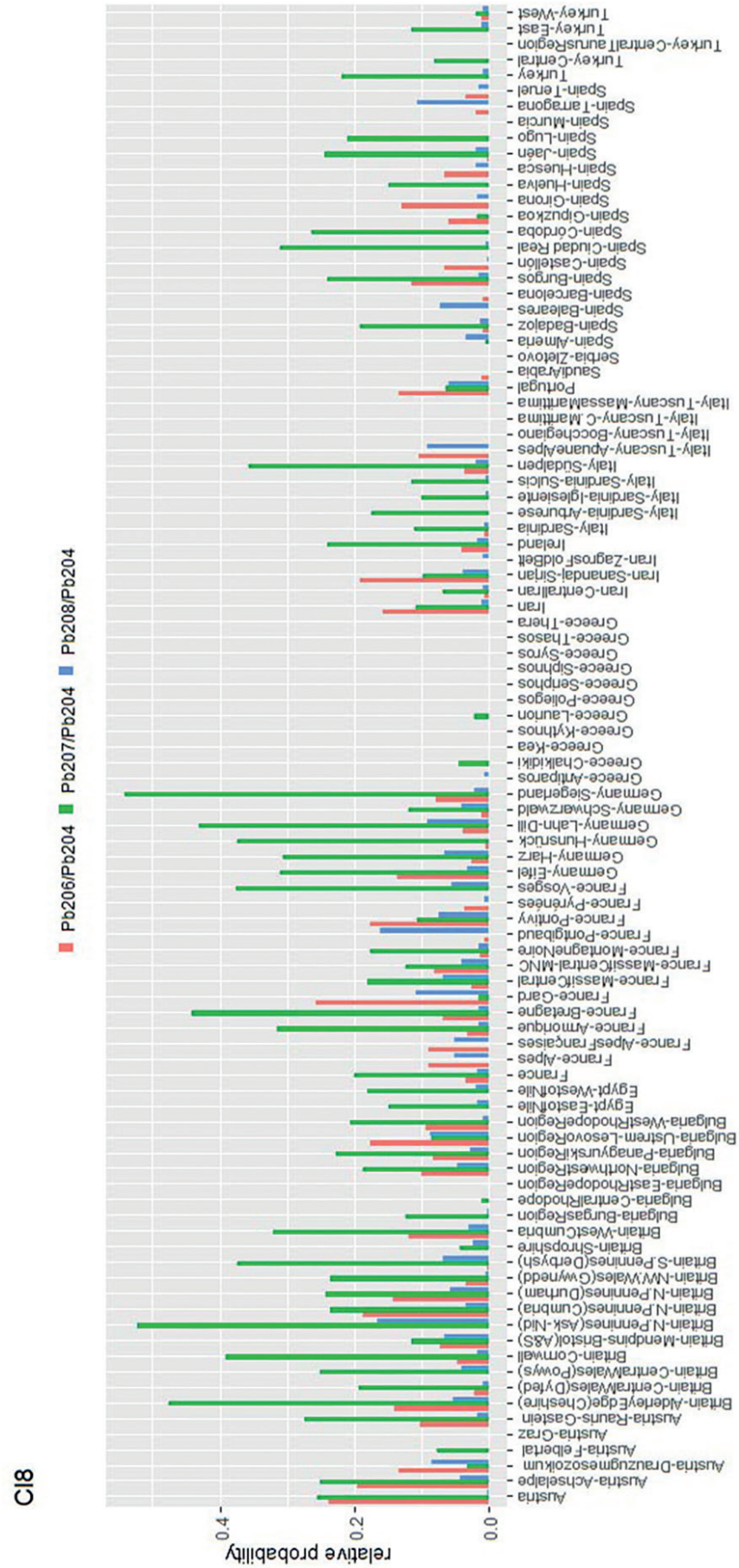


Fig. 23. An R plot shows the relative probability of regions where the lead ore may have been obtained. (Graph by Patrick DeGryse and Sarah De Ceuster).

varnish, most likely to improve the saturation and colour of the significantly corroded metal, which appears to have suffered from bronze disease in the past. This varnish had a close match with Paraloid B-72, a colourless thermoplastic acrylic resin, which has been frequently used in conservation as a coating, consolidant, and adhesive from the 1970s through the present.[32]



Fig. 24. Detail of left eye, imaged at 3.9× magnification. The surface is relatively featureless apart from burial accretions.

New Analytical Findings

Recent study also provided the opportunity for several more detailed analyses, beginning with sampling material from the head. Previous analyses established that the separately cast parts of the sculpture, including the main figure, the detached forearm and hand, the creature, and the baseplate, were cast from the same melt.[33] Because initial sampling locations were chosen to be both accessible and inconspicuous, the head was not sampled at that time. Thus, to fill this gap in information, a small hole was drilled about 3 mm deep into an area beneath the hair at the nape of the neck. The powdered bronze sample was sent to Patrick Degryse at KU Leuven in Belgium, and lead isotope values were obtained (Tab. 1). These values for the head were characterized as nearly identical to the previous data for samples from other portions of the sculpture. Using the kernel density approach, Degryse and colleagues additionally analysed the new sample from the head together with the lead isotope data previously obtained by Ernst Pernicka and colleagues in 2014. They reconfirmed that the source of the lead ore is not the Aegean or Greece but possibly corresponds to French, Bulgarian, or Iranian ores, sources that are also hard to distinguish from each other as their isotopic signatures overlap (Fig. 23).[34] Of course, this does not mean the sculpture could not have been manufactured in the Aegean, rather that the raw materials do not seem to have come from that region.

Tab. 1. Lead isotope values for Apollo's head.

	206Pb/204Pb	207Pb/204Pb	208Pb/204Pb	207Pb/206Pb	208Pb/206Pb	208Pb/207Pb
Cl8	18.402	15.62	38.491	0.849	2.092	2.464

A second question left from previous studies was how precisely to characterize the ostensibly ancient right eye (Fig. 5.b, Fig. 24), said to be stone. Even under 40× magnification, the material exhibits no surface features characteristic of the most frequently encountered inlay materials; these would include grain structure (such as in marble), Schreger lines or striations (on ivory or bone), or bubbles

32 A sample of the coating from the same arm was dissolved with acetone on a cotton swab and transferred to a Low-e microscope IR slide from Kevley Technologies. This was analysed in transflectance mode.

33 Snyder et al. 2017.

34 See De Ceuster – Degryse 2020 for kernel density approach to interpreting lead isotope signatures of ancient artifacts.

(in glass).[35] Thus, FTIR spectroscopy was used to analyse a small scraping from the underside.[36] The resulting spectrum was compared to various material libraries and most closely matched calcium carbonate. The relative hardness of the material when sampled and the absence of sulphates immediately ruled out alabaster and gypsum. Petrographer David Saja examined the object under magnification and confirmed these observations, offering further thoughts that pink fluorescence that had been noted under ultraviolet light could indicate manganese content, something typical of some calcites. To further determine whether the eye was carved chalk or calcite, an additional small scraping was obtained for polarized light microscopy. The material is extremely fine grained, compositionally homogeneous, with minor slightly larger tabular grains that exhibit pleochroism. Thus, despite the presence of modern clear acrylic adhesive around the perimeter of the eye, which had called into question whether it was indeed ancient, it is highly likely that the original eye is carved from calcium carbonate in the form of chalk, and it was simply re-secured during the most recent restoration.[37] For comparison, the sclerae of the Riace bronzes, formerly thought to be ivory, have recently been described as white calcite.[38]



Fig. 25. A photo of the material collected from the interior of the sculpture includes several pieces of red-orange fired clay.

A third area for analysis came about when the plugged opening in the left foot was removed, releasing a significant amount of material that had loosened and fallen through the interior (presumably over many years, with the vibration of each movement of the sculpture). An entire petri dish was quickly filled with bits of epoxy and fiberglass as well as dirt, sand, and fired terracotta material (Fig. 25). Although none of the terracotta pieces seemed to preserve any clear contours of the sculpture, they may have derived from the original clay core, and the number and size of the pieces (some 3–4 cm long) provided opportunities for sampling and analysis. Unfortunately, thermoluminescence (TL) testing could not be used because of the high amounts of radiation the object received during radiography, first in 2003 and again in 2021.[39] With this in mind, neutron activa-

35 Many ancient inlaid eyes have been identified visually yet not properly analysed. On eyes of Greek bronzes, see Descamps-Lequime 2015, 156–159; Giumlia-Mair 2015, 176. For an image of marble eyes of similar shape to that of the Cleveland Apollo, see Dafas 2019, Pl. 177c (from Olympia, no inv. numbers listed).

36 The scraping was obtained with a clean tungsten needle. See footnote 32 for FTIR analysis settings. A spot test of materials scraped from the underside showed the presence of lead, and more research is necessary to determine if this is due to contamination from the adjacent leaded bronze or whether possible lead content within the stone can help narrow its origin.

37 The adhesive was identified based on visual appearance, UV-induced fluorescence, and analysis of other similar material on the sculpture. See footnote 32.

38 See Giumlia-Mair 2015, 176, with additional reference.

39 TL dating is commonly used for clay objects, including bronze cores, to provide an estimate of when the crystalline material was last fired, by measuring the amount of radioactive energy stored since that high-temperature event. The materials would have absorbed enough additional radiation through the two known radiography sessions to exclude the possibility of dating them in this way. (Also, the above-mentioned exposure to a high-temperature environment could have reset the signal at whatever point it occurred.)

Tab. 2. Neutron Activation Analysis of terracotta fragment from inside sculpture.

ANID	CMB006
Alt_ID	2004.30
Na (%)	0.19
Al (%)	8.68
K (%)	2,90
Ca (%)	3.66
Sc	15.1
Ti (%)	0.43
V	109
Cr	87
Mn	875
Fe (%)	4.06
Co	16.2
Ni	48.9
Zn	109
As	23.4
Rb	152
Sr	100
Zr	111
Sb	2.26
Cs	12.0
Ba	891
La	41.2
Ce	82.4
Nd	36.5
Sm	7.21
Eu	1.39
Tb	0.97
Dy	5.84
Yb	3.03
Lu	0.42
Hf	5.5
Ta	1.29
Th	13.5
U	2.90

tion analysis (NAA) was sought in order to determine where the raw material of the ceramic was obtained. One terracotta fragment was sent to Mike Glascock and colleagues at the University of Missouri Archaeometry Laboratory. The lab team undertook sampling, analysis, and interpretation of the submitted fragment, identified as CMB006.[40] The terracotta was compared to five different compositional databases of pottery from the Mediterranean region, including more than 10,000 specimens from Greece (Tabs 2–3).[41] The results included 10 matches characterized by Glascock as "good" but not "excellent." According to his report, "All of the ten closest specimens were from the western Mediterranean which strongly suggests that the fragments are not from the Attic region of Greece."[42] Of these matches, the closest was to a terracotta figurine fragment found at Naxos, Sicily, but thought to be an import from either Catania or Syracuse on the east coast of Sicily.[43] The report continues "The next nine nearest specimens came from the Catalonia and La Rioja regions of Spain and were identified as samples of majolica pottery," before concluding "With the exception of strongly suggesting that the terracotta fragments came from the western Mediterranean, we are unable to link the sample to a specific production site."[44] Although this leaves open a vast range of potential production sites for the Cleveland Apollo—assuming that the terracotta fragments were indeed from the clay core of the sculpture, rather than intrusive material

40 Two analytical samples were prepared from each specimen, taken with a tungsten carbide drill bit. Neutron activation analysis of ceramics at MURR (University of Missouri Research Reactor) which consists of two irradiations and a total of three gamma counts, constitutes a superset of the procedures used at most other NAA laboratories. The analyses at MURR described above, produce elemental concentration values for thirty-three elements in most analysed samples. Statistical analysis was carried out on base-10 logarithms of concentrations of these elements. For further details on NAA, see Glascock – Neff 2003.

41 These include the legacy databases created by the Lawrence Berkeley Laboratory (LBL), Brookhaven National Laboratory (BNL), and Manchester University (operating between the late 1960s and the early 1990s), the Bonn laboratory (closed around 2005), and the MURR database, which is still active. The first four databases contain approximately 25,000 specimens and the MURR database contains over 22,000 specimens. It is important to note that 25% of the data pertains to ceramics and clays from Greece.

42 Quotation from Section 5.3, "(CMB006) Terracotta fragments from inside the leg of an Apollo statue by Glascock," in unpublished report, "Neutron Activation Analysis of Objects from the Collections of the Cleveland Museum of Art (ANIDS: CMB001-006)" (revised January 2023, supported in part by NSF grant BCS-1912776 to the Archaeometry Laboratory at MURR). The report was revised slightly following a second analysis taken from the same specimen, with the same ten closest matches, all in the MURR database.

43 The fragment is Naxos 2179; see Uhlenbrock 2002, 329, Fig. 3. Jaimee Uhlenbrock (personal communication) suggests Syracuse or Catania as likely origins for the fragment.

44 Quotation from Section 5.3, "(CMB006) Terracotta fragments from inside the leg of an Apollo statue by Glascock," in unpublished report, "Neutron Activation Analysis of Objects from the Collections of the Cleveland Museum of Art (ANIDS: CMB001-006)" (revised January 2023, supported in part by NSF grant BCS-1912776 to the Archaeometry Laboratory at MURR).

not connected with its original manufacture—additional evidence may help to zero in on a smaller area, perhaps in or around eastern Sicily.[45]

Thin section petrography was also pursued in hopes of linking the clay with geographical regions from which it might have originated. Sonia Mugnaini and Marco Giamello, experts in diagnostics applied to cultural heritage conservation at the University of Siena, have undertaken the analysis of four pieces of terracotta material and three fragments of sandy material from the interior of the sculpture. This research is still in progress, so it remains unclear whether the terracotta relates to original manufacture, history of display, or restorations. We anticipate publishing the results of further analysis of this material when available.

Tab. 3. Terracotta specimens from MURR database matched to Cleveland fragment based on NAA.

ANID	Distance	Region	Country	Subregion	Site Name	Ware/Type	Period	Date Range
NAX035	0.0172	Western Mediterranean	Italy	Sicily	Sicilian Naxos	Figurine of Woman Holding Pig	Classical	Late 5th century BC
MAS081	0.0182	Western Mediterranean	Spain	Catalonia	L'Estartit	Majolica Tile	Spanish Renaissance	AD 16–17th century
MJ0210	0.0194	Western Mediterranean	Spain	Catalonia	Vilafranca Penedes	Majolica	Spanish Renaissance	AD 16–17th century
MJ0209	0.0195	Western Mediterranean	Spain	Catalonia	Vilafranca Penedes	Majolica	Spanish Renaissance	AD 16–17th century
NAJ053	0.0199	Western Mediterranean	Spain	La Rioja	Alcazar de Najera	Majolica	Spanish Renaissance	AD 16–17th century
MJ0201	0.0199	Western Mediterranean	Spain	Catalonia	Vilafranca Penedes	Majolica	Spanish Renaissance	AD 16–17th century
MJ0204	0.0200	Western Mediterranean	Spain	Catalonia	Vilafranca Penedes	Majolica	Spanish Renaissance	AD 16–17th century
MJ0234	0.0201	Western Mediterranean	Spain	Catalonia	Vilafranca Penedes	Majolica	Spanish Renaissance	AD 16–17th century
MJ0205	0.0202	Western Mediterranean	Spain	Catalonia	Vilafranca Penedes	Majolica	Spanish Renaissance	AD 16–17th century
MJ0230	0.0203	Western Mediterranean	Spain	Catalonia	Vilafranca Penedes	Majolica	Spanish Renaissance	AD 16–17th century

Digital 3D Model and Next Steps

A digital 3D model was created in 2022 using photogrammetry. The photogrammetric model was created with hundreds of photos taken in cross-polarized light to reduce surface gloss and glare and obtain the most accurate topographical information. The model is hosted on Sketchfab and available directly through the Cleveland Museum of Art website in Collection Online,[46] where users can view the sculpture in ways not possible in the galleries (from directly above or below, for example). For researchers, the model has proven useful with colour and surface texture removed to study the topography of the sculpture, especially in documenting patches. The location of patches and joins can also be clearly communicated through line drawings created from the 3D model (Fig. 3). In addition, the 3D model permits close comparison with digital models of similar but more complete Roman marble

45 It is worth noting that majolica pottery had a wide range of production sites, not only in Spain but also in eastern Sicily (at Caltagirone) and other parts of Italy. We have not yet identified the nine majolica specimens from Spain deemed close matches, but hope to do so as our research continues; perhaps, as Uhlenbrock has suggested (personal communication), these were imports to Spain from Sicily, which might explain their close matches to the Naxos fragment in the MURR database.

46 https://www.clevelandart.org/art/2004.30#3d (last access 23. 02. 2023). The model was produced by Howard Agriesti and Dale Utt III.

versions of the Apollo Sauroktonos, such as one now in Liverpool, from the Ince Blundell collection (Fig. 26). Thus, even when the actual sculptures cannot be physically displayed alongside one another (as the Liverpool and Louvre Apollos were in 2013 in Cleveland), viewers can take note of similarities and differences both obvious and subtle; some of these stem from differences in material, others from the piecing together of ancient and modern pieces.[47] Moreover, the digital model can communicate a range of possible spatial relationships between the figure, its detached hand, forearm, and creature, and numerous components that no longer survive, including the lower right arm and hand, the upper left arm, and the tree once used as a support. In the future, such visualizations might be incorporated into the gallery display as well as online. Finally, digital technology may allow additional interpretive technologies, such as incorporating radiographic images or images of the interior of the sculpture to help viewers understand certain details of ancient manufacture and modern reconstruction described above. Certainly, many questions remain about this important and enigmatic sculpture, and we hope that the digital model may encourage other scholars and students to engage with it in new and interesting ways.



Fig. 26. A 3D model overlay of the Cleveland Apollo with the Apollo Sauroktonos in Liverpool (NML, World Museum), allows for more direct comparisons (Overlay by Dale Utt III, Liverpool model by Ardern Hulme-Beaman).

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47 On the Ince Blundell Apollo (Ince 558, National Museums Liverpool, World Museum 59.148.12), see Bartman 2017, 78–81. Note that the head is ancient but perhaps from another sculpture, while significant portions of the arms, legs, and base with tree and lizard are modern. The Liverpool model was created by Ardern Hulme-Beaman.

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When bodies fall apart

Anatomical votives in pre-Roman Italy

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Abstract: Anatomical votives have largely been considered by scholars in connection with Roman expansion in Central Italy. Within this 'religious romanization' frame, scholars have viewed the presence of the anatomical terracottas of the 4th–2nd cc. BC as the material manifestation of Roman presence in the religious sphere of the Italian peninsula. This paper presents the results from recent and ongoing archaeological studies on pre-Roman sanctuaries in Central and Northern Italian and focuses on the presence of bronze body parts among their votive offerings. The data allows for a reconsideration of the influence of Rome on local religious traditions and sheds light on the mechanism of continuity and change after the Roman expansion.

Keywords: Pre-Roman Italy, votives, Roman expansion, archaeology of religion

Introduction

To this day in many catholic churches worshippers dedicate, among other offerings, small metal or wax anatomical body parts. This long-lasting practice of dedicating body parts to the gods is commonly considered to have roots in the ancient Greek and Roman classical world. Indeed, anatomical votives are well known in the Italian peninsula through the hundreds of terracotta body parts showcased in most archaeological museums of central Italy. From legs to feet, from breasts to ears and genitalia, the ubiquitous presence of terracotta anatomical models in mid-Republican Italy has led scholars to associate their presence with the expansion of Rome into the peninsula. Debates have focused on their origin and dissemination within Italy, the gender and social status of the dedicants, the technique of their manufacture, and their possible meaning. Ironically, given their widespread presence, very few scholars, if any, have directed their attention to similar body parts in bronze, widely attested in Italic sanctuaries long before Italic peoples encountered Roman culture.

One of the main reasons for the narrowly focused interest in anatomical votives in terracotta is their alleged cultural baggage. Their appearance in the Etruscan cities of the Tyrrhenian coast of central Italy as early as the end of the 5th century BC has been connected to the external influences of either Greece or Magna Graecia. Some scholars associate this tradition with the contacts between southern Etruscan cities and classical Greece, where the custom of dedicating anatomical votives made of clay and other materials became popular in the same century;[1] others trace it to the production of statues of worshipers and heads in the Veian and Faliscan area in which they recognize the influence of the masks from Sicily and Magna Graecia associated with chthonic cults.[2]

1 Lesk 2002, 200; Haynes 2000, 172–173; Huges 2017.

2 Comella 1981, 771–775; Fabbri 2010, 30.

Although there is no agreement on the origin of the Italic custom of dedicating anatomical fictile votive offerings, most scholars agree that there is a connection between the growing presence of these objects in the Italian peninsula in the 4th and 3rd centuries and Rome's colonizing ventures. Simply put, since Etruscan cities were among the first ones to be conquered by the Romans, the spread of anatomical votives outside Etruria and Latium has been read as the direct consequence of the exposure to, and the influence of, Roman hegemony.[3] According to this view, the arrival of Roman and Latin colonists caused local Italian communities to adopt religious practices from Rome and Latium. These votives have consequently become a convenient instrument to measure the religious Romanization of Italy. Some scholars go as far as to suggest that Rome deliberately used terracotta votives to integrate Roman ideology into non-Roman communities on a cultural level.[4] In this frame of reference, it is argued that colonies facilitated the spread of Roman ideology and function, as Olivier de Cazanove puts it, as "religious staging posts of Roman expansion."[5]

Within this traditional Romano-centric view, an often-posited assumption is that anatomical offerings had a healing function. Several scholars consider them to be offerings given in thanks for healing received in response to a worshipper's vow or a request for the *sanatio* of a wounded or ill part of the body.[6] Often they associate this class of material with therapeutic and fertility cults such as that of Aesculapius.[7] According to this conventional view, votive representations of feet, hands, etc., symbolized the body parts that needed healing by the god or those that had already been healed. Given this understanding, it is not surprising that thermo-mineral waters near cult sites, to this day thought to have salutary properties, have often been regarded as an essential confirmation of the healing nature of anatomical offerings.[8]

The assumption that votive body parts are linked to healing has its critics. Scholars such as Glinister and Recke have pointed out the difficulties of attributing anatomical votives exclusively to the field of sickness and healing and suggested a less literal and more nuanced interpretation.[9] Emphasizing the late arrival of the healing cult of Asclepius in Italy and the broad range of deities to whom body parts were dedicated, Glinister associates anatomicals with rituals of wholistic well-being rather than medical health. This broader connotation encompasses wishes for a healthy, serene, and prosperous (physically and morally) life and not necessarily a concern for healing. Along similar lines, Recke proposes an alternative explanation for the dedication of body parts. He suggests that hands may have expressed the prayer of the dedicant, feet represented the donor's journey, eyes would have shown the god's attention, ears could have been intended as a sign of being heard by the deity, and heads may have symbolized the everlasting presence of the dedicant in the sanctuary.

Due to the scholarly focus on anatomical terracottas, little attention has been given to body parts made of bronze. These objects have not yet been the object of a systematic investigation. They are, for example, absent in the reference book on pre-Roman figurative bronzes, Colonna's Bronzi

3 Torelli 1999; de Cazanove 2000; de Cazanove 2015a; de Cazanove 2016, 75; Fabbri 2019, 16.

4 Coarelli 2000; de Cazanove 2001, 191.

5 de Cazanove 2000, 75.

6 Lesk 2002; Fabbri 2010; Iozzo 2013, 16; de Cazanove 2013; Nocentini 2018, 25; Dicus 2019, 502; Bassani et. al. 2019, 117, 141.

7 See, for example, Turfa 1994; Potter – Wells 1985; Comella 1981; Dicus 2012; Hughes 2017; Draycott – Graham 2017 with previous bibliography. In addition to the healing function of the anatomical votives, the last two authors also explore the possibility that they may indicate concerns about the fragmentation of the body and the relation between the whole and single parts.

8 Griffith 2013; Bassani et al. 2019 in particular 141–165. In general, on the topic of thermo-mineral springs in Italy and their healing function: Annibaletto et al. 2014; de Cazanove 2015a; Bassani-Ghedini 2016.

9 Glinister 2006; Recke 2013.

Votivi Umbro-Sabellici,[10] which focuses on human figurines, If considered at all, in some site/museum-specific catalogs and broad discussion on Italic religions, they are succinctly identified as signs of a healing cult[11] and, in some cases related to the alleged presence of sacred waters, the symbol of health and fertility par excellence.[12] Although they mostly represent the same body parts as the later ones molded in terracotta, bronze votives are largely excluded from discussions of religious romanization of the peninsula.[13]

Despite this lack of scholarly attention, the presence of bronze body parts in several cult sites deserves further study. In particular, it triggers two questions this article aims to address. First, are there other possible meanings associated with the dedication of these objects besides the common connection with health and fertility? Second, what role do they play in the diffusion of terracotta anatomicals during the Roman period and in the current academic discourse on religious romanization? Bringing bronze dedications into conversation with the widespread practice of dedicating anatomical terracottas during the Roman period (3rd–1st centuries BC),[14] this paper explores the diffusion of anatomical offerings in pre-Roman Italy. In doing so, it questions the religious change often associated with the anatomical terracottas of the Roman period. On a journey, by necessity short, from Northern to Central Italy (Fig. 22), from mountains to plateaus, from lakes to caves, the argument is structured as follows: First, I showcase all sanctuary sites that have yielded anatomical bronzes to date and briefly describe their topography, architecture, and votive deposits.[15] Then, based on this discussion, I propose a possible meaning behind the deposition of such objects and join the ongoing discussion on the impact of Roman expansion in the transformation of ancient Italy. Ultimately, by tracing the presence of anatomical votives back in time, I suggest an alternative to the conventional view that regards anatomical terracottas as a clear sign of Roman conquest and as an instrument of Roman domination on a cultural level. Instead, I advocate for a more nuanced approach to the dynamics of interaction between Italic people and the Romans during the period of Roman conquest.

Veneto

Although rarely mentioned and poorly integrated into the scholarly debate on Roman expansion, bronze anatomical votives were widely present in the peninsula before the Romans began to encroach on surrounding territories. From north to south, the first area which has yielded pre-Roman anatomical bronzes corresponds to the modern region Veneto, occupied by the peoples known by the Romans as the Veneti. Their associated territory was rich and diverse, stretching from the low-lying and fertile areas around the Venetian lagoon and the Po delta to the high Alps. In contrast with Central Italy, where the Romans began their expansion as early as the 4th century BC, the Veneto region remained independent until 89 BC, when the entire peninsula was granted Roman citizenship.

10 Colonna 1970.

11 Colonna 1985, 24; Sassatelli 1990, 600; Cagianelli 1999, 14; Chieco Bianchi 2002, 20; Groppo 2011, 90; Bonomi – Malacrino 2011, 79; Turfa 2013, 1033; Cristofani 1985, 150; Caravale 2003, 127; Vilucchi et al. 2001; Haynes 2000, 252, 125; Nocentini et al. 2018, 73; Borchi 2007, 68. Interestingly, this class of material is almost entirely overlooked in most publications on Umbrian sanctuaries.

12 Roncalli 1989, 114, 124.

13 In their recent contribution on lakes and groves as markers of healing cults in Central Italy, Edlund-Berry and Turfa (Bassani et al. 2019, 141) focus on anatomical votives in terracotta and limit themselves to noting that "a few metal versions are known for earlier periods"; Cagianelli 1999, 14 provides a first but incomplete list of sites that yielded bronze anatomical parts.

14 I refer to these centuries as Roman period, Hellenistic Period, or Middle/Late Republican period.

15 I do not delve into the stylistic description of the objects as this lies beyond the scope of this contribution.

Lagole

Lagole, located southeast of Calalzo di Cadore in the upper Piave Valley on the lower slopes of the Alps, was the site of an important Venetic shrine excavated between 1949 and 1956.[16] The open-air sacred area was centered around a small lake fed by several mineral springs and was used from the 4th century BC to the Roman period, as indicated by the presence of coins dated to 380 AD.

These include small square bronze plaques—some inscribed with the name of the person making the offering and the dedication—ladles, cups, other drinking vessels, and seventy bronze figurines, among which is a small, bent right arm (Fig. 1).

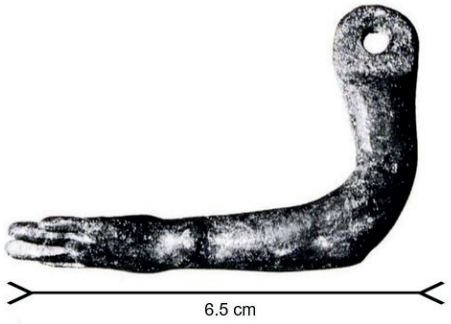


Fig. 1. Bronze arm from Lagole (after Gambacurta – Fogolari 2001, 81; by permission of the Soprintendenza archeologia belle arti e paesaggio per l'area metropolitana di Venezia e le provincie di Belluno, Padova e Treviso).

San Pietro Montagnon

San Pietro Montagnon, in the municipality of Montegrotto at the border between Este and Padua, was the site of the fortuitous discovery of thousands of pots and bronze figurines. Between the end of the 19th and the beginning of the 20th century, a series of systematic excavations identified the presence of a buried thermal lake. Inside this lake basin, a 50 cm deep deposit of ceramic and bronze dated to between the 7th to the 3rd century BC was found lying on a clay surface. At the center of the lake, the presence of deep oak posts suggested that a platform for a cult structure or statue may have been in place.

The votive offerings amount to three thousand five hundred complete ceramic vessels, eighty bronze animal and horse figurines, and two anatomical bronzes consisting of an outstretched right arm and a left leg (Fig. 2.a–b).

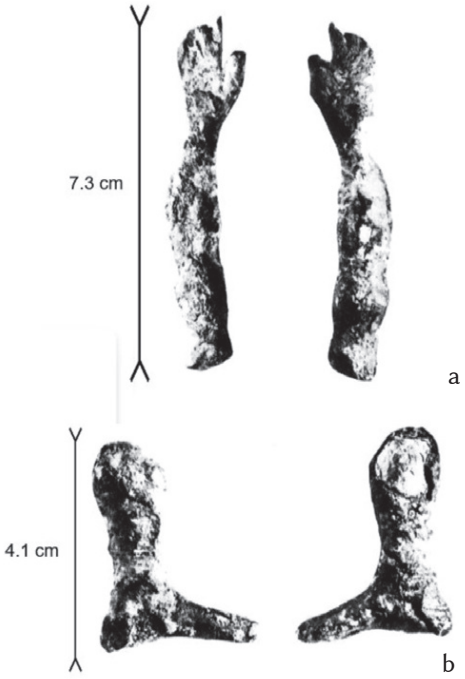


Fig. 2. a – Bronze arm and foot from Montegrotto (after Dämmer 1986, Tab. 17.70a; by permission of the Soprintendenza archeologia belle arti e paesaggio per l'area metropolitana di Venezia e le provincie di Belluno, Padova e Treviso), b – Bronze foot from Montegrotto (after Dämmer 1986, Tab. 17.73a; by permission of the Soprintendenza archeologia belle arti e paesaggio per l'area metropolitana di Venezia e le provincie di Belluno, Padova e Treviso).

Villa di Villa

Construction work carried out in 1976 in a quarry on the southern slopes of the Monte Castelir, in the locality Villa di Villa, brought to light a number of bronze objects spanning from the 5th–4th century BC to the Roman occupation of the area.[17] Although the materials were found in a secondary deposition and had most likely fallen from the above plateau, they were immediately considered part of a votive deposit. Following this fortunate discovery, archaeological work conducted on the

16 Gambacurta – Fogolari 2001.

17 Maioli et al. 1992.

mountain confirmed the cultic function of the area, which, at least during the Roman time, appears to have been equipped with artificial terraces used to regularize the slopes of the mountain and a *favissa*, a sacred pit where ritual items used in the temple would be buried.[18] In addition, the large number of iron nails and planks has led excavators to hypothesize that a sacred building once stood on the plateau.

The votive objects retrieved from the Monte Castelir include eighty-eight bronze male figurines, two lower parts of male figurines (Fig. 3), thin bronze plates dated to the 5th BC, and fibulae red slip and gray ware of the 1st century BC.



Fig. 3. Two bronze lower busts from Villa di Villa (after Maioli et al. 1992, Tab. 22; by permission of the Soprintendenza archeologia belle arti e paesaggio per l'area metropolitana di Venezia e le provincie di Belluno, Padova e Treviso).

Lova

Lova, a small hamlet in the municipality of Campagna Lupia near the Venetian lagoon, has been the subject of extensive excavations carried out in the late 1980s and then resumed in 1994 and 2009/2010.[19] These revealed the presence of a sanctuary at the river mouth of the Moedacus (modern Brenta River) belonging to the 2nd century BC but where ritual activity appears to have begun in the 4th century and continued until the 1st century BC. The complex, whose layout suggests that more than one deity may have been worshipped, is articulated in three cult rooms facing onto a central court (Temples A, B, and C) and a smaller rectangular building (Temple D).

Over one hundred bronze figurines, including two bronze legs and one foot (Fig. 4.a–b), have been found near the well on the northern side of Temple B and in the area of Temple A and have been dated between the 4th and the 3rd century BC. Alongside these objects, republican asses, jars, and cookware came to light, together with four gold rings—two of them with the name of the owners—dated to the first half of the 1st century AD.

Este, Sanctuary of Raetia

The Sanctuary of Raetia at Baretella, just outside Este and 1.5 km southeast of the ancient Venetic settlement, was the most important cult place in the Veneto region. The shrine was discovered in 1880 on private property and excavated by landowners between 1880 and 1890. More scientific archaeological investigations resumed in 1987 under the direction of Heinz-Werner Dämmer.[20] These uncovered a sacred area

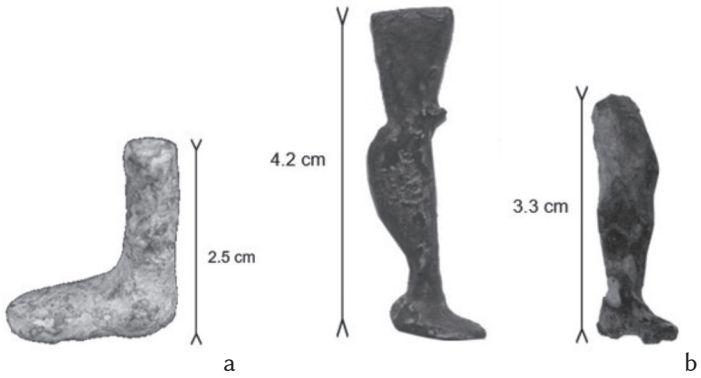


Fig. 4. a – Bronze foot from Lova (after Groppo 2011, 98.15, Tab. 22; by permission of the Soprintendenza Archeologia, belle arti e paesaggio per il Comune di Venezia e Laguna), b – Bronze legs from Lova (photo by Arianna Zapelloni Pavia; by permission of the Soprintendenza Archeologia, belle arti e paesaggio per il Comune di Venezia e Laguna).

18 Boaro – Leonardi 2005.

19 Bonomi – Asolati 1995; Bonomi – Malacrino 2009; Bonomi – Malacrino 2011; Vigoni 2012.

20 Ruta Serafini 2002; Chieco Bianchi 2002; Ickler 2013.

lying on a terrace near the old branch of the Adige River and consisting of an open-air shrine equipped with small altars, hearth-pits, and a 1st century BC porticus divided into five rooms.

Ritual activities at the site span from the end of the 7th century BC to the 2nd century and are attested by fourteen thousand votive offerings. These range from loom weights and fibulae to bronze sheets, bronze figurines, bronze objects, and hundreds of writing tools inscribed with formal dedications to the goddess Raetia or simply with alphabetic signs. The one hundred thirty figurines of the pre-Roman period (5th–4th century BC) include fourteen anatomical votives: one arm, three male genitalia, four legs, two feet, two hands, and two lower bodies (one female and one male; Fig. 5.a–f).



Fig. 5. a – Bronze arm from the Sanctuary of Reitia, Este (photo by Arianna Zapelloni Pavia; by permission of the Direzione Regionale Musei del Veneto), b – Bronze male genitalia from the Sanctuary of Reitia, Este (photo by Arianna Zapelloni Pavia; by permission of the Direzione Regionale Musei del Veneto), c – Bronze legs from the Sanctuary of Reitia, Este (photo by Arianna Zapelloni Pavia; by permission of the Direzione Regionale Musei del Veneto), d – Bronze feet from the Sanctuary of Reitia, Este (photo by Arianna Zapelloni Pavia; by permission of the Direzione Regionale Musei del Veneto), e – Bronze hands from the Sanctuary of Reitia, Este (photo by Arianna Zapelloni Pavia; by permission of the Direzione Regionale Musei del Veneto), f – Bronze lower body parts from the Sanctuary of Reitia, Este (photo by Arianna Zapelloni Pavia; by permission of the Direzione Regionale Musei del Veneto).

Etruria

The area extended from the Arno and Tiber on the Tyrrhenian Sea to the Apennines and along the Upper Adriatic, including Rimini and Bologna. Inscriptions and archaeological finds in Campania around the Bay of Naples and at Capua and Pontecagnano attest to another Etruscan enclave. After the conquest of Veii in 396, Rome began to gain power in the region through control of the Tiber and the salt mines, as well as the establishment of colonies, allies, and treaties.

Our exploration of Etruscan cult places will begin with the Etruscan Po-Territory, known today as Padanian Etruria,[21] and continues in Northern Etruria, an area roughly corresponding to northern

21 Beside the votives from Marzabotto presented below, another area that yielded bronze anatomicals is Modena. A bronze leg, whose findspot remains unknown, is now displayed at the Museo Civico Archeologico ed Etnologico di Modena and has been dated to the 5th century BC: Miari 2001, Tab. 9.11.

Tuscany (between the Arno River to the north and the Albegna River to the south) and eastern Umbria (west of the Tiber River).[22]

Marzabotto

Fontile Sanctuary

The Fontile Sanctuary, considered to be a cult place dedicated to sacred water, was identified between 1968 and 1969 in the suburban part of Marzabotto, on the northern edge of the Misano plateau.[23]

The monumental area measures 9 m on the N–S side and 7.5 m on the E–W side. It consists of a drainage channel with N–S orientation in adduction and in connection with a basin lined in terracotta where the spring water was captured and contained, some of it in a well 1.5 m deep. The well and the tank are built in opus quadratum and are slightly off-center in the direction of the eastern perimeter boundary.

Votive offerings found in situ indicate that the sanctuary was in use from the mid-6th to the 4th century BC. From an open-air part of the sanctuary come fourteen figurines of male and female offerors, two anatomicals (one foot and one leg; Fig. 6.a–b), bowls in marble and terracotta, including a 'Little Master' cup dating to the sixth century, and two Siana cups dating to around 540 BC, as well as several cippus bases that once held the figurines.

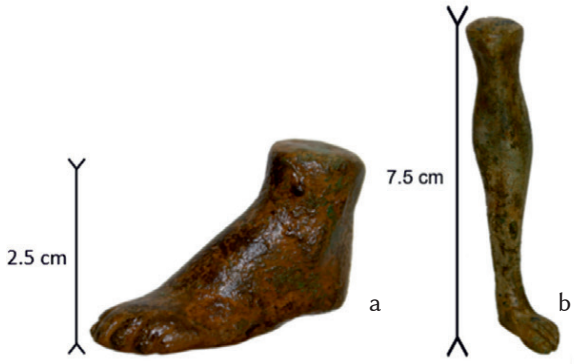


Fig. 6. a – Bronze foot from the Fontile Sanctuary, Marzabotto (Photo by Arianna Zapelloni Pavia; by permission of the Direzione Regionale Musei Emilia-Romagna), b – Bronze leg from the Fontile Sanctuary, Marzabotto (Photo by Arianna Zapelloni Pavia; by permission of the Direzione Regionale Musei Emilia-Romagna).



Fig. 7. Bronze legs and arms from the slopes of the Acropoli in Marzabotto (Photo by Arianna Zapelloni Pavia; by permission of the Direzione Regionale Musei Emilia-Romagna).

Acropolis

In 1939 and 1941, 34 bronze figurines were found on the slopes of the city's acropolis hill (Misanello).[24] These include male and female worshippers and four anatomicals—two arms and two legs (Fig. 7).

Fonte Veneziana

The Fonte Veneziana deposit was discovered in 1869 in the area called Fonte Veneziana, located within the modern city of Arezzo and corresponding to the north-east edge of the hill of S. Donato, where the Etruscan settlement of Aretium was located.[25] In a field belonging to his property, antiquarian Francesco Leoni recovered the remains of a round masonry construction (perhaps a votive pit) and one of the wealthiest Etruscan votive deposits.

22 Besides the anatomical figurines from this region discussed in the text, the Museo Claudio Faina in Orvieto displays a number of bronze anatomicals of unknown provenance: Caravale 2003, 126–130.

23 Sassatelli 1990; Miari 2000.

24 Mansuelli 1967; Vitali et al. 2001.

25 Bocci Pacini 1980; Bocci Pacini 1984; Cristofani 1985, 250–253; Vilucchi et al. 2001.

The latter comprises one hundred and eighty objects, including small bronzes from 530–480 BC, [26] small jewelry, a large number of *aes rude*, and pottery fragments spanning from the 5th century to the end of the Republican period. Among the bronze figures are anatomical body parts—four arms, eyes, one male genitalia, and four heads (Fig. 8.a–f)—which scholars connected to a healing cult due to the sacred deposit's proximity to a water fountain.[27]

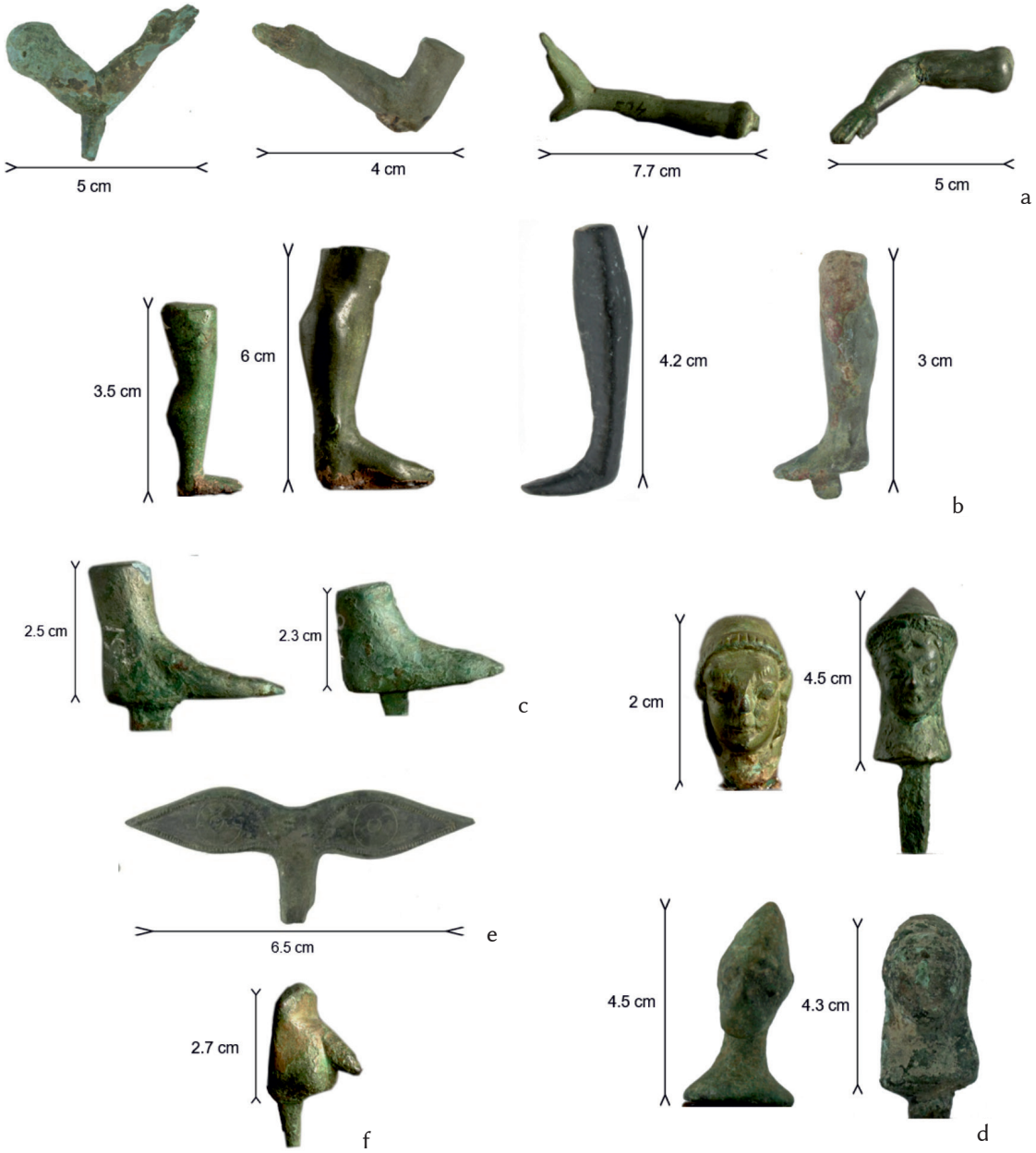


Fig. 8. a – Bronze arms from Fonte Veneziana (Photo by Arianna Zapelloni Pavia; by permission of the Museo Mecenate di Arezzo), b – Bronze legs from Fonte Veneziana (Photo by the Arianna Zapelloni Pavia; by permission of the Museo Mecenate di Arezzo), c – Bronze heads from Fonte Veneziana (Photo by Arianna Zapelloni Pavia; by permission of the Museo Mecenate di Arezzo), d – Bronze eyes from Fonte Veneziana (Photo by Arianna Zapelloni Pavia; by permission of the Museo Mecenate di Arezzo), e – Bronze male genitals from Fonte Veneziana (courtesy of the Museo Archeologico Nazionale di Firenze).

26 The bronze figurines were initially dispersed among multiple collections and then identified by Bocci in the 80s' as belonging to the same deposit: See footnote 23.

27 Bocci Pacini 1980, 88; Cristofani 1985, 250; Turfa 2013, 1033; Vilucchi et al. 2001, 116.



Fig. 9. a – Bronze heads from the Lake of the Idols (Photo by Arianna Zapelloni Pavia; by permission of the Soprintendenza Archeologia, Belle Arti *e* Paesaggio per le province di Siena, Grosseto e Arezzo), b – Bronze legs from the Lake of the Idols (Photo by Arianna Zapelloni Pavia by permission of the Soprintendenza Archeologia, Belle Arti e Paesaggio per le province di Siena, Grosseto e Arezzo), c – Bronze feet from the Lake of the Idols (Photo by Arianna Zapelloni Pavia by permission of the Soprintendenza Archeologia, Belle Arti e Paesaggio per le province di Siena, Grosseto e Arezzo), d – Bronze hand from the Lake of the Idols (Photo Arianna Zapelloni Pavia by permission of the Soprintendenza Archeologia, Belle Arti e Paesaggio per le province di Siena, Grosseto e Arezzo).

Lake of the Idols

The Lake of the Idols is located in Arezzo province at the highest ridge of the northern Apennines and some 1380 m a.s.l. atop Mt. Falterona. According to tradition, a shepherd's discovery of a bronze statuette of Herakles in 1838 on the banks of a small lake led to the draining of the water and the recovery of an impressive number of metal finds that worshipers had once thrown or floated in the water. Recent excavations carried out between 2003 and 2007 clarified the physiognomy of the votive deposit and its chronology which seems to span from the 6th to the 4th century BC.[28]

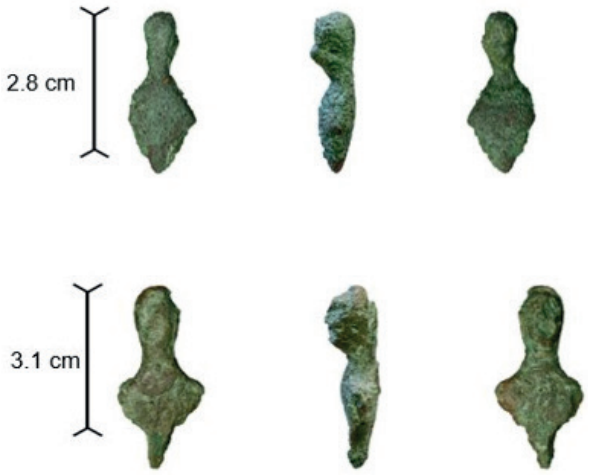


Fig. 10. Bronze heads from Albagino (after Nocentini 2018, 98, A13 and A14; by permission of the Soprintendenza Archeologia, Belle Arti e Paesaggio per la città metropolitana di Firenze e le province di Pistoia e Prato).

The findings amount to six thousand items, including over six hundred bronze figurines (female, male, and warrior figurines), one hundred fragments of *aes rude* vases, and two thousand arrowheads, which may indicate that the cult had a militaristic character. The bronze anatomical votives include twelve small heads, eight legs, two feet, two arms, one hand, one female breast, and one pair of eyes (Fig. 9.a–e).[29] Scholars have assumed that these votives are associated with healing and the curative qualities thought to have been attributed to the lake.[30]

Albagino

In the northern Apennines, the Albagino plateau lies on the northeastern side of Mt. Gradi at an altitude of 625 m and is protected by woods, lakes, and mountains. Ongoing archaeological investigations on the plateau near a dried-up lake have yielded the discovery of fourteen bronze figurines from the 5th century BC, including warriors, animals, male and female (?) votive offerings, and two small heads (Fig. 10).[31]

Fiesole

Main sanctuary

The main sanctuary of the Etruscan town of Fiesole, located on a hill overlooking the Arno valley and in use between the 7th century BC and the Roman imperial period, has yielded the remains of a Late Archaic temple. These consist of fragments of a block carved with a recumbent lion, a frieze of lotus, palmettes, and spirals—possibly part of a monumental altar—and several bronze votive statuettes found inside the temple's *cella*.[32] These depict female and male worshipers, and body parts: two bronze legs, two feet, one left arm, one right arm, and three bronze heads (Fig. 11.a–c).[33] The presence of anatomicals in bronze among the votive findings led to the speculation that the temple was dedicated to a healing deity, perhaps Minerva.[34]

28 Borchi 2007; Settesoldi 2013.

29 The last two are unfortunately missing.

30 Cristofani 1985, 253; Fedeli 2001, 53 and 90; Nocentini 2018, 73.

31 Nocentini 2018, 83–101.

32 Orlandini-Passigli 1990, 85–91; Cagianelli 1997.

33 The arms and one head are reported missing by Cagianelli (Cagianelli 1997, 49, 190–191).

34 Haynes 2000, 252.



Fig. 11. a – Bronze legs and feet from the main sanctuary at Fiesole (photos by Chiara Ferrari; by permission of the Soprintendenza Archeologia, Belle Arti e Paesaggio per la città metropolitana di Firenze e le province di Pistoia e Prato), b – Bronze arm from the main sanctuary at Fiesole (after Cagianelli 1997, Tav. 14.37; by permission of the Soprintendenza Archeologia, Belle Arti e Paesaggio per la città metropolitana di Firenze e le province di Pistoia e Prato), c – Bronze heads the main sanctuary at Fiesole (photos by Chiara Ferrari; by permission of the Soprintendenza Archeologia, Belle Arti e Paesaggio per la città metropolitana di Firenze e le province di Pistoia e Prato. The image on the right is after Cagianelli 1997, Tav. 14.36; by permission of the Soprintendenza Archeologia, Belle Arti e Paesaggio per la città metropolitana di Firenze e le province di Pistoia e Prato).

Villa Marchi

The main sanctuary of Fiesole is not the only area where anatomical bronzes have been discovered. In 1932, during the construction of a small villa on the private grounds of Villa Marchi, forty-four bronze figurines, some still attached to their stone bases and dated to between the 6th and the 5th century BC, were identified on the site of a small rectangular building.[35] The rich votive deposits include women and men worshipers and seven small bronze heads (Fig. 12).

35 Mingazzini 1932.



Fig. 12. Bronze heads from the votive deposit in loc. Villa Marchi (photos by Chiara Ferrari; by permission of the Soprintendenza Archeologia, Belle Arti e Paesaggio per la città metropolitana di Firenze e le province di Pistoia e Prato).

Arna

Objects in the Bellucci collection preserved at the Archaeological Museum of Perugia have been identified as coming from one or more votive deposits. Although any record of their discovery is lost and the exact findspot unknown, their provenance from the ancient town of Arna, 10 km east of Perugia, is certain.[36] Among dozens of figurines of female and male offerors and animals, the assemblage includes four legs, four arms, and eight small heads.[37]

Magione

Between 1984 and 1986, excavations carried out by the Soprintendenza dell'Umbria on the upland of Magione, 18 km west of Perugia, brought to light the remains of an Etruscan sanctuary located on a dominant position overlooking the Trasimeno Lake.[38] The excavation revealed a small quadrangular room dug directly into the ground, with a floor in limestone slabs and walls in dry-stone masonry, perhaps a basin designed to collect spring water.[39] No temple was found, but a wooden temple structure, decorated with some of the architectural elements found among the fill material, has been hypothesized as originally standing above the small basin.

36 Feruglio 2001.

37 The objects are published in: Feruglio 2001.

38 Roncalli 1989, 113–123.

39 The presence of a water basin was conjectured primarily based on the few anatomical votives found during the excavations: Roncalli 1989, 114.

Among the materials found filling the quadrangular room, were courseware, black slip pottery, decorated architectural terracotta, roofing elements, and six hundred bronze figurines, among two of which represent body parts: one foot and one arm.[40] On the basis of the materials recovered, the use of the sacred space is believed to have spanned from the 5th to the 3rd century BC, with sporadic frequentations during the imperial period, as attested by the presence of sigillata pottery and coins.



Fig. 13. Bronze pair of legs from Bettona (Photo by Arianna Zapelloni Pavia; by permission of the Direzione Regionale Musei Umbria)

Bettona

Votive offerings from Bettona, located 20 km southeast of Perugia, were identified in two 19th century private collections.[41] They consist of thirty-eight bronze figurines dated between the end of the 6th and the beginning of the 5th century BC, representing male and female offerors, animals, and body parts. There are six specimens: two legs, one foot, two heads, and one pair of legs (Fig. 13).[42] Although no sanctuary site has been identified, the presence of anatomical votives has led to the hypothesis of a healing cult connected to a spring.[43]

Umbria

Bordering the Etruscan territory to the north and west, ancient Umbria encompassed a larger territory than the one embraced by the modern region. The former included the northern part of the Adriatic side of the Apennines (the modern regions of Le Marche and Emilia Romagna) but initially excluded Etruscan areas, such as Perusia and Volsinii. This position made the region a crucial node in Rome's progressive expansion toward the inland of Etruria and its northern extremities. In 299 BC, the Romans established the first colony in the Umbrian territory and secured the route towards the north which was threatened by the Gaul.

Monte Acuto

The site is at an altitude of 926 m on the summit of Monte Acuto. This mountain lies on the right bank of the Tiber River in northwestern Umbria. From its peak, it dominates the surrounding territories: the river and the Fratta plain, at the border between the Etruscan and the Umbrian regions. Between 1986 and 1995, archaeological campaigns brought to light a cult place used from the 6th to the 4th century BC and sporadically frequented until the 4th century AD.[44]

The sanctuary is characterized by a pseudo-rectangular enclosure (35 × 20 m) with a wall of about 3 m wide built with local stones and aligned and constructed without using mortar. On the western

40 Ten anatomical bronzes appear to have been retrieved during the excavation, but, unfortunately, eight are missing from the archaeological record.

41 Roncalli 1989, 124–133.

42 One bronze hand went missing but was originally part of the collection. The legs, foot, and heads are published in: Roncalli 1989, 125–126, 133.

43 Roncalli suggests the area of the ancient necropolis as a suitable cult area for a healing cult place: Roncalli 1989, 124.

44 For the topographic framework of the sanctuary and the excavation's results, see Cenciaioli 1991; Cenciaioli 1996; Cenciaioli 1998.

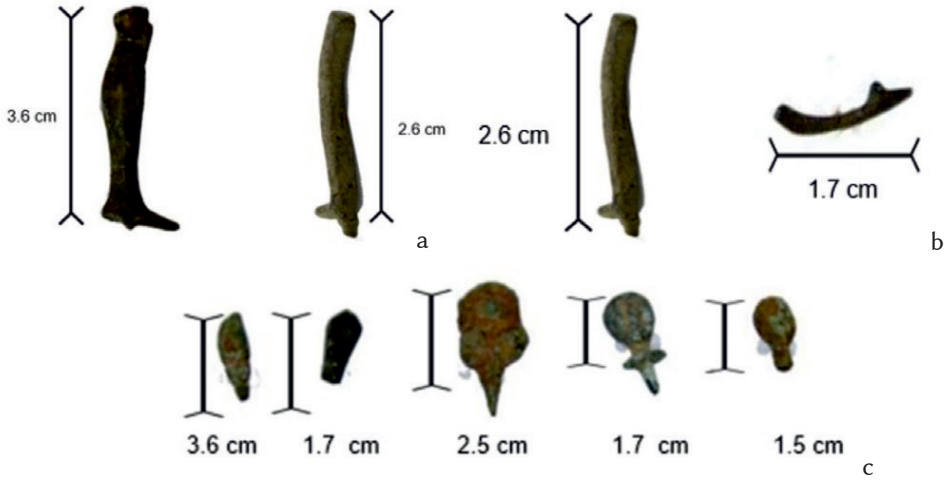


Fig. 14. a – Bronze legs from Monte Acuto (Photo by Arianna Zapelloni Pavia by permission of the Soprintendenza ABAP dell'Umbria), b – Bronze arms from Monte Acuto (Photo by Arianna Zapelloni Pavia by permission of the Soprintendenza ABAP dell'Umbria), c – Bronze heads from Monte Acuto (Photo by Arianna Zapelloni Pavia by permission of the Soprintendenza ABAP dell'Umbria).

side of the enclosure, a small drystone corridor led to the *sacellum*, made with two courses of drystone rocks. A 4 m deep votive pit has been identified as dug into the rock south of the sacellum. Besides bones and votive figurines, the pit has yielded brick fragments—interpreted as the material of the structure's roof—one spindle, impasto clay, the base of a cup, and a ribbed handle related to a previous occupation of the area.

The excavation has retrieved one thousand six hundred votive figurines representing males, females, warriors, animals, and body parts. These consist of nine specimens: five heads, two legs, and two arms (Fig. 14.a–c).

Colfiorito, Sanctuary of Cupra

The sanctuary site lies 200 m north of the ancient settlement of Plestia, in the large upland plateau of Colfiorito, situated in Apennine Umbria between modern Foligno (Umbria) and Camerino (Le Marche). Excavations carried out between 1962 and 1967 established that the sacred area was used from the 6th to the 1st century BC and equipped with a permanent architectural structure starting in the 4th century.[45] Although the complete layout of the sanctuary during this phase is unknown, it consisted of a temenos, wherein a small sacellum was erected. The latter was covered in the 3rd century BC with Etrusco-Italic architectural slabs depicting floral motifs (palms, garlands, lotus flowers) and antefixes with female and male heads. East of this room, there was a quadrangular basin, possibly a cistern.



Fig. 15. Bronze foot from Colfiorito, Sanctuary of Cupra (Photo by Arianna Zapelloni Pavia by permission of the Soprintendenza ABAP dell'Umbria).

A large number of votive materials were found scattered around the sacred area. The earliest findings include Etruscan red-figure pottery and two hundred and sixty bronze votive figurines, while

45 The results of the excavations have been briefly summarized in Ciotti 1964, 99–112; Feruglio 1966, 306; Manca – Menichelli 2014.

later finds include overpainted Etruscan/Faliscan vases, black gloss vessels, and coroplastic objects. The votive figurines depict males, females, warriors, and one foot (Fig. 15).

Cancelli

The sanctuary site is in the modern cemetery of Cancelli, 13 km east of Foligno (ancient Fulginae), on a mountain almost 1000 meters above sea level. It is situated in the heart of Apennine Umbria, along a mountain chain that marks the eastern boundary of the Umbrian valley, on the left of the River Menotre, a tributary of the Topino. Although the sacred area has been known since the last decade of the ninth century, it is only in recent years that the site has been the object of systematic archaeological campaigns.[46] In 2012 and 2013, excavations targeted the central and northern sectors of the modern cemetery of Cancelli. They exposed an area of 20 × 8 m belonging to the ancient cult place in use from the 6th century BC to the 1st century AD, when it seems to have been abandoned, possibly due to an earthquake.

No permanent architectural structure is known for the pre-Roman phase of the sacred area; its earliest monumental phase belongs to the 4th/3rd century BC and is attested by drystone walls built directly on the bedrock and the presence of a large dolium buried into the ground. In the 2nd century BC, these structures were rebuilt and rotated on a north-south/east-west axis. Three rooms—two of them equipped with floors in *opus signinum*—and a water channel were built following the new orientation. Although the function of these spaces remains unknown, a drain suggests that water-related rituals may have been performed in this period.

Votive objects of the 6th–5th century BC include vessels, one bronze fibula, one bronze pendant, loom weights, and twelve figurines representing warriors, worshippers, animals, and body parts—one head and one arm.[47]

Spoleto, La Rocca sanctuary



Fig. 16. Bronze arm from Spoleto, La Rocca (Photo by Arianna Zapelloni Pavia by permission of the Soprintendenza ABAP dell'Umbria).

The cult site takes its name, 'La Rocca,' from the imposing medieval papal fortress (Rocca Albornoziana) that occupies the entire summit of the Colle di Sant'Elia, a foothill of the Apennines (452 m above sea level) in the town of Spoleto in east-central Umbria. Although the construction of the Albornoziana Fortress leveled any preexisting structures, restoration and construction work carried out in the last thirty years on the slopes of the hill and inside the Fortress have yielded evidence of the existence of at least one sacred area used from the fifth century BC to the fourth century AD.[48] Although it was impossible to retrieve any ancient architectural structure, fragments of terracotta antefixes and *antepagmenta* could be attributed to the architectural and coroplastic decoration of the sacred building(s) that existed on La Rocca during the Roman period.

Votives included eleven bronze figurines of the pre-Roman period representing males, warriors, one bronze arm (Fig. 16) and several pottery fragments, one Roman bronze coin from the 3rd century BC, nine anatomical votives, two heads, and one terracotta figurine of a bovine dated to the Roman period.

46 Manca – Menichelli 2014.

47 These votives are published in: Manca – Menichelli 2014, 57.

48 The analysis of the pottery typologies found on La Rocca shows that the area was only scarcely frequented in the Imperial and the Early Medieval period. The first excavation results are published in Bruni et al. 1983; Ermini Pani et al. 2011 summarize all excavation seasons from 1993 to 2007.

Monte Santo sanctuary

The sanctuary site lies one km west of Todi in southern Umbria and close to the border between Etruria and Umbria. The existence of an archaic sacred place on Monte Santo has been hypothesized based on scattered material found on the mountain, namely a statue of Mars in the act of libation, parts of an honorary travertine column, and several small bronze figurines. The limited available evidence pinpoints two moments of the sanctuary's frequentation: the 5th and the end of the 1st century BC when Tuder became Colonia Iulia Fida Tuder.

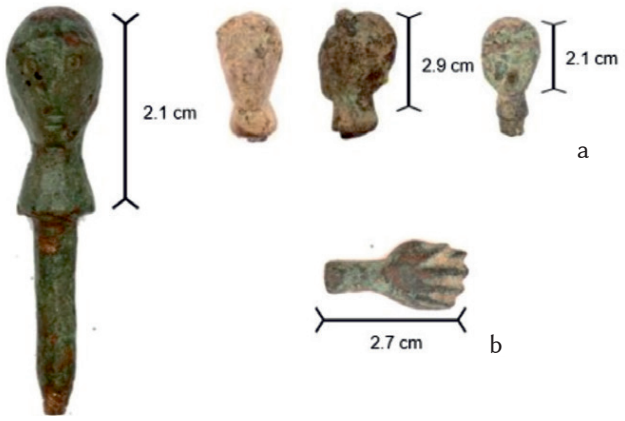


Fig. 17. a – Bronze heads from Monte Santo, Todi (Photo by Arianna Zapelloni Pavia by permission of the Soprintendenza ABAP dell'Umbria), b – Bronze hand from Monte Santo, Todi (Photo by Arianna Zapelloni Pavia by permission of the Soprintendenza ABAP dell'Umbria).

Forty-nine bronze figurines have been associated with the sacred area that may have existed on Monte Santo. These include figurines of male and female worshippers, warriors, striding men, and three body parts: two heads and one hand (Fig. 17.a–b).

Monte Moro

Monte Moro is a limestone upland mountain (696 m above sea level) located on the north bank of the Nera River, at the border between Umbrian and the Sabine territory. In 1998, 2004, and 2010 the Soprintendenza Archeologica per l'Umbria carried out archaeological campaigns and surveys of the mountain summit to investigate structures brought to light by previous clandestine excavations.[49] Here, the excavators identified the presence of a sacred building of the 2nd century BC whose stratigraphy had been entirely compromised by looters and reforestation activities. The complex was 26 m long and divided into at least four rooms with one corridor granting access to these spaces. Although it received an architectural form only in the Roman period, the ceramic analysis allowed excavators to determine that the area was used from the 5th century BC to the 3rd century AD when it seems to have been the object of spoliation aimed at removing construction materials. Only sporadic frequentation is attested in the 4th century AD.



Fig. 18. Bronze head from Monte Moro (Photo by Arianna Zapelloni Pavia by permission of the Soprintendenza ABAP dell'Umbria).

The votive material from the 5th century BC comprises fragments of *aes rude* and seventeen human and animal bronze votive figurines, among which one small bronze head (Fig. 18). This material has been found in two pits mixed with objects of the Roman period such as bronze nails, architectural elements, and anatomical votives in terracotta.

49 The results of the excavations are summarized by Sisani (Sisani 2013, 132–134).

Monte Torre Maggiore

The sanctuary site is located on the summit of Monte Torre Maggiore (1120 m above sea level). This mountain is the highest peak of the Monti Martani and lies about 20 km north of the Umbrian settlement of *Interamna Nahrs* (modern Terni) in southern Umbria. From 1984 to 2006, the peak of this mountain was the object of intermittent archaeological investigations that allowed excavators to ascertain its development as a cult site from the pre-Roman period to the 4th/5th century AD.[50]

In the 6th–4th century BC, the sanctuary site was not marked by permanent architectural structures. The original sacred area was most likely marked only by a funnel-shaped pit and a channel connected to it. Because of the pit's peculiar location in the pronaos of the later 3rd century temple (Temple A) and because it was found filled only with sterile sand, the excavators interpreted this depression as the foundation ditch, the *mundus*, of the sacred area. In the third century BC, a temenos in *opus quadratum* was laid around the area of the earlier pit and organized in nine small utility rooms. The center of this precinct was occupied by a temple (A), which incorporated elements of the Etrusco-Italic temple architecture and those of Hellenistic type.[51] This temple's plan did not obliterate the ritual pit of the sixth century BC, but incorporated it inside the *pronaos*, proof of its importance. The area underwent a second renovation in the 1st century BC. A second temple (B) in *opus caementicium*, covered with limestone slabs, was built northwest of temple A and oriented north–south. In addition to the construction of a new building, the renovation of the sanctuary included the extension of the temenos to the southern side with more facility rooms.

Ritual activity in the pre-Roman period is indicated by several fragments of *aes rude*, a gilded bronze object in the shape of a thunderbolt,[52] and almost two hundred bronze figurines of males, females, warriors, and anatomical body parts: five heads, one foot, and one hand (Fig. 19.a–c). These objects were recovered in disturbed layers throughout the sanctuary and in a well in the northwestern corner of the area, where they were mixed with later materials, such as fragments of pottery and terra sigillata, black gloss bowls, plates, miniatures vases, coins of the *as* and *semis* denominations, a black-gloss bowl, and anatomical votives in terracotta.

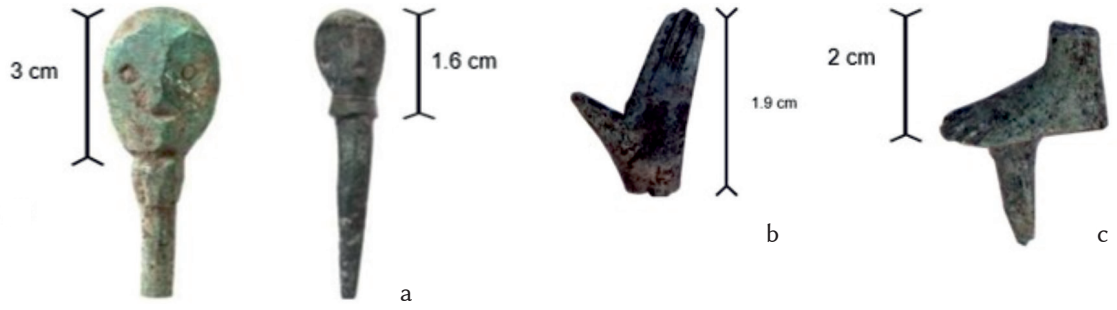


Fig. 19. a – Bronze heads from Monte Torre Maggiore (Photo by Arianna Zapelloni Pavia by permission of the Soprintendenza ABAP dell'Umbria), b – Bronze hand from Monte Moro (Photo by Arianna Zapelloni Pavia by permission of the Soprintendenza ABAP dell'Umbria), c – Bronze foot from Monte Moro (Photo by Arianna Zapelloni Pavia by permission of the Soprintendenza ABAP dell'Umbria).

50 Bonomi Ponzi – De Angelis 1988; Bonomi Ponzi 1989; Angelelli – Ponzi 2006, 118–130. The latter publication fully summarizes the results of these excavation seasons.

51 The temple was oriented east–west (11.8 × 7.9 m), with *pronaos* (5.7 × 2 m) and *cella* (5.7 × 5.7 m). The presence of fragments of columns around the temple and the impression left on the ground by a column's base allowed the excavators to hypothesize that, unlike Etrusco-Italic temples, the one on Monte Torre Maggiore was surrounded by columns on all sides. The entrance to the building was by a flight of stairs.

52 Bonomi Ponzi et. al. 1995, 47 have suggested that this object may either have been deposited as *fulgur conditum*, or buried lightning-struck object, or connected to Iuppiter Fulgurator, whose presence is attested at Interamna Nahrs during the Roman period.

Monte S. Pancrazio

The sanctuary is located on the southern Umbrian massif known as Monte San Pancrazio, some 9 km to the east of the ancient settlement of Ocriculum (modern Otricoli) in southern Umbria. Our knowledge of this site is highly fragmented. In the 1960s, following the fortuitous discovery of votive material on the mountain's slopes, Umberto Ciotti carried out an archaeological investigation of the mountain peak, where a few travertine blocks were visible on the mountain peak surface. In his short description of the Monte San Pancrazio sanctuary, he reports that he uncovered the remains of a Hellenistic porticus. Based on this evidence and the analysis of the votive objects, he suggests that the sanctuary was used until the second century BC.[53] However, the results of Ciotti's excavation remain undocumented, and the votive objects unpublished.

The material found scattered on the mountain peak includes twenty-seven bronze figurines of the pre-Roman period—among which were five heads, two arms, and two legs (Fig. 20.a–c)—, fragments of a terracotta head, and twelve coins of the Roman period.

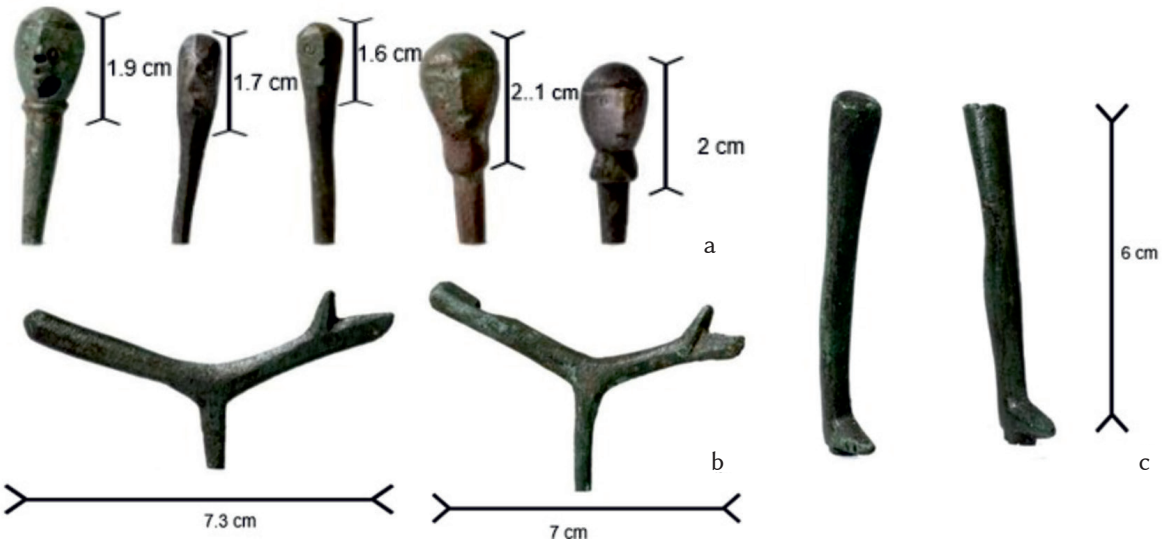


Fig. 20. a – Bronze heads from Monte S. Pancrazio (Photo by Arianna Zapelloni Pavia by permission of the Soprintendenza ABAP dell'Umbria), b – Bronze arms from Monte S. Pancrazio (Photo by Arianna Zapelloni Pavia by permission of the Soprintendenza ABAP dell'Umbria), c – Bronze legs from Monte S. Pancrazio (Photo by Arianna Zapelloni Pavia by permission of the Soprintendenza ABAP dell'Umbria).

Grotta Bella

The cave site is on the northeastern slope of Monte L'Aiola (756 m above sea level) in southern Umbria. This mountain is the easternmost extension of the Monti Amerini chain, between Monte Castellari to the south and Monte Pianicel Grande to the north. It now makes up the territory of Avigliano Umbro, eight kilometers from the town of Amelia (ancient Ameria) and some two kilometers east of the village of Santa Restituta. Excavations carried out between 1970 and 1974 revealed the presence of a deep stratigraphic sequence, which allowed for the identification of the cultic use of the cave between the 6th century BC and the 4th century AD.[54]

53 Ciotti 1964, 111. See also: Bonomi Ponzi 1989, 48.

54 In Neolithic times and during the Late Bronze Age the cave appears to have been used for habitation and burial. For an overview, see the discussion in Guerreschi et al. 1992 and Zapelloni – Larocca 2023, with an updated analysis of the cave layout and usage throughout time.

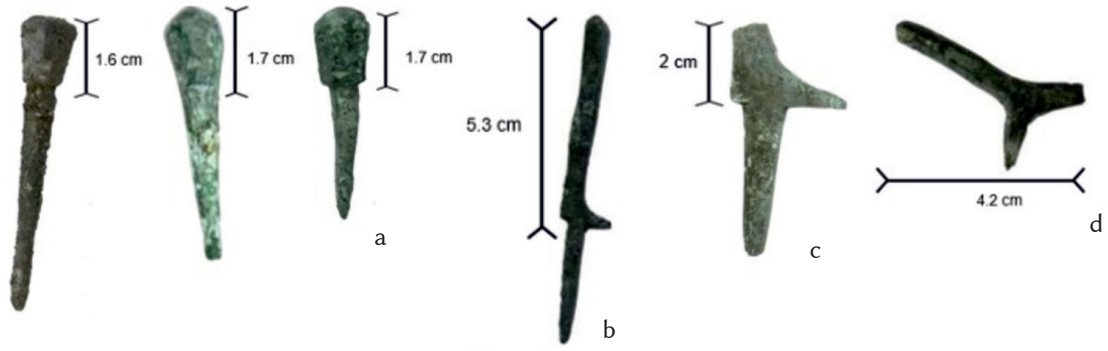


Fig. 21. a – Bronze heads from Grotta Bella (Photo by Arianna Zapelloni Pavia by permission of the Soprintendenza ABAP dell'Umbria), b – Bronze leg from Grotta Bella (Photo by Arianna Zapelloni Pavia by permission of the Soprintendenza ABAP dell'Umbria), c – Bronze foot from Grotta Bella (Photo by Arianna Zapelloni Pavia by permission of the Soprintendenza ABAP dell'Umbria), d – Bronze arm from Grotta Bella (Photo by Arianna Zapelloni Pavia by permission of the Soprintendenza ABAP dell'Umbria).

Votive objects that attest to the ritual use of the cave in the 6th and 5th century BC consists of pieces of *aes rude* and two hundred and eighty-nine figurines mostly made out of bronze (worshippers, warriors, animals, and body parts) and a few of lead (warriors, female figures, and shields).[55] Three of the seven anatomical votives represent heads; one a leg, one a foot, and one an arm (Fig. 21.a–d). These were found in disturbed soil layers during the excavation of the cave's main hall, mixed with earlier and later objects.

Discussion

The evidence presented here allows us to address the opening research questions regarding the meaning of the deposition of votive body parts and the role of bronze anatomical votives in the discussion on 'religious romanization' posed at the beginning of this study. Twenty-four pre-Roman deposits of bronze anatomical votives/sanctuary sites have been identified, with varying degrees of detail.[56] Nine are located on a high plain or mountain (Magione, Monte Acuto, Monte Torre Maggiore, Monte S. Pancrazio, Cancelli, La Rocca, Monte Moro, Colforito), five near lakes—either in a direct connection with a lake (Lagole, S. Pietro Montagnon, Lake of the Idols) or near one (Albaginо)—, two near rivers (Lova and Este), two near a fountain (Fontile Sanctuary in Marzabotto and Fonte Veneziana),[57] and one inside a cave (Grotta Bella) (Fig. 22).[58]

The location of these sanctuaries falls in line with that of most Italian sanctuaries, close to the prominent natural features of the local environment and exploiting the power of nature to inspire reverence and awe. Hilltops and mountaintops offered scenic views, and the elevated position contributed to the transition between the profane and the sacred or served specific rituals such as oracular or au-

55 The figurines are discussed by Monacchi 1988 and, more recently, by Zapelloni Pavia 2020 and Zapelloni Pavia – Larocca 2023.

56 Especially in the case of old excavations, there is no certainty about the original number of votive objects and their exact distribution within the sacred space. For example, at Fiesole the archaeological data has been poorly recorded and at Monte S. Pancrazio and Monte Santo, for example, it has not been recorded.

57 It is worth pointing out that, however, it is not proven that a fountain existed already in the 5th century BC at Fonte Veneziana.

58 This count excludes the votives found in secondary deposition and not in connection with a sacred area (Villa di Villa, Acropolis of Marzabotto, and Monte Santo) or those whose findspot is not known (Bettona and Arna).

gury activities. Caves, with their liminal quality of spaces of transition—between outside and inside, above and below, sacred and profane, light and darkness—lent themselves to ritualized activities that involved communications between two worlds. Bodies or sources of water had the twofold function of embodying divine power and serving as sources for rituals. In addition, thermal and mineral water was revered for its therapeutic affordances, spanning from anti-inflammatory/antiseptic properties to active relief against gastrointestinal, cardiovascular, and respiratory problems.[59]

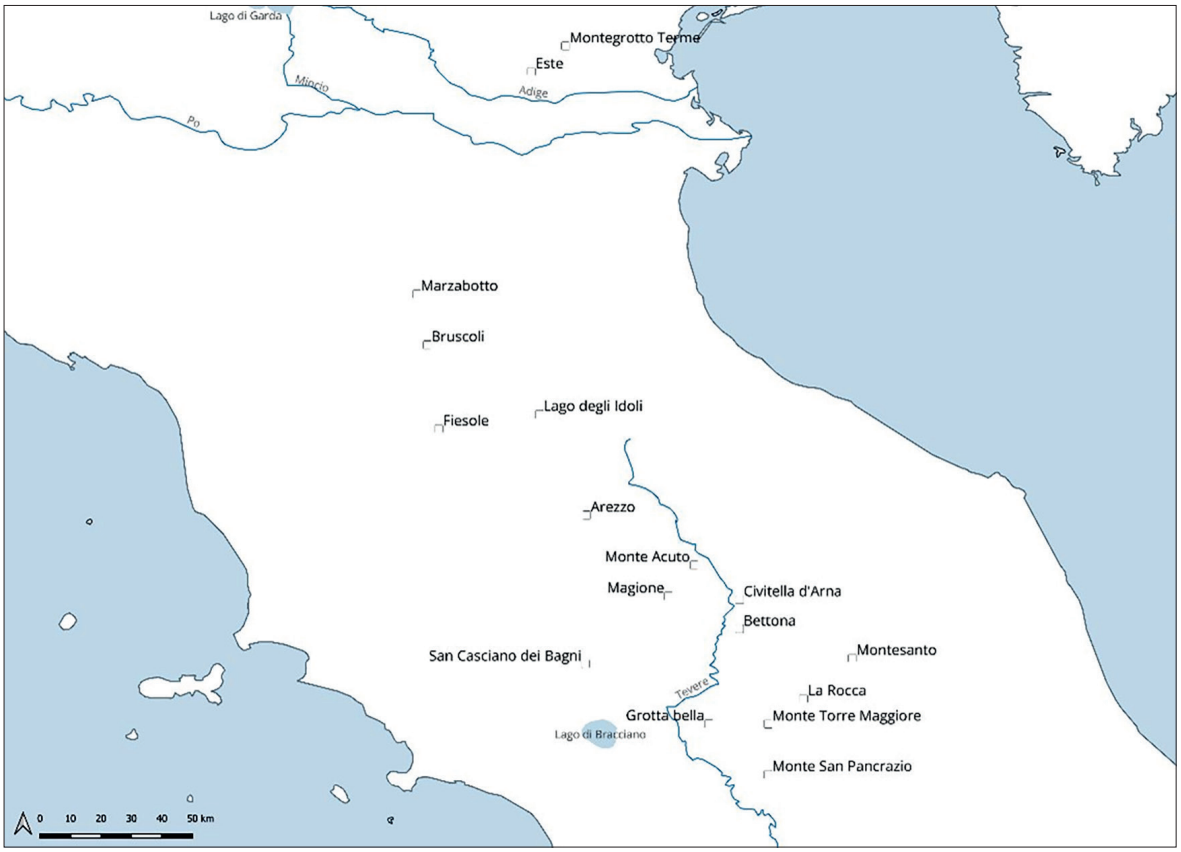


Fig. 22. Location of cult sites that yielded bronze anatomical votives.

When we consider the different settings in which bronze anatomical votives were dedicated, it does not seem that the natural environment determined the presence of this type of votive offering. Instead, anatomical votives could be dedicated in any pre-Roman sanctuary, independently from the specificities of the local geography. What does this suggest about the function of their deposition? As mentioned above, most scholars agree with attributing a healing function to these objects and see the presence of water as confirmation of their curative role. The settings of sanctuary sites and the multiple functions of water in sanctuaries, however, allow for a reconsideration of this often-posited view.

First, it became clear that water was not a necessary factor for the ritual of dedicating body parts, especially when we consider that most of the sanctuary sites that yielded anatomical bronzes are located on mountains/hills and not in the proximity of bodies of water. Furthermore, the survey presented above has shown that in only two of the nine cases in which votives were found in association with mineral-thermal waters there seems to be a clear association between the ritual of dedication

59 In general, on ritual practices and architectural environments in ancient Italy: Griffith 2013. On the ritual power of caves: Moyes 2012.

votive offerings and the presence of water: at Lake of the Idols, where votives were in all likelihood thrown directly into the lake, and at S. Pietro Montagnon and Lova, where they were displayed on the shores of a thermal lake. In all other of the other seven cases, the shrines lay near a body of water—springs or rivers—but their connection with it remains unclear. It is, therefore, reasonable to surmise that the act of dedicating anatomical votives did not have the same meaning at every site. Instead, understanding their purpose requires contextualization to the specific case study.

Second, although the curative agency of water cannot be ruled out altogether, it is important to remember that the presence of water at a sanctuary site could have had several functions other than curative *stricto sensu*. As Ehrenheim and de Cazanove aptly pointed out,[60] water at the sanctuary site served various ritual and utilitarian functions such as drinking, cooking, cleaning, and cleansing. In rural sanctuaries, which depended on external water supply, creating a water source would have been deemed necessary to carry out a wide range of activities.

As Glinister and Recke have argued regarding the anatomicals of the Roman period, the meaning of their deposition is more likely to have been a more general request of wellness rather than healing in a medical sense, which in some cases may have a more subtle connotation: hands and arms may represent a prayer, feet, and legs the difficulty of a pilgrimage, and so on. While in specific contexts such as Lake of the Idols, Lova, and Montegrotto, legs, feet, and arms found in the mud of the thermal basin or on the shores of a thermal lake may have a healing significance, the same objects dedicated at a high-peak sanctuary such Monte Acuto, Monte S. Pancrazio, Colfiorito or in a cave (Grotta Bella) may have embodied the hardship of the worshippers' access to the sacred place (feet, legs) or their devotion in front of the gods (hands, arms). It also seems possible, as discussed by Grahm for some anatomical terracottas,[61] that some of the isolated body parts in the Italic votive assemblages were intended to act as an extension of the whole human body, a sort of *pars pro toto* for the supplicant. This hypothesis appears even more plausible in the case of votive heads, which could have served as a solid reminder to the divine of the dedicator's request for well-being. Although it is difficult to ascertain the exact meanings of the dedication of anatomical votives, the variety of body parts seems to suggest that forms were an essential factor in the worshipers' decision to make a vow and were likely influenced by geographical as well as cultural factors.

A second question that this study aimed to answer was whether bronze anatomical votives could be used to reassess the traditional religious romanization view. Given the above evidence of bronze body parts, can we still view anatomical terracottas as a sign of the spread of Roman culture? It is evident that the practice of dedicating anatomicals and heads did not suddenly sweep through the region starting with Roman expansion. Rather it was a widespread and established tradition in Northern and Central Italy as early as the 6th century BC and the offerings of the Roman period most likely held the same ritual meaning. In this regard, it is also significant that recent work carried out at the sanctuaries at Bagno Grande and Doccia della Testa in San Casciano brought to light anatomical votives in bronze from the Roman period. At Bagno Grande, three ears and one finger are dated to the 2nd century BC; at Doccia della Testa, a bronze ear is dated to the 3rd–2nd century BC and a bronze breast to the 1st AD.[62] Together with the 2nd century BC bronze anatomicals from Ara della Regina,[63] dedicated alongside anatomicals in terracotta, these findings illustrate

60 Ehrenheim et al. 2019; de Cazanove 2015b, 189. De Casanove warns against the scholarly tendency to attribute healing connotations to waters and disregard the possible other function that water may have had at cult sites.

61 Grahm 2016, 51.

62 Iozzo 2013, 27–30 (Doccia della Testa); Mariotti – Tabolli 2021, 230–233 (Bagno Grande). The recent excavation (2022) of the basin at the Sanctuary of Bagno Grande has revealed the presence of dozens of bronze legs, arms, ears, livers, uteruses, and penises. Their study is ongoing.

63 Comella 1982, 159.

that the practice of offering body parts in bronze was still in place well after the Romans expanded their influence into Latin and Etruscan territory. In addition, as the new and groundbreaking data from Bagno Grande reveals, it appears that, in some instances, bronze anatomicals were preferred to the more widespread custom of the Middle and Late Republican period of dedicating anatomical votives in terracotta.[64] This evidence highlights the longevity of traditional italic beliefs and ritual practices and further corroborates that this anatomical votive phenomenon was not connected with Roman expansion.[65]

Once we abandon the idea that the presence of votive offerings representing body parts and heads is connected to Roman influence, there is no reason to believe their dedication indicates a new ritual practice. Conversely, the evidence suggests that the same ritual practice of dedicating anatomical votives and heads was connected to a general and highly subjective well-being ritual, which began in the archaic period and continued in the Hellenistic period. The only change in this practice from the Archaic to the Roman period was the medium. One may wonder why, starting with the 3rd century BC, most anatomical votives began to be produced in terracotta instead of bronze. We can think of a few possible explanations. First, this technology was more convenient. Anatomical votives and heads were stock production and relatively easy to produce. This may have made them more suitable for artisans and the customer, given their overall low cost.[66] Second, they followed the aesthetic trends of the time. The sheer quantity of anatomicals in terracotta in Italy and Greece in the 3rd and 2nd centuries BC suggests that this class of material was seen as desirable and in line with the latest demands and preferences for votive objects that swept across the whole central Mediterranean during the Hellenistic period.[67] It is important to stress that fashionable does not imply Rommannes, even more so since Rome itself was not the findspot of the earliest anatomical terracotta. While adapting to the new trends of the time and profiting from a more economical material, Italic communities largely retained their traditional beliefs and practices, which likely became increasingly relevant during the changing centuries of Roman expansion.

Conclusions

This survey of Italic bronze body parts sheds affords some overall considerations on the function of anatomical votives and the alleged role of Rome in spreading this practice. Since waters did not necessarily have a curative function, it is possible that the dedication of Italic votive body parts had meanings other than healing. Within a more general ritual of well-being, the geographical location of a sanctuary and the very personal religious rapport between worshippers and gods may have impacted the type of anatomical dedication.

The fact that the practice of dedicating body parts before the Roman period was not an isolated phenomenon, as some authors have argued, but rather an expected religious behavior throughout the peninsula helps to reassess Rome's role in the diffusion of anatomical votives in ancient Italy. Rather than representing a new practice thoroughly shaped by the Roman conquest, new and old

64 De Lucia Brolli (in Mariotti – Tabolli 2021, 229) suggests the possibility that these bronze votives belong to an earlier phase of the sanctuary and be reused in the Hellenistic period, perhaps after the interception of an earlier deposit during the restoration of the area. The partial reuse of older votive offerings has been recognized in sacred areas of southern Italy, as well as in Sicily and at the Faliscan sanctuary of Monte Li Santi-Rote at Narce and can be related to the practitioners' desire to keep alive through the centuries the essence of a cult: De Lucia Brolli 2018, 65 with previous bibliography.

65 Iozzo 2013, 27.

66 Scopacasa 2015, 7.

67 On the spread of Hellenistic culture in Italy and Rome and the resulting material culture adopted at the time of the expansion see: Wallace-Hadrill 2008, 100–101; Stek 2013, 345–346; Terrenato 2013, 55.

data from northern and central Italian cult places shows that the tradition of dedicating body parts was ingrained in the ritual custom of pre-Roman peoples. This practice continued with the use of clay in the mid-centuries of the Republic, a practice guided by the convenience and popularity of using clay instead of bronze. While adapting to the new trends of the time and profiting from a more economical material, Italic communities largely retained their traditional beliefs and practices, which likely became increasingly relevant during the changing centuries of Roman expansion. As is the case for other characterizing aspects of the Hellenistic period, such as architectural forms and techniques,[68] Rome had little to no influence on this practice though it is possible that the new road network crossing the peninsula may indeed have created the preconditions for the spread of the new material into colonial and non-colonial areas.

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68 On this topic see the latest contribution by Nicola Terrenato in: Terrenato 2021.

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The arm of a large-scale bronze statue from Aigion, Achaea, Greece

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Abstract: The arm of the large-scale bronze statue presented in the current research was handed over in 1951 to the Ephorate of Antiquities in Aigio of Achaia and constitutes a typical yet exquisite example of Peloponnesian oversized statuary in bronze. The area where the arm was found coincides with the location of the ancient agora, as well as, according to previous excavation works, the place where the temenos of Zeus Soter, patron deity of the ancient polis of Aigion, is located. Based on the surviving fragment/limb, several issues regarding statue typology are further discussed, while its posture is suggested as 'standing in grandeur'.

The identification of a divine figure, probably that of Zeus, is supported by the location of discovery and the object it was supposedly holding, combined with the numismatic issues of Aigion depicting the same type of statuary of the supreme god. The dating of the statue in mid Hellenistic years onwards agrees with the scientific analysis of the alloy, carried out in the laboratories of the National Archaeological Museum in Athens.
Keywords: Aigion, temenos, arm, Zeus

The left arm of a bronze statue, which is the object of the following study, was found in 1951 in Aigion. According to its registration in the entry book of the Archaeological Museum of Patras, no. BE 557, it was handed over by Athanasios Stylianidis. The latter found it during the digging of foundations for the construction of the building that housed the old IKA (Social Insurance Institute) of Aigion, on nowadays 11 N. Plastira Street. From the excavation on the specific plot there is no other find or any information in the archives of the Ephorate for carrying out an excavation investigation. As well known, Aigion, a coastal city of eastern Achaea, was the capital of the Achaean League and the institutions of the Confederation (Fig. 1).

From the location of its discovery, it follows that the arm comes from the excavation of a plot located in the old agora of the town (Fig. 2.6). The building of the old IKA now hosting the Services of the Municipality of Aigialeia, is located on the south-eastern edge of the Mycenaean Acropolis of Aigion, on the edge of the natural terrace, on the way up to the ancient town from its seaside coast[1]. In this area, both based on rescue excavation data as much as on the information attested

1 Regarding Aigion, the necessary research monograph on the antiquities found beneath the modern city grid is still missing. The unpublished thesis of Lena Papazoglou *The Mycenaean settlement of Aigion and the early Mycenaean Era in Achaia* (Athens, 1998), will continue being a book of reference on the prehistoric settlement. The study of L. Papakosta in 1991 is outdated by following studies (Papakosta 1991). Generally, on the history and archaeology of Aigion, see Rizakis 2008, 159–167; Vordos 2012. Especially on the pottery, see Gadolou 2008; Papakosta 2011a; Papakosta 2011b; Kolia 2011; Filis 2018; Filis 2019; Vordos 2020, and Vordos – Filis (to be published).

by Pausanias during his tour, we locate the agora of the Classical and Hellenistic times[2]. However, it should be noted that, of the buildings mentioned by the Traveller, only the theatre has been identified based on excavation data constituting from then on a steady topographic reference (Fig. 2.1).[3]

The arm got conserved and assessed in the laboratories of the National Archaeological Museum in Athens. The results are attested in the following text.[4] The member is almost vertically broken off, high on the growing of the arm and bended on the elbow at wide angle (Fig. 3.1–2). Prior to its conservation, it was still possible to spot many bumps on its surface while small parts of the elbow and forearm are missing, which, as mentioned in the deliver-acceptance protocol, were 'caused by the foundation mining tools'.

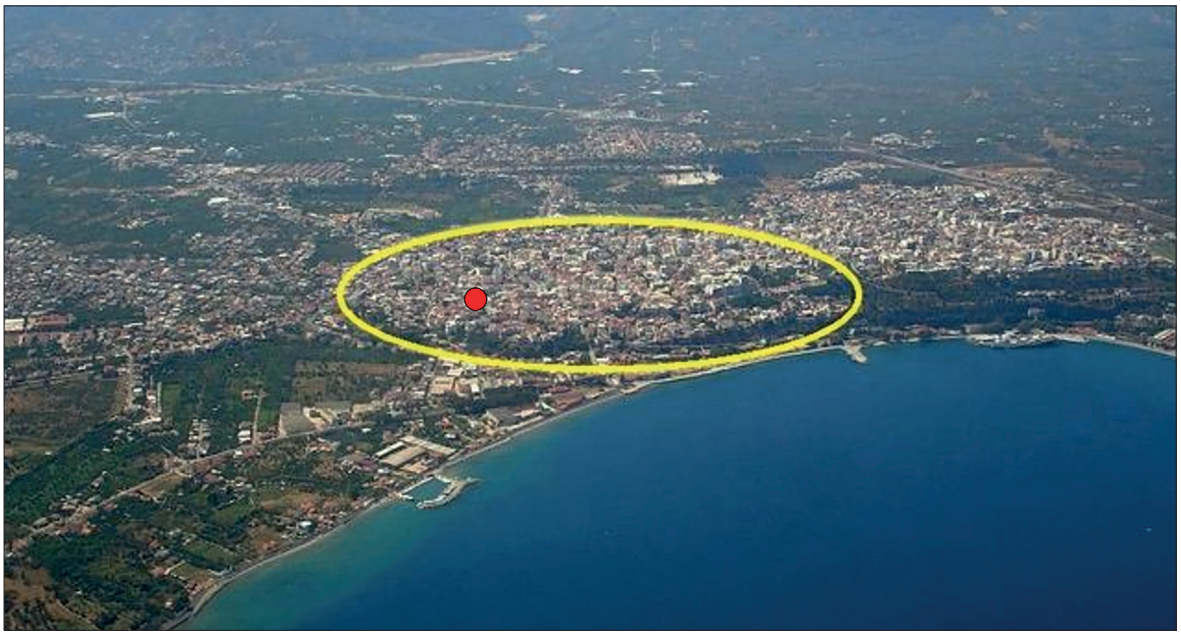


Fig. 1. The city of Aigion. The borders of the ancient settlement and the location of the agora are marked.

The dimensions of the arm on its outer side, from the broken edge of the arm up to the elbow is 36 cm long and from the elbow to the crooked forefinger is 66 cm long. The maximum depth, or rather the diameter on the breaking point of the arm measures 19.5 cm. It is therefore a case of an arm belonging to a statue of supernatural dimensions. We need to calculate, according to the proportions of limbs and torso, but also the effortless expression of slenderness by the execution of the plastic parts of the member, that the total height of the statue would slightly exceed the three meters, a fact that would discourage its attribution to a mortal. According to the proportions of the works mentioned by Vitruvius, *De architectura* 3.1.2: "pes vero altitudinis corporis sextae, cubitum quartae pectus item quartae," the height of the statue is estimated at 3.08 m. The appearance of the view of

2 Paus. VII, 23, 9–24, 1. Reaching Patras from Aigion by sea, the Traveller mentions nine sanctuaries, two temene, a house building and a grove, located so much on the coastline as much as on the plateau of the main city grid. Most of these are detected on the plateau, and only five at the sea. Even though the Traveller gives us this generic testimony, it is still not safe to place the buildings in the space, within the borders of each sector as mentioned by Papachatzis 1980, 140–147; Rizakis 1995, 65–68.

3 On the rescue excavation see Kyriakou 1980; Rizakis 1995, 199, 300 and mainly Bressen 2009, 65–68.

4 In 2019, the arm was transferred to the laboratories of the National Archaeological Museum for analysis and conservation. It was returned to the Museum of Aigion in 2022. Special thanks go to my colleague N. Petropoulos, the colleagues of the Conservation Department of NAM that contributed to its study and presentation, as well as to Alexandra Kotsaki for translating the text into English.

the whole statue is at first easily perceived. The perfectly crafted member with detailed plasticity apparently rose above the head of the figure, and with a slight twist of the forearm, it moved slightly diagonally to the torso. That indicates, given also the arrangement of the fingers, that the main view of the statue was single, that being the front one. It is not however implied that the artist's intention was not a prominent work, a conspicuous figure. The arm would extend almost horizontally with the shoulder having elongated the curve stating the inflated bicep, whilst the fold on the flexor surface of the elbow is clearly indicated. With the same, almost geometric precision, the shallow cavities at the genesis of the forearm are shaped. A particularly naturalistic detail, but without the intention to exaggerate, constitutes the distinction of the vein, internally indicated from the beginning of the arm's breakage, and while running an open sigmoid line, ends clearly at the wrist.

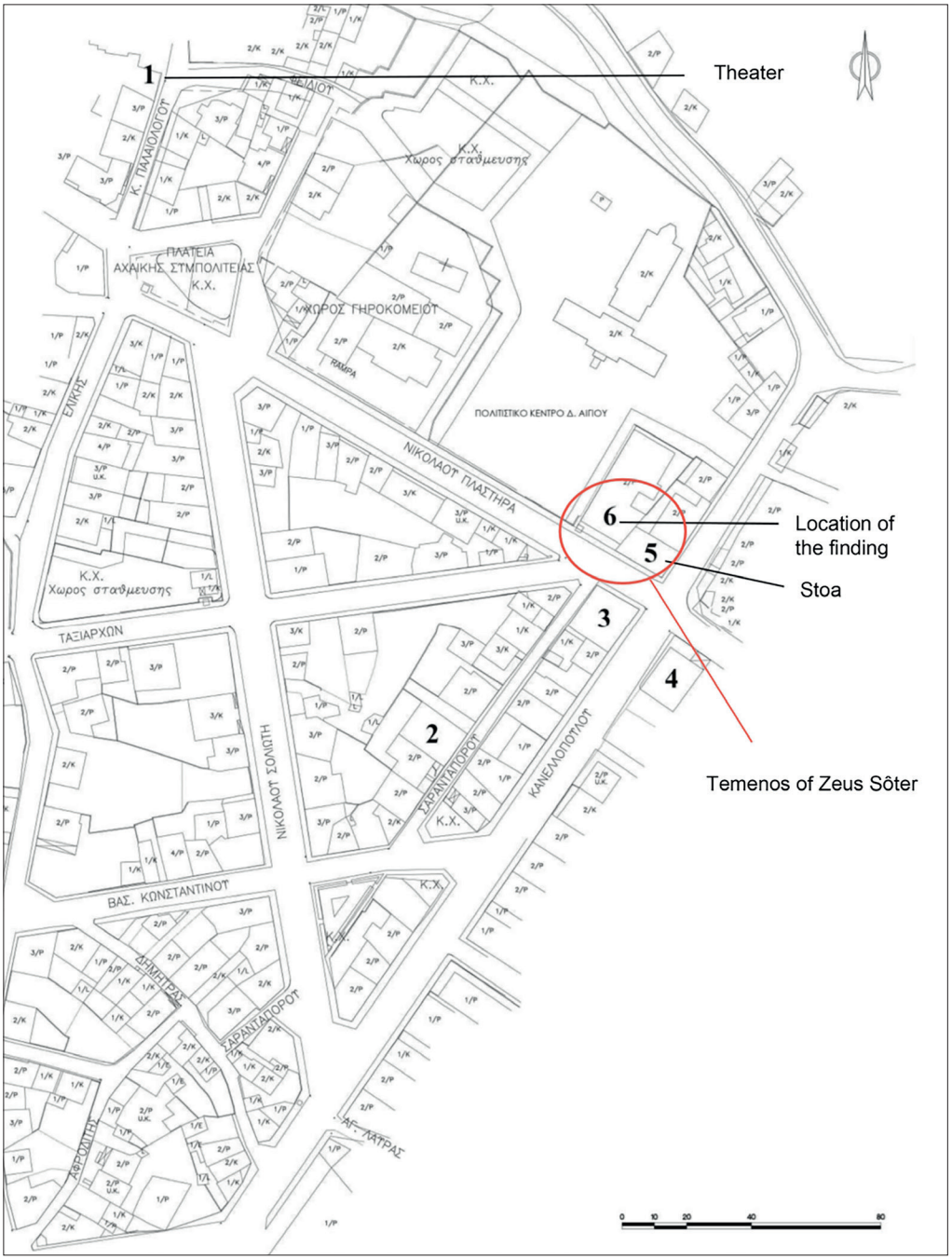


Fig. 2. Part of Aigion with the locations of the monuments. In nos. 2, 3 and 4, remains of public buildings. Edited by the author.

The forearm is depicted slender, slightly pressed on its sides and somewhat strongly tapering towards the end of the hand. The continuous contour, with soft lines and subtly prominent volumes, agrees with its slight inward twist, which ends in its turn in the somewhat intense downward bending of the wrist, from which the end of the hand is grown.



1 2

Fig. 3. The arm of the statue. 1 – Front view (Photo: A. Themelis. Cop. EF.A.ACH), 2 – Back view (Photo: Author. Cop. EF.A.ACH).

At this exact point, the hand, the image of the closed palm, the flexibility of the whole and the anatomical—even sophisticated—details in the rendering of the veins of the back of the hand (Fig. 4.1–2), advocate the belief that we are in the presence of a small fragment which, however, reflects the image of a large monument, of particular artistic value, as well as the creation of a great sculptor. The opinion that this is an original work and not a copy of antiquity is guaranteed to overcome any argument, as well as the view that the statue depicts a deity—and it is not only its size that contributes to that.[5]

The key to the identification of the divine form is given precisely by the closed, yet not clenched, palm, and in fact of what it held in its left hand. The fingers are formed gradually, more and more loosely between them, from the middle to the index. This arrangement leaves no doubt that the rod-shaped opening with a diameter of 2.3 cm received an elongated and probably uniform rod, which the thumb and especially the index finger subtly grasp, with the latter shaped higher and effortlessly bending[6] (Fig. 4.3). This is the usual way, known from other monuments, in which the trident is held by Poseidon and the sceptre by Zeus.[7] But which of the two should we recognize in the case of

5 In ancient literature, there are frequent references to colossal bronze statues of gods and heroes that adorned sanctuaries and cities throughout the Greek world, especially from the Hellenistic years onwards. See e.g., Zimmer – Bairami 2008, 28.

6 On the inside of the palm there is no indication of the attachment of the object he was holding. On the contrary, during the conservation works of the member, many vertical parallel scratches (rasping) appeared, caused by a tool grinding the surface of the palm in order to adapt the object to it.

7 The most characteristic, even though not the oldest, example, is the Poseidon of Artemision. See Karouzos 1931, Figs 5–8. There will probably be endless debate and arguments on both sides about whether

Aigion, and also which could we suggest as the most likely style for the statue? Regarding the style, the representation of the entire statue, I think the hand itself suffices to reveals it, based on its form. The break, very high, exactly at the origin of the arm, which leaves the armpit free and open, the twisting of the forearm combined with the bending of the end of the hand and above all, the obtuse angle formed by the member, leave no particular doubts that the statue was depicted standing and, as already noted, in a majestic posture facing the viewer.



Fig. 4. 1 – Detail of the back of the hand (Photo: A. Themelis. Cop. EF.A.ACH), 2 – Detail of the arrangement of the fingers. Front view (Photo: A. Themelis. Cop. EF.A.ACH), 3 – Detail of the rod-shaped opening in the palm of the hand (Photo: P. Feleris. Cop. EF.A.ACH).

It is precarious to date such a member when key stylistic elements of the sculpture are missing. The analysis of the alloy in the laboratory of NAM, which is listed below, presented a high content in lead, characteristic of bronze works from the Hellenistic years onwards.[8]

The answer to the question concerning the identification of the depicted deity may emerge with relative certainty, after taking into account the testimonies from the written sources—Pausanias in this case—the Aigion coinage and thus the location of discovery—as mentioned above, in the agora of the ancient town. Consequently, if we focus on the number of statues mentioned by the Traveller in Aigion on those that he clearly states that he saw in the sanctuaries of the agora, then we are

the god of Artemision is Poseidon or Zeus. Certainly, the motives of the two statues, of Artemision and Aigion, are completely different, both morphologically and chronologically. It should be noted, however, their striking similarity in holding an elongated rod which, in the case of Artemision—and Karouzos' arguments are solid—is hardly consistent with a lightning bolt. See latest: Pollini 2016.

8 Similar monuments are known to us that are chronologically close to the statue of Aigion such as the figurative statue of a dynast in Rome, Pollitt 1986, 72, Fig. 74; Himmelmann 1989, 126, Fig. 143–147; Mattusch 1996, 76, Fig. 3.2, of Poseidon of Milos in NAM, Schäfer 1968, 55, Fig. 1–15, Pls 38–41; Fuchs 1983, 139, Fig. 133, LIMC VII, s.v. *Poseidon*, [C. Maderna-Lauter] 452, no. 32, Fig. 354; Damaskos 1999, 78–79; Kaltsas 2002, 290, Fig. 611, of Claudius from Herculaneum, Kreikenbom 1992, 201; Lahusen – Formigli 2007, 70, but also from very distant regions of the Hellenistic world as in ancient Elymais of today's Iran, see Lindström 2017. The origin of this particular motif is discussed in connection with the Houston Doryphoros (Spear Bearer), by Oliver-Smith 1975, especially 104–105, Pls 42–46. From the bronze works of minor-sculpture, cf. Zeus of Dodoni, Alscher 1956, Fig. 17. In particular, for Poseidon, his worship and monuments in the Peloponnese, see Mylonopoulos 2003. Roman emperors are often depicted in the same majestic posture holding a sceptre: Niemeyer 1968, 14, 16, 18, 24, 27, 30, 34, 39.

limited to the temenos of Zeus Soter, the patron deity, and the building opposite its entrance.[9] The above, as will be argued below, supports the identification of a statue of the supreme god.

Entering the temple, the Traveller mentions two bronze statues of Zeus that he saw ἐν ἀριστερᾷ, to the left, noting only that one is beardless. Suppose the statues were set up in a space within the temenos but outside the temple, were therefore not cult statues? By reading Pausanias, it is not always easy to decide if any of the statues he saw in the sanctuaries of the cities were cult images. Looking at the statues inside the temples, as well as the cult statues themselves, normally was not forbidden to the worshippers—unless specific local, religious and cult practices objected to that, such as the statues of Hera and Sotireia in Aigion.[10] In the building he saw opposite the temenos entrance, Pausanias notes four more bronze statues: of Poseidon, Herakles, Zeus and Athena, also bronze, which he calls "gods from Argos".[11] The exact use of this building or stoa, according to L. Papazoglou, does not emerge from the excavation of the adjoining plot to the west (Fig. 2.5).[12] The presence and establishment of such monuments, buildings, houses and arcades in the temene and agoras of the cities respond to needs of both a political and religious nature which include the exhibition of works of art, as well as official, public symposia after sacrifices to the gods.[13]



Fig. 5. Tetrachalcon (hemiobol). After BCD Peloponnesos 426.

Precisely here, in the case of Aigion, the information given by Pausanias, regarding the argument-sophistry of the Aegians, to keep the statues from Argos in their city, becomes particularly important. When the Argives asked for the statues of the gods to be returned to them, the Aegians demanded to be reimbursed for the expenses of the daily sacrifices offered to them. It is therefore very likely that in this temenos building, where the statues from Argos were housed, the sacrificial ceremonies in their honour and the public meals that followed took place. However, these reports of Pausanias, as usual, are not accompanied by any additional information regarding the statuary type of the images he saw in the temenos and building.[14] Of the three statues of Zeus, only two possibly agree with the motif to which the hand belongs, as it also agrees with that of Poseidon. An exception must be made for the statue of the beardless Zeus, a type of which appears on a pedestal, on the obverse of the coins of Aigion, with a thunderbolt in the raised right hand, an eagle in the proposed left, and the inscriptions ΑΙΓΙΕΩΝ ΠΑΙΣ and ΖΕΥΣ ΜΕΓΑΣ in the field.[15] On the contrary, the two statues of Zeus,

9 Paus. VII, 23, 9: Ἔστι δὲ καὶ Διὸς ἐπίκλησιν σωτῆρος ἐν τῇ ἀγορᾷ τέμενος καὶ ἀγάλματα ἐσελθόντων ἐν ἀριστερᾷ, χαλκοῦ μὲν ἀμφότερα, τὸ δὲ οὐκ ἔχον πω γένεια ἐφαίνετο ἀρχαιότερον εἶναί μοι.

10 Paus. VII, 23, 9 and 24, 3. See: Osanna 1996, 188–189, and mainly Corbett 1970.

11 Paus. VII, 23, 10-11: ἐν δὲ οἰκήματι κατευθὺ τῆς ἐσόδου, χαλκοῦ καὶ ταῦτα, ἔστι μὲν Ποσειδῶν καὶ Ἡρακλῆς, ἔστι δὲ Ζεύς τε καὶ Ἀθηνᾶ· θεοὺς δὲ σφᾶς καλοῦσιν ἐξ Ἄργους, ὡς μὲν ὁ ἀργείων ἔχει λόγος, ὅτι ἐποιήθησαν ἐν τῇ πόλει τῶν ἀργείων, ὡς δὲ αὐτοὶ λέγουσιν οἱ αἰγιείς, παρακαταθήκην σφίσιν ὑπὸ ἀργείων ἐδόθη <τὰ> ἀγάλματα. Καὶ αὐτοῖς καὶ τάδε ἔτι προσταχθῆναί φασιν, ἑκάστῃ τοῖς ἀγάλμασιν ἡμέρᾳ θύειν· αὐτοὶ δὲ σόφισμα εὑρόντες θύειν μὲν πλεῖστα ὅσα, κατευοχουμένοις δὲ τὰ ἱερεῖα ἐν κοινῷ ἀνάλωμα οὐδὲν ἐς αὐτὰ γίνεσθαι· τέλος δὲ ἀπαιτεῖσθαι ὑπὸ τῶν ἀργείων καὶ αὐτοὺς τὰ ἐς τὰς θυσίας ἀναλούμενα ἀπαιτεῖν· τοὺς δὲ (οὐ γὰρ ἔχειν ἐκτῖσαι) καταλειπεῖν σφίσιν αὐτούς τὰ ἀγάλματα.

12 Papazoglou 1984, 94. For the exact location of the Temple of Zeus Soter in the agora of Aigion, see Vordos under publication.

13 See Martin 1951, 495–499; Osanna 1996, 189–191.

14 Rarely does the Traveller comment on statuary types, such as, for example, the statue of Eileithyia, the work of Damophon, Paus. VII, 23, 5, which is depicted on numismatic issues of Aigion holding torches. See: NCP 83–84, Pl. R VI–VIII; Rizakis 1995, 198, 296; Papachatzis 1980, 139, Fig. 103.1.

15 NCP 84–85, Pl. R XII–XIV; Lacroix 1949, 228, no. 2; Papachatzis 1980, 139, Fig. 103.5–6. For the worship

as well as that of Poseidon, could certainly render the motif of the statue which compels us to accept the preserved hand. And in this case, the numismatic issues are also indicative, which reproduce analogous visual images of the two gods, but without allowing us to identify and attribute the member in question to any of the specific works; such as, for example, on the obverse of a tetrachalkon (hemiobol) of the Achaean Commonwealth depicting Zeus standing with a sceptre in his left hand and Victory in his right (Fig. 5)[16] and on a bronze diassarion -a provincial issue under Caracalla- with Poseidon depicted on the reverse standing, with a trident in his left hand and a dolphin in his right hand (Fig. 6).[17]



Fig. 6. Bronze diassarion. After SNG Cop 139.

There is no doubt that Zeus is the one who, not only as the capital god of Aigion but also with a primary role as the protector of the Achaean League with Aigion itself being the meeting place of the assembly, occupies a prominent place in collective piety and additional political symbolism.[18] It is, therefore, reasonable that the visual depictions of the patron Zeus exceed in number all the rest depicting other deities, not only in numismatic issues[19] but also in works that decorated the sanctuaries of the city; even more so, in the temenos dedicated to him.

The number of monuments similar to this hand that have came down to us is not great, especially the bronze ones, and this in itself makes it important. The fact, moreover, that a fragment of exquisite art and of this size comes from Aigion, represents on one hand to the least the richness and value of the works that once adorned the sanctuaries of the city—we know this from the sources—and on the other hand somewhat compensates us for the degree of their, probably, forever loss.

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16 It is an issue of 191–146 BC. BCD Peloponnesos 426; Papachatzis 1980, 140, Fig. 104.3.

17 SNG Cop 139.

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Technical examination, elemental analysis and conservation of the arm of a colossal bronze statue from Aegion at the conservation laboratories of the National Archaeological Museum at Athens

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Abstract: The bronze arm, belonging to a colossal statue (presented by A. G. Vordos in this volume), was examined at the Chemical-Physical Research & Archaeometry Laboratory of the National Archaeological Museum (NAM) in Athens. According to prevailing methodology the examination comprised: macroscopic, microscopic and endoscopic examination, elemental analysis p-XRF, X-ray radiography, recording of ancient repairs. It is assumed that the arm was manufactured by the indirect lost wax casting technique and was found to contain an enormous amount of lead (av. 40.15 %), a fact that dates it to the late Hellenistic or Roman period. The arm was consequently conserved at the Metal Conservation Laboratory of the NAM and it has now been returned to the Ephorate of Antiquities of Achaia in Patras.

Keywords: technical examination, elemental analysis, bronze conservation, national archaeological museum

1. Introduction

This paper deals with the left arm of a colossal bronze statue from the Aegion Museum of the Ephorate of Antiquities of Achaia[1] with inv. no. AM 980 and NAM BE12-2018 (Fig. 1). The arm, including the forearm and hand, was introduced for conservation and examination at the Metal Conservation Laboratory of the National Archaeological Museum on June 29, 2018.

1 Of the Hellenic Ministry of Culture & Sports.

2. Technical examination/physicochemical investigation

2.1. Method

The technical examination was performed according to a protocol implemented at the NAM in consideration with in-house facilities,[2] which included: macroscopic inspection, microscopic documentation, radiography, qualitative/quantitative alloy analysis, thickness measurement, weighing, endoscopy and mapping of the ancient repairs.



Fig. 1. The bronze arm from Aigion (photo P. Feleris).

2.2. Results

2.2.1. Description-Dimensions

The arm is hollow and fabricated using the lost wax casting technique. The uniform thickness of the metal at the circumference of the shoulder (2.00 to 4.00 mm) and at the shoulder break (3.6–4.4 mm) indicate use of the indirect technique. No traces of refractory core were found inside.[3]

The arm has a linear length of 85 cm and a diameter at the end of the arm of 19 cm maximum in one direction and 15 cm minimum in the other. Externally from shoulder to elbow 35 cm, from elbow to end of forearm 41 cm and from end of forearm to bend of finger 25 cm. Internally from shoulder break to internal lock 24 cm, from lock to tip of forearm 31 cm and from tip of forearm to end of finger 25.5 cm. The arm weighs 11.16 kg.



Fig. 2. Fissure and large repair patch along the fissure in the middle of the forearm.

2.2.2. Technological evidence

An overflow of metal was observed on the inner wall of the shoulder and in the middle of the forearm transversely. This indicates a secondary fusion welding for local repair after the first cast. In fact, in the middle of the forearm, a transverse crack can be seen on the outside

2 For international standards in the examination of bronzes cf. Caumont et. al. 2007; Azéma et. al. 2012.

3 For the technology of bronze statuary cf. Mattusch 1996; Giumlia – Mair 2009.

which has rectangular repairs with plates in a row (Fig. 2).

On the inner walls near the opening of the shoulder, three square semi-deep holes were marked with metal displacement towards the inside (Fig. 3). These holes were opened in the wax with spacer nails in order to secure the clay core from dropping once the wax was melted. At the base of the little finger, a 2 × 2 mm square cross-section nail head is evident on the lock. It most probably served to attach the object that the hand was holding.



Fig. 3. Detail of spacer nail hole in the internal side of the arm.



Fig. 4. Evidence of wax leaves assemblage reproduced on metal.



Fig. 5. Square and rectangular repair patch.

On the inner surface of the shoulder, the assembly of the wax leaves can be seen as well as globular drops of wax reproduced on the metal (Fig. 4). In various places, due to casting imperfections, repairs had been made with square or rectangular plates 1.9 mm thick. A total of twenty-three patches were measured with maximum dimensions of 4.0 × 1.0 cm and minimum dimensions of 0.5 × 0.6 cm (Fig. 5). In two repairs the lamina has been lost and the notch remains, while in one both the lamina and the metal of the base are missing, resulting in a through rectangular lacuna. The palm has parallel incisions that indicate grinding marks possibly for passing the object it was holding. There are also two holes, one square and one circular apparently for fixing the object held (Fig. 6).

2.2.3. Radiography

The arm was X-rayed at the Physical-Chemical Research & Archaeometry Laboratory of the National Archaeological Museum (Fig. 7). An X-ray generator type ANDREX 3001 (ANDREX A/S, Copenhagen) was used with an operating voltage of 290 kV, a current of 4 mA and an exposure time

of 20 min. The film to focus distance (ffd) was 90 cm and the film used was Agfa's Structurix D7/Pb. The X-ray was taken in three sections which were then digitally merged. The black cross lines and some water marks are due to the splicing of the negatives, so they should not be taken into account. What stands out is the overflow in the middle of the forearm and bubbles from the casting. Characteristically, the tips of the fingers are hollow and not solid, which shows perfection in the original model.



Fig. 6. Parallel incisions in the palm and two attachment holes, one square and one circular.

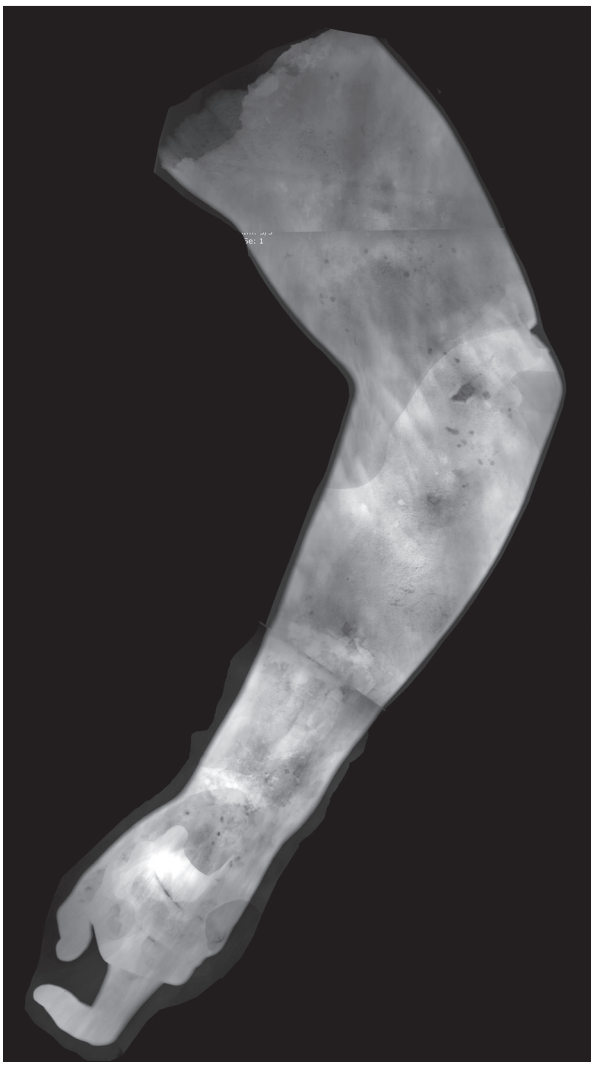


Fig. 7. X- Radiograph of the arm (the two cross lines are due to the merging of the three radiographs).

2.2.4. Elemental analysis

The metal alloy was characterized by X-ray Fluorescence Spectrometry[4] (p-XRF) and was found to be bronze with a low content of tin (Sn) (m.v. 6.71 %), a huge amount of lead (Pb) (m.v. 41.29 %) and a high amount of silicon (Si) (m.v. 7.05 %) (Tab. 1).

The analysis was repeated with the Brucker Tracer 5i portable XRF analyser of the Physical-Chemical Research & Archaeometry Laboratory at the National Archaeological Museum and the high content of lead was confirmed. It has been shown that copper alloys acquire a high lead content in the late Hellenistic and Roman imperial era with up to 50% lead.[5] Bronze pieces from the Hellenistic and Roman periods found in Rhodes also have a large content of lead.[6] The considerable amount of silicon found on the surface of the metal alloy is attributed to deposit of silicates in the burial ground.

3. Conservation

3.1. State of preservation

The surface of the metal had a dark green patina of copper carbonate (malachite) with localized red areas of copper oxide (cuprite) and light green spots due to the so-called bronze disease (active corrosion). According to Dr. Vordos, the arm had been conserved in the National Archaeological Museum in the 1950s, but no in-

4 The analysis was made by Dr Effie Photos-Jones.

5 Craddock 1977; Giumlia-Mair 2015.

6 Zimmer – Μπαϊραμη 2008.

Tab. 1. Elemental analysis by p-XRF (E. Photos-Jones).

Reading No			Type	Pb	Cu	Si	Fe	Al	Zn	Sb	Sn	Zr
1782	arm, spot ana 1	βραχιονας	General Metals	37.86	54.55	2.13	0.36	< LOD	0.15	0.08	4.54	0.01
1783	arm, spot ana 2	βραχιονας	General Metals	63.53	15.11	11.39	4.89	1.66	0.09	0.03	1.81	0.02
1784	forearm, middle	μεσο του πηχη	General Metals	49.60	31.93	8.35	1.60	0.85	0.29	0.07	5.59	0.02
1785	forearm, external side	εξωτερικα, μεσο του πηχη	General Metals	29.48	50.49	8.80	1.49	1.78	0.18	0.07	7.39	0.02
1787	fourth finger	μεσο δακτυλο , εξωτερικα	General Metals	28.33	47.59	10.60	1.68	2.56	0.39	0.08	8.55	0.02
1790	spot ana 2, near wrist	....διπλα στον καρπο	General Metals	32.10	53.52	4.30	0.42	< LOD	0.15	0.12	8.43	0.01
1786	fourth finger, on area with evidence of flaking	τεταρτο δακτυλο, εξωτερικα	General Metals	52.35	34.41	5.43	1.45	< LOD	0.19	0.07	4.48	0.02
1788	index finger, spot with evidence of flaking	δεικτης , σημειο απολεπισης	General Metals	46.40	33.72	7.11	1.35	1.09	0.29	0.10	8.81	0.02
1789	spot ana 1 with evidence of mending, near wrist	αρχαια επισκευη στο μεσο του καρπου	General Metals	30.98	51.67	5.33	0.28	< LOD	0.15	0.10	10.82	0.02

formation was found either in the entry book or in the archive of the Metalwork Collection.There are heavy tool impacts (blows) with inward material retreat. These damages date either from antiquity, possibly in the case the statue was demolished, or when it was accidentally found (Fig. 8).

Inside the fingers there is still soil and roots as observed with the endoscope. The soil was not removed as it was difficult to reach.

3.2. Cleaning, stabilization, protection

Mechanical cleaning was performed with a scalpel, a glass brush, and a rotary tour with bristle brush and then wire nozzles.

The object was then exposed to infrared radiation to dry it and was stabilized using compresses impregnated with 5% Benzotriazole (BTA) in ethyl alcohol. Finally, the surface was coated with 10% Incralac™, an acrylic protective varnish.

3.3. Preventive conservation

The object must be protected from ambient moisture. It is recommended to enclose it in an airtight display case in the presence of silica gel desiccant or by installing a dehumidifier.



Fig. 8. Loss of metal due to a blow.

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Primera escultura oficial en bronce en Lusitania (Hispania)*

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Resumen: El proceso de romanización de *Lusitania (Hispania*) se produjo en tiempos de Augusto, tras la conquista del territorio hispano, a fines del siglo I a.C. El bronce ha desaparecido en gran parte de los restos arqueológicos, por su constante reutilización. En los primeros programas decorativos de algunas ciudades lusitanas quedan importantes vestigios de piezas escultóricas de bronce. Presentamos tres ejemplos: Esculturas de la capital provincial *Augusta Emerita* en su primera fase decorativa pública en granito local y bronce, antes de la presencia masiva del mármol; una estatua ecuestre del foro de la *colonia Norbensis Caesarina*, quizá representando a su patrono fundador *Lucius Cornelius Balbus*, y un fragmento estatuario imperial del teatro romano de la colonia de *Metellinum*. Todas ellas son de época de Augusto y acreditan la presencia de importantes talleres de bronces en el Occidente del Imperio.

Palabras clave: Lusitania, Escultura oficial en bronce, época de Augusto

Abstract: The Romanisation of Lusitania (Hispania) took place in the time of Augustus, after the conquest of the Hispanic territory at the end of the 1st century BC. Bronze has largely disappeared from the archaeological remains, due to its constant reuse. In the early decorative programmes of some Lusitanian cities there are important traces of bronze sculptures. We present three examples: Sculptures from the provincial capital *Augusta Emerita* in its first public decorative phase in local granite and bronze, before the massive presence of marble; an equestrian statue from the forum of the *colonia Norbensis Caesarina*, perhaps representing its founding patron *Lucius Cornelius Balbus*, and an imperial statuary fragment from the Roman theatre of the colonia of *Metellinum*. They all date from the Augustan period and attest to the presence of important bronze workshops in the western part of the Empire.

Keywords: Lusitania, official sculpture in bronze, time of Augustus

La provincia romana de *Lusitania (Hispania)* culminó su proceso de romanización en tiempos de Augusto.[1] Hasta la llegada de Roma no existía en este territorio hispano una tradición iconográfica de la calidad, variedad y simbología de la plástica romana.[2]

Los centros urbanos lusitanos fueron incorporando grandes programas decorativos oficiales de los que han quedado mayoritariamente obras en mármol,[3] estrechamente vinculadas con el fenómeno

* Proyecto "*Augusta Emerita*: modelo urbano, arquitectónico y decorativo en Lusitania-I" (PID2020-114954GB-I00). Programa Estatal de Generación del Conocimiento y Fortalecimiento Científico y Tecnológico del Sistema de I+D+i y de I+D+i Orientada a los Retos de la Sociedad. Ministerio de Ciencia e Innovación.

1 Álvarez et al. 2015.

2 Nogales Basarrate 2015.

3 Nogales – Gonçalves 2007; Nogales et al. 2008.

del culto imperial.[4] Tenemos evidencia, especialmente a través de las fuentes, epigrafía y huellas arqueológicas, del uso del bronce como material escultórico y epigráfico de carácter oficial. Sin embargo, el constante reempleo del bronce desde la antigüedad[5] ha motivado su masiva desaparición, bien evidente en la Península ibérica,[6] con casos tan singulares lusitanos como *Augusta Emerita*.[7]

Antes de la presencia masiva del mármol serán las piedras locales y el bronce materiales frecuentes en Lusitania.[8] En este estudio trataremos tres casos excepcionales de escultura oficial lusitana en bronce: las huellas de lo que debió ser el empleo del bronce en los grandes complejos oficiales de la capital provincial *Augusta Emerita*, en el llamado templo de Diana, templo de culto imperial del foro colonial emeritense donde se conserva una importante decoración arquitectónica en bronce de la fase augustea del templo,[9] y las evidencias del bronce en el teatro;[10] procedente del foro de la *colonia Norbensis Caesarina*,[11] actual Cáceres, es un importante fragmento de una estatua ecuestre en bronce sobredorado, quizá representando al patrono de la colonia, *Lucius Cornelius Balbus*, del que se conserva un epígrafe que pudo ser la base estatuaria.[12] También presentamos una nueva y novedosa pieza del teatro de *Metellinum*, del que conocemos sus ricos conjuntos marmóreos;[13] se trata de un documento iconográfico excepcional que, por sus rasgos e iconografía, debía ser estatua oficial en bronce incluida en la programación monumental del teatro colonial de época de Augusto.[14]

Estos ejemplos seleccionados son una muestra de lo que hubo de ser la decoración en bronce en época de Augusto, a la que debemos unir muchas más piezas desaparecidas, por su destrucción y fusión. Estos tipos decorativos documentan una fase y tipología escultórica en bronce en época de Augusto previa a la introducción dominante del mármol, que tendrá lugar a partir de Tiberio. Quizá la carencia de explotación a gran escala de las canteras de mármol lusitanas, que debieron ponerse en marcha tras la conformación administrativa provincial por los gobernadores territoriales, unido a la falta de artistas que supieran trabajar los mármoles de manera inmediata tras la conquista de Augusto, fueron las causas que motivaron el empleo del bronce como material noble en la escultura de los complejos oficiales desde los primeros momentos y programas provinciales en Lusitania[15].

Estatuaria en bronce de época augustea en la capital de Lusitania Augusta Emerita

La *colonia Augusta Emerita* es la consecuencia directa del final de las guerras de conquista de Hispania por Augusto[16] y su deseo de crear un tiempo nuevo. Los distintos proyectos de investigación llevados en el solar emeritense nos proporcionan una visión ajustada de lo que debió ser la nueva fundación, establecida en torno al 25 a.C., y su evolución a lo largo de los siglos.[17]

4 Nogales – González 2007.
5 Mattusch 2015, 152–154.
6 Rodríguez Oliva 1990a.
7 Nogales 1990; Nogales – Murciano 2019.
8 Nogales et al. 2008, 415–422; Nogales Basarrate 2008; Nogales Basarrate 2015, 344–347.
9 Álvarez – Nogales 2003, 261–271; Nogales 2007a, 481, Fig. 7.
10 Nogales 2007a, 460.
11 Cerrillo – Nogales 2014.
12 Cerrillo – Nogales 2010, 158–164, Figs 6–7.
13 Nogales – Merchán 2018.
14 Nogales et al. 2023.
15 Nogales et al. 2008, 415–422; Nogales Basarrate 2015, 344–347.
16 Álvarez et al. 2015; Álvarez – Nogales 2019.
17 Nogales Basarrate 2021a; Álvarez – Nogales e.p.

Los primeros años coloniales están atestiguados en su desarrollo histórico-arqueológico.[18] Tenemos que pensar en una ciudad en proceso de construcción, empleando materiales locales como el granito y realizando las obras más esenciales para la vida de los nuevos colonos.[19]

El empleo del bronce es notable en las colecciones emeritenses.[20] Nuevos estudios han analizado, desde ópticas complementarias, los bronces tanto figurativos[21] como de tipo más utilitario,[22] sin olvidar los de contextos tardíos.[23] Pero los grandes bronces estatuarios, de los que apenas hay huellas de su presencia, debían concentrarse en los recintos públicos de la capital provincial, ambos foros y el teatro.

El foro colonial emeritense, construido en época de Augusto, está definido en su primera gran plaza por el llamado Templo de Diana, el templo augusteo de culto imperial colonial; tras su primera fase augustea, a lo largo de las sucesivas etapas se fueron añadiendo nuevos espacios.[24] Testigo de la primera etapa constructiva y ornamental es su arquitectura de granito enlucido de estuco, que se completaría con la decoración aplicada en bronce; de sus excavaciones procede un roléo vegetal de grandes dimensiones (Fig. 1), que pertenecería a la decoración original en bronce de la primera fase augustea del monumento;[25] además de estos elementos vegetales, insertados en sus frisos, cabe pensar que su epigrafía monumental sería igualmente en bronce dorado, posiblemente *litterae aureae* tan del gusto de época del *Princeps*[26] y presentes en el teatro, como veremos más adelante.



Fig. 1. Roléo en bronce de la decoración augustea del templo de culto imperial colonial. (Foto archivo MNAR. C. López).

Esta decoración aplicada en bronce no era algo nuevo. En la península itálica hay constancia de la presencia del bronce como material inserto en la decoración arquitectónica,[27] con materiales en varias ciudades en el siglo I a.C. hasta plena época augustea.[28] Un caso bastante singular es la orna-

18 Álvarez – Nogales 2019.
19 Nogales Basarrate 2003; Nogales Basarrate 2021a.
20 Nogales basarrate 1990.
21 Nogales – Murciano 2019.
22 Barrero – Sabio 2019.
23 Barrero 2013.
24 Álvarez – Nogales 2003; Ayerbe et al. 2009.
25 Álvarez – Nogales 2003, 418–419, Fig. 3; Nogales – Murciano 2019, 212–213, Fig. 22.1.
26 Trillmich 2013; Posamentir 2017.
27 Rossignani 1969.
28 Rossignani 1990.

mentación del *forum* de *Assisium*, cuyo altar monumental ante el templo de culto imperial se decoró con aplicaciones similares a la emeritense.[29] Tampoco faltan paralelos en otras provincias como en el arco de Orange en *Gallia*, o en Hispania en el templo de *Astigi*. Lo que pone de manifiesto que estas piezas de bronce, generalmente aplicadas, formaban parte de una técnica de la decoración arquitectónica desde la tardorepública y los primeros años de Augusto.

En los recintos forenses colonial y provincial, con el discurrir del tiempo y en siglos sucesivos, se realizaron otros conjuntos estatuarios en bronce, de los que han quedado algunos vestigios: un grupo de tres *simulacra* de las estatuas de culto del templo representando a Tiberio, Livia y un posible *genius Augusti*;[30] del templo de Diana proceden varias piezas de aplique de un monumento decorado con bronces, las figuras asociadas representan al *genius senatus* y a una posible provincia de Mauritania.[31] Esta presencia constante del bronce refleja que los talleres siguieron activos, aunque su desaparición obedece al expolio y la reutilización sistemática del metal valioso.

En el Teatro de *Augusta Emerita* no quedan restos de estatuaria oficial en bronce de su primera etapa augustea, pero si existen notables evidencias de sus epígrafes monumentales, alusivos al *patronus coloniae* Marco Vipsanio Agripa, que edificó la primera fase augustea del teatro, documentada por la epigrafía del monumento. Se trata de varios fragmentos de *litterae aureae* que identificamos en su día[32] y que han sido diversamente interpretados.[33] Hay que pensar que en esta primera etapa del teatro, construido en granito enlucido de estuco, las piezas en bronce debían estar muy presentes, aunque hayan desaparecido y no existan fragmentos ni huellas de estas obras escultóricas.

Una evidencia de la existencia de estatuas en bronce en el teatro es un pedestal de granito, soporte de una estatua, dedicado a la hija de Augusto y esposa de Agripa, *Iulia*,[34] que se halló en las excavaciones del monumento. Por el tipo de pedestal se infiere que la estatua honorífica que lo coronaba era en bronce, y que hubo de formar parte de la decoración oficial del monumento en los años de su *inauguratio*, en el 16–15 a.C. bajo patronazgo de su esposo, Marco Vipsanio Agripa.

Una mujer de este rango,[35] pues *Iulia* era entonces parte importante de la familia imperial antes de su caída en desgracia, no era extraño que estuviera entre los ciclos estatuarios del teatro, posiblemente junto a su esposo. La obra fue amortizada y sólo queda el pedestal que la soportaba donde se identificaba a la representada. Este pedestal en granito, una vez eliminada la estatua, se reempleo como material constructivo, fenómeno bastante frecuente con este tipo de piezas regulares y geométricas que podrían integrarse como sillares de cualquier fábrica de *opus quadratum*.

El teatro y el templo llamado de Diana (templo de culto imperial), se edificaron en los primeros años de la colonia, en ambos recintos debieron estar los ciclos estatuarios de los personajes de la vida de Augusto y los protagonistas de la historia local en la fundación de la colonia, unos en bronce y otros en mármol. De los primeros no ha quedado huella, de los segundos en mármol tenemos numerosas piezas conservadas en la colección del Museo Nacional de Arte Romano.

Estatua ecuestre en el foro de la colonia Norbensis Caesarina

La actual ciudad de Cáceres, Patrimonio de la Humanidad por su excepcional conjunto histórico y monumental, tiene su origen romano en la *colonia Norbensis Caesarina* un centro urbano ubicado

29 Gros – Theodorescu 1985.

30 Nogales Basarrate 2007a, 510–513, Fig. 14; Nogales – Murciano 2019, 214, Fig. 22.1.

31 Nogales Basarrate 2007a, 479–490, Figs 7–10; Nogales – Murciano 2019, 212–213, Fig. 22.1.

32 Nogales Basarrate 1990, 104–105.

33 Stylow – Ventura 2018, 155–160.

34 Nogales Basarrate 2007a, 460.

35 Nogales Basarrate 2021b, 19.

en la Vía de la Plata, posiblemente de origen campamental y militar. Fundada por *Caius Norbanus Flaccus* del que toma su nombre, su suegro, *Lucius Cornelius Balbus*, fue patrono y benefactor de la nueva colonia.

De la ciudad romana no se conservan grandes restos, apenas elementos constructivos, epigráficos y escultóricos, que en su día sirvieron para plantear algunas hipótesis en relación a su urbanismo.[36] Nuevas excavaciones en el casco histórico de la ciudad han dado algunos resultados y planteado hipótesis al respecto del proceso de romanización y monumentalización de la colonia.[37]

Los descubrimientos estatuarios y epigráficos, realizados desde el siglo pasado, han permitido considerar la posible ubicación del foro colonial, coincidente con buena parte del área monumental medieval actual.[38] De esta zona proceden varias estatuas marmóreas que identificamos con los programas decorativos forenses: un torso masculino en bronce sobredorado vestido con coraza pertinente a una estatua ecuestre,[39] una estatua semicolosal del *genius coloniae* muy retocada en el siglo XVIII[40] y una estatua femenina de tamaño natural quizá privada,[41] a las que se uniría un brazo femenino estatuario en mármol desaparecido.[42]

Las dos piezas en mármol, la estatua del *genius coloniae* y la femenina de tipo koré nos remiten a tipos estatuarios de época julio-claudia temprana, entre los reinados de Tiberio y Claudio, lo que encajaría con el momento de eclosión del culto imperial,[43] con la imagen del *genius* y la irrupción de personajes privados como evergetas de los grandes proyectos públicos, que podría ser el caso de la estatua femenina.

El fragmento de estatua ecuestre proviene de las excavaciones en las obras del Palacio de Mayoralgo, y según sus excavadores se encontró en los rellenos constructivos de un ninfeo, dentro de una reforma del espacio romano en el siglo I d.C. Es una pieza excepcional en bronce fundido en hueco, de tamaño seminatural, que conserva parte de su superficie original sobredorada y que, por su iconografía e indumentaria asociamos con un personaje público de la colonia[44] (Fig. 2).

El fragmento posee una fractura antigua, lo que indicaría su amortización *in situ*. La rotura se produce en la zona superior a la cintura, siendo el fragmento conservado la parte superior del torso, al que le faltan ambos brazos y la cabeza; tiene el arranque del brazo derecho, que por su posición se extendía recto, y del brazo izquierdo queda la cavidad de ajuste para la fusión de esta extremidad que iba trabajada aparte. La cabeza fue igualmente trabajada aparte, y se encajaba en la base del cuello, como denota el orificio superior del fragmento, ocultando la unión de las partes con el tejido del escote. Los detalles de su factura ponen de manifiesto un buen conocimiento técnico del trabajo del bronce, donde el despiece por partes era la norma habitual en la producción de este tipo de obras.[45]

La estatua se corresponde, por su acabado inferior, con una estatua ecuestre,[46] pues si hubiera sido estante para colocar de pie no habría rematado el tronco de la pieza del modo abierto que lo hace. En este tipo de piezas el cuerpo se trabajaba aparte de sus extremidades superiores e inferiores y la

36 Cerrillo – Nogales 2014.
37 Estévez 2021.
38 Cerrillo – Nogales 2010.
39 Cerrillo – Nogales 2010, 158–164.
40 Cerrillo – Nogales 2010, 144–153.
41 Cerrillo – Nogales 2010, 153–157.
42 Cerrillo – Nogales 2010, 157–158.
43 Nogales – González 2007.
44 Nogales – González 2007, 158–164, Figs 6–8; Nogales Basarrate 2015, 346–347, Fig. 3.
45 Lechtman – Steinberg 1970; Haynes 1992; Lahusen – Formigli 2001.
46 Bergemann 1990.



Fig. 2. Estatua ecuestre del foro de la *colonia Norbensis Caesarina* representando a su patrono *Lucius Cornelius Balbus*. A) Vista frontal, B) Vista posterior (Fotos archivo MNAR. C. López).

cabeza, y adoptaba esta forma inferior abierta para encajarse adecuadamente al caballo.

Si analizamos su vestimenta no es una estatua thoracata al uso.[47] La tipología de la indumentaria militar que lleva el personaje es muy singular; viste una túnica de manga corta, *colobium*, a la que se superpone la coraza militar de la que apenas se aprecia el *humeralis* derecho y algunas launas en la zona posterior; sobre su hombro izquierdo lleva terciado el *paludamentum*, que es corto y reducido.

Destaca sobre su vientre el *cingulum* que se anuda de modo tradicional bajo el pecho. Este distintivo militar es bien visible, posiblemente porque se quisiera destacar la condición del representado.

Analizando el tipo de coraza, el modelo remite a las estatuas del santuario de *Juno Sospita* en *Lanuvium* (Fig. 3).[48] Estas estatuas itálicas son varias piezas en mármol pentélico que presentan una solución muy similar en el tipo, pues



Fig. 3. Estatua del santuario de *Juno Sospita* en *Lanuvium*. British Museum. (Foto archivo MNAR. Según Bergemann 1990).

47 Stemmer 1978.

48 Bergemann 1990, 72–78.

se trata de obras que mantienen cierto apego a los modelos de tradición greco-helenística. Este paralelo de *Lanuvium* se suele fechar en el último tercio del siglo I a.C., cronología que encaja con esta pieza de la *colonia Norbensis Caesarina* que debemos situar en los primeros años de su fundación, en el último tercio del siglo I a.C. "De qué personaje podría tratarse," sin duda de una figura pública de la *colonia.*

A comienzos del siglo XX, en 1930 en la construcción del mercado en el solar de las antiguas Casas Consistoriales, se halló un epígrafe reutilizado en granito,[49] y la zona actualmente se conoce como foro de los Balbos.

La pieza es un bloque cuadrangular, de granito local de grano grueso, y lleva la inscripción en uno de sus frentes. El texto de esta interesante inscripción menciona al patrono de la colonia, *Lucius Cornelius Balbus* (Fig. 4). Dice así:

> L(ucio)] Cornelio/ Balbo Imp(eratori)/ C(olonia)· Norb(a) Caesa(rina)/ Patrono
> La colonia Norba Caesarina a su patrono Lucio Cornelio Balbo[50]

Se trata de Balbo el menor, personaje militar que proporcionó importantes triunfos a Roma en su carrera y que, pertenecía a una importante familia hispana, los *Balbi* oriundos de *Gades*.[51] Es conocido como Balbo el menor para distinguirlo de su tío, llamado igual que él. Sabemos de su papel como patrono de la *colonia Norbensis Caesarina* a la muerte de su fundador *C. Norbanus Flaccus*, con el que estaba emparentado.[52]



Fig. 4. Inscripción de estatua dedicada a *L. Cornelius Balbus, patronus coloniae* (foto Archivo MNAR, cortesía E. Cerrillo).

La pieza se guardaba en la pared del despacho de Alcaldía del Ayuntamiento de Cáceres. En sus últimas obras de remodelación solicitamos a la Alcaldesa a la sazón, Dña Elena Nevado,[53] su extracción para que formara parte de los fondos del Museo de Cáceres, dado su interés.

Cuando la pieza se halló en 1930 las dimensiones eran diferentes a las actuales, pues quizá se adaptó para empotrarla en el muro del edificio y se retalló, como era frecuente, siendo esa también la posible causa de la erosión de sus aristas. La dimensión original, de forma cuadrangular, correspondería sin duda a la tipología de los pedestales estatuarios ecuestres, que poseen esta morfología alargada de mayor superficie para soportar en sentido horizontal la estatua a caballo, y suelen llevar la inscripción en uno de los frentes menores del bloque rectangular, como este ejemplo que analizamos.

Hoy este bloque tiene una dimensión menor, pero mantiene en su frente conservado la inscripción original del pedestal. Tanto la tipología del pedestal, elaborado en granito que iría cubierto de estuco y con sus letras bien visibles, como el tipo estatuario se podrían corresponder con la fecha en la que debió erigirse la estatua en homenaje al patrono de la nueva colonia.

Tanto el pedestal como el fragmento estatuario proceden de la misma zona, la posible área forense. No sería nada extraño que se hubiera erigido en este espacio de representación una rica estatua

49 Cerrillo – Nogales 2014, 61, 65–70, Fig. 5.

50 AE 1962, 71.

51 Rodríguez Neila 1996.

52 Syme 1960, 325.

53 Agradecemos su colaboración al respecto de la extracción y depósito de la pieza en el Museo de Cáceres.



Fig. 5. Fragmento de estatua thoracata colosal imperial, perteneciente al *paludamentum*. a – Parte delantera, b – Parte posterior (foto S. Guerra).

dorada[54] al patrono de la colonia, vestido con sus mejores galas militares haciendo ostentación de su valor y poder para esa sociedad emergente, en un territorio donde el protagonista había realizado importantes actos en beneficio de la comunidad, especialmente colaborar en la creación e impulso de la emergente *colonia*.

54 Formigli 2013.

En la península ibérica son numerosas las inscripciones que conmemoran a personajes insignes representados a caballo en sus honoríficas estatuas.[55] Destaca el ejemplo de *Segobriga*, donde se computan más de una decena de estatuas ecuestres en el foro.[56] Lo común es que las estatuas, la mayoría metálicas, hayan desaparecido. Sin embargo hay algunos ejemplos singulares de restos estatuarios ecuestres en bronce como los casos de *Pollentia*[57] y *Tarraco*.

Este ejemplo de la *colonia Norbensis Caesarina* es el más temprano en la estatuaria ecuestre pública en bronce en Hispania.

Una estatua imperial thoracata en el teatro de Metellinum[58]

La *colonia metellinensis* fue un enclave de singular presencia territorial romana.[59] Viene siendo cada día mejor conocida debido a las excavaciones desarrolladas en su casco histórico y, especialmente, en el gran complejo del teatro.[60]

La decoración estatuaria del teatro ha sido sucesivamente tratada[61] y puesta en relación con los otros programas teatrales de *Lusitania*, de los teatros de *Olisipo* y *Augusta Emerita*, con los que evidencia indudables conexiones.[62] La calidad de las obras marmóreas es evidente, y demuestra que desde las instancias públicas las inversiones en las estatuas del teatro fueron importantes, además del debido concurso de algún patrono o mecenas benefactor, como se corrobora en el caso de *Olisipo*.

En las excavaciones del teatro dirigidas por Santiago Guerra en 2008, en la zona de una de las puertas monumentales de ingreso, concretamente la que conecta la *versura* oeste con el acceso al *aditus maximus*, se halló un interesante fragmento estatuario en bronce de notable tamaño, junto a numerosos pequeños trozos también de bronce; presumiblemente todos los fragmentos pertinentes a la misma pieza, tal vez desprendidos en su fractura y caída al suelo tras su amortización (Fig. 5). Al realizarse estas estatuas por partes, que se fundían entre sí,[63] era frecuente que las fracturas se produjeran en las zonas de unión y fusión. Hemos identificado estos fragmentos como parte de una estatua imperial thoracata, en origen de gran calidad, y de tamaño mayor del natural.[64]

El fragmento mayor es un extremo de *paludamentum*, de unos 84 cms. de longitud máxima y unos 26 cms. de anchura, con un grosor que oscila según las zonas, dada su morfología. Su peso es de 21 kgrs. La obra estaría fundida en hueco, aunque presenta en ciertas zonas un interior relleno que parece plomo; este sistema de relleno era común, posiblemente para estabilizar la estatua, como apreciamos en un pie con *calceus* emeritense.[65]

El fragmento conservado representa un tejido movido y doblado sobre sí mismo, que parece corresponder con un extremo de manto estatuario que caía en vertical, paralelo al cuerpo de la estatua. Este tipo de tejido podría ser tanto de una estatua masculina como femenina, ideal o imperial, pues

55 Stylow 2001.
56 Noguera 2012.
57 Moreno 2014; Moreno 2016, 79–87.
58 Nogales et al. 2023.
59 Haba 1998.
60 Guerra et al. 2021.
61 Mateos – Picado 2011; Nogales – Merchán 2018.
62 Fernandes – Nogales 2018.
63 Lechtmann – Steinberg 1970; Lahusen – Formigli 2001; Lahusen – Formigli 2007.
64 Nogales et al. 2023.
65 Nogales – Murciano 2019, 214–215, Fig. 22.2.

muchos de estos tipos estatuarios llevan este tipo de manto colgante en vertical.[66]

A tenor de sus dimensiones estamos ante una figura de tamaño mayor del natural, lo que podemos considerar como semicolosal,[67] pues la estatua tendría una altura a partir de 2,5 ms. Dada su dimensión sobrehumana cabe pensar en una estatua de divinidad o imperial de culto.[68]

Si ponemos en relación este *paludamentum* con los otros fragmentos menores hallados juntos, que hemos identificado con placas de la coraza, podemos determinar que se trataría de una estatua masculina thoracata.[69] Un modelo bien conocido, el Augusto de Prima Porta de las colecciones vaticanas,[70] es un buen paralelo tipológico para la obra de *Metellinum.*

En la Península ibérica no faltan ejemplos de estatuas thoracatas en bronce. Un caso notable es la pieza hallada en Cádiz, que ha sido diversamente interpretada y fechada, desde época augustea hasta trajanea.[71] Pero el mejor paralelo lo hallamos en la estatua thoracata con un retrato de Germánico hallada en *Ameria.*[72]

Lo más interesante del fragmento de *Metellinum* es su decoración. A pesar del lamentable estado de conservación, pues ha perdido su patina original casi por completo, se puede intuir una esmerada ornamentación efectuada por la técnica del nielado o damasquinado, es decir incrustaciones metálicas de plata sobre su superficie lisa, en la que se han combinado incrustación, incisión y fusión de diferentes metales. El resultado final, aunque ahora cueste apreciarlo, sería una superficie metálica con efecto polícromo,[73] técnica grecorromana conocida como pintura en metal.[74] Este tipo de trabajos se empleaba para obras excepcionales, como debió ser el caso de la que nos ocupa.



Fig. 6. Fragmento de *paludamentum* de estatua colosal imperial de *Volubilis*, (foto T. Nogales).

66 Niemeyer 1968; Garriguet 2001; Alexandridis 2004.

67 Kreikenbom 1992; Ruck 2007.

68 Nogales Basarrate 2007a, 452–454.

69 Niemeyer 1968, 91–101; Stemmer 1978; Garriguet 2001, 62–65.

70 Niemeyer 1968, 91–92, Fig. 10.2; Pollini 2012, 174–175; Parisi – Presicce 2013.

71 Rodríguez Oliva 1990b, 94; Trillmich 1990, 46–47; Garriguet 2001, 21–22, Fig. 9.3; Rodríguez Oliva 2009, 122–124, Fig. 137; Ojeda 2017; Beltrán – Loza 2020, 77–78.

72 Pollini 2017.

73 Formigli 1999; Formigli 2013; Mattusch 2015, 149–150.

74 Descamps-Lequime 2014.

Sin duda un excelente paralelo de este tipo escultórico en bronce polícromo es el *paludamentum* de una estatua procedente de *Volubilis* (Fig. 6),[75] fechada en el siglo III y atribuida a una estatua triunfal de Caracalla. Su conservación es óptima, lo que permite comprobar el grado de perfección técnica unido al barroquismo ornamental y decorativo del fragmento estatuario.

En el fragmento metellinense debemos destacar un detalle iconográfico que no debe pasar desapercibido importante para la identificación de la estatua. El tejido, que posee una decoración de bandas o registros horizontales, estaría simulando cenefas bordadas sobre el paño; si se contempla con detalle la decoración interna de esta cenefa, se aprecia una estrella de seis puntas con botón central. A nuestro juicio sería el símbolo astral característico de la simbología y propaganda de Augusto, el *sidus Iulium*. Este cometa, de elevada luminosidad, brilló en el cielo de Roma entre el 23 y 25 de Julio del 44 a.C., tras la muerte de César.[76] El motivo se asocia tanto a César como Augusto, si bien éste lo empleó de forma frecuente en su propaganda política.[77]

No sería extraño que una estatua de Augusto, vestido militarmente, presidiera el acceso principal al teatro de *Metellinum*. Augusto, incorporando en su manto el símbolo de su tío y mentor Julio César, recordaba a los nuevos colonos su elección y su divino origen, a la par que se vinculaba a quien había concedido el estatus de colonia a *Metellinum*.

Estas obras analizadas nos hablan de una pujante provincia donde se asentaron importantes talleres, artistas que, posiblemente llegados de otros territorios y con una cualificación notable, pudieron dar respuesta a los programas decorativos públicos de estas nuevas colonias.

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Roman original or deliberate fake?

On an unpublished bronze head in a private collection in Cordoba*

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Abstract: A private collection in Cordoba contains a previously unpublished bronze head. It is not a Roman original. Its iconographic incongruences and its intentional fractures suggest a malicious intention in its manufacture. It is possibly a fake that someone intended to introduce in the art market. A second bronze portrait of the same personage belongs to a private collection in Murcia. It has similarly never been made known. It is also a modern sculpture, confirming the non-ancient origin of the bronze in Cordoba. The joint study of the two objects can serve as a methodological example of the procedure to detect modern fakes of bronze portraits with an antique appearance.

Keywords: portrait, bronze, fake, forger

Photographs of a male portrait in bronze began to circulate among specialists in Roman sculpture in Hispania in 2015 (Fig. 1.1–6). It belongs to a private collection in Cordoba and had never been published. As soon as I learnt of the existence of the object,[1] I expressed my interest in viewing it. Thanks to the assistance of C. Márquez, I was able to perform an autopsy on it and take a new set of photographs in May 2016.

It is a portrait of a young man. The forms of the face have been indicated by smooth, taut surfaces. The only wrinkles in the face are in his brow because of the knitted eyebrows. The slightly raised corners of the mouth depict a half smile. He does not look straight to the front. The head is turned towards the left and slightly upwards. This is a well-known technical resort. In this way, the portrayed person acquires a sovereign gesture through a distancing from the observer.[2] Only seven of the locks of hair in his fringe were worked in detail. For the line of argument that I am going to propose, the

* This study forms part of the activities of the research project Fake. The Persistence of Deceit. Falsification of Antiquities in Rome in the 18th century (PID2020-117326GB-100). I have received a great deal of help while drafting this manuscript. C. Márquez and J. M. Noguera facilitated my access to the bronze portraits in Cordoba and Murcia. The generosity of the owners of the two portraits made it possible to perform the autopsy and photograph them. Without the suggestions of K. Fittschen and N. Franken, I would never have been able to carry out this research. Finally, the translation of the text and the acquisition of comparative photographs have been funded by the financial support of the History of Art Department at the UNED.

1 I saw the first photographs of the sculpture in January 2016. They were sent by C. Márquez, who wanted to know my opinion of it.

2 For the interpretation of this gesture, see for example Zanker 1980, 196.

description of their form and position is fundamental. They can be divided into three groups: a) on the right of the forehead, two locks of hair have their ends pointing to the right. The outermost one is so slanted that it ends in a horizontal line; b) they are followed by three locks with the points towards the left. The first of them forms an arc with the other two, which are parallel to one another; c) two locks with their points towards the right complete the depiction of the man's fringe on the left. The last of the locks in Group b and the first in Group c make a kind of pincer with converging ends above the tear gland of his left eye. The hair on the back of the head has been lightly outlined.

Its maximum conserved height is 16.5 cm and it measures 11.5 cm from the chin to the skull.[3] In the nape and in front of the left ear there are several large holes with rough edges. In the back of the head, there are two small round holes and a larger third one can be seen in the dome of the skull (Fig. 1.5). Below the crown of the head, an area displays a concentration of numerous superficial pores. As in the case of most of the hair, the ears have not been fully sculpted.

The most difficult question posed by this portrait from Cordoba is whether it is a Roman original. From the technical point of view of the manufacture of the head there is nothing that raises doubts about its authenticity. All the details mentioned in the previous paragraph can be documented in Roman portraits:

- Numerous Roman portraits are a similar size.[4]
- The large holes with rough edges that can be seen at the back and next to the left ear are the result of a fault in the casting mould. They would have occurred as a consequence of bronze walls that are too thin.[5] This type of hole is usual in faulty Roman bronzes (*Fehlgüsse*).[6]
- The two small round holes in the back of the head were made by the distancers (*Abstandhalter*). These are metal nails that kept the right distance in the negative hollow of the casting mould after the wax centre had melted. Round distancer marks are known in some Roman bronze portraits.[7]
- The round hole in the dome of the skull is a consequence of the channel for the castings (*Einguss- und Ausflusskanal*), which was fixed to the wax model. Some examples of this type of hole are known in Roman bronze sculptures.[8]

3 For the importance of the chin-skull measurement in studies on Roman portraits: Fittschen 2018, 113.

4 They are normal measurements in small-format Roman portraits: Dahmen 2001. Not many small-format bronze portraits are known from Hispania. See for example Badajoz Archaeological Museum, Inv. 4471 (Ojeda 2018a, 209–216, Figs 1–4 and 6–9) and Mallorca Museum, Inv. 21286 (Moreno 2016, 50–52, no. 9, colour Fig. 1; Ojeda 2018b, 312). A small-format female portrait in the monastery of Santo Domingo de Silos has been linked with the city of Clunia; but unfortunately, its provenance is unknown. About that head: Bergmann 1999, 72–73, Fig. 85.

5 For an example of this issue: Kluge – Lehmann-Hartleben 1927, 117, Fig. 29 (the photograph is the wrong way round); Vorster 2015, 29, 34–35, Figs 1, 12 and 14.

6 For faulty bronzes: Kluge – Lehmann-Hartleben 1927, 110–121; Gschwantler 1986, 25, no. 11, Fig. 30; Lahusen – Formigli 2001, 484. For the appearance of faulty bronzes: Vorster 2015, 29–49. For some examples of faulty bronzes in the case of Roman portraits: Lahusen – Formigli 2001, 31–32, no. 6, 150–152, no. 90, 190–192, no. 114, 192–194, no. 115, 222–223, no. 135, 240–243, no. 148.

7 For distancers: Lahusen – Formigli 2001, 480–481. Lahusen and Formigli have repeatedly stated that round distancers are only documented in modern portraits (see for example Lahusen – Formigli 1993a, 276; Lahusen – Formigli 1993b, 179; Lahusen – Formigli 2001, 482). I have not found any arguments to support this claim empirically in any of their publications. For me it is untenable. For round distancers in Roman portraits, see for example Lahusen – Formigli 2001, 275–278, no. 172; Fittschen 2004, 123.

8 For wax channels: Lahusen – Formigli 2001, 483, Fig. 16. For Roman portraits with circular holes in the skull because of wax channels, see for example Lahusen – Formigli 2001, 183–185, no. 110 (cf. 393, Fig. 110.3), 190–192, no. 114 (cf. 191, Fig. 114.4).



Fig. 1. 1–6 – Bronze portrait. Cordoba, private collection / © HUM 882. Archaeological Seminary (Photo: D. Ojeda).

- The countless small pores below the crown indicate that a defective alloy was used to make the head. This technical problem has been observed in Roman objects.[9]
- Most of the hair, and above all the ears, show that work on the bronze when it had cooled was not fully completed. Similar unfinished Roman portraits in bronze exist.[10]

Despite this, the bronze from Cordoba is not an original object of Roman age. Its iconographic incoherencies are fundamental to argue this hypothesis. The movement of the eyebrows, the wrinkled brow, the half-smile and the long horizontal lock of hair on the right side of the fringe are iconographic elements taken directly from the portraits of Julius Caesar of Type Vatican–Pisa (Fig. 2.1–4).[11] However, no sign of the hard features and multiple wrinkles in the portraits of the dictator can be seen. Instead, the juvenile and ideal form of the face seems to be inspired by the iconography of the emperor Augustus.[12] I have not found any exact parallels for the locks of hair at the back of the head but a very similar form and distribution can be observed on many Julio-Claudian portraits.[13] This selection of iconographic elements suggests a modern sculptor, who sought points of reference in different Roman portraits to make a head that looks old.

A forged basalt portrait in the Metropolitan Museum in New York shows that this technique is common when modern creations are made with a malicious intention.[14] In the case of the fake in New York, the sculptor mixed characteristics of the iconography of Philip the Arab with others that are typical of Julio–Claudian portraiture.[15] The approach was highly successful: the object has belonged to the Museum's collection since 1916.[16] The aspirations of the sculptor of the Cordoba head may have been similar.[17]

The fractures in the nose and neck of the portrait underscore its creator's deceitful intentions. Neither of them possesses sharp borders, as they are casting edges (*Gussränder*).[18] They may have been made

9 For defective alloys: Kluge – Lehmann-Hartleben 1927, 110–111. For Roman bronze portraits with similar small pores: Lahusen – Formigli 2001, 167–169, no. 100, 178–179, no. 106, 198–199, no. 118, 201–203, no. 121.

10 For cold sculpting of Roman bronzes: Kluge – Lehmann-Hartleben 1927, 125–158; Lahusen – Formigli 2001, 487–488. For Roman portraits with unfinished cold sculpting (and with similar ears to those of the Cordoba figure), see for example Lahusen – Formigli 2001, 254, no. 156, 267–269, no. 167; Dahmen 2001, 158, no. 40, 159, no. 45, 188, no. 167.

11 For the fundamental literature on Roman portraits of Julius Caesar: Fittschen et al. 2010, 19–23, no. 12, 23–26, no. 13. For the list of replicas of the portraits of Julius Caesar of Type Vatican–Pisa: Fittschen et al. 2010, 19–20.

12 See for example Boschung 1993, 141–142, no. 70, Fig. 102, 148, no. 86, Fig. 73, 164–165, no. 133, Fig. 150, 165, no. 135, Fig. 89, 176, no. 163, Fig. 81.

13 See for example Boschung 1993, 156–157, no. 112, Fig. 79, 188–189, no. 195, Fig. 72; Balty – Cazes 1995, 83, Fig. 76.

14 Fittschen 1977, 95.

15 Fittschen 1977, 95–96, Figs 28.4, 29.2. This argument has recently been taken up by Lehmann 2019, 31.

16 Richter 1954, 99.

17 I cannot say whether the intention of the forger was to create a new portrait of Julius Caesar or a late first century BC private portrait. From a methodological point of view, I prefer to follow the example of Fittschen 1977, 95–96: recognize the fake, identify the models used by the forger, and not speculate about who was being represented in the forgery.

18 For casting edges and their presence on modern heads, see for example the case of the Antinous in Florence Archaeological Museum: Rumpf 1927, 241; Vorster 2015, 29. See also the presence of this detail and its use as evidence of a modern origin in the case of a bronze head in a private collection in Wiesbaden: Fittschen 1977, 94.

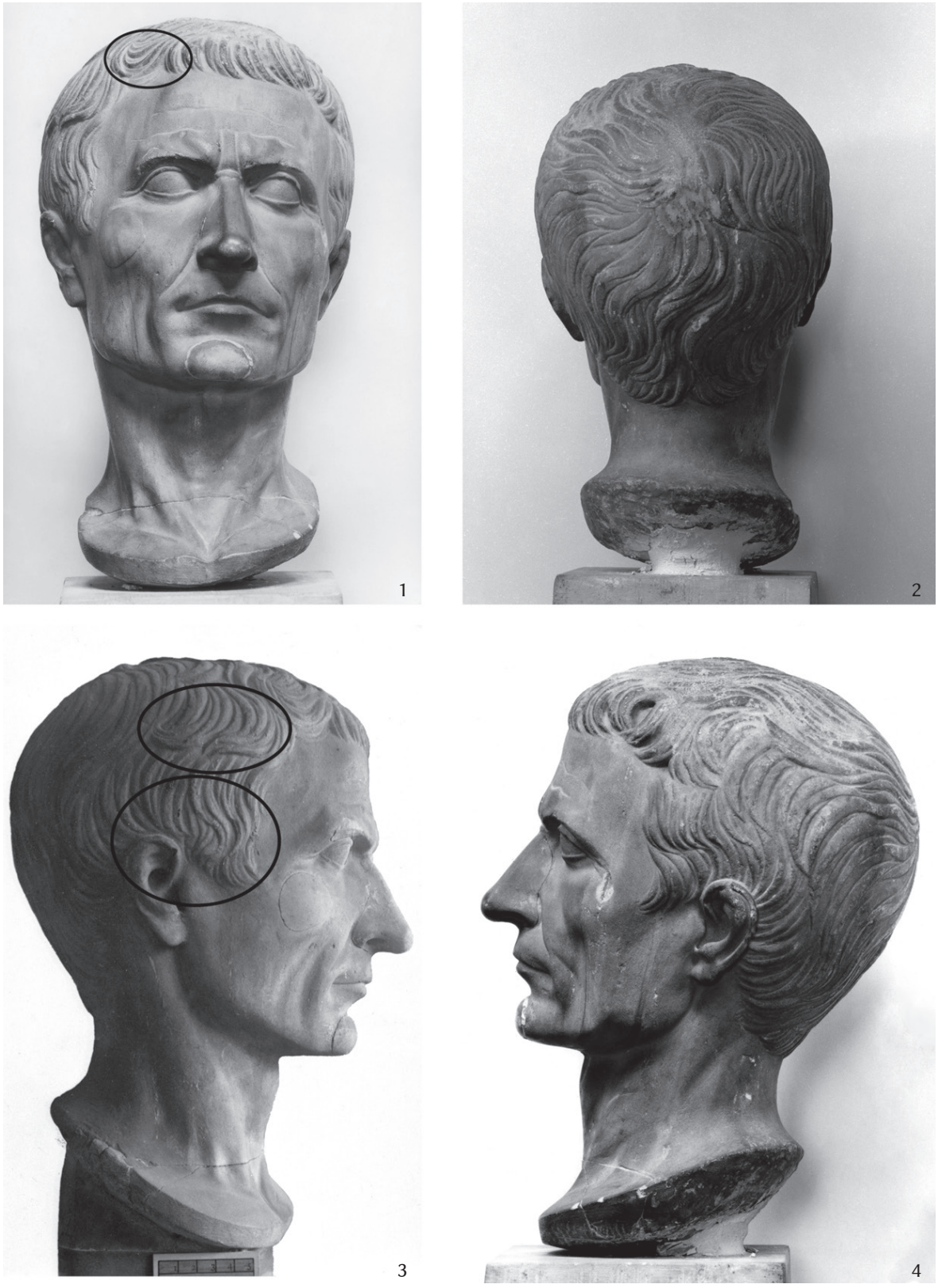


Fig. 2. 1–4 – Portrait of Julius Caesar of Type Vatican–Pisa. Pisa, Opera della Primaziale Inv. 1906.37 / © D-DAI-ROM 72.262-72.265-39.427R-72.266 (Photo: Vasari photo reproduction). The circles indicate areas that are very similar to the portrait from Murcia.

directly by the forger in the original model of the head (*Gussmodell*),[19] before making the casting mould. The aim would be to deteriorate the object intentionally to simulate an archaeological discovery with an old, mutilated appearance.[20] To achieve this, the sculptor imitated the fractures in the necks of ancient statues and bronze busts,[21] and also the damaged noses of many Roman portraits. In this latter detail, the forger seems to have taken the frequent breakages in marble portraits as the point of reference.[22]

Another bronze head in a private collection in Murcia (Fig. 3.1–6) confirms the modern fabrication of the portrait in Cordoba and its connection with the portraits of Julius Caesar of Type Vatican–Pisa.[23] It has similarly never been published. I saw it by chance in March 2019 on an organised visit to Murcia Archaeological Museum during the 9th Meeting on Roman Sculpture in Hispania. The head was exhibited temporarily in a glass case at the entrance of the museum and has since been returned to its owner. With the assistance of J. M. Noguera, I was able to perform an autopsy on the object and take new photographs a few months later.

The bronze from Murcia lacks an archaeological context. Its maximum height is 14 cm and the distance from the chin to the skull is 11.5 cm. It is definitely a modern creation. The triangular supports in the inner part of the neck (Fig. 3.6) are unknown in Antiquity.[24] Additionally, there are no broken edges in the neck, and therefore the head can never have belonged to a statue or bust.[25]

As a general rule, the more modern copies that exist of a portrait, the more unlikely it will be a Roman original.[26] This axiom can easily be applied to the heads in Murcia and Cordoba. They display an identical design in the form of the fringe,[27] repeat the distribution of the locks of hair at the back, and agree in certain details of the physiognomy of the face.[28] These similarities would indicate that

19 For the different models used by sculptors in bronze and the way to make them, see Kluge – Lehmann-Hartleben 1927, 72–76.

20 It is possible that the sculptor of the Cordoba head deliberately used a defective alloy to imitate a faulty Roman bronze. For modern imitations of faulty Roman bronzes, see for example Paul 1981, 158–159, Figs 122–123; Vorster 2015, 34, Fig. 14.

21 For Roman heads broken off at the neck in a similar way, see for example Lahusen – Formigli 2001, 115–116, no. 60, 157–161, no. 94, 223–225, no. 136. For modern heads with the neck represented in a similar way: Vorster 2015, 29, Fig. 1, 34, Figs 14, 16.

22 Owing to the huge number of marble heads with a similar broken nose, I will only cite a few examples, which can be seen in Volume II of the catalogues of Roman portraits in the Capitoline Museums: Fittschen et al. 2010, 53–54, no. 42, Fig. 44, 54, no. 43, Fig. 46, 55, no. 45, Fig. 47, 76–77, no. 71, Fig. 83, 80, no. 75, Fig. 88. I have not found noses damaged or broken in an identical way in any bronze portraits. For some examples with a certain resemblance: Boschung 1993, 113, no. 12, Fig. 32; Lahusen – Formigli 2001, 157–161, no. 94; Dahmen 2001, 163, no. 60, 191, no. 178, 192, no. 183. Some similar examples can also be seen in the ideal plastic: Rodríguez 2009, 72, Fig. 57, 78, Fig. 68.

23 For the relationship between the Cordoba and Murcia portraits and the image of the dictator, see infra n. 27.

24 The triangular supports inside the neck are a centimetre long, with a round hole 2 mm in diameter in the middle.

25 For this detail in modern bronzes: Fittschen 1977, 94.

26 Fittschen 2006, 9–10.

27 In the case of the Murcia head, it does not only imitate the pincer in the right side of the fringe, the position of the eyebrows, the wrinkled brow and expression of the mouth in the portraits of Julius Caesar. Some of the locks of hair in the right profile are also identical to those in the portraits of Julius Caesar of Type Vatican–Pisa. Cf. Figs 2.3 and 3.3 here.

28 The coincidence in the movement of the eyebrows and the form of the mouth are especially clear. Despite this, the Murcia head resembles more closely the physiognomy of Julius Caesar's portraits than the Cordoba one. See for example the portrait of the dictator in the Vatican Museums: Johansen 1967, 25–26, Fig. 1.



Fig. 3. 1–6 – Bronze portrait. Murcia, private collection / © HUM 882. Archaeological Seminary (Photo: D. Ojeda). The circle indicates an area at the back of the head that is very similar to the portrait from Cordoba.

they represent the same person.[29] They may have been conceived by the same modern sculptor. The exact coincidence in the chin-skull measurements is a further argument supporting this conviction.

When and where the two heads were made are difficult questions to answer. Only the portrait of Murcia offers a clue in this regard: its first owner bought it in Andalusia between 1970 and 1980. The provenance of the head from Cordoba is less reliable. Their present owners told me a story that was hard to believe: it was found in 1955 in the Roman city of Cisimbrium during farm work.[30] It was unearthed close to the banks of the River Anzur, beneath some tree roots, when a family relative was ploughing the land. The attempt to provide an underground provenance for the portrait, in a city of Baetica mentioned by Pliny,[31] would have been a juicy bait for collectors in the art market. Fortunately, this time nobody was biting.

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29 The cold sculpting finishing of the Murcia head allows another aspect to be introduced regarding the choice of models for the portraits in Cordoba and Murcia. In the profiles (Fig. 3.3–4) it can be seen that the hair in the lowest part of the nape does not curl back towards the ears but falls practically vertically downwards. This is not very usual in Roman portraiture, but similar designs can be seen in some very well-known portraits. See for example the right profile of the so-called Brutus in the Palace of the Conservators (Fittschen et al. 2010, 1–4, no. 1, Fig. 2, bottom left) and the left profile in some of the modern copies of the Mantua/Venice type (for this type of portrait: Fittschen 1989; Fittschen 1990; Fittschen 2021, 36–39. An especially clear example can be seen in Boschung – von Hesberg 2007, 104–105, no. N60, Fig. 78.2).

30 The only information I know about Cisimbrium is in Melchor 2007.

31 Plin. *Nat.* 3,10.

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Die Herakles-Kentauren-Gruppe

Ein Kandelaber neu beleuchtet

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Abstract: The bronze candelabrum found in 1896 during the Austrian excavations in the ›Marble Hall‹ of the Harbour Gymnasium in Ephesus, which shows a group with two persons—Herakles fighting with a Centaur—in front of a tree, has been part of the collection of antiquities of the Kunsthistorisches Museum Vienna since the end of the 19th century. In the course of recent research, questions concerning the history of the find and the object, technical aspects and modern restoration measures, as well as the dating and the original context of the installation were addressed. Scientific analyses were carried out, which helped to identify one of three other fragments present, a horse's front hoof, as belonging to the group. A second human foot and a horse hind leg indicate that there was a second group of the same size. This one, however, was not quite identical as assumed in previous research, but probably showed a similar motif—maybe the hero kneeling on the centaur. Stylistic and technical aspects point to a dating in late Hellenistic times, in the middle of the 1st century BC, and eventually to a workshop in Alexandria. It is therefore possible that this is the oldest preserved bronze candelabrum of this form.

Keywords: candelabrum, Herakles, centaur, bronze tree, late Hellenistic period

Die sogenannte Herakles-Kentauren-Gruppe ist Teil des Bestandes der Antikensammlung des Kunsthistorischen Museums Wien (Antikensammlung, Inv. nr. VI 3169, Abb. 1). Es handelt sich um einen Bronzekandelaber in Form eines knorrigen Baumstamms, der zusammen mit einer zweifigurigen Kampfgruppe als Einheit konzipiert ist. Im Zuge eines Forschungsprojekts wurden Fragestellungen zu Fund- und Objektgeschichte, zu technischen Aspekten und neuzeitlichen restauratorischen Maßnahmen, sowie zu Datierung und dem ursprünglichen Aufstellungskontext wiederaufgenommen und neu behandelt.[1] Die Ergebnisse werden hier in Kürze dargelegt.[2]

Nach Ausweis der Grabungstagebücher des Österreichischen Archäologischen Institutes wurde der bronzene Kandelaber im Oktober des Jahres 1896 in fragmentiertem Zustand in Ephesos im sogenannten Marmorsaal des Hafengymnasiums gefunden, des ehemals repräsentativsten Raums des Baukomplexes. An der Stelle im Nordosten des Saals kamen weitere Bronzen bzw. Bronzefragmente zutage,[3] unter anderem ein Kapitell mit den Darstellungen des Herakles und der Omphale.[4] Die Grabungsfunde wurden anschließend nach Wien gebracht, dort vom Bildhauer Wilhelm Sturm gereinigt, die Herakles-

1 Ein Forschungsprojekt der Verfasserin mit Unterstützung der Antikensammlung des Kunsthistorischen Museums Wien.

2 Ausführliche Publikation s. Stoss 2022.

3 Archiv ÖAW-ÖAI, EPH_TB_1896.

4 Kunsthistorisches Museum Wien, Antikensammlung, Inv. nr. VI 3170 a.

Kentauren-Gruppe wurde zusammengesetzt und Fehlendes ergänzt – so unter anderem der Kopf des Kentauren und die Pferdebeine. Im Jahr 1901 war sie dergestalt in der Ausstellung zu den neuen Funden aus den österreichischen Grabungen in Ephesos im „Theseustempel" im Wiener Volksgarten zu sehen.[5]

Zwei weitere Fragmente – ein linker menschlicher Fuß und ein Hinterbein eines Huftieres (Antikensammlung, Inv. nr. VI 3994 a und VI 3994 b, Abb. 2; Abb. 3) – waren ebenso nach Wien gekommen und aufgrund der gleichen Größe als Überrest einer zweiten identen Gruppe betrachtet worden. Der heute originale Kopf des Kentauren, ein Vorderbein eines Huftieres (Antikensammlung, Inv. nr. VI 3995, Abb. 4) sowie der obere Teil des Baumstammes mit der reliefierten Rundbasis, welcher die Gruppe als Kandelaber definiert, waren während der Grabung offensichtlich entwendet worden und sind erst einige Jahre später auf Umwegen nach Wien gekommen: Der Kopf und das Vorderbein über den Amerikaner Edward Perry Warren, der die Stücke um 1900 in Smyrna für seine Sammlung erworben hatte, auf die Wiener Gruppe durch den Katalog der Ausstellung im Theseustempel aufmerksam geworden war und den Zusammenhang erkannt hatte. Ähnliches geschah mit dem oberen Baumstammende: Dieses wurde von Fritz Eichler, der damals in der Wiener Antikensammlung tätig war, im Herzoglichen Museum in Gotha auf einer Studienreise zufällig entdeckt – ausgestellt als Pasticcio, fälschlicherweise zusammengefügt mit einer bronzenen Halbfigur eines Herakliskos von derselben Fundstelle und ebenso in Smyrna angekauft. Beide Stücke, der Kopf und das Baumstammende mit der Rundbasis, ließen sich, im Bruch anpassend, an die Gruppe in Wien anfügen und verblieben so bis heute.

Im Zuge des Projekts wurde eine Zustandserfassung der Gruppe vorgenommen, um Brüche und Ergänzungen, antik und neuzeitlich, zu erfassen und zu verifizieren und restauratorische Maßnahmen zu dokumentieren. Mit



Abb. 1. Herakles-Kentauren-Gruppe aus Ephesos. Wien, Kunsthistorisches Museum, Antikensammlung (© KHM-Museumsverband).



Abb. 2. Fragment: Linker Fuß (© KHM-Museumsverband).



Abb. 3. Fragment: Hinterbein eines Huftieres (© KHM-Museumsverband).

5 Schneider 1902, XV.



Abb. 4. Fragment: Vorderbein eines Huftieres (© KHM-Museumsverband).



Abb. 5. Radiografie: Herakles (© KHM-Museumsverband).

bloßem Auge sind diese nicht immer eindeutig auszumachen, da die Oberfläche im ausgehenden 19. Jahrhundert gereinigt, teils gekittet und grünlich koloriert wurde, um ein einheitliches Erscheinungsbild zu erlangen. Die vorgenommene Radiografie konnte darüber Aufschluss geben und auch die Armierung im Inneren sichtbar machen (Abb. 5). Darüber hinaus wurden weitere naturwissenschaftliche Analysen durchgeführt,[6] so eine RFA-Analyse an spezifischen Punkten, die möglichst keine Übermalung aufwiesen und Untersuchungen von Proben unter dem Rasterelektronenmikroskop. Auch Fotoaufnahmen der UV-Fluoreszenz wurden angefertigt. Die in der Radiografie sichtbaren Brüche und Ergänzungen wurden in einer Kartierung veranschaulicht. Hinsichtlich der Gusstechnik konnte festgestellt werden, dass es sich bei Körpern und Köpfen um Hohlgüsse, bei Armen und Beinen bzw. Unterschenkeln hingegen um Vollgüsse handelt (Abb. 6). Die Fluoreszenz im ultravioletten Licht bestätigte Stabilisierungsmaßnahmen und Verklebungen der Altrestaurierungen. Die Ergebnisse der RFA- und REM-Analysen waren hinsichtlich der drei zusätzlichen Fragmente von besonderem Interesse: So stellte sich heraus, dass das kleine Vorderbein aus der Sammlung Warrens in der Legierung den Proben des Kentauren sehr ähnlich ist und daher ursprünglich zu diesem gehört haben wird und nicht zu der zweiten identen Gruppe, wie seit dem 19. Jahrhundert, später auch von Fritz Eichler und Peter Bol, angenommen wurde.[7] Für diese bleiben demnach nur mehr zwei Fragmente – der menschliche linke Fuß (der vom Fuß der anderen Gruppe im Aussehen des Unterschenkelansatzes leicht abweicht) und ein Pferdehinterbein. Vorstellbar für den zweiten Kandelaber ist ein abgewandeltes Pendant desselben Themas oder auch ein Kentaurenkampf mit einer motivischen Änderung, beispielsweise Herakles auf dem Gegner kniend (Abb. 7).

Vormals vorgeschlagene Datierungen für die Herakles-Kentauren-Gruppe reichen von 200 v. Chr. bis in die römische Kaiserzeit: Fritz Eichler sah die Gruppe in den 1920er Jahren als hellenistisch an, Ernst Künzl 1968 als um 200 v. Chr. entstanden und Peter Bol datierte sie in den 1970er Jahren in

6 KHM, Antikensammlung, Akt Nr. 46 ex 2020.

7 Eichler 1929, 198–219; Bol 1970, 81–90.

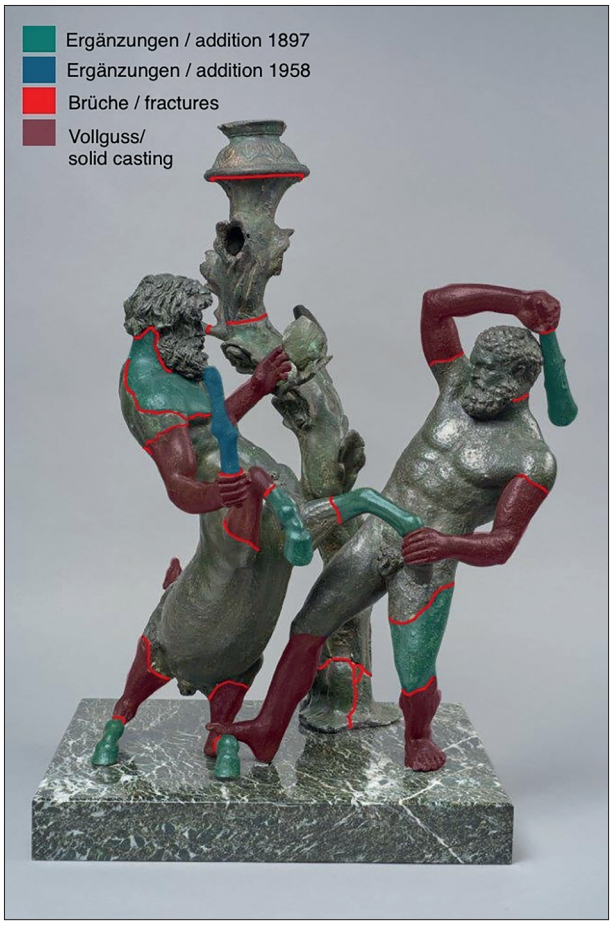


Abb. 6. Kartierung von Brüchen, Ergänzungen und Gusstechnik (© KHM-Museumsverband).

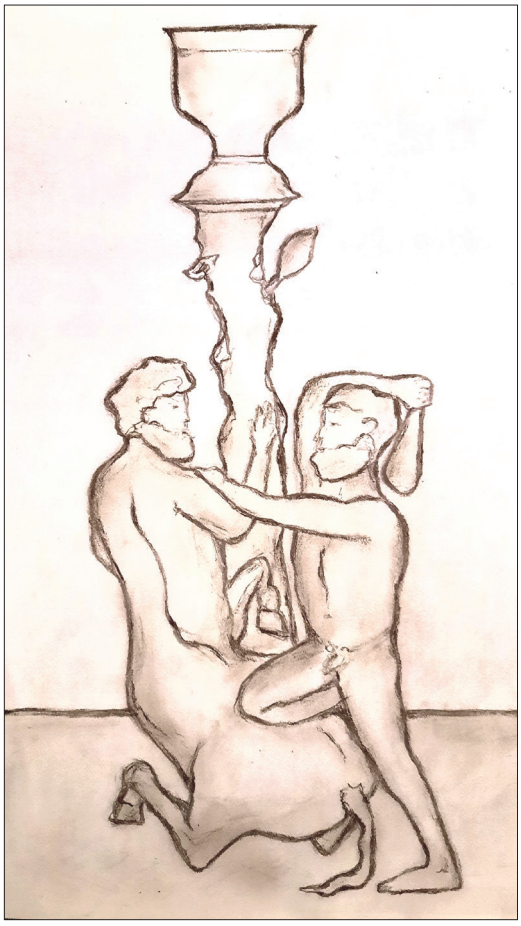


Abb. 7. Rekonstruktionsvorschlag eines zweiten Kandelabers (© Stephanie Stoss).

eine Zeit nach der Mitte des 2. Jahrhunderts v. Chr. Brunilde Sismondo Ridgway hielt die Gruppe schließlich für eine römische Schöpfung.[8]

Ein dreidimensionales Original oder eine Replikenreihe ist nicht bekannt. Die neuerliche kritische Betrachtung unter stilanalytischen und ausführungstechnischen Aspekten legt für die Entstehung jedoch einen Zeitpunkt im späten Hellenismus, um die Mitte des 1. Jahrhunderts v. Chr., nahe. Hierfür sprechen Parallelen mit späthellenistische Bronzegruppen wie der Theseus-Minotaurus-Gruppe in Berlin,[9] die durch klassizistische Stilmittel geprägt ist – eine Formensprache, die auch bei Herakles in der Gesamterscheinung und beim Kentauren vor allem in der Haartracht wiederzufinden ist. Diese steht in Kontrast mit dem Ausdruck hellenistischen Pathos, das im Körperverständnis des stark tordierten und sich in die Tiefe erstreckenden Pferdeleibes des Kentauren zum Ausdruck kommt. Die intensive Bewegtheit der Gesichtsmuskulatur (Abb. 8) hat wiederum Parallelen in den Porträts um die Mitte des 1. Jahrhunderts v. Chr, wie beispielsweise jenem eines Mannes in Neapel[10] (Abb. 9). Die eklektische Verschmelzung von klassizistischer mit hellenistischer Formensprache ist ähnlich beim sogenannten Spinario, dem Dornauszieher in den Kapitolinischen Museen in Rom zu finden, der wahrscheinlich um 50 v. Chr. zu datieren ist.[11]

8 Eichler 1929, 198–219; Künzl 1968, 134; Bol 1970, 86–90; Ridgway 1990, 325.

9 Thomas 1992, 152, Abb. 159; Franken – Weber-Karyotakis 2022, 338.

10 Daehner – Lapatin 2015, 264–265, Kat. 37.

11 Daehner – Lapatin 2015, 305, Kat. 54, mit weiterer Literatur; Zanker 1974, 71–94.



Abb. 8. Kentaurenkopf (© KHM-Museumsverband).

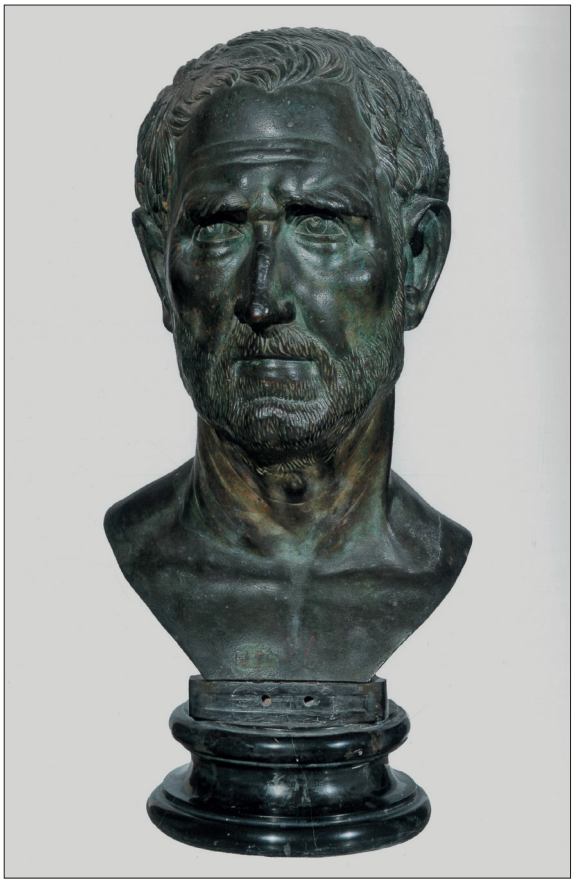


Abb. 9. Porträt eines Mannes (nach Daehner – Lapatin 2015, 264).

Ein Vergleich mit bekannten Baumlampenständern, u. a. aus Pompei, unterstützt diese Datierung und legt eine zeitliche Einordnung vor diesen und in der Nachfolge der hellenistischen Figurenlampen nahe, von denen zwei Exemplare – ein Eros und ein Hermaphrodit – aus dem Fund des Schiffswracks von Mahdia stammen.[12] Vergleichbar sind die Größe, die Produktion als Pendants sowie der Fokus auf die optische Gestaltung als Plastik: Die beiden Figurenlampen sind zugleich selbst Lampenkörper, die das Öl in sich aufnehmen können, die Figuren der Herakles-Kentauren-Gruppe stellen mit dem Lampenbaum eine konzeptuelle Einheit dar. Im Gegensatz dazu zeigen die anderen bekannten Baumlampen eine Tendenz zu einer additiven Optik und zu einer Wahrnehmbarkeit eher als Gerät denn als Plastik: Bei diesen werden die Lämpchen an zumeist stark stilisierten und weniger naturalistisch gestalteten Bäumen an den Ästen aufgehängt oder sie haben Schalen zum Abstellen der Lämpchen: So beispielsweise bei einem Tischlampenständer aus Herkulaneum, dem als Figur ein schwankender Silen beigestellt ist (Abb. 10).[13] Beim ephesischen Kandelaber hingegen ist der Lampenfuß fix montiert, wobei die Lampe hypothetisch in Form einer kleinen Hydria vorstellbar ist, wie sie auch als Bekrönung bei Schaftkandelabern der Vesuvstädte seit dem Hellenismus zu finden sind, wo das Lämpchen jedoch obenauf abgestellt wurde.[14]

Unter stilanalytischem Aspekt stellt die partielle Reliefhaftigkeit ein auffälliges Gestaltungsmerkmal der Gruppe dar, die besonders in der linearen Haltung des Herakles zum Ausdruck kommt. Betrachtet man nun das Motiv, bei dem der Heros den Kentauren am Vorderbein zieht und mit dem Fuß auf

12 Hiller 1994, 515–537; um 100 v. Chr. datiert.

13 Amadori 2022, 84–88, Kat.178.

14 Bielfeldt – Amadori 2022, 70, Kat. 24.



Abb. 10. Tischlampenständer mit Silen (nach Amadori 2022, 87, Abb. 10.9).

sein Hinterbein tritt, zeigen sich die nächsten Parallelen dementsprechend in Reliefs, besonders in einer Platte des klassischen Frieses von Bassai-Phigalia[15] und schließlich in weiter abgewandelter Form in den, zumeist kaiserzeitlichen, Sarkophagreliefs. Exemplarisch sei ein in den Vatikanischen Museen befindlicher Sarkophag mit Kentauromachiedarstellungen genannt (Abb. 11).[16] Das Vorbild für die Herakles-Kentauren-Gruppe, auch für Elemente wie Bärte und Haartracht, ist demnach im klassischen Relief zu verorten. Für eine direkte Abhängigkeit von einem zweidimensionalen Vorbild spricht schließlich die perspektivische Verkürzung der rechten Brust des Herakles, wie auch die ungewöhnliche Haargestaltung des Kentauren, die von der Vorderansichtsseite der Gruppe schlüssig ist, frontal betrachtet jedoch merkwürdig erscheint und keiner üblichen aus der Skulptur bekannten Ikonografie entspricht.

Klassisches Relief als Vorbild scheint demnach in der dreidimensionalen Umsetzung vom Künstler der Gruppe durch hellenistisches Pathos belebt worden zu sein – und dies in bewusster Experimentierfreude und unter Verwendung von verschiedenen Modellen. Von einer vorhandenen Fülle von solchen wie auch von Musterbüchern in den Bronzewerkstätten ist jedenfalls auszugehen. Die auffällig raue Oberflächenbehandlung, die bei alexandrinischen Bronzen zu beobachten ist, ist auch hier zu finden und könnte auf eine Produktion in einer Werkstatt in Alexandria hinweisen.[17]

15 Kenner 1946, 43, Taf. 7; London, British Museum, Onlinedatenbank: https://www.britishmuseum.org/collection/object/G_1815-1020-5 (letzter Zugriff: 28. 03. 2023).

16 Robert 1897, 151–155, Nr. 132, Abb. 132.a–b, Taf. 40.

17 Vgl. beispielsweise eine Statuette des Hermes in Bonn, Akademisches Kunstmuseum, Inv.nr. C. 301; Thomas 1992, 123–124, Abb. 119; Himmelmann 1989, 234–235.

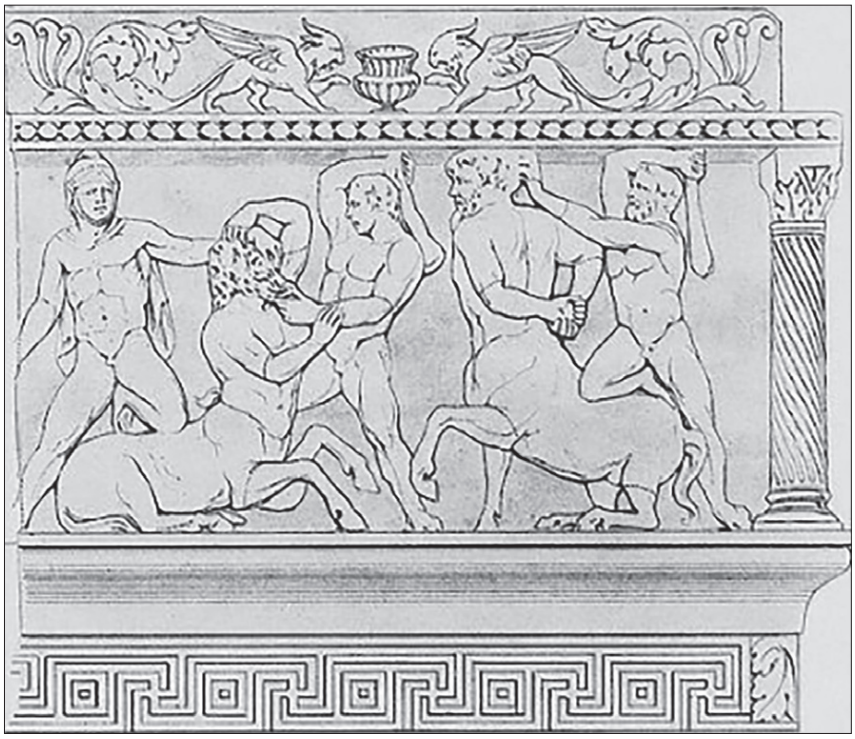


Abb. 11. Umzeichnung eines Sarkophagreliefs mit Kentauromachiedarstellung (nach Robert 1897, Taf. 40, Nr. 132.a).

Auch wenn bei diesen Schlussfolgerungen aufgrund verschiedener Einwirkungen auf die Oberfläche im Laufe der Zeit Vorsicht geboten ist, ist es gut vorstellbar, dass die Herakles-Kentauren-Gruppe als Importstück aus einem der großen Produktionszentren hellenistischer Luxusgüter nach Ephesos gelangt ist.

Die Aufstellung eines späthellenistischen Kandelabers im kaiserzeitlichen „Marmorsaal", dessen Entstehung in domitianischer Zeit anzusetzen ist und der Ende des 3. Jahrhunderts n. Chr. vermutlich durch ein Erdbeben zerstört wurde,[18] muss nicht verwundern: Vom Interesse am Sammeln und am Besitz griechischer Originale zeugen beispielsweise der Bronzefund der Casa di Giulio Polibio in Pompeji mit einer Bronzehydria aus dem 5. Jahrhundert v. Chr.,[19] oder die bei Plinius (Plinius, Naturalis historia 34. 6. 11–13) überlieferte Anekdote der Römerin Gegania, die um einen horrenden Preis von 50.000 Sesterzen einen griechischen Kandelaber erstand.

Die anderen Funde des „Marmorsaal", bei denen es sich um kaiserzeitliche Kopien griechischer Originale handelt,[20] weisen auf eine Art Kunstsammlung hin und eine Funktion des repräsentativen Saals als Ort intellektuellen Austauschs – dies ist durchaus zu verstehen im Sinne der Schilderung Vitruvs (Vitruvius, De architectura 5. 11. 2): „Constituantur autem in tribus porticibus exhedrae spatiosae, habentes sedes, in quibus philosophi, rhetores reliquique, qui studiis delectantur, sedentes disputare possint". Ein Ort der Diskussion also, ein Ort des Philosophierens und ein solcher für alle jene, die sich an Studien zu erfreuen vermögen – und dies vielleicht mit einem mythischen Kentaurenkampf vor Augen, im Lichtschein eines prunkvollen bronzenen Kandelabers.

18 S. u. a. Scherrer 1997, 113–146.

19 Eber et al. 2022, 115–127.

20 S. dazu Plattner 2020, 149–162.

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KHM, Antikensammlung, Akt: *Akten aus dem Archiv der Antikensammlung des Kunsthistorischen Museums Wien.*

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Bronzi figurati romani dal territorio di Mantua, Italia

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Abstract: *Roman Figural Bronzes from the Territory of Mantua, Italy*. In recent years, many discoveries have been made in the country around Castel Goffredo, in the province of Mantua (Northern Italy). These are Roman small objects mainly in bronze, iron, lead, as they were found with the use of metal detectors. For this reason, the context of provenance is often unknown and the analysis of the finds is difficult. The knowledge of these objects was deepened following the setting up of the new archaeological section of the Museum of Castel Goffredo (MAST), inaugurated in June 2021.

The Roman figural bronzes found in this territory are presented here. The remains of a *lararium*, including an interesting statuette of Aesculapius, has been examined in the typological framework of the bronze representations of this god.
Keywords: figural Roman bronzes, Aesculapius, bronze throne, bronze horse

Il territorio di Castel Goffredo (nell'attuale Lombardia, in provincia di Mantova) è situato nella pianura padana, non lontano dal Lago di Garda, e in antico afferiva probabilmente all'*ager mantuanus* (nella *X regio* augustea), presso gli *agri* di *Brixia* e *Cremona*.[1] La realizzazione della Sezione archeologica del Museo della città (MAST) di Castel Goffredo, inaugurata nel 2021, ha comportato la revisione dei numerosi materiali rinvenuti nelle zone rurali circostanti ad opera di ricercatori locali e poi consegnati al Museo;[2] essi sono stati cartografati, registrati e in alcuni casi restaurati in funzione dell'allestimento.[3]

Gli oggetti rinvenuti sono in gran parte in metallo (fibule, strumenti, anelli, pesi, frammenti di vasi, ecc.), poiché i ritrovamenti vennero effettuati con l'uso di *metal detectors*. A causa di tale metodo di indagine, non sussistono dati di contesto; molti reperti provengono probabilmente da *villae rusticae*, ma l'unico sito per il quale è stato possibile proporre tale identificazione con una certa sicurezza è quello di Codosso. Sono oggetto del presente contributo solo i bronzi figurati emersi dalle ricerche ora citate.

1 Desidero ringraziare gli organizzatori del convegno sui bronzi antichi di Budapest e in particolare David Bartus.

2 L'esame dei materiali romani si è svolto nel quadro di una collaborazione fra il MAST e il Museo Archeologico al Teatro romano di Verona; ringrazio Barbara D'Attoma, direttrice del MAST, Alberto Crosato, curatore della Sezione archeologica, Leonardo Lamanna, funzionario SABAP per le province di Cremona Lodi e Mantova, per l'autorizzazione alla pubblicazione e l'aiuto fornito.

3 La revisione e l'allestimento sono stati curati da Alberto Crosato; i restauri sono stati eseguiti da Florence Caillaud (Bologna).

Reperti da Codosso

Dalla *villa* di Codosso,[4] frequentata dal I sec. a.C. alla seconda metà del IV sec. d.C., proviene una statuetta infantile seduta (Fig. 1.a), nuda, di piccole dimensioni (alt. cm 4,4), che ebbe un lungo periodo d'uso, come attestano la consunzione delle superfici (con scomparsa dei dettagli) e il riutilizzo come *aequipondium*, tramite due fori nella testa per l'inserimento di un gancio di sospensione e un foro inferiore, nel quale fu colato piombo nel corpo (Fig. 1.b), per un peso attuale di 131 g, equivalente a circa 5 *unciae* (1 *quincunx*).[5] L'infante, forse di un paio d'anni di età, è in torsione, volge la testa a destra e racchiude fra le braccia presso il fianco sinistro un grappolo d'uva. Il gesto rappresentato è di agevole interpretazione: rinvia a una scena con due 'attori', in cui il bimbo, in atteggiamento giocoso, sottrae il grappolo d'uva a un animale intenzionato a cibarsene (un volatile, una lepre, una volpe…). Raffigurazioni di scherzi di bambini o più spesso di Eroti, elaborate in età ellenistica (dal III secolo a.C.), ebbero ampia diffusione in epoca romana,[6] anche nella bronzistica.[7] La statuina di Codosso rientra in un gruppo poco numeroso di bronzetti quasi identici (a parte le misure), considerati da Ivonne Manfrini-Aragno come tipo III dell'«enfant assis par terre», inserito con cautela fra le immagini in bronzo di Bacco bambino per la presenza del grappolo d'uva;[8] si potrebbe anche trattare di bambini non divini, come rilevato da Gisela Richter.



Fig. 1. a–b – Bambino da Codosso.
Fig. 1. a–b – Child from Codosso.

4 L'identificazione come *villa rustica*, proposta da A. Crosato, è stata determinata dal tipo di materiali rinvenuti e da controlli *in situ*; l'edificio doveva essere dotato di una *pars dominica* di un certo livello, a giudicare dalla presenza di un impianto di riscaldamento, dai resti di mosaici e intonaci dipinti e dai numerosi reperti metallici (ad esempio cerniere in bronzo di porte).

5 Per l'utilizzo secondario come cursori per stadere di oggetti figurati in bronzo nati con altra funzione Franken 1994a, 203–206.

6 Bradley 1998, 536; Legrottaglie 2016.

7 Si veda a titolo di esempio Terenziani 1986 (raffigurazione a narrazione continua su un balsamario bronzeo di uno scherzo fra un bambino e un gallo, basato su un grappolo d'uva).

8 Manfrini-Aragno 1987, 135, Fig. 274–275. Le statuine note sono leggermente più grandi rispetto a quella di Codosso: New York, Metropolitan Museum of Arts, bronzo, cm 5,7 (Richter 1915, 161, n. 376); London, British Museum, bronzo, dalla Grecia (?), cm 5,1 (Walters 1899, 225, n. 1342), e argento, dal Cairo, cm 9,5 compresa la base (Walters 1921, 12 n. 43, tav. VII), riferite entrambe da Walters a Dioniso bambino. I. Manfrini-Aragno ritenne che i bronzetti potessero essere una produzione del Mediterraneo orientale o che il loro modello avesse tale origine.



Fig. 2. Gancio con testa di rapace da Codosso.
Fig. 2. Bird of prey head hook from Codosso.

La funzione primaria della statuina di Codosso non è agevolmente individuabile, anche a causa della trasformazione subita; nella piccola plastica in bronzo, il soggetto del putto seduto in vari atteggiamenti è presente come elemento decorativo per arredi e per carri,[9] ma anche in contesti religiosi, privati e forse pubblici.[10] Il prolungato utilizzo fa supporre per il bronzetto di Codosso una cronologia alla prima età imperiale.

Da Codosso proviene poi un gancio configurato a testa di aquila (Fig. 2), che per struttura poteva essere pertinente a una stadera.[11] La raffigurazione dell'aquila, insolita in questi strumenti di misura, è però attestata in un esemplare considerato una variante del tipo Valle Ponti.[12] È possibile che il gancio e la statuetta-*aequipondium* descritta sopra, provenendo dallo stesso sito, facessero parte di una medesima stadera, caratterizzata da un lungo periodo d'uso.

Ancora dai resti della *villa* provengono un amuleto fallico, con anello di sospensione (Fig. 3.a), di un tipo molto diffuso a partire almeno dal I sec. d.C..[13] e una meno consueta raffigurazione di doppio fallo a bassorilievo (Fig. 3.b), in veduta in parte laterale, che doveva essere applicata ad una superficie piana ugualmente in metallo.[14]



Fig. 3. a–b – Raffigurazioni falliche da Codosso.
Fig. 3. a–b – Phallic representations from Codosso.

9 Caylus 1762, 171–172, tav. LXI, dalla Campania, bimbo seduto con volatile; Boube Piccot 1980, 283 n. 494, Fig. 101, Cupido seduto, con grappolo e volatile.

10 Ad esempio Bartus 2015, 15–29 n. 1 (bimbo seduto sulla stessa base di una statuetta di Giove, probabilmente pertinente a un larario domestico da Brigetio); Kaufmann-Heinimann 1998, 269 n. GF56, da Grossringe, forse santuario (bimbo seduto con volatile fra le braccia).

11 Alt. cm 4,1; largh. cm 2,4. Cfr. Artefacts.mom.fr, scheda BLC-4013 (con la più frequente testa di palmipede), consultato nel febbraio 2023.

12 Franken 1993, 77, 107 *Liste* I 1 *Variante* (London, BM). Nel tipo Valle Ponti compaiono normalmente nei ganci teste di palmipede.

13 Lungh. cm 2,8; alt. 1,7; peso 8 g. Cf. orientativamente Rey Seara 2002, 17–18, n. 3; Bolla 2011, 66–68, nn. 43–45; per datazioni alla prima e media età imperiale, Kaufmann-Heinimann 1994, 196–197, nn. 339–343.

14 Largh. cm 3; alt. 1,7; l'elemento è privo di anelli e ha il retro appiattito. Franken 1996, 30, n. 13, enumera alcune possibili sedi (metalliche) per l'applicazione di apparati riproduttivi maschili visti frontalmente: erme, tavole iscritte, basi di statuette.

Bronzi figurati da località varie

Da Santa Maria del Consorzio proviene una testa femminile con parte delle spalle; la testa è a colata piena mentre quanto resta del busto è cavo (Fig. 4).[15] Il frammento è completamente combusto e di difficile comprensione, ma doveva essere un prodotto realizzato con cura. La tecnica di fabbricazione e l'inclinazione della testa fanno pensare che fosse parte di un busto per applicazione piuttosto che di una statuetta, ma è difficile individuarne la funzione originaria.[16]

Sulla spalla sinistra si nota una fascia verticale in rilievo, forse l'inizio di un panneggio; nel viso si distinguono soprattutto gli occhi globosi, senza indicazione dell'iride. La pettinatura è ben caratterizzata: su una struttura 'a melone' si imposta una doppia corona di trecce. Le affinità con i bronzetti di Diana paiono limitate alla *Melonenfrisur*,[17] mentre la pettinatura nel suo complesso sembra richiamare in particolare quella di Matidia, nipote di Traiano (*augusta* dal 112 e divinizzata da Adriano alla morte nel 117 d.C.)[18] e di altre donne della famiglia imperiale fra l'età traianea e adrianea.[19] Non si può affermare che il busto raffiguri una donna della casa imperiale; ne è però probabile la datazione nella prima metà del II secolo d.C.

Dalla località di Gambaredolo proviene una base di statuetta a pianta rettangolare (Fig. 5), con un motivo curvilineo su un lato corto; la base è decorata da motivi di origine architettonica, dall'alto: dentelli, kyma lesbio, motivo ad astragali, fascia liscia, dentelli, kyma lesbio, modanatura liscia.[20]



Fig. 4. Testa femminile da Santa Maria del Consorzio.
Fig. 4. Female head from Santa Maria del Consorzio.



Fig. 5. Base da Gambaredolo.
Fig. 5. Base from Gambaredolo.

15 Alt. cons. cm 4; alt. testa (senza acconciatura) 2,3.

16 Come rilevato ad esempio da Riha 2001, 17, spesso soltanto l'associazione con altri materiali può fornire indicazioni sull'utilizzo originario di questi elementi in bronzo. La struttura della testa di Santa Maria del Consorzio sembra escludere la pertinenza a una cassa lignea, in cui le teste sono di solito tagliate nel retro, ad esempio Kemkes 1991, 305–308, nn. 1-5.

17 La struttura "a melone" compare in particolare nelle statuette di Diana tipo Pagonda (Reber 2011), in cui però la crocchia alla sommità del capo è differente rispetto a quella della testa da Santa Maria del Consorzio; per i bronzetti di Diana in Italia settentrionale Bolla 2018. Per il valore delle pettinature nella datazione dei busti bronzei Franken 1994b (sulla *Melonenfrisur*, 150–153).

18 Wegner 1956, 124, tav. 39a. Nel bustino bronzeo manca la parte frontale della complessa acconciatura dell'*augusta*.

19 Buccino 2017, 375, per la diffusione in quest'epoca delle pettinature 'a turbante' formato da trecce ravvolte in più giri.

20 Alt. cm 3,2; lungh. mass. cm 9,5; largh. 4,6. La base, deformata e con alcune fessure, è a colata cava (si notano creste di fusione all'interno).



Fig. 6. Base da Gambaredolo, faccia superiore con segnalazione delle tracce di statuette.
Fig. 6. Base from Gambaredolo, upper face with traces of statuettes marked.

Le tracce visibili sulla faccia superiore (Fig. 6) sembrano indicare la presenza di una figura con panneggio fino ai piedi (femminile?) e di almeno un'altra figura stante fornita di un attributo poggiante sulla base. Seguendo tale interpretazione (ampiamente ipotetica), la faccia a vista sarebbe stata uno dei lati lunghi della base e non il lato corto con motivo curvilineo. Non paiono finora testimoniate in Italia settentrionale altre basi bronzee con questa caratteristica.

Da un sito con il significativo nome di Villa (nel comune di Casalmoro, confinante con il territorio di Castelgoffredo) è emerso un interessante bronzetto di cavallo maschio, con entrambe le zampe anteriori in levata e in atto di nitrire (Fig. 7.a), che – nonostante le ridotte dimensioni[21] – è un prodotto di qualità, come indicano la colata cava e la fabbricazione separata della coda, ora perduta (Fig. 7.b). La statuetta sembra esser stata concepita senza un cavaliere, per l'assenza di tracce sul dorso. Era sostenuta in origine da un supporto sotto il ventre, dove si nota un foro circolare presso i genitali; questa caratteristica fa pensare alla funzione di decorazione per carro, con il quale sarebbe congruente anche il soggetto prescelto.[22]



Fig. 7. a–b – Cavallo da Villa.
Fig. 7. a–b – Horse from Villa.

L'iconografia del cavallo con le zampe anteriori sollevate venne indagata da Renate Thomas, per la piccola plastica in bronzo, in rapporto a un esemplare trovato a Köln,[23] fornito di una completa bardatura e presumibilmente con un cavaliere in origine. Data questa caratteristica, la studiosa concentrò il suo interesse sul soggetto del cavaliere che avanza contro un nemico o in scene di caccia, mentre i cavalli rampanti o in levata non bardati rimasero fra le sculture 'anonime', sprovviste di una relazione con specifiche figure umane o divine.[24]

21 Alt. cm 6,5; lungh. cons. cm 8; foro sotto il ventre diam. 0,9; foro per la coda diam. 0,4. Oltre alla coda, manca parte della zampa posteriore sinistra; nella gola si nota una fessura forse derivante da un difetto di fabbricazione.

22 Cf. ad esempio Boube Piccot 1980, 45–46, nn. 8-9, da *Volubilis*, due cavalli al galoppo privi di sella, poggianti su volute. Se l'interpretazione fosse corretta, il cavallino dal Mantovano andrebbe ad aggiungersi ai bronzi per carri recensiti in Cisalpina (Bolla 2010).

23 Thomas 1995; Ritter 1994, 385–387, n. 53.

24 Nei territori al di fuori della penisola italica, si possono ricordare i cavalli ad esempio dal relitto di Aghia Galini (Kaufmann-Heinimann 1998, 305, n. GF111; ringrazio per le immagini Yorgos Brokalakis), forse

In Gallia Cisalpina i bronzetti di cavalli in levata non sono molti: a parte quelli forniti di un cavaliere,[25] si ricordano un esemplare dal Trentino, la cui esatta posizione non è sicura,[26] e un cavallino, di cui resta il disegno (Fig. 8), proveniente da Luni, che presenta notevoli somiglianze con il bronzetto in esame per la posizione e la trattazione della criniera.[27] Il cavallo da Villa sembra potersi collocare in età medio/tardoimperiale per alcuni dettagli stilistici, come i grandi occhi e le ciocche della criniera rigide e separate.

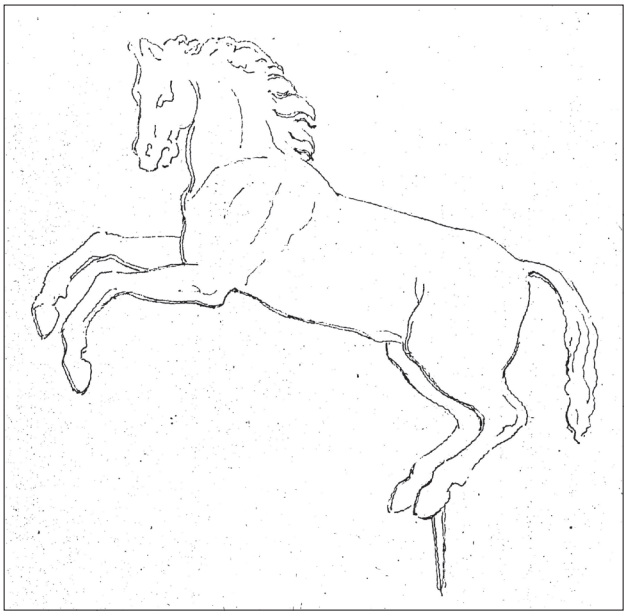


Fig. 8. Cavallo da Luni, già nella collezione di Santo Varni.
Fig. 8. Horse from Luni, formerly in the collection of Santo Varni.

Bronzi da Traversino Sotto

Un ritrovamento di un certo interesse è avvenuto in un campo nella località di Traversino Sotto (presso Perosso) durante una ricognizione di superficie, effettuata a seguito di un'aratura che aveva messo in evidenza alcune chiazze di terreno di colore diverso: una statuetta di Esculapio e un trono, rinvenuti molto vicini l'uno all'altro, e un volatile trovato a pochi metri di distanza. Nel sito emersero anche abbondanti laterizi di età romana.

Il bronzetto di Esculapio (Fig. 9.a–b) è di buona qualità, come rivelano la ricopertura degli occhi con metallo bianco e la cavità nelle iridi per l'inserimento di pupille in altro materiale; anche i dettagli denotano accuratezza, in particolare l'indicazione delle unghie delle mani e dei piedi e del piombino al termine della stoffa ricadente dalla cintola.[28] La statuetta fu oggetto in antico di un restauro (una ricolata di metallo) nel lembo inferiore del panneggio presso la caviglia destra, presumibilmente perché il piede destro (ora mancante) si era fratturato e fu necessario riattaccarlo.

La diffusione del culto di Esculapio in Italia settentrionale è stata studiata da Cristiano Tiussi[29] per l'area nordorientale, dove si verifica una concentrazione di iscrizioni e sculture in marmo, che più hanno attratto l'attenzione. Nell'ambito della bronzistica, una revisione delle testimonianze è stata edita nel 2016, con la proposta – avanzata con cautela – di considerare relative al culto di Esculapio

dal Basso Egitto (Kent Hill 1972), da Makkum (Zadoks-Josephus Jitta et al. 1967, 118–121, n. 49, però forse con cavaliere in origine), da Jupille (Faider Feytmans 1979, 92, n. 97). A Roma è attestato un cavallo in levata (ma con briglie) forse da un larario (Kaufmann-Heinimann 1998, 314, n. GF121).

25 Dal santuario del Gran San Bernardo, con sella di pelle felina (Leibundgut 1980, 75–76, n. 64, tavv. 103–104); da una *villa rustica* nel Bergamasco (a Masano presso Caravaggio), decorazione di carro con cavaliere armato di lancia, Ficini 2019.

26 Walde Psenner 1983, 195, n. 203 (ipotizzata posizione di galoppo; proposta di datazione al II sec. d.C.).

27 S. Varni, manoscritto, tav. XIX (cortesia Annamaria Pastorino); il cavallino rinvenuto a Luni fu donato al collezionista Santo Varni (non ne conosco la collocazione attuale).

28 Alt. cm 13,6 (di poco inferiore alla metà di un piede romano); largh. mass. cm 6,3. Mancano le iridi, l'attributo tenuto con la mano destra e il piede destro (frattura antica).

29 Tiussi 1999. Ad Aquileia, considerato il secondo centro di culto in Italia dopo Roma, sono state rinvenute numerose iscrizioni ad Esculapio ma finora non vi sono testimonianze sicure di statuette in bronzo del dio.



Fig. 9. a–b – Esculapio da Traversino Sotto.
Fig. 9. a–b – Aesculapius from Traversino Sotto.

anche le piccole mani in bronzo prive di simboli connessi a Sabazio e Dolicheno e ornate da un serpente attorno al polso e da un uovo posto sulle dita.[30]

Alle statuette di Esculapio allora censite (da Bene Vagienna e da Este) e a quelle perdute,[31] si aggiungono un bronzetto conservato al museo di Oderzo, forse di ritrovamento locale (ma privo di dati di provenienza),[32] e appunto l'esemplare dal territorio di Castel Goffredo. Riguardo a quest'ultimo, si può notare come la zona di ritrovamento si trovi a breve distanza (circa 25 km) da Calvatone/Bedriacum, dove si rinvennero statuette in marmo di Esculapio e Igea forse in connessione con un luogo di cura;[33] riguardo alle altre immagini in bronzo di Esculapio dalla Cisalpina non si riscontrano ulteriori convergenze con testimonianze marmoree o iscrizioni.

Nonostante l'assenza di contesti indagati scientificamente, il numero di statuette di Esculapio attestate in Italia settentrionale (sette, se si considerano anche quelle disperse) è interessante per la diffusione del culto, se si considera che, in un recente studio, Annemarie Kaufmann-Heinimann ha evidenziato per Gallia e Germania la presenza di cinque soli bronzetti del dio di sicura provenienza, proponendo per alcuni di essi una possibile importazione dall'Asia Minore.[34]

Mentre i bronzetti da Este e conservato a Oderzo paiono di qualità non elevata e di probabile realizzazione locale, potrebbero essere di importazione l'Esculapio di qualità eccezionale da Bene Vagienna e quello notevole da Traversino Sotto. Quest'ultimo si inserisce nel tipo Klein-Gliecni-

30 Bolla 2016, 106–107, e tabella 2.

31 Da Libarna (Mennella 2009, 111, n. 1 *Oggetti di bronzo*); Barbarano Vicentino (Tiussi 1999, 153–154, n. II.A.1, Fig. 31), Montecchio Emilia, Esculapio panneggiato stante, con bastone con avvolto serpente, alt. cm 6 (Bolla 2011, 11, 14).

32 Possenti 2000, Fig. a p. 46. Il bronzetto, conservato al Museo di Oderzo, no. inv. 323, è alto cm 7.

33 Bolla 2015, 84.

34 Kaufmann-Heinimann 2007, 186.

cke, identificato da Peter Kranz[35], che nota come il tipo scultoreo appaia nella monetazione romana nel II sec. d.C. In assenza di dati specifici di contesto, l'Esculapio in esame può collocarsi genericamente nella prima età imperiale; la riparazione indica un suo lungo periodo d'uso e/o il fatto che il suo proprietario, ritenendolo di pregio, volesse conservarlo (benché danneggiato) invece che rifonderlo.

Riguardo al trono rinvenuto in associazione (Fig. 10),[36] si possono notare la ricchezza del coronamento di ispirazione vegetale, l'articolazione dei supporti anteriori decorati da fiori a quattro petali, la presenza di un panno terminante con frange sulla seduta. La suddivisione a croce della spalliera ricorda troni in bronzo monumentali.[37]

Tentando un'ipotesi sulla figura posta in origine sul trono di Traversino Sotto, si ricorda che in Italia a nord del Po è stata finora rinvenuta una sola divinità maschile seduta (un piccolo Giove dal Gran San Bernardo), mentre sono



Fig. 10. Trono da Traversino Sotto.
Fig. 10. Throne from Traversino Sotto.



Fig. 11. a–b – Divinità femminile e trono da Verona.
Fig. 11. a–b – Female divinity and her throne from Verona.

35 Kranz 1989.

36 Alt. cons. 11,1; largh. mass. 7,8; patina vile verde-grigiastra, forse per elevata presenza di stagno o piombo nella lega; il trono manca di diverse parti (due supporti, terminazioni dei supporti conservati, parte della seduta); spalliera e sostegni sono decorati anche sul retro.

37 Come gli esemplari attestati a Brescia (Franken 2002).

presenti diversi bronzetti di dee assise, concentrate proprio nella *X Regio*: da Grado, con patera, cornucopia e serpenti (trono perduto, resta il poggiapiedi);[38] dal Monte Summano (nel Vicentino), di piccole dimensioni, in argento, con diadema, piante ai lati del trono, patera e numerosi serpenti;[39] da Este (nel Padovano), pendaglio di piccole dimensioni, in argento, con diadema, scettro, recipiente e serpenti;[40] da San Bonifacio (nel Veronese), mancante del trono e degli attributi, con velo e diadema;[41] da Verona, con velo e diadema, patera, cornucopia e serpenti (il trono ha ornato vegetale sopra la spalliera e un panno frangiato sulla seduta; il poggiapiedi è perduto) (Fig. 11.a–b).[42] Inoltre a Appiano-San Paolo (BZ) è stato rinvenuto un sedile privo della figura.[43] A parte la figura di San Bonifacio, che non ha traccia di serpenti e pare riferirsi ad altra iconografia, in queste statuine la presenza dei serpenti e della patera sembra indirizzare verso divinità quali *Hygieia* – *Salus*, connesse alla sfera della salute, connesse alla sfera della salute e di iconografia 'fluida', con scarse testimonianze nella piccola plastica bronzea.[44] Un'interpretazione in tal senso del trono rinvenuto a Traversino Sotto sarebbe congruente con la presenza di Esculapio, che in alcune iscrizioni della Cisalpina è appunto associato a *Hygia* e a *Bona Valetudo*.[45]



Fig. 12. Volatile da Traversino Sotto.
Fig. 12. Bird from Traversino Sotto.

Il volatile rinvenuto a Traversino Sotto (Fig. 12), con becco forse mancante della punta, è attraversato da un'asticciola in ferro, probabilmente per il fissaggio a un altro elemento.[46] Difficile stabilire se avesse un legame con le altre statuette (come farebbe supporre la patina identica a quella dell'Esculapio, alle cui dimensioni non è però proporzionato) o se fosse pertinente a un arredo; escludendo che si tratti di un gallo (animale sacro al dio della salute), si può ricordare che al mito di Apollo e Coronide, genitori di Esculapio, era collegato il corvo,[47] nel quale però il becco ha forma diversa.

Osservazioni conclusive

I bronzetti figurati rinvenuti di recente nel territorio di Castel Goffredo apportano nuove conoscenze sulla piccola plastica in bronzo del territorio mantovano[48] e rivelano una interessante diffusione negli insediamenti rurali.

38 Identificata come *Salus* o come *Bona Dea*, LIMC III, 1986, s.v. *Bona Dea*, 122 n. 15 (M.C. Parra, S. Settis).

39 Gamba 2012, 85, 88, Fig. 4, identificata con Terra Mater / Salus.

40 Bolla 2008, 48, Fig. 20.

41 Bolla 2009, 180–182.

42 Da un larario emerso in un ambiente di un edificio romano venuto alla luce a Verona, in via Oberdan, nel 2015–2016 (scavi diretti da Brunella Bruno della locale Soprintendenza, che ringrazio), i bronzetti sono attualmente in corso di studio da parte della scrivente.

43 Alt. cons. cm 3,7; provincia.bz.it/arte-cultura/beni-culturali/reperto-del-mese.asp.

44 Si vedano le voci corrispondenti (e quella di *Valetudo*) in LIMC.

45 EDCS-05101576, 0160006, 0160007, 01601036; cf. Tomasi 2013, 199.

46 Alt. cm 4,6; lungh. 5,3; colata piena.

47 Nella piccola bronzistica, il corvo è associato (non di frequente) a figurine di Apollo e in quei casi la sua rappresentazione ricorda quella di una colomba (Dufraisnes 2022, con bibliografia).

48 Per un panorama della piccola plastica nel Mantovano Maggi 1986 cui si aggiungano almeno i seguenti bronzetti: Giove da Pegognaga (Maggi 1996, 58–59, tavv. VII–VIII), Iside Fortuna da Roverbella (Facchinetti 2019, 65, Fig. 3), Venere da Suzzara, Fortuna in argento da Bozzolo, applique di Diana da Mottella-Corte Cherubine (Menotti 2003, 135–137, Figg. 87–89; Bolla 2018, 277, Fig. 16).

Il Mantovano sembra finora meno ricco di bronzetti figurati romani rispetto al limitrofo Veronese, ma presenta alcuni reperti interessanti, in particolare *appliques* di soggetto insolito (Achille e Pentesilea da Casaloldo, Erote con lepre e *pedum* da Suzzara) che mostrano analogie con reperti dai territori vicini di Reggio Emilia e Verona.[49]

Di particolare rilievo la nuova testimonianza di Esculapio, dio rappresentato meno di altri nella piccola scultura in bronzo.

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The bombing of Pompeii in 1943

New evidence about the bronzes

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Abstract: In 1943, Pompeii was the object of bombing raids by the Allied forces, a sad and forgotten chapter in the history of the ancient city, which is a topical and prominent issue in light of the recent destruction and war damage suffered by many archaeological sites and museums in the Middle East and North Africa. Along with many Roman buildings, the raids also affected the Museo Pompeiano, resulting in the destruction of most of the objects exhibited. The Museum had been set up according to modern and innovative concepts for the time, and the damage proved to be severe and irreparable, as many of the antiquities on display were of known provenance and contextualized, but still unpublished. After the end of the Second World War, a part of the objects recovered from the ruins of the building were considered hopelessly lost and therefore completely neglected. Among them were hundreds of bronzes belonging to different functional categories: an ongoing project aimed at restoring and studying these artifacts has revealed their potential and some unexpected data, illuminating their complex biography(ies). An attempt is being made to recontextualize these objects in order to trace their provenance on the basis of inventories, archival documents and the bibliography concerning the Museum and its last pre-war layout.

Keywords: Pompeii, Museo Pompeiano, war damage, bronze artifacts, restoration

The history of Europe in the 20th century is littered with 'collateral damage' to cultural heritage, in various forms: from exportations and requisitions to the systematic destruction of buildings, museums and monumental complexes due to wars and related events. Unfortunately, our recent history has brought this prominent issue to the forefront again, with the terrorist attacks and conflicts in the Middle East and North Africa. Archaeological sites and monuments have shown their vulnerability, and public opinion has realized that the inviolability of cultural heritage is not a permanent acquisition.[1] Reflection on these dramatic events has found ample space in the press and has become part of the archaeological debate in recent years: the subject of war damage and the protection of cultural heritage in war contexts is now included in archaeology textbooks,[2] and is the subject of university courses, as well as lectures and exhibitions aimed at a wider audience.[3]

1 Meirano 2018, 239; Pollard 2020a, 7–11.

2 E.g. Renfrew – Bahn 2012, 235–253.

3 Meirano 2018, 239; Pollard 2020a, 9, and notes 19–21. Among the most recent exhibitions dedicated to this theme is the one held in Rome at the Scuderie del Quirinale in 2022–2023: Gallo – Morselli 2023.

In this framework, some forgotten episodes of the Second World War have been brought back to public attention,[4] including the bombing of Pompeii in 1943 and its consequences. In 2015, the exhibition *Pompei e l'Europa 1748–1943*,[5] held at the National Archaeological Museum of Naples and at the Archaeological Park of Pompeii, proposed this theme to visitors: the title itself significantly recalls the year of the Allied bombardment as a precise chronological turning point, a watershed in the modern history of the site.

At Pompeii, the bombings on the night of August 24 and from September 13 to 26 caused irreparable damage to buildings, particularly in the *Forum* area and in *Regiones* VI and VII in the western part of the site (Fig. 1).[6] Damage and ruins are still visible today, particularly in *Insula* 6 of *Regio* VII and adjacent areas. As can be seen from the maps of the time (Figs 2–3), more than 160 bombs hit the site, dropped by aircraft of the British Royal Air Force (RAF), the Royal Canadian Air Force (RCAF), and the United States Army Air Force (USAAF).[7] Among them were unexploded ordnance which posed, and may still pose, a danger to the staff of the archaeological site and to visitors: this circumstance has led the Management of the Park to start a new monitoring through geophysical prospection in the last few years.[8]



Fig. 1. Pompeii, the House of Tryptolemus (VII. 7. 5) after the bombing (after García y García 2006, Fig. 257).

4 E.g. the activities of the Monuments, Fine Arts and Archives Section Unit (MFAA) of the Allied army, known as the *Monuments Men*, who operated in Europe during the Second World War and beyond to defend, preserve and recover cultural heritage (see Edsel 2009; https://www.monumentsmenandwomenfnd.org).

5 Osanna et al. 2015. A first selection of the bronze objects affected by the Pompeii bombardment discussed in this paper was displayed in the exhibition held at Venaria Reale, Turin, in 2018: Elia – Meirano 2018.

6 García y García 2006, 36.

7 García y García 2006, 24–25, and note 15; Pollard 2020a, 1, and note 1; Angelone – Vitagliano 2000, 67.

8 García y García 2006, 24, note 15; *Così bonifichiamo Pompei. I georadar del Poli a caccia di bombe. Dopo la Valle dei Re una nuova sfida per docenti e studenti torinesi* (*La Stampa*, 31 October 2019: https://www.lastampa.it/topnews/edizioni-locali/torino/2019/10/31/news/cosi-bonifichiamo-pompei-i-georadar-nbsp-del-poli-a-caccia-di-bombe-1.37813868).

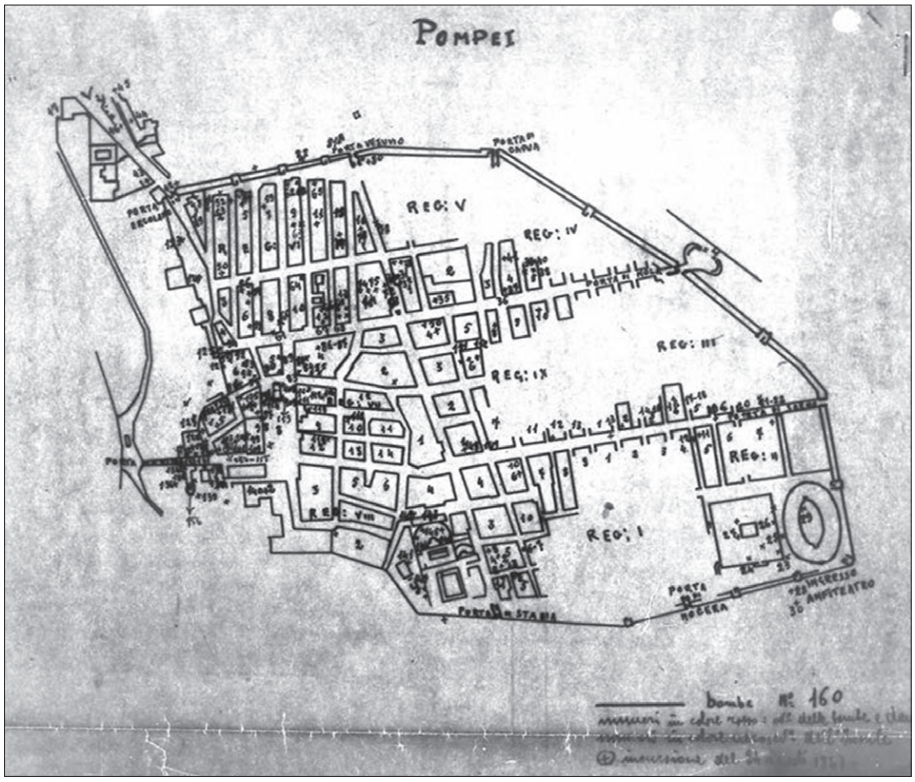


Fig. 2. Pompeii, locations of bomb damage of 1943 in a contemporary plan produced by the Italian staff (after Pollard 2020a, Fig. 1).

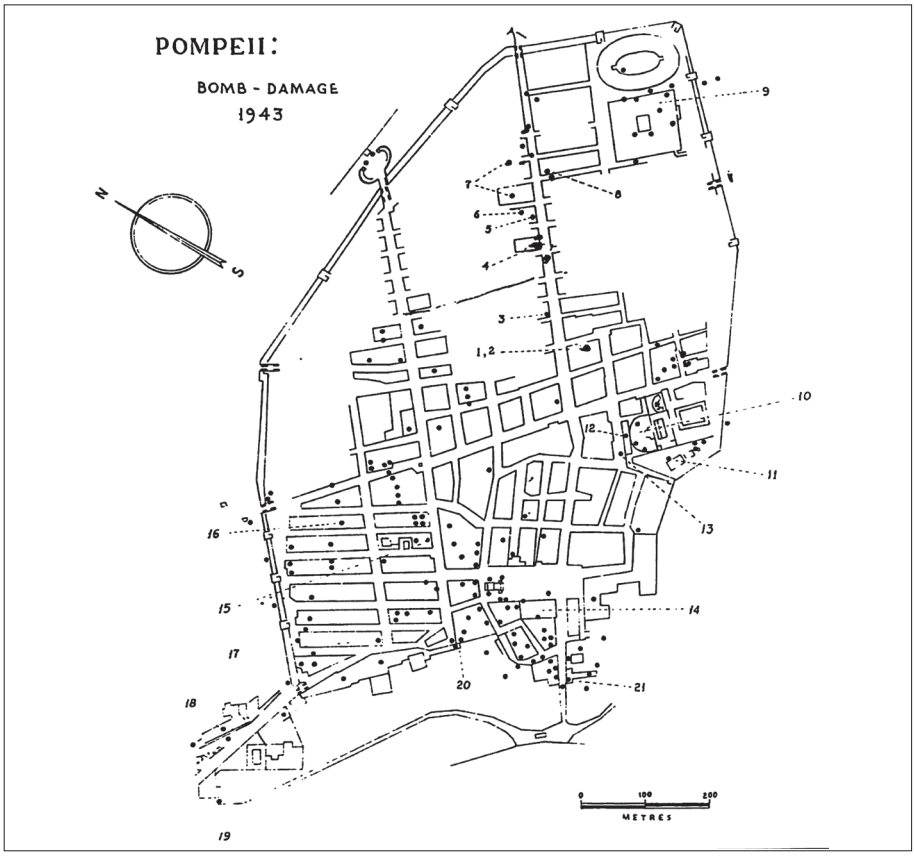


Fig. 3. Pompeii, locations of bomb damage of 1943 in a contemporary plan produced for MFAA Final Report (after García y García 2006, Fig. 11).

The momentous events of 1943 and their aftermath have been the subject of rigorous, systematic studies by Laurentino García y García in 2006[9] and, more recently, by Nigel Pollard.[10] Through a careful analysis of the available sources—from the fundamental documents kept in the Archaeological Superintendency to those in various military archives—both authors have reconstructed the dramatic facts of that period, albeit from different perspectives. Pollard's work, which is an essay in contemporary history, aims to place the bombing of Pompeii in its historical and military context, which leads him to explore more broadly the relationship between cultural heritage and war necessity during the Second World Conflict, taking also into account what was happening in the rest of the peninsula and in other war theatres at the time.



Fig. 4. 1–2 – Little bronze bells once exhibited in the Museo Pompeiano (after Gusman 1899, 146; Ciarallo – De Carolis 1999, Fig. 143).

More specifically, his intention is to demonstrate why the archaeological area of Pompeii was subjected to bombings. Rejecting alternative explanations not supported by documentary evidence—namely, those related to the alleged presence of German troops encamped on the site and the use of the archaeological area for the storage of trucks and military materials[11]—, Pollard argues that ancient Pompeii was not deliberately targeted. Most of the damage was essentially accidental, resulting from the proximity to the actual targets, namely the transportation network and infrastructures (roads, railways, rail marshalling yards, intersections, bridges, etc.) around the modern city of Pompeii, that were hit in order to weaken German counter-attacks against the Allied landings in the Gulf of Salerno in September 1943. Navigational errors and inaccuracies in the bombing tactics of the time[12] would have caused the damage inflicted on the site by aircraft attacking other nearby targets of obvious military interest.[13]

But, even if the attacks on the site were neither indiscriminate nor deliberate, they caused serious damage to objects and buildings, at the origin of a progressive acceleration of decay even after the conflict.

9 García y García 2006; see also García y García 2015.

10 Pollard 2020a; see also Pollard 2020b. See also the detailed reconstruction of military strategy and events by Angelone – Vitagliano 2020.

11 Pollard 2020a, 92–104; Pollard 2020a. See also Angelone – Vitagliano 2020, 7–13, 67;–68.

12 Pollard 2020a, 54–69.

13 Pollard 2020a, 69: "If anything, given the levels of accuracy achievable at the time, it is surprising that more bombs did not strike the site"; see also García y García 2006, 24–26. Unfortunately, the MFAA did not play a role in preventing the bombing of Pompeii, since at that time the organization was only active in areas occupied by ground forces (Pollard 2020a, 158).

In the summer and fall of a chaotic year like 1943, news of the bombings of Pompeii was belated and sparse in the Italian press, and almost absent in the British and American.

Considering the importance of the archaeological site, which since June 1943 had been awarded three stars in the ranking of the 'Harvard list' for the region of Campania,[14] it is surprising that even later these dramatic events received little public and scholarly attention, even in comparison to the bombing of other monumental sites, such as the Abbey of Montecassino, which occurred a few months later.[15]



Fig. 5. Bombed bronze basin (Tassinari serie S3110; Photo: D. Elia).

The monograph by Garcia y Garcia is complementary to that of Pollard, since with a different approach, closer to the effects of the bombings on the archaeological and architectural evidence, it provides a detailed narrative of the facts and damage, thanks to a rich iconographic apparatus composed of hundreds of photographs and a thorough analysis of publications and archival documents by the protagonists of the time.

Among them, *in primis*, is Amedeo Maiuri,[16] then Superintendent and Director of the Archaeological Museum of Naples, who did everything in his power in the desperate attempt to protect the site and took measures in order to save the furnishings and artifacts exhibited in the *domus, tabernae* and various buildings, as we can infer from his own words referring to the days before the bombardment: "There is no more time to lose at Pompeii: there is now as much to fear from the first shock of the inva-



Fig. 6. Bombed bronze pitcher (Tassinari genere D2300; Photo: D. Elia).

14 American Defense-Harvard Group, Committee on the Protection of Monuments: "*** Ancient Pompeii. The most famous ruins of a Roman town, buried during the eruption of Mt. Vesuvius in 79 A.D., now largely excavated. Museum within excavations." (quotation in Pollard 2020a, 127).

15 García y García 2006, 18, 21, 28; Pollard 2020a, 1, note 1; see also Edsel 2009, 44–48.

16 The figure of Maiuri and his activities at Pompeii are discussed in Zevi 2001; Guzzo 2012, with complete previous bibliography; Rowland 2014, 248–253; Grimaldi 2015; Pappalardo 2017; Osanna 2017.

sion as from the gangs of thieves and bandits scurrying about to plunder abandoned or damaged houses. Statuettes and reliefs are removed from the Gardens of the House of the Vettii, of the Amorini, of Marcus Lucretius, of Loreius Tiburtinus, and the portrait-herms of Vestorius Priscus, of Olconius Rufus, and everything is buried and walled up in the hypogeum of the Stabian Baths under the protection of the *mofèta*:[17] and that was good advice. But who will save monuments, houses and paintings from the fury of bombing?"[18] After the attack, Maiuri himself disconsolately admitted: "All my efforts to make Pompeii a neutral zone immune from war offenses have been in vain.";[19] "The inconceivable had now occurred. The blind horror of the war of men destroyed what the most terrible cataclysm on earth had not destroyed."[20]

But Pompeii also had a museum, the so-called *Museo Pompeiano*, inaugurated by Giuseppe Fiorelli, then renovated by his successors and, between 1926 and 1933, by Maiuri himself, who added several finds from recent excavations and from the Villa della Pisanella at Boscoreale.[21] The museum was not spared from the bombing and was "badly hit, destroyed in the building and in the objects", as Maiuri wrote,[22] during the first raid in August and then on September 20. 1378 objects were destroyed, but the damage affected all the materials on display.



Fig. 7. Bombed bronze bucket (Tassinari genere X1600 or X1800; Photo: D. Elia).

Far from the artistic merits of the Pompeian collections in the Museum of Naples, the exhibition in Pompeii was dedicated to material culture and everyday life, according to modern and innovative approaches. The damage proved to be particularly severe, since the majority of the antiquities were of known provenance and contextualized,[23] but, unfortunately, still unpublished at the time of the bombing: a detailed and analytical catalogue was never edited, and the mentions in publications and guides were very succinct.

After the disaster, Maiuri immediately did his best in order to secure the site and salvage as much as possible. He promptly gave orders for the debris to be removed and for most of the museum's

17 Type of fumarole characterized by the emission of carbon dioxide.

18 Maiuri 1956, 96–97: "A Pompei non c'è più tempo da perdere: c'è ormai da temere tanto il primo urto dell'invasione, quanto le squadre di ladri e di banditi che scorrazzano per depredare le case abbandonate o sinistrate. Si tolgono statuette e rilievi dai Giardini della Casa dei Vettii, degli Amorini, di Marco Lucrezio, di Loreio Tiburtino e le erme-ritratto di Vestorio Prisco, d'Olconio Rufo, e si seppellisce e si mura ogni cosa nell'ipogeo delle Terme Stabiane sotto la protezione della mofèta: e fu ottimo consiglio. Ma chi salverà monumenti, case e pitture dalla furia dei bombardamenti?" For further measures taken by Maiuri in order to ensure the safety of the antiquities, at Pompeii and in Naples, see: Maiuri 1946 and the remarks in García y García 2006, 19–20, 24; Ciardiello 2017; Pollard 2020a, 185–187.

19 Maiuri 1956, 158–161: "Tutti i miei sforzi per fare di Pompei una zona neutra immune da offese di guerra, sono stati vani."

20 Maiuri 1946, 134: "L'inconcepibile era ormai avvenuto: il cieco orrore della guerra degli uomini distruggeva quello che il più tremendo cataclisma della terra non aveva distrutto."

21 For a vivid description of the museum pre-war set-up, see Maiuri 1946, 134–135. L. García y García provides a detailed outline of the setting of the Museum and of the objects on display, based on the limited sources available (García y García 2006, 173–200); see also Osanna 2016, 153–155; Osanna 2017, 167–170.

22 Maiuri 1946, 134: "… colpito in pieno, distrutto nell'edificio e negli oggetti."

23 Meirano 2018, 240–241.

objects to be recovered, even if only in fragments. A very useful list of the destroyed artifacts was drawn up, which is still kept in the Archives, and the mention "destroyed by the bombs" was recorded with a special stamp in relation to the lost antiquities in earlier Inventories.[24] Unfortunately, Maiuri was wounded in his left leg during the Allied air raid on September 15, while trying to reach Naples by bicycle. He was hospitalized at Torre del Greco, then went to Naples for convalescence, and was not able to return to Pompeii until mid-November.[25]

On November 22, he wrote a first letter to Major Joseph Paul Gardner of the MFAA Subcommission of the Allied Command, now kept in the State Archives in Rome, in which he listed the priorities for the restoration of the archaeological area, including the "Recovery of archaeological materials still buried under the ruins of the Museum and Antiquarium of the Forum".[26] The Museum was then rebuilt and reopened to the public on June 13, 1948, on the occasion of the second centenary of the Pompeian excavations.[27]

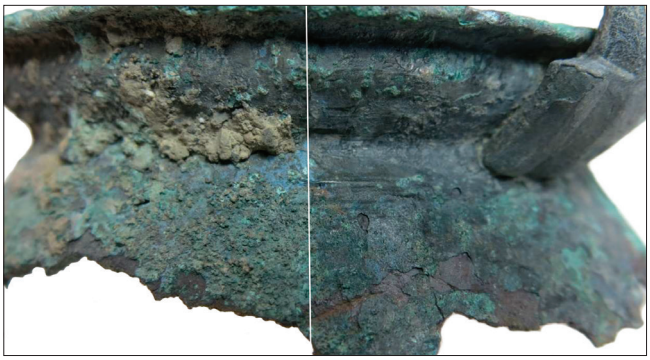


Fig. 8. Bombed bronze bucket (Tassinari genere X1600) under restoration (Photo: W. Basilissi).

In spite of the incomparable richness of the Pompeian collections exhibited at the Museum of Naples, the loss of a considerable part of the materials once in the *Museo Pompeiano* remains irreparable, because it has depleted several archaeological contexts. As far as the bronzes are concerned, the Museum housed a wide range of objects, mainly displayed in Rooms II and IV. In his *Guida*, Fiorelli mentioned 165 bronzes,[28] belonging to different functional categories: numerous vessels of various shapes, braziers, food warmers, pastry molds, capacity measures, tools such as funnels, lamps, lanterns, *candelabra* and lamp stands, scales and steelyards, a compass, strigils, tweezers, surgical instruments, nails, needles, fish hooks, horse equipment, elements of furniture, door-locks and keys. In his 1899 work, Gusman reproduced two small bronze bells that were on display in the Museum (Fig. 4).[29] In the very brief account given by Bertarelli in his *Guida* in 1927,[30] the bronze finds from the Villa della Pisanella (vases, *simpula*, pastry molds, mirrors, seals, etc.)[31] are mentioned, as well as other objects missing from Fiorelli's detailed list (e.g. mirrors), which were probably also added to the exhibition by Maiuri.

24 García y García 2006, 201; Osanna 2017, 168.

25 Maiuri 1946, 138; García y García 2006, 28; Pollard 2020a, 34, 186.

26 "Ricupero dei materiali archeologici ancora sepolti sotto le rovine del Museo e dell'Antiquario del Foro" (García y García 2006, 207).

27 A description of the new set-up is given by Maiuri himself in postwar guides: e.g. Maiuri 1954, 98–105; see also García y García 2006, 203–205; Grimaldi 2015, 27–28.

28 Fiorelli 1877, 100–103 (the same list, which includes a few iron items, is also in later editions of the guide: e.g. Fiorelli 1897, 104–106).

29 Gusman 1899, 146 (possibly corresponding to two of the specimens cited in Fiorelli 1877, 101, notes 63–69); see also Anonymous 1876, 225; Pagano 1883, 16; Ciarallo – De Carolis 1999, 148, note 143.

30 Bertarelli 1927, 409. Other guides give far less attention to bronzes, ceramics and other small finds (see Anonymous 1876, 224–226; Pagano 1883, 16–17; Maiuri 1931; 16–17; Della Corte 1932, 10) or do not mention them at all (Sogliano 1901), in favor of the impressive casts of human and animal bodies.

31 Pasqui provides a detailed list of the antiquities from the villa given by Vincenzo De Prisco to the Museum (Pasqui 1897, 409, 525–554), among which are numerous bronze objects. For the De Prisco collection, see: García y García 2006, 197, note 107.

The mechanism of door-locks was shown by modern replicas exhibited in Room I,[32] while two *librae* on display had been reconstructed with wood integrations.[33]

After the end of the Second World War, the fragmentary or simply damaged bronzes recovered from the ruins of the building were perceived as hopelessly lost and therefore completely neglected. They were collected and stored in crates in one of the archaeological storerooms of the site. They had never been the subject of any attempt of restoration or recomposition, nor of any study or recovery aimed at giving, at least to some of them, a new opportunity for exhibition. They were the victims of a deep and widespread sense of consternation that had gripped the staff who had worked in vain to limit the damage to the site and the museum, and so they were considered definitively 'lost' and irrecoverable.



Fig. 9. 1–3 – Bombed bronze pitcher (Tassinari tipo B1222) with holes and modern cuts (Photo: D. Elia).

In the last few years, a new project has been launched to recover, study and possibly recontextualize the bronze finds, a rescue operation in order to give them another chance.

The work on the site consisted first of all in the removal of the superficial deposits, since the objects were covered with a very fine and insidious dust that had accumulated over the decades; a preliminary classification was made, which proved very difficult due to their fragmentation and to the haphazard way in which they had been placed in the cranes, without any morphological or functional associations; then, a first search for joints and connections was carried out. In addition to the bronzes, the cranes contained other archaeological materials (ceramics, glasses, lead and iron artifacts), as well as modern metal objects that had also been involved in the bombing of the building, including some supports being part of the Museum's pre-war furnishings. When observing the bronzes, one of the most impressive aspects is the very peculiar state of conservation of some of them. While the surfaces show decay phenomena common to archaeological metal artifacts, the fragmentation and deformation traces are unusual (Figs 5–6). Perforations, folds, holes and lacerations, caused by the bomb explosions and the collapse of the building, have distorted the shape of many of them and left very deep wounds.

In collaboration with the Centro Conservazione e Restauro 'La Venaria Reale' (CCR) and the Archaeological Park of Pompeii, a conservation plan has been developed for a series of selected finds.

32 Gusman 1899, 292; Sogliano 1901, 2; Bertarelli 1927, 408.

33 Della Corte 1912; Ciarallo – De Carolis 1999, 302, note 375; Stefani 2000, 15, Figs 9–11.

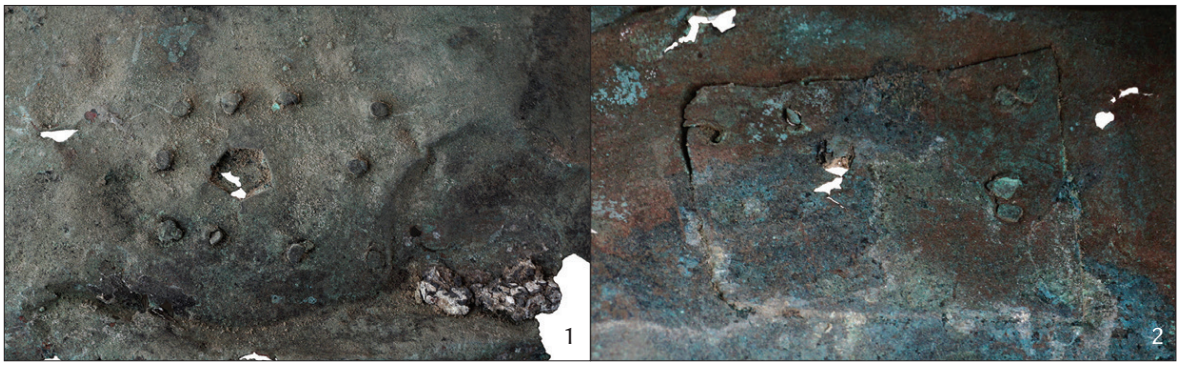


Fig. 10. 1–2 – Bombed bronze cooking pot (Tassinari serie U2120): ancient repairs (Photo: D.Elia).

Several groups of bronze vessels have thus been moved for restoration to the laboratories of the CCR, where the Master in Conservation and Restoration of Cultural Heritage of the University of Turin is based.[34] The bronze sheets are generally badly deformed due to the fall of debris and bomb explosions (Fig. 7, Fig. 9.1–3). As a result of their long storage, the surfaces usually show thick deposits of incoherent or partially compacted atmospheric particles. On the other hand, the earthen incrustations are limited, due to the cleaning at the time of the pre-war exhibition, and the objects do not appear to have ever undergone extensive restoration, so that the surfaces still retain the original varied archaeological patinas.

Before beginning the interventions on the artifacts, a preliminary cleaning is carried out by suction and brushing, in order to ensure a correct reading of the surfaces (Fig. 8). The objects, intact or partially fragmented, have been buried for centuries, and this has produced corrosion patinas on the surfaces that characterize them according to the type of sediment surrounding them and the humidity conditions; this process now makes it possible to differentiate the various fragments and to group them according to the colour of the patinas, their thickness, stratification, and morphology. Unfortunately, the 1943 event caused much greater damage; however, even in this case, it is possible to group the fragments according to the type of deformation they suffered and, in particular, the pattern of the holes left by the bombs (entry and exit: Fig. 7, Fig. 9.1–3). Among the corrosion phenomena, there are also active processes determined by the presence of chlorides, but the state of



Fig. 11. Restorers working on the bombed bronzes at the CCR Laboratories (Photo M. Demmelbauer).

34 Demmelbauer 2018.

degradation does not appear to be particularly advanced, given the specific conservation history. In fact, despite the uncontrolled environmental conditions and the lack of protective coatings, only a relatively small number of artifacts show worrying forms of corrosion, while many sheets, albeit thin, are still in their metallic state. Several aspects are analysed using a variety of approaches, including visual observation, graphic and photographic documentation in diffuse and oblique light, optical stereomicroscopy, and scientific analysis (XRF).

In addition to traces of use, these artifacts often show signs of repairs carried out in antiquity in order to preserve their functionality, mainly through the application of reinforcing elements, usually copper-alloyed sheets. These were fixed by a riveting process in housings carved in the bronze, or superimposed on the original ones and fixed with various mechanical retention systems (bronze or iron rivets) or, more rarely, soldered (Fig. 10.1–2).

The restoration intervention (Fig. 11) is aimed at eliminating the corrosion products that are detrimental to the conservation of the artifacts, while promoting their correct aesthetic perception. Mechanical cleaning of the surfaces is carried out in order to eliminate or reduce the corrosion products mixed with carbonaceous or earthy surface concretions. Acrylic resin combined with microcrystalline wax is used to ensure good protection and, at the same time, the possibility of easy periodic maintenance by simply removing the wax-based sacrificial layer.[35]

The study of these artifacts also revealed an unexpected chapter in the history of modern conservation practice in Pompeii. After the destruction of the Museum, at some unspecified time in the second half of the 20th century, the bombed bronzes in the storeroom served as a source of metal for modern restoration.[36] As a result, bronze sheets belonging to large open

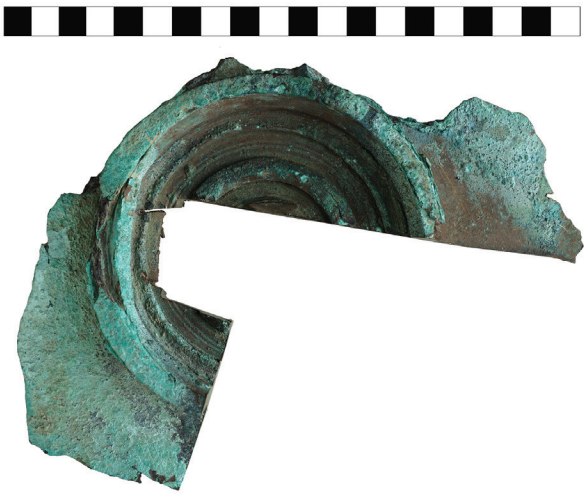


Fig. 12. Ring foot of a bronze basin (Tassinari serie S4210) showing modern cuts (Photo: D. Elia).



Fig. 13. Foot of a bronze pitcher (Tassinari serie E5110) showing modern cuts (Photo: D. Elia).



Fig. 14. Foot of a bronze pitcher (Tassinari serie E5110): modern cut (Photo: D. Elia).

35 For further details, see Demmelbauer 2018, 249–250.

36 Meirano 2018, 246.



Fig. 15. Cooking pot (Tassinari serie U2140): modern cut (Photo: D. Elia).

forms, as well as heavy, massive ring-shaped feet of basins, casseroles, *paterae*, pitchers and jugs (Figs 12–13), show clear signs of the removal of entire pieces. Scissors or similar tools left irregular edges on the surface of the objects (Figs 14–15): they were used to cut and mutilate the vessels, leaving gaps with triangular or square limits in the belly, but also in the neck of jugs and closed forms (Fig. 9.1); the feet lack slices in their profile. The past use of bronze sheets to restore objects and fill gaps is a known practice before the introduction of synthetic resins,[37] but usually modern materials were used: this anomaly further testifies to the attitude of desolate renunciation that affected the bombed bronzes after the war.

As for the rest of the bombed material, the interest of these bronzes lies, of course, in being a historicized document of the conflict, but also in their complex biography, articulated in several steps. In this case, the reconstruction of the conservation history of the objects is particularly interesting because it reflects their troubled vicissitudes: first, their ancient life: their production and traces of use and repair; then, the 79 AD eruption and its consequences; the centuries-long burial; the discovery by archaeologists; the exhibition in the Museum; the wounds caused by the bombing in 1943; the long storage and reuse as metal sources for restoration in the second half of the 20th century; and, finally, their current study and restoration.

Even if many of the pieces exhibited in the *Museo Pompeiano* were destroyed and could not be recovered after the war, so that the record of bronzes is less extensive than it used to be, the categories represented among the bombed material are many and more numerous compared to what we know from the few documents referring to the prewar set-up.

The larger group corresponds to vessels and *instrumenta domestica* from which the project of study and restoration started. They are representative of the large and articulated repertoire that Suzanne Tassinari illustrated in her 1993 outstanding publication (Fig. 16),[38] which remains a fundamental tool for the knowledge of Pompeian and Roman bronze vessels in general. She studied the materials in Pompeii storerooms,[39] which, unlike many of the finds housed in the Archaeological Museum of Naples,[40] have the advantage of being of known provenance; this has allowed her to deal with find spots, contextualization, and sometimes the reconstruction of original sets and assemblages. This approach is also being pursued for the bombed material, as far as inventories and archival documents allow.

However, among the numerous bombed vessels used for various purposes—from cooking to bathing—new forms and varieties are attested, as well as new decoration systems and combinations, which broaden our knowledge of Pompeian bronze vases and of the output of the workshops of ancient Campania, one of the most renowned areas for the production of metal vessels in the Roman period.[41]

The other categories of artifacts that survived the bombardment are also being the object of a reappraisal. They belong to carpentry (nails, joints and frames), wooden furniture (e.g. feet of beds,

37 Demmelbauer 2018, 248.

38 Tassinari 1993; see also Tassinari 1996.

39 Except for the finds recovered from the bombing: Tassinari 2009b, 12, note 10.

40 Tassinari 2009a; Rocco 2017 (based on the Author's 1954 typewritten catalogue).

41 Meirano 2018, 244–245.

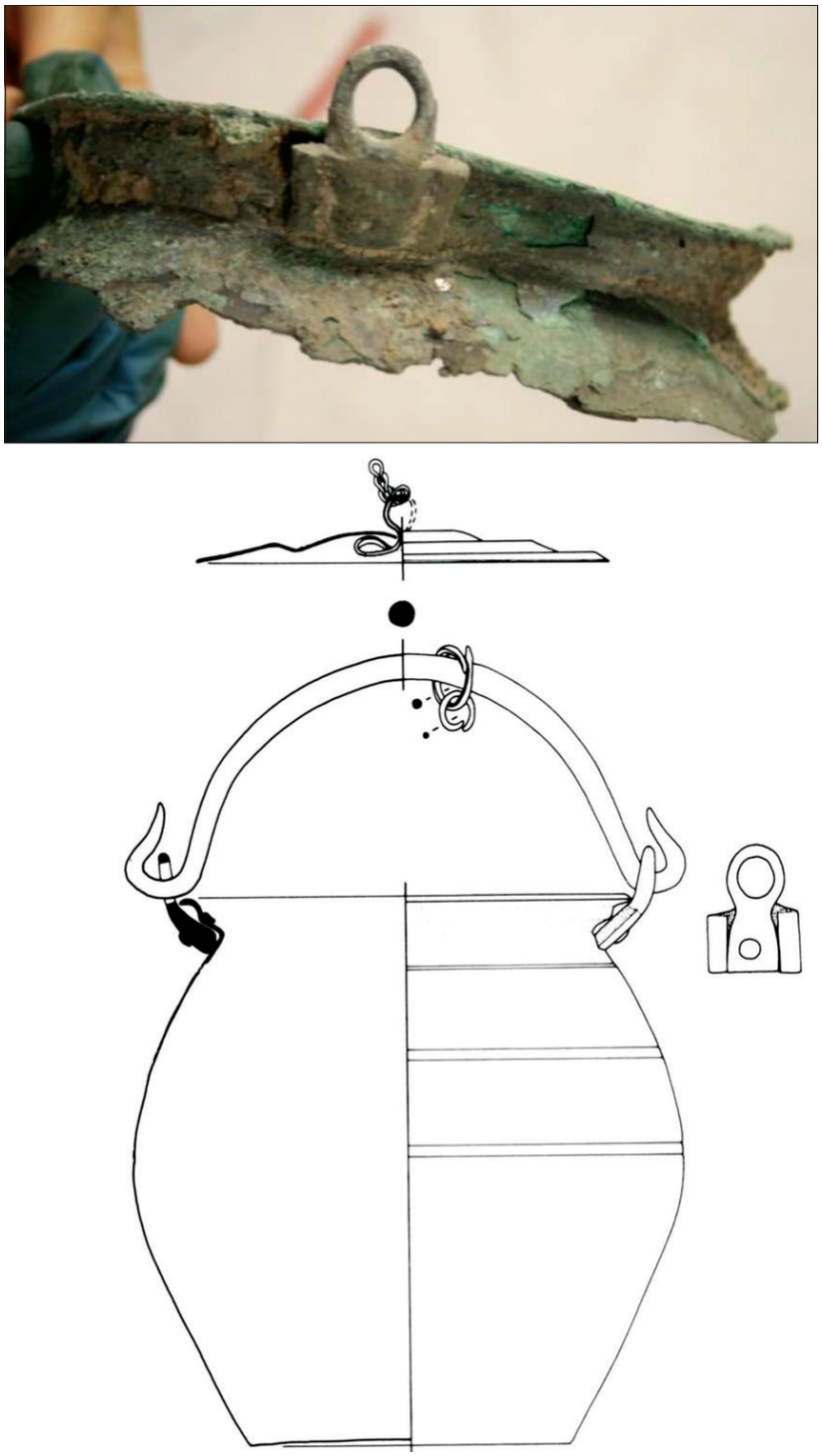


Fig. 16. Rim of a bombed small bronze bucket (Tassinari tipo X1621 and parallel after Tassinari 1993, X1621, n. 18678, 111).

couches and benches: Fig. 17;[42] handles, appliqués), lighting and heating devices (braziers, lamps, lamp stands and *candelabra*), musical instruments, personal care and ornaments (strigils, mirrors, tweezers, buckles, pins), etc. In addition, a very heterogeneous group, generally better preserved compared to other artifacts, is made up of closing devices: locks, hinges, knockers, as well as studs,

42 Cfr. Ransom 1905, Pls 8, 17; Richter 1966, 105–109, Figs 530, 532; Mols 1999, 100–101, Figs 2, 26–27, 34; De Carolis 2007, 80–93, 129–130, Pls 1–3, 24–25.



Fig. 17. Bronze element belonging to the foot of a bed or couch, probably a *lectus triclinaris* (Photo: D. Elia).

bolts, knobs, gears, and of course keys (Fig. 18.1–2). Pompeii and the sites destroyed by the Vesuvius offer the richest and most varied range of objects of this *genre* in the Roman world. In the past, this material aroused great interest, as evidenced by publications of the 18th and 19th centuries (Fig. 19), but in recent research and bibliography these finds are generally neglected: new information could come from the systematic study of this assemblage, and the results of new diagnostic approaches and restoration.[43]

In conclusion, this project aims to contribute to the knowledge of Pompeian material culture and to the history of the musealization of the site, giving these forgotten antiquities a new 'life' after decades of oblivion in dusty storerooms.



Fig. 18. 1–2 – Bronze door-lock plates (Photo P. Giagheddu).

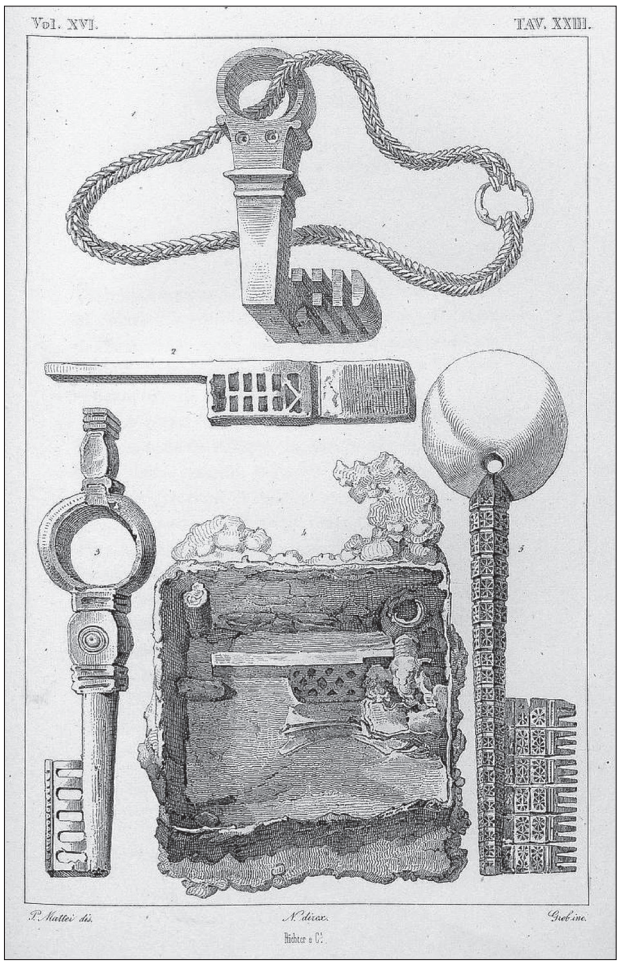


Fig. 19. Door lock and keys from Pompeii (after *Real Museo Borbonico* XVI, Naples 1857, Pl. 23).

43 See Rocco 2017, 179–186; Corvi 2018; Palladino 2020; for the study of doors and partitions in domestic spaces in the Vesuvian area, see: Lauritsen 2010; Lauritsen forthcoming.

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The Winged Victory of Brescia

An update on its history and origin after the study and conservation project

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Abstract: The Winged Victory (*Vittoria Alata*) of Brescia is one of the most important Roman bronzes in Italy. Discovered in 1826, it dates back to the 1st century AD. Since the 19th century the statue has undergone multiple conservation interventions. The last one started in 2018 up to 2020. The project was defined with a multidisciplinary approach which made it possible to study and compare the data obtained from the restoration with those deriving from scientific analyses, humanistic studies and other specialist research. For the first time after the discovery, it was possible to explore the internal surfaces of the statue and acquire very important data for the technological study of the work. Particular attention was paid to cleaning the surfaces; once the materials accumulated over time were removed, partly residues of past interventions, it was possible to rediscover the beauty of the face, the refinement of the modeling and the high peculiarity of the wings. New technological solutions have been studied for the internal support that replaced the one inserted in the nineteenth century to hold the arms and wings of the statue, as it was no longer suitable for guaranteeing the safe conservation of the work. Since October 2020, the Winged Victory has been exhibited in the renovated Capitoline temple in Brescia, where it was discovered.

Keywords: Roman bronzes, conservation, Winged Victory, bronzes technology, museography, Brescia, Opificio delle Pietre Dure



Fig. 1. The *Winged Victory* after conservation treatment, on display in the Brescia Capitolium (Credits: Archivio Fotografico Civici Musei di Brescia, Fotostudio Rapuzzi).



Fig. 2. The *Winged Victory* in the 19th century Museo Patrio display, with helmet, shield and stylus reconstructed in plaster and wood (Credits: Archivio Fotografico Civici Musei di Brescia).

Brescia's *Winged Victory* is one of the few surviving large Roman bronzes that was discovered during an excavation—not found on the seabed or as a result of reuse and cultural recycling, but during an archaeological dig, accompanied by numerous other items in the same context (Fig. 1).

It is a winged female figure, slightly larger than life-size (body height 194.1 cm), whose gestures and posture are incomplete due to the loss of certain features, which were already missing at the time of discovery.

Her left foot originally rested on something, perhaps a helmet, and a shield would have been held up by the (slightly bent) left leg and left hand; in her right hand there may have been a stylus, which the goddess had used to engrave an inscription, commemorating it in bronze before the gaze of admiring onlookers.

The statue was found in Brescia during an unprecedented archaeological campaign conducted between 1823 and 1830 by the Ateneo di Scienze Lettere e Arti di Brescia, at the request of the town council. During these investigations the Capitolium temple was brought to light (1823–1826), which has three large chambers and numerous furnishings.[1]

In 1826, on the evening of July 20th, the archaeological excavation resulted in an unexpected and sensational discovery. Between the outer wall of the temple's western chamber and the hill behind it were found hundreds of objects in bronze, of diverse forms and in varying states of preservation: smooth and moulded frames, some gilded, portions of statues, two shoulder belts from equestrian statues, an *applique* depicting a prisoner, six portrait-heads, and the *Winged Victory*.[2]

The discovery of this deposit—and above all of the monumental statue—ignited and fuelled civic pride so much that the city authorities quickly set up a museum, that was inaugurated in 1830 inside the ancient temple itself, which had been partially rebuilt and equipped for this function (Fig. 2).

The *Winged Victory* became the symbol of Brescia's identity, of its heritage and all its inhabitants,

1 On the excavations and the role of the Brescia Ateneo: Panazza 2004; Panazza 2018; Morandini 2021a.

2 The first reports of the discovery are given in: Nicodemi 1927; Bonardi 1937. About the other bronzes see Morandini 2014.

and has remained thus up to the present day.[3]

From the year of its discovery, the statue was the subject of numerous studies and conjectures.[4] Where did this bronze statue come from? Where would it have stood in Roman *Brixia*—and why? How was it made? And what was the best way to present it to visitors to the museum?

After many years of interpretations and hypotheses (some of them contrasting) it recently became possible to propose some answers and bring numerous aspects into better focus, thanks to a detailed interdisciplinary research project—named *Vittoria Alata 2020*—conceived and conducted by Brescia Council and Brescia Museums Foundation, with the Archaeology, Fine Arts and Landscape Superintendency and the Opificio delle Pietre Dure in Florence, as well as help from numerous private individuals.



Fig. 3. Brescia's Capitolium, with inscription referring to emperor Vespasian on the pediment (AD 73) (Credits: Archivio Fotografico Civici Musei di Brescia).

The starting point for the project's launch in 2018 were some checks carried out on the statue's state of preservation, which led to the decision to transfer it to the Opificio delle Pietre Dure in Florence, where conservation treatment was completed in 2020.[5]

At the past edition of this conference, held in Tubingen in 2018, we presented the start of the research project, highlighting doubts and open questions concerning the statue's history.[6] Today some of these aspects have been clarified thanks to the new data and increased knowledge furnished by the conservation work, scientific analyses and specialist studies that have been conducted.[7]

The results of the scientific investigations are the subject of a poster presented at this same conference by some of our colleagues.[8]

At the time of its discovery, the *Winged Victory* was found with its wings and arms detached; over time this circumstance has inspired a hypothesis that the statue's body originally belonged to a Greek *Aphrodite* of the Hellenistic period, brought to Rome as spoils of war and then transformed into a *Winged Victory* during the imperial era, with the addition of the wings and some changes of posture.[9]

The project enabled specific controls to be conducted that have disproven these conjectures, as well as pinpointing the chronology and illuminating numerous other aspects of this extraordinary work.

The statue's iconographic reference model is the goddess *Victoria in clipeo scribens*, whose origin must derive from the specific Roman habit of giving form to virtues and values, for example Health, Hope and Honour. This deity determined who would be victorious on the battlefield and brought

3 For the story of the statue and its display, most recently: Morandini 2021a; Morandini 2021b.

4 For the various studies and interpretations of the statue see Morandini 2021b with previous bibliography.

5 For the basis of the project and the early stages see Patera et al. 2018; Morandini 2020.

6 Morandini et al. 2019.

7 For a brief account of the conservation treatment see: Patera 2021a; Patera 2021b.

8 Cagnini et al. 2021.

9 For this hypothesis: Moreno 2002; Moreno 2003; see also Barbanera 2021b.



Fig. 4. Detail of the Winged Victory (Credits: Archivio Fotografico Civici Musei di Brescia, Fotostudio Rapuzzi).

conflict to an end, restoring peace and equilibrium. The iconography first associates *Victoria* with a shield, a trophy acquired and held up in the battlefield, then *Victoria* uses the shield to record the winner's name by means of an inscription. This iconography is not known before the Julio–Claudian era.

By carefully checking known examples, Marcello Barbanera identified the reign of Vespasian as the period when this iconographic model was most used and widespread.[10]

After the death of Nero, Vespasian was one of the protagonists—together with Otho, Galba and Vitellius—of the civil war for the imperial throne. And *Brixia* gave the general crucial assistance in winning his decisive victory in AD 69 between Brescia and Cremona, when he was proclaimed *imperator*.

This chronology also supports the hypothesis, already formulated in the 19th century, that the *Winged Victory* might have been an imperial votive offering placed in *Brixia*'s temple, which was dedicated by Vespasian in AD 73, as recorded by the inscription on the tympanum (Fig. 3).

The gift of the statue would fit well with the significance and chronology of this decisive episode in Roman history.

Further support for the possibility that it was a gift from Vespasian resulted from the careful cleaning and investigation of the diadem that adorns the *Winged Victory*'s coiffure (Fig. 4).

10 Marcello Barbanera, who we remember with affection, dedicated a series of three papers to the *Winged Victory* in which he conducted a reasoned analysis of the history of studies and proposed a new interpretation of the work, partly based on the results of the recent conservation work: Barbanera 2020; Barbanera 2021a; Barbanera 2021b.

Contrary to previous assertions, it is not a wreath of olive, but of myrtle, a crown reserved by the rigid Roman ceremonial of triumph for a victor who had conquered an internal enemy.[11] Hence this detail also reflects the emperor's recognition of the help he received from *Brixia*.[12]

Further confirmation that the work was created as a unified whole, conceived by Roman bronze workers as the *Winged Victory*, came during the course of the conservation treatment, which made visible again the statue's internal surfaces, almost two hundred years after its discovery (Fig. 5). Examination of these brought to light details and features pertinent to the procedures employed for the *Winged Victory*'s manufacture, for example the remains of a square pin (Fig. 6) probably connected to the attachment of the shield to the bent left leg, and signs of the joins between the upper and lower parts of the body.[13]

The technological study revealed that the *Winged Victory* was made using the indirect moulding lost-wax casting technique. The body is made up of about thirty separate parts that were subsequently welded together (Fig. 7): the head, arms, part of the torso, and the wings, each made in two pieces, the various parts of the drapery, and the feet.[14]

Radiographic investigations conducted during the conservation work greatly assisted the research by providing clear images of significant details (Fig. 8).

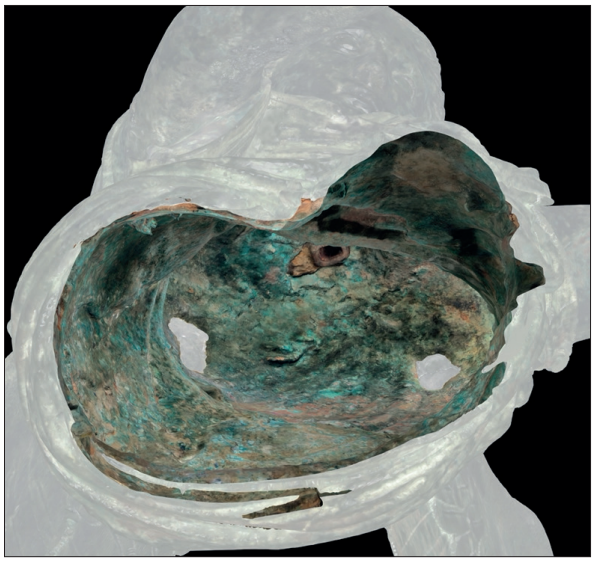


Fig. 5. The statue's internal cavity: photogrammetric image superimposed on 3D image (Credits: MiC, Opificio delle Pietre Dure, Archivio fotografico e dei restauri; M. Mercante, D. Occhibove).



Fig. 6. Remains of square pin still visible inside the statue (Credits: MiC, Opificio delle Pietre Dure, Archivio fotografico e dei restauri).

The various sections of the statue were made using as the 'principal' model a cast of an already existing work, probably a 4th century BC Greek statue of Aphrodite.[15] Signs of this process are discernible especially in the head and body which show the elegant features and proportions of the original figure, although with some formal inconsistencies and functional adaptations dictated mostly by production requirements and present above all in the rendering of the drapery. In addition, certain inconsistencies with regard to dimensions have been noted in the arms; in particular, the left arm is longer and thicker, with evident alteration of the musculature.[16]

11 Masci 2021, 63.

12 Morandini 2021b, 35.

13 Pacini 2021b, 173.

14 For the technological study: Formigli 2011; Formigli – Salcuni 2011 and—when the conservation work was under way—Pacini 2020; Pacini 2021a; Pacini 2021b.

15 Barbanera 2020; Barbanera 2021a; Barbanera 2021b; Battaglia 2021b.

16 Concerning the figure's construction see Battaglia 2020, 167–174; Battaglia 2021a, 164–165; Battaglia 2021b.

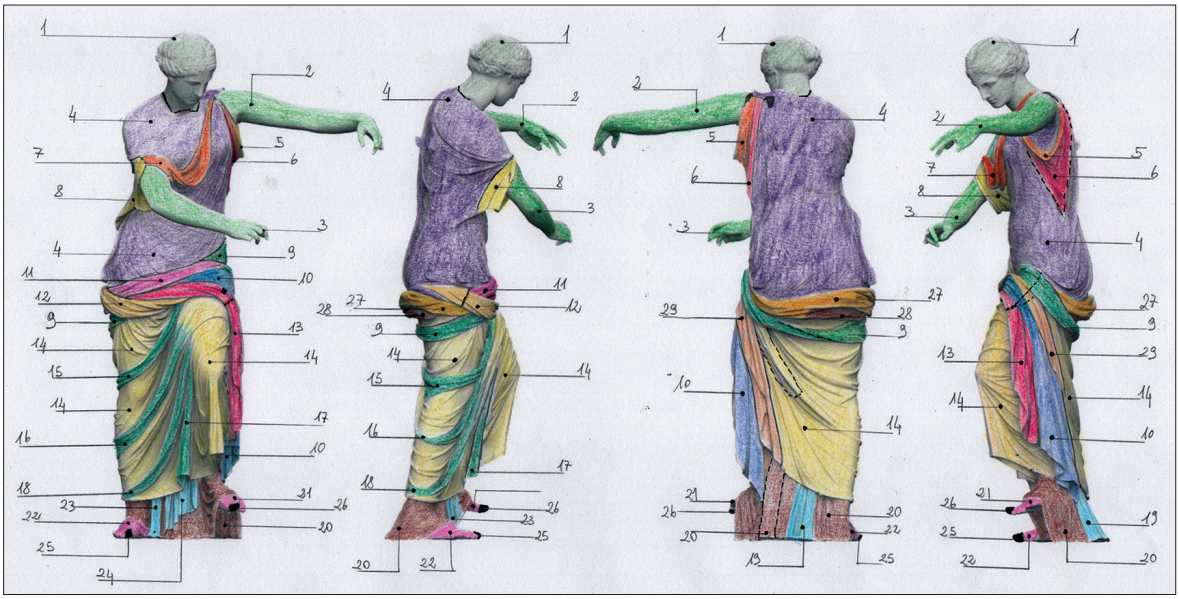


Fig. 7. The statue's component parts: technological study by A. Pacini (Credits: MiC, Opificio delle Pietre Dure, Archivio fotografico e dei restauri; A. Pacini).

The study also demonstrated that the openings on the back for attachment of the wings were created in the wax model. Although they have been improperly modified in recent times, they are of ancient origin, as are the two underlying protrusions that served to keep the large wings in place.

These details are of particular importance for the statue's interpretation, since the proposal that the wings were added later—based on disputed interpretations of scientific analyses[17]—in the past gave rise to the hypothesis (mentioned in the introduction) that the statue was originally conceived as *Aphrodite* and subsequently transformed into a *Winged Victory* through the addition of wings and other attributes.



Fig. 8. Detail of joint line at the base of the neck and repair dowels (Credits: MiC, Opificio delle Pietre Dure, Archivio fotografico e dei restauri; RX T. Radelet).

17 On the origin of the misunderstandings see Morandini 2011, 11–12.



Fig. 9. The Winged Victory before conservation treatment (left) and afterwards (right) (left – Credits: MiC, Opificio delle Pietre Dure, Archivio fotografico e dei restauri, right – Credits: Archivio Fotografico Civici Musei di Brescia, Fotostudio Rapuzzi).

The work's originality, conceived and created by Roman bronze casters as a *Winged Victory* writing on a shield, appears also to be confirmed by the results of recent analyses carried out on the composition of the alloys. Notwithstanding a few differences, the proportions of the different elements present in the alloys used for the various parts of the statue are compatible with it having being a unitary creation.[18] Thus it seems that the supposed marked differences between the body and wings—that gave rise to a century-long misunderstanding—do not in fact exist.

With regard to identification of the statue's place of production, examination of some fragments of mould material that were fortunately found in crevices in the internal cavity revealed that (given its geological characteristics) this might possibly have come from the Brescia area.[19] This information reopens the prospect that the *Winged Victory* may have been made by craft workshops in ancient *Brixia* itself, which had in the past been suggested and now seems more likely.[20]

The results obtained from analysis of these same samples using the thermoluminescence dating technique[21] indicate a Roman period chronology, and are not in contradiction with the proposed 1st century AD date, probably in the years immediately after Emperor Vespasian came to power, as also suggested by the recent iconographic studies outlined above.[22]

18 For the composition of the alloys: Porcinai et al. 2021, with discussion of previous bibliography.

19 For the mould material: Porcinai et al. 2021, 281–282.

20 Formigli – Salcuni 2011, 108.

21 Fantino 2021.

22 Barbanera 2020; Barbanera 2021a; Barbanera 2021b.

Archive research, combined with data deriving from analyses and conservation work, have deepened our knowledge of the statue's conservation history, although unfortunately we were unable to discover the name of the architect or craftsman behind the first 19th century reconstruction.[23] An improved understanding was also acquired of several hitherto poorly documented repairs, involving the base of the statue and its left wing (which had suffered further damage, probably in the 1950s) after the 1948 intervention conducted at the Istituto Centrale del Restauro in Rome.[24]

The cleaning operations carried out during conservation work yielded an unprecedented vision of the sculpture. Already the first trials conducted when the statue was still in Brescia had shown that after the conservation treatment the *Winged Victory*'s appearance would have changed—due both to the greater visibility of its features, and the changed chromatic perception of the statue overall.[25]

As is clearly evident from the rapid sequence of accompanying images (Figs 9–10), the pre-treatment generally greenish appearance with widespread yellowish zones (mainly due to alterations produced and procedures adopted in previous interventions), has been replaced by a decidedly darker shade after conservation treatment (and the removal of extraneous products).



Fig. 10. Right wing of the statue, before (left) and after (right) conservation treatment (Credits: MiC, Opificio delle Pietre Dure, Archivio fotografico e dei restauri).

23 For research into the statue's reconstruction conducted while conservation work was under way: Patera 2020; Patera 2021b.

24 Borrelli 1950.

25 For the work's preservation state prior to conservation treatment: Brini – Pucci 2021. For the various phases of conservation work: Casu – Brini 2021; Gennai et al. 2021; Pucci – Brini 2021; Casu et al. 2021; Pucci et al. 2021.



Fig. 11. Detail of the right hand with square trace of overlapping gold leaf (Credits: MiC, Opificio delle Pietre Dure, Archivio fotografico e dei restauri).

Details of the modelling that before were not so evident have emerged, such as the locks of the hair and some details of the face, the thick folds of the dress, the richly modelled cloak that covers the goddess's hips, and the hatched plumage of the wings (Fig. 10).

The conservation work brought to light further traces of gilding, on the right hand and the big toe of the right foot—which had never been observed before because they were hidden beneath layers of various substances. The rectangular patch revealed on the right hand was clearly gilded using the technique of application of gold leaf (Fig. 11).[26]

As mentioned above, the conservation work also brought to light details that were difficult to perceive regarding the refined polychrome decoration of the diadem. Some dark coloured details are now visible once more, permitting the proposed identification—with the help of an expert in botany—of the plant decoration as a variety of myrtle recognizable by the particular shape of the elongated berries (Fig. 12).[27]

The leaves of the diadem were made of inlayed silver, while the dark colour would seem to be due to a patina or some particular treatment of which the exact mechanism has not been fully understood, partly because attestations of this kind on large bronze statues are not always preserved and recognizable (Fig. 13).[28]

At the same time as this work was being conducted on the statue in the laboratories of the Opificio delle Pietre Dure in Florence, an important part of the project concerned the adaptation of one of the chambers of the *Capitolium* temple in Brescia as the location for its display when it returned from Florence.

In the past the *Winged Victory* had generally been on show in the *Capitolium*, except for a period when it was inserted in the archaeological itinerary in the Museum of Santa Giulia (1998–2018), and on several other occasions when it was moved for security reasons (for example during the two world wars) and for conservation treatment.

The selection of the statue's current location resulted from of a joint evaluation made by the institutions concerned with the conservation and enhancement of Brescia's archaeological heritage. The design related to this choice was entrusted to the architect Juan Navarro Baldeweg, whose work embodies and interprets its various aspects, ancient and contemporary.[29]

The *Capitolium* constitutes an exceptional display of the Roman remains discovered in the early 1800s; soon afterwards its large chambers were reconstructed and the ancient building housed the very first Brescian museum, the *Museo Patrio*.

26 Pucci – Brini 2021, 157–158; Pucci et al. 2021, 187–189.

27 Masci 2021.

28 Pucci et al. 2021, 184–187.

29 Baldeweg 2020; Baldeweg 2021; Croset 2021; Morandini 2023.

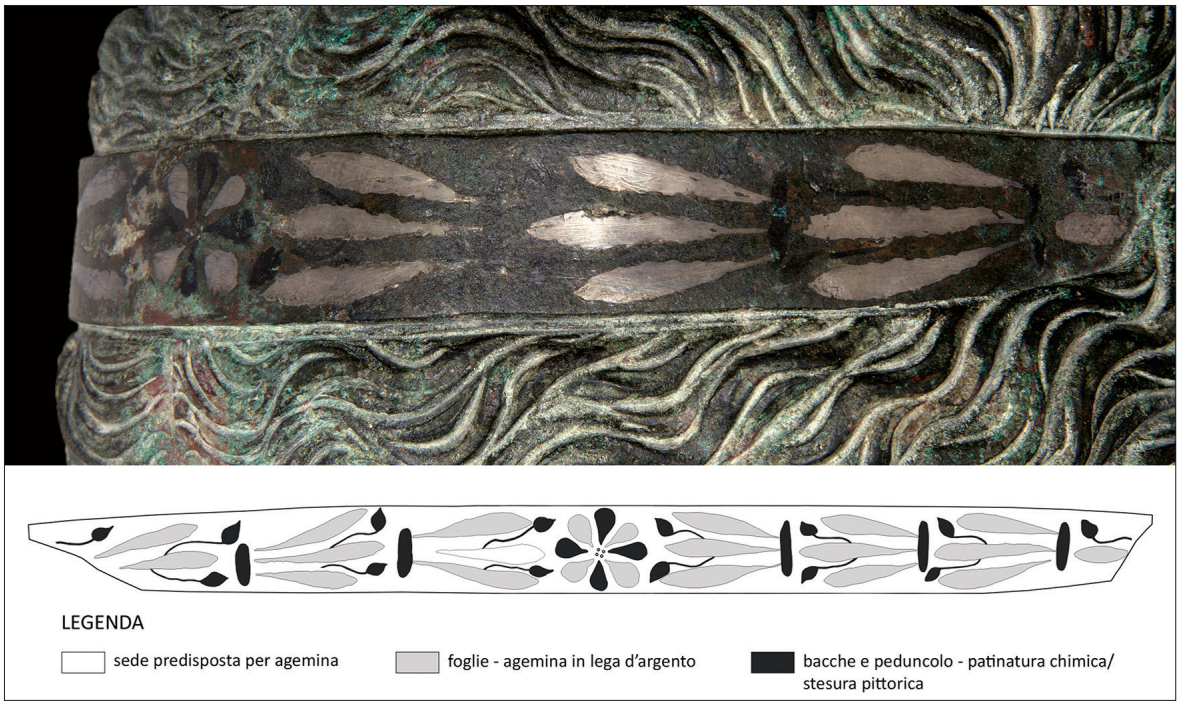


Fig. 12. Detail of the diadem after conservation treatment, with drawing by Elisa Pucci below (Credits: MiC, Opificio delle Pietre Dure, Archivio fotografico e dei restauri).

The western chamber floored with slabs of coloured marble contains the remains of three cult statues, two of Minerva and one of Silvanus, and the central chamber houses numerous inscriptions built into the 19th century walls, the remains of a statue of Jupiter, and three monumental altars.[30] The handling of the Victory was planned with great care, given the statue's delicacy and the presence of a new internal support.[31]



Fig. 13. Detail of the central rosette of the diadem before conservation treatment (Credits: MiC, Opificio delle Pietre Dure, Archivio fotografico e dei restauri).

The *Winged Victory* has been placed in the eastern chamber of the *Capitolium* (in which the original flooring in *opus sectile* was less extensively preserved), in order to keep it near where it was found, in an appropriate setting that enhances its form and evokes its *aura*, so that instead of viewing the statue as a museum exhibit, visitors experience it as an integral part of a public monument (Fig. 14).

Although it is not known in which chamber it originally stood, nevertheless the size of that chosen seems appropriate for the solemn and visible location that the work presumably had in ancient times. The possibilities offered by the space available, to be able to raise the statue sufficiently from the ground and have 360-degree vision of it, allow a new and more complete appreciation of the work, also outlined by studies conducted by Stella Battaglia in parallel with the conservation treatment.[32]

30 Most recently: Morandini 2021c, with previous bibliography.

31 Bici et al. 2021.

32 Battaglia 2021a; Battaglia 2021b with previous bibliography.



Fig. 14. The Winged Victory in the Capitolium (Credits: Archivio Fotografico Civici Musei di Brescia, Alessandra Chemollo).

The statue is accompanied by many other notable bronze items that were found with it, consisting of numerous smooth and moulded frames, as well as functional elements of architectural ornaments. Some are in a horizontal showcase, while most of the frames are mounted on the wall, outlining geometrical surfaces similar to the ancient ones they would have framed, for example marble slabs or inscriptions. This selection of the group of bronzes evokes especially both the context of discovery and an abstract, hypothetical context of origin, maintaining the visual dialogue between the statue and part of the deposit it belonged to (Fig. 15).[33]

The rest of the bronzes, those which would not originally have had an architectural function, are on display in the Roman section of the Santa Giulia Museum, which was reorganized in early 2022.

The chamber is equipped with the most advanced devices for microclimate control and to ensure the statue's preservation even in the event of natural disasters.[34]

The formal composition of the exhibition space and the carefully studied, allusive and dynamic lighting[35] offer visitors a unique experience in an abstract atmosphere that make this symbol of archaeological discovery quite contemporary.

33 Baldeweg 2021; Croset 2021.

34 Bonfante – Galeotti 2021; Bonfante et al. 2021; Ciccaldo et al. 2021; Cigada et al. 2021.

35 Guzzini 2021.



Fig. 15. The Winged Victory in the Capitolium (Credits: Archivio Fotografico Civici Musei di Brescia, Alessandra Chemollo).

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The *Drunken Satyr* from the Villa dei Papiri at Herculaneum

New Perspectives

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Abstract: Prior to the international loan exhibition *Buried by Vesuvius: Treasures from the Villa dei Papiri* at the Getty Villa in Los Angeles (26 June – 28 October 2019), the Museo Archeologico Nazionale di Napoli (MANN) generously lent the ancient bronze statue of a *Drunken Satyr* for study, analysis, and conservation. Discovered in pieces in tunnels excavated through what has come to be recognized in the outer peristyle garden of the Villa dei Papiri at Herculaneum on July 10, 1754 and restored in 1759 at the Royal Foundry at Portici, the *Drunken Satyr* was praised as one of the most beautiful bronze statues to survive from antiquity. This paper provides an overview of its history and presents the results of recent study, analysis, and treatment that shed greater light on the techniques of the statue's ancient manufacture and its alteration and state of preservation at the time of recovery. It also addresses the nature and extent of the post-antique restorations that can be identified and their ramifications on the statue's appearance. These collective findings allow for a more comprehensive understanding of the *Drunken Satyr.*

Keywords: *Drunken Satyr*, Herculaneum, Villa dei Papiri, bronze statue, conservation

Introduction

The study and conservation of the *Drunken Satyr* from the Villa dei Papiri at Herculaneum presented here was undertaken as part of a larger partnership between the J. Paul Getty Museum in Los Angeles and the Museo Archeologico Nazionale di Napoli (MANN).[1] A significant aspect of these

1 The authors are grateful to the organizers of the 21st International Congress of Ancient Bronzes held in Budapest in September 2022 for their superb organization of that event, and to colleagues in both Los Angeles and Naples for their collaboration on the project described here, particularly MANN director Paolo Giulierini for entrusting us with priceless artifacts from the MANN collections over the course of many years. We are also grateful to Paola Rubino De Ritis, Stefania Saviano, Marcus Adams, Tahnee Cracchaiola, Mustafa Eck, Susanne Gaensicke, Monica Ganio, Rita Gomez, Richard Hards, David Saunders, William Shelly, Jefferey Spier, Christopher Sprinkle, Marie Svoboda, Karen Trentelman, Nancy Turner, Sarah Waldorf and Carol C. Mattusch.

collaborative conservation and exhibition loan projects—which began in 2006 and have included treatments of the *Ephebe* from the House of the Ephebe at Pompeii (MANN 143753), the *Apollo Saetante* and *Diana* from Pompeii (MANN 5629 and 4895), and the *Tiberius* from Herculaneum (MANN 5615)—has been the ability to provide greater analytical information and empirical evidence about the materials, techniques, and manufacture of ancient bronze statues. Collectively these projects not only provide insight into various facets of ancient manufacture and technique, but also highlight post-antique restoration methods employed during the eighteenth and nineteenth centuries.[2] This is particularly true in the case of the *Drunken Satyr* (MANN 5628), which, as part of the sculptural scheme recovered from the Villa dei Papiri, quickly became famous after it was recovered in July, 1754, after which it was afforded great attention as well as considerable resources to make it presentable for display.

The Villa dei Papiri was discovered by chance in 1750 and excavated by work crews led by the Swiss military engineer Karl Weber, on behalf of the King of Naples. Weber not only extracted statues in bronze and marble, frescoes, opus sectile floors, and carbonized papyrus scrolls from great depths, but also drew a plan plotting his finds, marking his as one of the earliest excavations that can claim to be scientific. Working in cramped tunnels more than 20 meters below the surface, Weber and

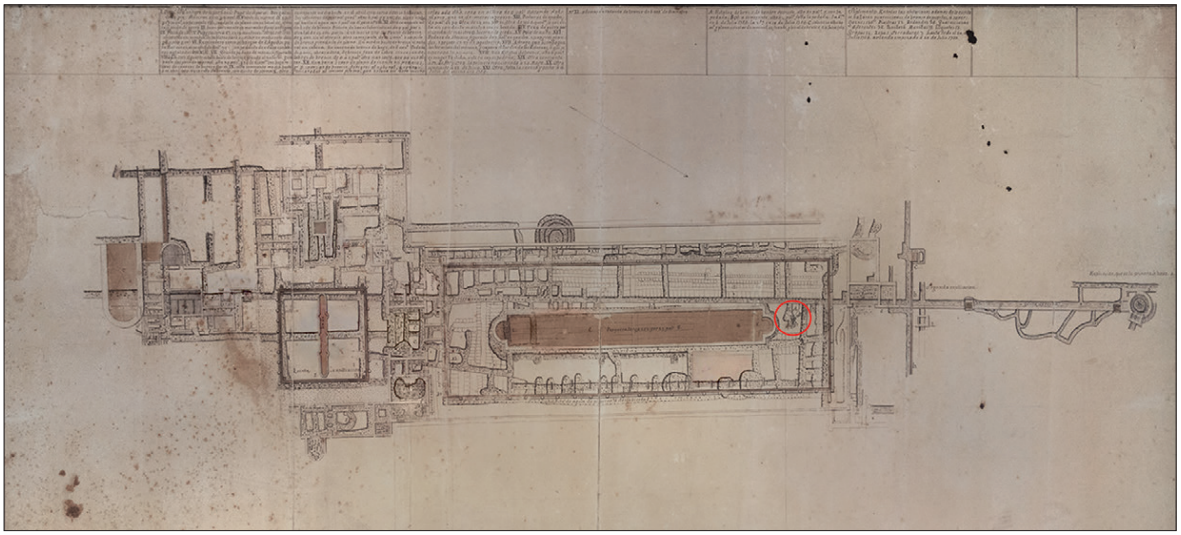


Fig. 1. Karl Weber's plan of Bourbon excavations of the Villa dei Papiri, 1754–1758 (photo: su concessione del Ministero dei Beni e delle Attività Culturali e del Turismo, Museo Archeologico Nazionale di Napoli).

his workmen extracted more large-scale bronzes than from any other ancient domestic site, over 60 sculptures. The *Drunken Satyr* was discovered on July 10, 1754 at the west end of the large peristyle garden, with other toppled statues, at the spot marked B on Weber's plan (Fig. 1). Opposite it, at the far end of a large pool, another statue was eventually found, of a younger satyr, apparently asleep (MANN 5624). These two figures present a contrast of age, alertness, and pose, a kind of compare-and-contrast for viewers evident throughout the selection and disposition of the Villa's sculptures.[3]

2 For the Ephebe, see https://www.getty.edu/art/exhibitions/naples_ephebe/; Risser – Saunders 2013, and Melillo 2013; for the Apollo Saetante and Diana, see https://www.getty.edu/art/exhibitions/apollo_pompeii/ and Risser – Saunders 2015; for the Tiberius, see https://www.getty.edu/art/exhibitions/tiberius/ and Risser – Saunders 2017, all with additional previous bibliography.

3 See, e.g., Lapatin 2019; Zarmakoupi 2010; Moesch 2009; Lahusen– Formigli 2007; Mattusch 2005, and Comparetti – Di Petra 1883. For excellent pre-conservation photographs of the Satyr see Sampaolo – Spina 2018. For Weber and his enterprise see esp. Parslow 1995; Guzzo et al. 2018.

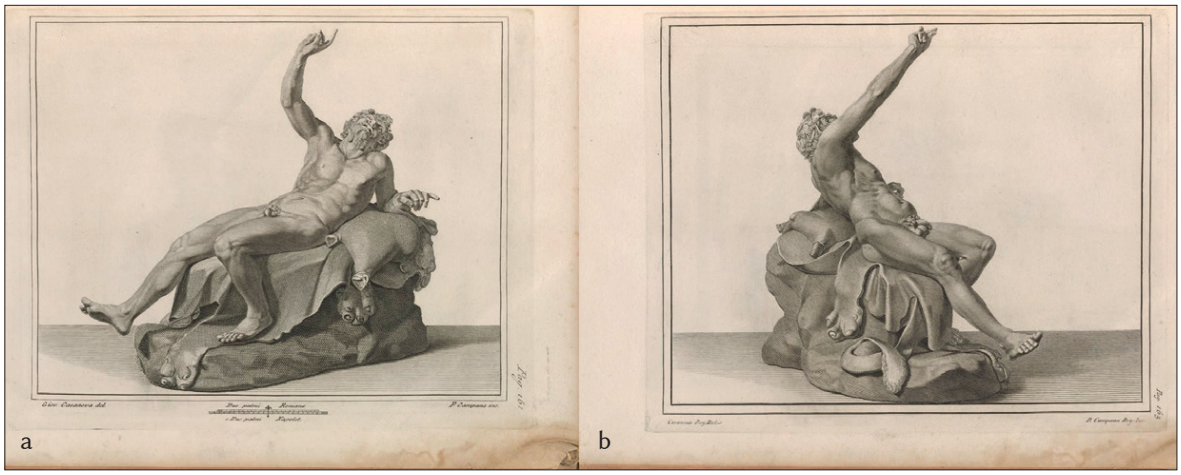


Fig. 2. a–b – Engravings of the *Drunken Satyr* by Pietro Campana after drawings by Giovanni Casanova from *Le Antichità di Ercolano esposte*, vol. 6 (1771), Pls XLII–XLIII (photo: Getty Research Institute Special Collections and Visual Resources).

The *Drunken Satyr* is neither a unique find nor an original work, but rather the best preserved of several surviving replicas of an earlier Hellenistic type, which most scholars place in the second century BC on stylistic grounds. Replicas survive in dark and light stones, and the figure also appears on coins, while variants can be seen in Pompeian painting, such as frescoes from the Casa di Sirico (VII.1.47) and the Casa dei Principe di Montenegro (VII. Insula Occidntalis, 10) at Pompeii, depicting Hercules in the same pose, drunk and subject to the Lydian queen Omphale (MANN 9000).[4]



Fig. 3. Detail of seam between ancient and restoration sections (photo: J. Paul Getty Museum su concessione del Ministero dei Beni e delle Attività Culturali e del Turismo, Museo Archeologico Nazionale di Napoli).

4 For sculptural replicas see: Mattusch 2005, esp. 321–326. The type also appears on a coin of Nikaia minted under Commodus, see Friedlaender 1869, 97, no. 1, Pl. 23.1. For paintings see, e.g., Bragantini – Sampaolo 2009, 258–259, no. 107; see also Antichità Di Ercolano IV, 1765, Pl. 4, for an image of a half-draped female, similar snapping the fingers of her raised right hand while reclining on her bent left arm and holding a drinking horn in that hand.



Fig. 4. Detail of marks associated with mechanical cleaning (photo: J. Paul Getty Museum su concessione del Ministero dei Beni e delle Attività Culturali e del Turismo, Museo Archeologico Nazionale di Napoli).

The statue from Herculaneum was first published some fifteen years after its discovery, fully restored, with two engravings, in the sixth volume of the luxurious *Antichità di Ercolano* (1771) (Fig. 2.a,b). A few years earlier, in 1764, the pioneering art historian Joachim Johann Winckelmann described the statue, which he saw in the Museo Ercolanese: "…an older drunken satyr lying on a wineskin with a lion skin thrown over him. He supports himself with his left arm and snaps the fingers of his raised right hand, like the statue of Sardanapulus at Anchiale, in a sign of joy, as is now customary in dancing." "The belly of the fine drunken bronze Silenus sags like a leather sack, but his thighs express the agility of the bodies of satyrs or fauns in the prime of youth […]." One



Fig. 5. Ancient portions (satyr and feline face), 18th-century restorations (lion skin and marble outcrop) (photo: J. Paul Getty Museum su concessione del Ministero dei Beni e delle Attività Culturali e del Turismo, Museo Archeologico Nazionale di Napoli).

could say that the Silenus is a masterful work."[5] By then the statue had been fully restored by Tommaso Valenziani, working under the supervision of Camillo Paderni: the right arm, which had been found separately, had been reattached, and the wine and lion-skin heavily restored. A new stone base had also been also fashioned.

The statue was frequently reproduced thereafter, and was eventually transferred to Naples, along with other works from the Museo Ercolenese. It features in famous 1787 engraving designed by Louis Jean Desprez, engraved by Robert Daudet, with figures engraved by Jean Duplessis-Bertaux, that imaginatively depicts artifacts being transferred from Portici to the new Museo Borbonico in Naples, that appeared in the second part of the first volume of Jean-Claude Richard, Abbé de Saint-Non, *Voyage*



Fig. 6. Composite x-ray of the *Drunken Satyr* (photo: J. Paul Getty Museum su concessione del Ministero dei Beni e delle Attività Culturali e del Turismo, Museo Archeologico Nazionale di Napoli).

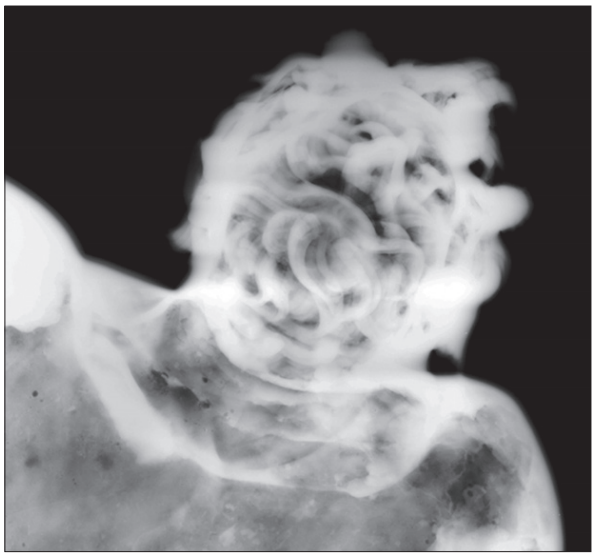


Fig. 7. Radiograph showing bib-like feature indicating a wax-to-wax join (photo: J. Paul Getty Museum su concessione del Ministero dei Beni e delle Attività Culturali e del Turismo, Museo Archeologico Nazionale di Napoli).

Pittoresque ou Description des Royaumes de Naples et de Sicile.[6] The sculpture has long been a highlight in the museum, now the Museo Archeologico Nazionale,[7] and was even featured in Roberto Rossellini's 1954 *Viaggio In Italia*, evoking a kind of sexual reawakening in the character of Kathrine Joyce, played by Ingrid Bergman.

When the Getty Villa was constructed along the coast of Southern California in the early 1970s

5 Trans. Mattusch 2011, 52, 88, 186.

6 Saint-Non 1782, Pl. opposite p. 54.

7 See, e.g., Milanese 2009.

on the model of the ancient Villa dei Papiri, it seemed natural that a replica of the *Drunken Satyr* be placed at the end of the long pool in the Outer Peristyle along with other bronzes cast by Historic Chiurazzi Foundry.[8] Similarly, another replica cast by the Chiurazzi graces the streets of modern Herculaneum. When, in the 2010s, the Getty and our partners in Naples began planning a major exhibition about the ancient Villa, to be mounted in its modern replica, we together decided it made sense to bring the *Satyr*, which had suffered over the more than 250 years since its discovery, to Los Angeles early for conservation, prior to the opening of *Buried by Vesuvius: Treasures from the Villa dei Papiri*.[9]



Fig. 8. Endoscopic image showing wax drips translated into bronze (photo: J. Paul Getty Museum su concessione del Ministero dei Beni e delle Attività Culturali e del Turismo, Museo Archeologico Nazionale di Napoli).

Study and Analysis

As outlined above, archival records are an important aid to understanding the historic timeline of the *Drunken Satyr* and the potential sequence and extent of restoration.[10] While significant resources, such records are susceptible to embellishment or understatement as well as the motivations of their authors in relation to the Royal Bourbon court and administration. As such, these records can indicate but cannot not fully elucidate the condition of the *Drunken Satyr* at the time of its recovery or the nature and scope of restoration. These aspects, as well as the techniques of ancient manufacture and the true nature, number, and extent of historic restoration campaigns could only be more fully understood through careful study and targeted analysis of the object itself.

Enhanced visual examination was undertaken in a preliminary attempt to identify and differentiate between ancient parts of the statue and historic restorations. This revealed several interesting features, the most obvious being a distinct surface morphology where smoother chromatically consistent surfaces were distinguishable from rougher more inconsistent ones (Fig. 3). The later of these regularly evidenced numerous cuts, parallel scratches, and dents that appeared to be the traces of chisels, rasps, and files employed in manual cleaning (Fig. 4). The point of change or transition from one surface type to the other characteristically had a distinct delineation, often in the form of a variegated line. Interpreting these lines as potential boundaries between ancient and restoration had an unexpected result. If these signs were read correctly, only about half of the *Drunken Satyr* as we know it would be ancient, the remainder being an eighteenth-century conception. Significantly, a portion of the lion's face and part of the *otre* or wine skin are ancient, and they guided the eighteenth-century restorers (Fig. 5).

Scientific analyses including x-ray fluorescence (XRF), x-ray diffraction (XRD), and scanning electron microscopy with energy dispersive x-ray analysis ((EDX) SEM) were employed to elaborate on

8 Lapatin 2019, 6–7, 92.

9 https://www.getty.edu/art/exhibitions/villa_papiri/ and Lapatin 2019.

10 Scatozza Höricht 1982; Strazzulo 1982; Strazzulo 1998; D'Iorio 2021.



Fig. 9. *Drunken Satyr* viewed from below showing excision of portions of the left elbow, lower back, buttocks, and thighs (photo: J. Paul Getty Museum su concessione del Ministero dei Beni e delle Attività Culturali e del Turismo, Museo Archeologico Nazionale di Napoli).

this hypothesis, both defining and confirming the nature of the restorations, but also characterizing each in turn, examining both materials and techniques responsible for the overall figural composition known today. This helped to guide the conservation treatment, allowing for the major phases of the composition to be individualized and their specific chemical/physical conditions, alterations, and stability assessed. Each will be examined in greater detail below.



Fig. 10. Digital reconstruction of excised area of the *Apollo Saettante* (photo: J. Paul Getty Museum / Soprintendenza Speciale per i Beni Archeologici di Napoli e Pompei).

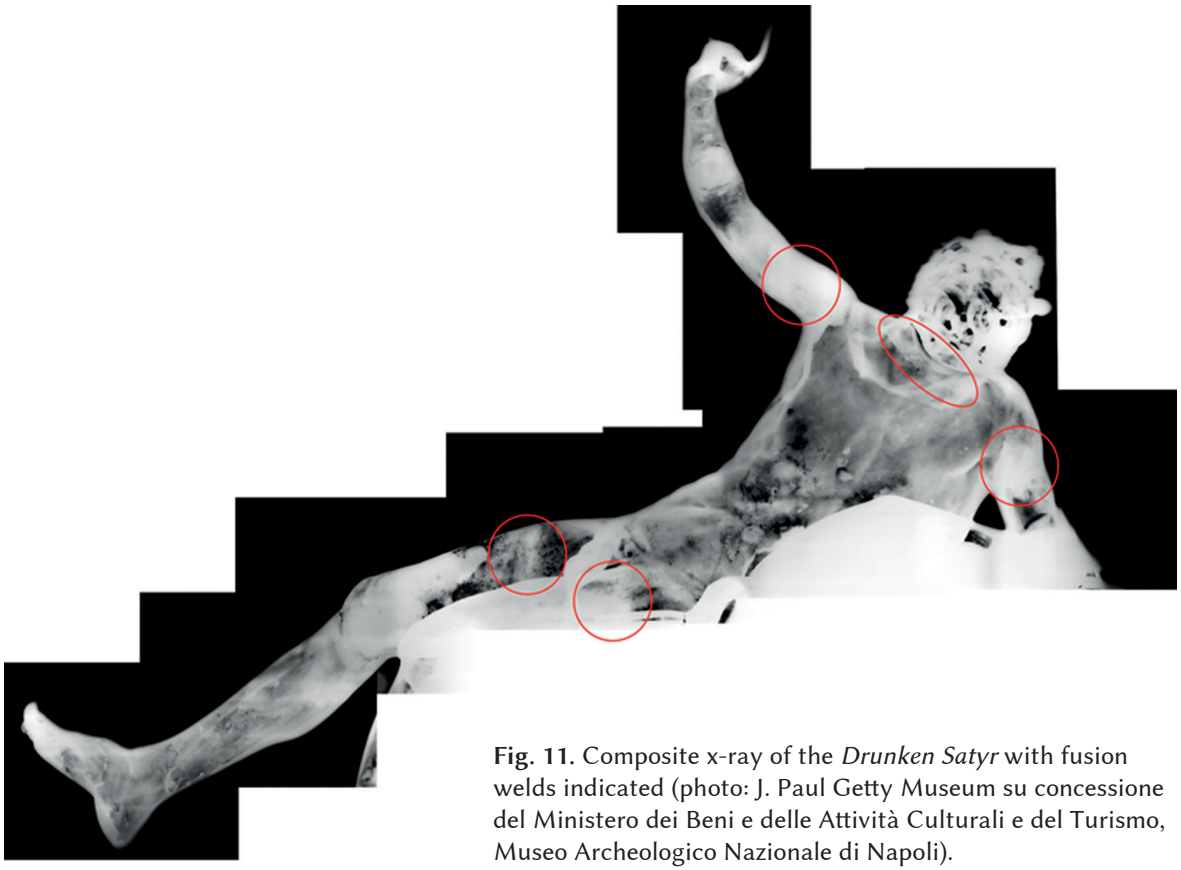


Fig. 11. Composite x-ray of the *Drunken Satyr* with fusion welds indicated (photo: J. Paul Getty Museum su concessione del Ministero dei Beni e delle Attività Culturali e del Turismo, Museo Archeologico Nazionale di Napoli).

Ancient Manufacture

Radiography revealed the ancient bronze figure itself to be comprised principally of six-individually cast sections—the torso, right and left legs, both arms, and head—and that these were fashioned through the indirect lost-wax technique (Fig. 6). Certain features, such as the regular bib-like shape in the upper-chest, show clear evidence of wax-to-wax joins and appear related to the reassembly of wax model portions, confirming the use of molds in production (Fig. 7). The relative smoothness



Fig. 12. Detail of underside of the *Drunken Satyr* showing tearing and distortion (photo: J. Paul Getty Museum su concessione del Ministero dei Beni e delle Attività Culturali e del Turismo, Museo Archeologico Nazionale di Napoli).



Fig. 13. Detail of the incised lips, colored teeth and one of the inlayed eyes (photo: J. Paul Getty Museum su concessione del Ministero dei Beni e delle Attività Culturali e del Turismo, Museo Archeologico Nazionale di Napoli).



Fig. 14. Detail of the interior surface of the left thigh (photo: J. Paul Getty Museum su concessione del Ministero dei Beni e delle Attività Culturali e del Turismo, Museo Archeologico Nazionale di Napoli).

and gradual transition in wall thickness from thick to thin in highly sculpted areas such as the head or hands suggest the application of the wax in a fluid state to the interior of the molds. Physical evidence uncovered during endoscopic examination further confirmed the use of a liquified wax, most obvious in areas of seemingly crystallized drips translated from wax to bronze (Fig. 8).

The average thickness of the bronze is between 2.2 to 3.6 mm. The slight variation can be interpreted as evidence of this same method, particularly considering that the use of pre-cast wax slabs or sheets should have resulted in a more consistent thickness or at least created radiographically discernible features such as edge-to-edge joins or overlapping.

Examination of the underside of the bronze revealed excisions of portions of the anatomy, particularly the left elbow, the entire lower back, buttock area, and the reverse of the upper thighs (Fig. 9). This evidences a deliberate step in ancient manufacture, whereby the sections of contact to the (presumed) ancient lion skin were removed. The fact that these excisions were done in the wax is indicated by the softness of the edges, the exterior edge being slightly rounded inwards and the interior edge flaring outwards.

This type of removal at the points of contact between features was also seen in the *Apollo Saettante* where the swath of drapery passed over the lower back and portions of the forearms (Fig. 10). This was interpreted as having an economizing effect on the post-casting assembly process, implying coordination between various processes within the workshop and the foundry.[11] The Satyr appears to provide further evidence of the same process. Here the interplay between two distinct compositional features (figure and lionskin) was removed to allow the *Satyr* to be more easily assembled, situated, and attached to its base.

Looking at the extent of removal, an alternative motive can also be suggested with direct implications for the casting process. By removing these areas on closed shapes, the division between interior and exterior can be fundamentally altered. This would have increased the connection between

11 See note 2 above.

the core and vestment, further immobilizing each in relation to the other. Consequently, the number of chaplets necessary to prevent movement during casting could be greatly reduced. This would have had implications for the time and effort necessary to remove the refractive material around and within the cast bronze as well as the amount of cold patching needed for completion.

The six major components of the figure were joined post-casting by means of fusion welding. Much evidence for this is obscured by eighteenth-century interventions, but the neck and leg joins are still legible (Fig. 11). Several smaller components, such as the pinecones in the hair and pubis area were also separately cast and joined by fusion welding.

Tearing and distortion in the area of the figure's lower back seems to indicate a point of attachment in antiquity where the force of the volcanic eruption of AD 79 caused deformation immediately prior to the figure becoming detached from its base (Fig. 12). The regularized bottom edge of the left thigh, coupled with the eighteenth-century repair to the surrounding portion of the left leg, may suggest this area to have been damaged by distortion because it was an anchor point as well.

The original colour of the *Satyr* could not be determined. The current color is the result of a comprehensive re-patination campaign in the eighteenth century. Recesses, folds, and other less accessible areas did not reveal unaltered portions that might suggest the statue's original appearance.

The bronze itself was identified to be a highly-leaded tertiary alloy with approximately 17.2–19.1% lead and 5.9–6.8% tin. This is typical of other analysed bronzes from Herculaneum and, unaltered, would have had a golden hue.

The eyes of the figure still preserve original bovine bone inlays, while the lips have clear delineation for inlay but no discernible increased levels of copper. The teeth, revealed by endoscopy to be partially inserted, have a very high tin content, potentially suggesting that these were preferentially treated with tin to create a silvery, white colour (Fig. 13).



Fig. 15. Cast-on welds with excess material to encapsulate screws to join and immobilize fragments (photo: J. Paul Getty Museum su concessione del Ministero dei Beni e delle Attività Culturali e del Turismo, Museo Archeologico Nazionale di Napoli).



Fig. 16. Exterior detail showing the smoothed and patinated bolts legible as small circles (photo: J. Paul Getty Museum su concessione del Ministero dei Beni e delle Attività Culturali e del Turismo, Museo Archeologico Nazionale di Napoli).



Fig. 17. Endoscopic image of anchor to secure lion skin to the rock (photo: J. Paul Getty Museum su concessione del Ministero dei Beni e delle Attività Culturali e del Turismo, Museo Archeologico Nazionale di Napoli).



Fig. 18. Bolt head holding lion skin to marble base (photo: J. Paul Getty Museum su concessione del Ministero dei Beni e delle Attività Culturali e del Turismo, Museo Archeologico Nazionale di Napoli).

Taken together, the facial features suggest an intentional selection and application of materials to create chromatic distinction, rendering the figure more life-like. One can presume that the flesh and hair portions, though of the same alloy composition, may have similarly been treated for distinction and mimicry. As to the lion and wine skins, their presence, but not extent, is confirmed as part of the ancient sculptural composition. The same basic alloy that was employed for the figure was used for both. Nonetheless, these compositional elements may have been treated in some way to further enhance the colourful illusion of reality already so well encapsulated in sculptural form.

Eighteenth-Century Interventions

Portions of the interior of the *Satyr* suggest what the exterior may have looked like upon recovery in 1754 and why mechanical cleaning with chisels, rasps and files was necessary (Fig. 14). Likewise, looking at the damage suffered by the *Satyr*, it is possible to hypothesize as to the structural state of the figure at the time of recovery. All the limbs were severely damaged at or near the original fusion welds and the right arm, at least, was detached. The arms were rejoined and reinforced with a primitive form of welding whereby molten bronze was poured into the rupture to fill any voids and melt the surrounding edges to create a metallurgical join. An abundance of bronze was used, filling the space on either side of the join with excess material that would encapsulate the bolts that had been previously added nearby and solidify around them to form a type of mechanical riveting that further reinforced and immobilized both sides (Fig. 15). The bolts were inserted first, threaded through holes drilled in the bronze.

This technique appears to have been used throughout the figure wherever bronze sections were to be rejoined, whether ancient or eighteenth-century additions. The cast-on bronze is very different in composition to the ancient alloy, having roughly 1% tin, 2.5% lead and 3% arsenic. This method of joining also explains the great number of small circles visible on the surface of the entire assemblage, ninety-six in total.



Fig. 19. Marble base with clear delineation between finished and unfinished surfaces (photo: J. Paul Getty Museum su concessione del Ministero dei Beni e delle Attività Culturali e del Turismo, Museo Archeologico Nazionale di Napoli).

Afterwards the protruding bolts were cut off on the exterior, smoothed, and visually incorporated during repatination (Fig. 16).

In the few instances where eighteenth-century restorations were attached to ancient bronze, the ancient metal edges were regularized by cutting and filing. Wax appears to have been modelled directly onto the regularized ancient portions, then removed, and translated into bronze.

The eighteenth-century restoration is limited to the rejoining of the ancient sections and completing the portions of the wineskin and feline face of the lionskin. All other portions of the composition must be interpreted not so much as restorations, but as eighteenth-century creations intended to complete a narrative.

The bronze lion's skin is composed of sixteen separately cast sections. These are similar in composition to the cast-on welds, but with less lead and are remarkably consistent to one another suggesting they were cast with the same batch of metal. Each section was metallurgically joined to the next using the same method described previously. While crude, this joining technique was effective enough for a complex composition to be created piece-meal.

The joined lionskin was mechanically attached to the rock outcropping through fifteen anchor points consisting of inverted U-shaped iron sections leaded into the stone and drilled and tapped to receive threaded bolts (Fig. 17). Like the rivets, the bolts were screwed through holes previously drilled in the bronze. The larger head of the bolt served to compress the metal to the stone and keep it in place (Fig. 18).

The rock outcropping itself has been identified as *Bardiglio di Luni* marble. Its carved details were clearly cut with foreknowledge of the figure and the desired configuration of the lionskin. Even so, some details were incorrect, and the stone needed to be altered to accommodate the bronze it was intended to support. This is most obvious in the detachment and inversion of the stone nodule around which the lion's tail curls. Portions of the base's roughed-out upper surface also had to be further reduced to better accommodate the figure.



Fig. 20. Ultraviolet image showing luminescence of organic binding agent between major features (photo: J. Paul Getty Museum su concessione del Ministero dei Beni e delle Attività Culturali e del Turismo, Museo Archeologico Nazionale di Napoli).

The fact that there are distinct areas of finished and non-finished stone demonstrates pre-existing knowledge of what parts of the base would be covered by the bronze versus those that would not (Fig. 19). These areas of distinction were clearly realized in the stone carvers' workshop. Later alterations appear to have been performed in the foundry at the time of fitting. Such alterations suggest that the rock was initially carved without direct comparison to the bronze lionskin and, likewise, that the bronze was created prior to the finishing of the stone otherwise one might have more easily accommodated the other.

Given the extent of metallurgical work undertaken to both rehabilitate the ancient bronze figure and create almost the entire lionskin, it is curious that the connection between these two major



Fig. 21. a–b – Fragments of newspaper dated September 1970 found between *Satyr*, lionskin, and marble base during and after conservation (photos: J. Paul Getty Museum su concessione del Ministero dei Beni e delle Attività Culturali e del Turismo, Museo Archeologico Nazionale di Napoli).

sections was not accomplished using metallurgical techniques. Rather the *Satyr* was adhered to the lionskin with an organic mastic (Fig. 20). To be fair, the points of contact between the figure and the lionskin are very fine and conformal, indicating the skin to have been modelled directly to the *Satyr* in wax. Consequently, the figure is well encapsulated within the confines of the lionskin, nestling slightly below the surface. Given the fitted nature of the lionskin there may have been no easy way of undertaking a discrete hot pour to secure the *Satyr* in place. Equally, because the lionskin was almost entirely a modern construct, it could be that this was a way of allowing for future alteration or change without recourse to retouching the ancient bronze.

The mastic used to join the figure to the lionskin was made up of tree exudates, indicating that this was most likely *pece* or pitch, mixed with recycled corrosion products and various inert mineral pigments to achieve sufficient opacity and a sympathetic colour. It is not inconceivable that the added corrosion was reuse from the mechanical cleaning of the exterior of the *Satyr*. The combined colour was intended to match that of the repatinated bronze pieces.

Repatination served several purposes but was undertaken principally to endow a greater visual homogeneity to disparate fragments to achieve the impression of a complete ancient assemblage. Inherent to this idea was the intention to disguise the extent of restoration and new creation. The ancient portions display an initial cupric oxide layer with extensive intergranular corrosion, underlining its natural formation. Overlying this are copious amounts of nitrates, sulphates, and chlorides suggesting an intentional chemical formation with various acidic solutions. Newly created bronze portions have an initial oxidation layer that suggests the application of heat. Similar overlying corrosion products may be indicative of the use of liver of sulphur to create a base layer and onto which copper chlorides or a solution of copper nitrates and sodium chloride was used.

Nineteenth- and Twentieth-Century Interventions

There is very little evidence of further intervention or additional alteration apart from a crumpled-up section of the Neapolitan newspaper *Il Mattino* from mid-September 1970 recovered beneath the mastic under the right thigh (Fig. 21.a–b). Analysis of this area revealed portions of tree rosin interspersed with polyester resin. This indicates a stabilization or partial replacement of the mastic and suggests that the *Satyr* itself had shifted at some point in relation to the drapery. Archival records from Naples indicate the early 1970s to have been a time in which much of the sculptural collection was reorganized and redisplayed. The step and misalignment between figure and drapery at the front left thigh prior to the most recent conservation treatment may be explained in this way. Aside from this one obvious intervention the Satyr appears to have been little changed over the last two and half centuries.

Conclusions

The study, analysis and treatment of the bronze *Drunken Satyr* from the *Museo Archeologico Nazionale di Napoli* provided a unique opportunity to better understand a complex ancient bronze in and of itself and within the context of post-antique restoration practices. The satyr itself is ancient, created in six principal components, and little altered by restoration in detail or orientation. Portions of the *otre* and feline face of the lion skin were also found to be ancient, but their original compositional forms remain unknown as their great majority of what we see today are post-antique bronze work.

The extensive new sections of the lion and wineskins, along with the marble base, show the *Drunken Satyr* is a predominantly ancient figure around which an eighteenth-century composition was created. The techniques employed to rejoin and restore the ancient remains are a hybrid of metallurgical (casting) and mechanical (riveting) approaches and are the same used to create and join the majority of the *otre* and the elaborate lion skin that envelops the rock outcropping. The application

of these practices to ancient and *ex-novo* pieces alike indicates that the restoration was undertaken principally in the foundry and those responsible for the restoration in the eighteenth century were concerned with the creation of a plausible, whole composition as much as authenticity. As such the *Drunken Satyr* is best understood as a significant example of ancient artistic expression and technology contained within an eighteenth-century vision of antiquity.

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New find of Roman military equipment of the period of the Roman–Bosporan war of 45–49 AD from the Eastern Crimea

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Abstract: The Artezian fortified settlement in the Azov Sea coast of Eastern Crimea perished in a strong fire at the beginning of the Roman–Bosporan war in 46/47 AD. In the homogeneous fire layer, along with numerous items of jewellery, silver, bronze and glass vessels, a heavily burned out round bronze plaque, 7.7–7.8 cm in diameter with a hole in the centre was found. The plaque is decorated along the edge with a figural frieze, depicting two pairs of animals opposing each other: 'dog–bull', 'dog–wild boar'. Besides two animals are running after each other: a lion and a roe deer.

The decoration of the plaque from Artezian finds parallels among plaques from the military camps along the *limes* of Lower and Upper Rhine and Danube. Objects similar in shape depicting animals in circular friezes are also known in Dacia and in the South-Western Crimea. The parallels to the images of the plaque and options of interpreting the function of the piece are discussed. The combination of pairs of opposing animals and animals running after each other finds parallels only on the belt plaques from Asciburgium and Magdalensberg. Thus, there are reasons to consider the disc from Artezian as an element of Roman military equipment of the first half of the 1st century AD.

Keywords: Roman military equipment, bronze disks with running and opposing animals, Roman provinces, North Pontic area, Bosporan Kingdom, Artezian fortified site, Roman–Bosporan war of 44/45–49 AD

Introduction

The Artezian fortified settlement in the Azov Sea coast of Eastern Crimea perished in a strong fire at the beginning of the Roman–Bosporan war of 44/45–49 AD.[1] Due to the numismatic materials the burnt layer may be dated precisely to 46/47 AD.[2] In the homogeneous fire layer, which preserved in the pits of the room 4 at the section III (Fig. 1.1), along with numerous items of jewellery, silver,

1 The introduction is written by N.I. Vinokurov, who is conducting the excavations of the Artezian fortified site. The rest of the article is written by M. Treister.

2 Abramzon – Vinokurov 2015, 151–156, Figs 3–4; Abramzon – Vinokurov 2016, 712–743; Abramzon – Vinokurov 2017, 1–41.

bronze and glass vessels and their fragments, a heavily burned out round bronze plaque, 7.7–7.8 cm in diameter with a hole in the centre was found (Fig. 1.2–3).[3]

Description

A decorative plaque in the form of a disc with a central part shaped like an umbo with a through hole in the centre. Along the edge in high relief scenes with three groups of animals are embossed from the rear. This frieze is separated from the umbo-shaped part by a ridge. Dotted ornament runs along the edge. A strip with a frieze in the form of a 'running wave' passes between it and the figural frieze (Fig. 2).

- Group 1 is located next to the loss along the edge (a bull and a dog). On the right—a bull jumping to the left (the horns are clearly visible; the elaboration of the skin is guessed on the body) with a tail twisted in a ring (the loss under the belly of the bull); front legs with well-emphasized hooves are thrown forward. The animal depicted in profile to the right, standing in front of the bull is most probably a dog with the front legs are thrown forward at ground level, and the hind legs set back. This image suffered more than others (most of the head and neck are lost) (Fig. 2, Fig. 3.1).
- Group 2 is located on the left, i.e. clockwise: on the right—most likely a dog, i.e. the animal is very similar in posture and size to the left animal from the previous group. On the left there is represented a wild boar. Thus, the scene shows the dog attacking the boar (Fig. 2, Fig. 3.2).
- Group 3 shows two animals running after each other: in front is a lion jumping to the left, behind it is a roe deer (?), with its head turned back (Fig. 2, Fig. 3.3).

State of preservation slightly bent; part of the edge and part of the frieze with animals are lost; corrosion. Bronze; sheet hammering, embossing, piercing of the hole. Diameter 7.70–7.77 cm. Max. height 1.02 cm. Diameter of the hole 0.68 cm. Thickness at the edge 0.22 cm. Section III. Room 4. Burnt layer, pits 495, 497–498. 2013. Field inventory no. 1892. Kerch, East Crimean historical and cultural museum-reserve, acc. No. 185521; KM-8565. Collection inventory no. 105.

Parallels

The figural frieze of the plaque represents two pairs of animals opposing each other: 'dog–bull' (Fig. 3.1), 'dog–wild boar' (Fig. 3.2). Besides two animals are running after each other: a lion and a roe deer (Fig. 3.3). The decoration of the plaque from Artesian finds parallels among the objects from the sites of the Lower Germanic, Upper Germanic–Rhaetian Limes and Norican Limes, as well as from Britain.

A disk from Asciburgium with a diameter of 6.2 cm is attributed as a belt plaque. It has an umbo-shaped central part rendered as a rosette (without a hole). On the flat part of the disk there is a frieze depicting five animals, three of which run one after the other on one half of the disk: a wild boar, followed by a dog, followed by a hare. On the other half there are shown opposite each other a stag and a dog. The outer frieze is decorated with dotted wave pattern.[4]

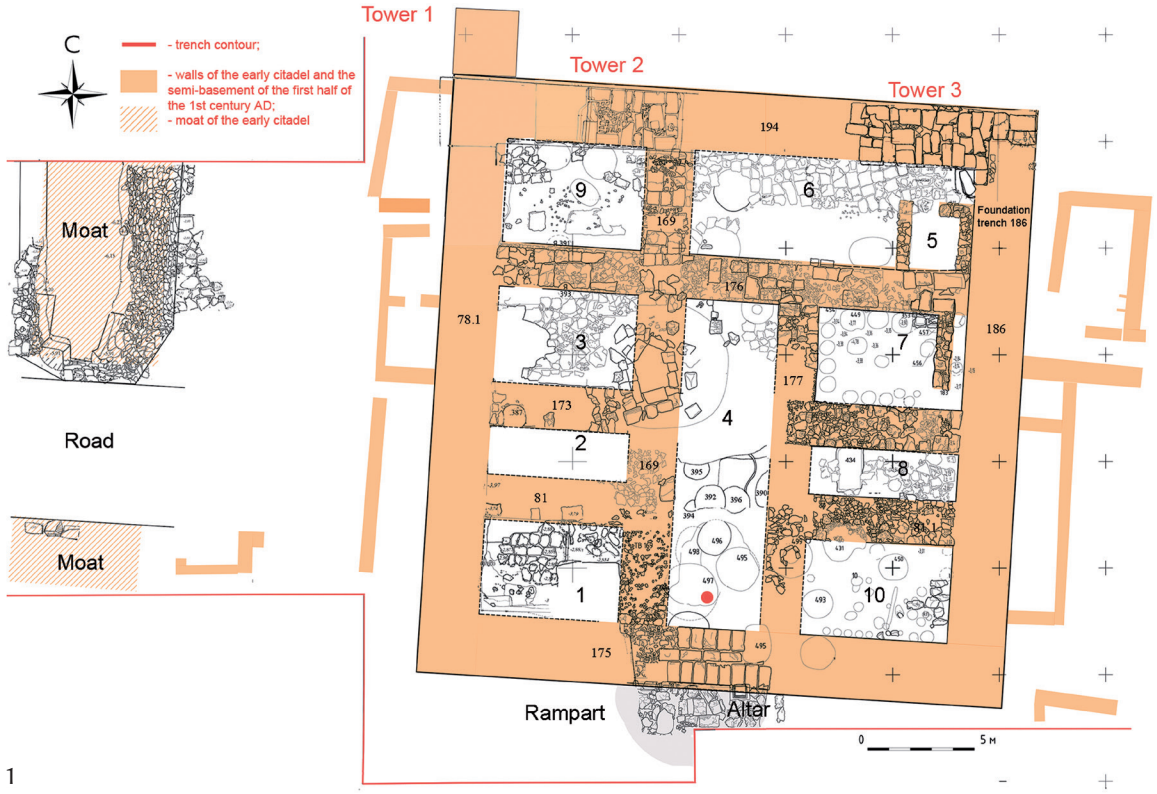
A slightly smaller disk (diameter 5.1 cm) with a similar composition of five animals (one pair opposing each other, and three—running one after the other) comes from Magdalensberg.[5] A similar composition is represented on a bronze rectangular belt plaque from Magdalenberg.[6] In both cases,

3 Vinokurov 2015, 271–294; on the find of the plaque with its short description, see: p. 286.

4 Hachmann 1990, 709–710, Abb. 33; Deschler-Erb 2012, 55–58, Abb. 22–23; 113, Nr. C16, Taf. 7.

5 Deimel 1987, 295–296, Taf. 77.14; Künzl 1996, 410, Abb. 13.6; 462, C18.

6 Deimel 1987, 295, Taf. 77.13; Künzl 1996, 410, Abb. 13.5; 461, C17.



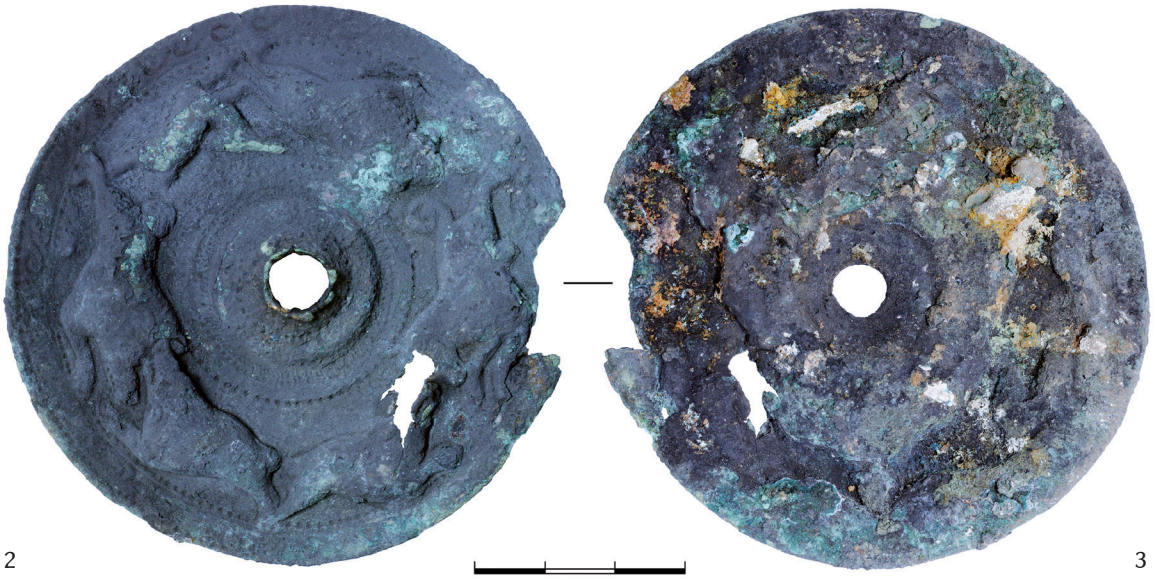


Fig. 1. Bronze plaque from the fire layer of the citadel of Artezian fortified site. 1 – plan of the citadel with the findspot of the plaque (red circle in pit 497), 2–3 – front and rear sides of the plaque before the restoration (2 – front side, 3 – rear side). (1 – plan by N. Vinokurov 2022, 2–3 – photographs by M. Treister, 2014).

there are no holes in the centre, and the central part of the plaque from Magdalensberg is designed in almost the same way as that of the plaque from Asciburgium.

On a fragmented plaque from Vindonissa (diameter ca. 6.0 cm) around the central umbo-shaped part, designed in the form of a rosette, there was also a composition with animals, from which one pair of opposing dogs and deer (?) remained.[7]

7 Deschler-Erb 1996, 19, Abb. 8.6; 21, Nr. 6; Künzl 1996, 463, C41; Taf. 43.5; Taf. 49.8; Bishop – Coulston 2006, 245, Fig. 149.2.

A bronze stamp used to decorate rectangular plaques with animal scenes has been found at Colchester, however, here is an image of six animals standing on their hind legs and placing their front legs on the back of the animal in front of him.[8]

On a fragmented plaque from Oberstimm in Bavaria, in view of the fact that only its central part has been preserved,[9] it is difficult to get an idea of the composition of a figural frieze. On a rectangular plaque from Chichester, the central part is decorated with a circular frieze depicting six animals running clockwise one after another, among which a wild boar and dogs are recognizable.[10]

On one of the sides (B) of the octagonal bronze matrix found in 2013 in Sarmizegetusa Regia, once a capital of Dacia, the lion head in the centre of the matrix rendered from a frontal perspective is enclosed by a circular frieze with four pairs of fighting animals, which are antipodal displayed withing the register: lion–bear, goat–griffin; leopard–bull; tiger–boar.[11]

Objects similar in shape with images of animals in circular friezes come also from the North Pontic region. The bronze disk with four animals (the central part is protruding, with a hole) comes from the excavations of the sanctuary at the Gurzuf Pass in the Crimea and was published by N. G. Novichenkova as a detail of a Roman military costume dating to the turn of the eras or to the first half of the 1st century AD.[12] It is difficult to say whether the hole was original or the result of a damage—only a drawing of the disk was published without a detailed description. On the drawing, one can more or less definitely attribute one pair of opposing animals as: a boar (on the right) and a dog.

A bronze matrix from crypt no. 520 of the Ust'-Alma necropolis in Western Crimea, 6.8 cm in diameter, is decorated with a similar relief composition of four animals (they are depicted running clockwise one after another: a dog (or wolf), an eagle-headed griffin and a dog (wolf); another eagle-headed griffin depicted to the left, thus forming at the same time, an opposing pair with a dog (wolf). This frieze is located around an umbo-shaped central part with a lion's head *en face* (thus, the composition of the matrix is very close to the composition of side B of the abovementioned matrix from Sarmizegetusa). The matrix from Ust'-Alma was used originally for embossing plaques,[13] before it was turned into an overlay by its last owner in the second half of the 1st or early 2nd centuries AD.[14]

Compositions of pairs of opposing animals in Greek and Roman art

The composition and poses of the animals on the abovementioned Colchester stamp are very reminiscent of the image on the upper frieze of a gold plaque in the form of a fish from the hoard of the

8 Niblett 1985, 122, no. 61; 167, Pl. 14; Deschler-Erb 1996, 27, Abb. 15; Künzl 1996, 410, Abb. 13.8; C48; Bishop – Coulston 2006, 245, Fig. 149.1.

9 Böhme-Schönberger 1978, Nr. B 144, Taf. 21; Künzl 1996, 410, Abb. 13.4; 462, C22.

10 Grew – Griffiths 1991, 54, 67, no. 66, Fig. 10; Künzl 1996, 460, C8; Magee 2010, 64, Fig. 30.

11 Florea 2015, 62–63, 74, Fig. 31; 76–77, Figs 33–34; 79, Fig. 36; 152–153.

12 Novichenkova 1998, 63, Fig. 13.4 (diameter 6.4 cm, after the drawing with scale); Novichenkova 2002, 67, Fig. 30.4; 70; Novichenkova 2015, 60, Fig. 99.4; 120, Fig. 219.4; Mordvintseva – Zaytsev 2002, 180–181, Fig. 6.4; Zaytsev – Mordvintseva 2004, 264; Novichenkova 2017, 87, Fig. 46.9.

13 Mordvintseva – Zaytsev 2002, 174–181, Figs 2–3; Zaytsev – Mordvinceva 2004, 260–270, Figs 2–3; Puzdrovszkij 2007, colour plate 9.1; LVR – Landesmuseum Bonn 2013, 302, Nr. 7.1.

14 Mordvintseva – Zaytsev 2002, 174; Zaytsev – Mordvintseva 2004, 262–263. It is worth noting that at the same time, another bronze positive matrix fell into another crypt of the Ust-Alma necropolis—with the image of Jupiter sitting in the aedicula (Puzdrovskiy – Trufanov 2010, 204, Fig. 7.1–2; 204–205, Nr. 12), of the type that became widespread in Thrace and also after a find from Chersonesus Taurica (Treister 2001b, 355–361, Fig. 120).

6th–early 5th centuries BC. in Vettersfelde.[15] The early prototypes of the compositions under consideration are also evidenced by the fact that on another plaque (phalera) composed of four disks from Vettersfelde, there are images of paired animals in circular friezes, and on three of the four disks these are pairs of opposing animals, whereas on one—running after each other.[16]

Pairs of opposing animals in circular friezes were also shown on the items of the North Pontic and Thracian toreutics of the Hellenistic period, in particular on the silver-gilt phalerae from Starobelsk (lion–boar, panther–bull) and Tvarditsa (lion–panther, winged panther–deer).[17] The fact that the motif of pairs of opposing animals was popular in the North Pontic region also in the 1st century AD is evidenced by additional images on silver *phialai* from a Sarmatian burial in Novoaleksandrovka in the Lower Don area.[18]

Scenes depicting animal fights were common in Roman art. On Early Imperial belt plaques with the image of a Capitoline she-wolf, a pair of a boar and a bear opposing each other were depicted in the upper part.[19] On a decorative plaque of a gladius scabbard from Velsen in Holland, a scene of an attack by two dogs on a wild boar is shown.[20]

On one of the goblets from the Hildesheim Treasure, which are attributed as products of the Gallic workshop of the first decades of the 1st century AD, a frieze depicting three pairs of animals is presented: two pairs are shown in a fight with each other: a lion and a bull, a dog and a boar, while the third pair (a boar and a dog stand opposite each other) are representing preparing for a fight.[21]

A similar rendering of a running roe deer with its head turned back is presented by a frieze with animals running one after another on a Late Antique glass vessel from the collection of the Corning Museum of Glass.[22] A jumping lion[23] and a dog, attacking and tormenting a wild boar,[24] were depicted on the shields of the lamps of the first half of the 1st century AD. A frieze depicting running animals is shown on a glass goblet from Sopron, dated to the second half of the 1st century AD. One of the scenes of the frieze represent a dog and a boar standing opposite each other.[25] Goblets made in the same mould come from Switzerland, in particular from Augst and Vindonissa.[26]

15 Furtwängler 1883, 5–8, Nr. 1, Taf. 1.1; Greifenhagen 1970, 61–62, Taf. 39–40, Abb. 35; Platz-Horster 2001, 43–44, Nr. 25; Nawroth 2007, 322–323, Abb. 2; Nebelsick 2014, 25, Nr. 1, Fig. 2.7,2; 42–46, Fig. 2.17,1 bottom; Nebelsick 2015, 123, no. 1; 124, Fig. 1.1; Topal 2020, 470, Fig. 1.11; Topal 2022, 174, Fig. 1.11.

16 Furtwängler 1883, 8, Nr. 2, Taf. 2.1; Greifenhagen 1970, 62, Taf. 41; Mordvintseva – Zaytsev 2002, 178, Fig. 4; 180; Nawroth 2007, 322–323, Abb. 3; Nebelsick 2014, 25, no. 1, Fig. 2.7,1; 44, Fig. 2.17,1, top; 53, Fig. 2.23; Nebelsick 2015, 123, no. 2; 124, Fig. 1.2; Topal 2020, 470, Fig. 1.10; 472, Fig. 2; 474–475; Topal 2022, 174, Fig. 1.10; 180, Fig. 6; 181–183.

17 Mordvinceva 2001, 80–81, Nr. 79, Taf. 43; Mordvintseva – Zaytsev 2002, 180–181, Fig. 6.2.

18 Iwataya 1991, 118, nos 144–145; Schiltz 2001, 192–193, nos 211–212; Mordvintseva – Treister 2007, vol. 2, 50, no. 151.1–2, Pl. 32, Fig. 15; Treister 2007, 36; Mordvintseva – Zaytsev 2002, 180–181, Fig. 6.3; Zasetskaya 2008, 132, Nr. 46; Seipel 2009, 254, Nr. 107; Bespalyy – Luk'yashko 2018, 36, Fig. 19.8; photo 2; Treister 2021, 86, 88, 92, Fig. 12; 96–98, Figs 15–17.

19 Künzl 1996, 410, Abb. 13.1–2.

20 Künzl 1996, 418, Abb. 17.3; 459, M46.

21 Pernice – Winter 1901, 66–69, Taf. 38–40; Willers 1901, 173–175. Abb. 63; Taf. 10.3; Drexel 1909, 225–227; Küthmann 1958, 134–135, Taf. 14; Boetzkes – Stein 1997, 80–81, Nr. 66; Stefanelli 1991, 184, Fig. 178; 273, no. 99, Figs 279–280; Baratte – Painter 1989, 74–75, no. 15.

22 Harden 1988, 207, Nr. 115; Whitehaus 2001, 268–270, no. 457; 376 (ill.).

23 Leibundgut 1977, 237, Nr. 230; Deschler-Erb – Wyprächtiger 2010, 50, Nr. 17, 74, Taf. 2.

24 Leibundgut 1977, 213, Nr. 83; Deschler-Erb – Wyprächtiger 2010, 50, Nr. 18, 74, Taf. 2.

25 Harden 1988, 167, Nr. 88; Whitehaus 2001, 62–64, no. 534; 325 (ill.).

26 Whitehaus 2001, 64, with bibliography.

In the 2nd–3rd centuries AD friezes depicting pairs of opposing animals or several animals running one after another adorn Gallo–Roman silver utensils and Hemoor-type bronze buckets.[27] Perhaps even more popular are the scenes of persecution and animal fights in the art of the 3rd–4th centuries AD, in particular on mosaics,[28] and glass vessels.[29] A leopard chasing a deer is engraved on the lid of a bronze basin with a spout from Trier.[30] A circular frieze with animals running one after another is shown on one of the Germanic phalerae found in the Thorsberg peat bog in Jutland, made by a local artisan familiar with Roman techniques.[31]

If we consider the chronologically close items of toreutics with the images of animals mentioned above, then the 'dog–bull' pair on the disk from Artesian does not find parallels, while the 'dog–boar' pair is represented on the frieze of the goblet from Hildesheim. The combination of pairs of opposing animals and animals running after each other in the composition of the frieze finds parallels only on plaques from Asciburgium and Magdalensberg.



Fig. 2. Bronze plaque from the fire layer of the citadel of Artezian fortified site. Front side and view from the side. Kerch, East-Crimean Historical and Cultural Museum-Reserve, acc. no. 185521, inv.-no. KM-8565. Collection inv.-no. 105. (1 – photograph, Museum; after the restoration, 2 – photograph by M. Treister, 2014).

The function of the plaque

The absence of any holes along the edge testifies against the interpretation of the disk from the excavations of the Artezian site (Fig. 2) as a belt plaque. This fact, as well as the absence of loops on the back (Fig. 1.3), does not allow us to consider it as a phalera of armour or horse harness. Another argument against the last variant of interpretation is that of the motif, which is considered by E. Deshler-Erb when attributing the find from Asciburgium.[32] Phalerae of Roman military armour, known both after the real archaeological finds and after the images on reliefs and tomb steles, as a rule, were decorated with portrait busts, gorgoneia, heads of deities and mythological persons, but not with scenes of animal fights.[33]

27 Willers 1901, 144–175, Taf. 5–9, 10.1–2; Drexel 1909, 218–228.

28 See, for instance, the mosaic from Westerhofen: Wamser 2000, 273, Abb. 232; 431, Nr. 238.

29 From Thessaloniki: Adam-Veleni 2010, 285–286, no. 238. From the collection of the Corning Museum of Glass: see above note 22.

30 Bienert 2007, 119–120, Nr. 127.

31 von Carnap-Bornheim 1997, 72, Abb. 2A; 74, Abb. 3; Wamser 2000, 376–377, Nr. 135a.1–2; 378 (Abb.); Matešić 2008, 101; Przbyła 2010, 99–100, Anm. 6 with bibliography.

32 Deschler-Erb 2012, 58.

33 Büttner 1957, 132–133, 145–152; Maxfield 1981, 91–92, Pl. 2.a–b; Garbsch 1983, 108–109; Jenkins 1985, 141–164; Bishop 1988, 94–95, 124–126, 135–141, Figs 34, 39–42; Wamser 2000, 324–326, Nr. 31.a–f; Treister 2001b, 339; Bishop – Coulston 2006, 96, Fig. 52.3; 121–122; Matešić 2008, 101; Künzl 2008, 26–30; 61–64.

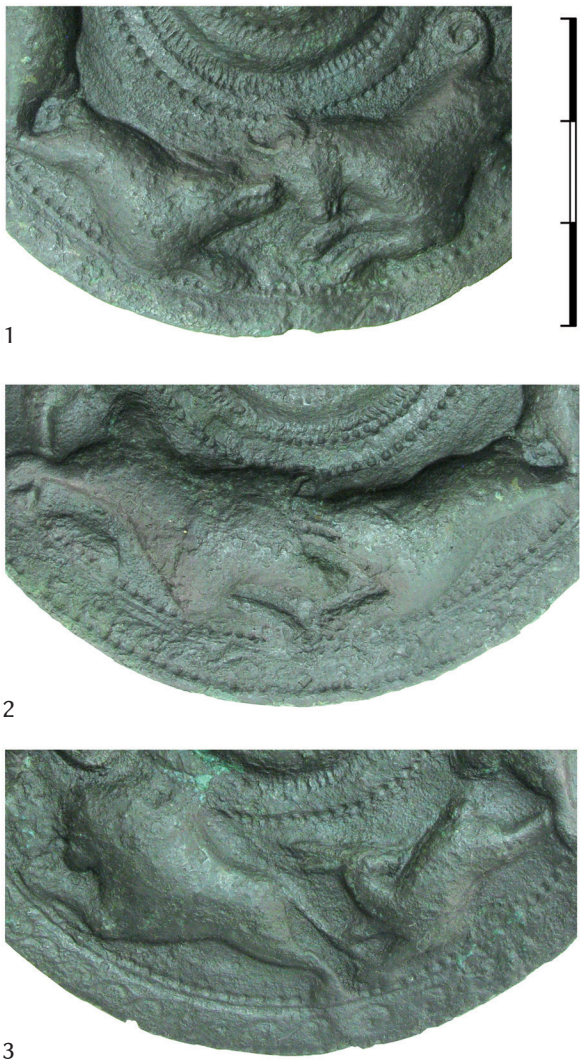


Fig. 3. Bronze plaque from the fire layer of the citadel of Artezian fortified site. Details of circular frieze. Kerch, East-Crimean Historical and Cultural Museum-Reserve, acc. no. 185521, inv.-no. KM-8565. Collection inv.-no. 105. Photograph, Museum.

The absence of any fastening elements on the disk and the presence in its centre of a round hole with a diameter of almost 0.7 cm suggests that the disk could rather be attached to the base with a pin passing through the hole. Thus, it could serve as a decorative plaque decorating the cross-guard of the gladius, similar to the bronze round plaque originating from the Comacchio shipwreck in Northern Italy, which is attributed as the decoration of the Mainz type *gladius*. The plaque from Comacchio is only slightly smaller than the find from the excavations of the Artesian site (its diameter is 7.2 cm, in the centre there is not a round, but a rectangular hole, around which two pairs of animals opposing each other are depicted in a low relief: a lion and a bear.[34]

This is, in my opinion, a theoretically possible explanation for the design of the central part of the plaque from Artezian and the hole in it, although the cross-guards of swords, as shown, for example, by the finds from the excavations of the sanctuary on the Gurzuf Pass,[35] or Tenginskaya in the Kuban region,[36] are more often oval in shape, and the cut-outs in their central parts are rectangular, like the abovementioned plaque from Comacchio shows. Alternatively, the plaque from Artezian could be used, for example, to decorate a shield. One way or another, it is difficult for me to offer an unambiguous interpretation of the functional purpose of the plaque.

Conclusion

Thus, in my opinion, there is every reason to consider the disk from Artesian as an element of Roman military equipment of the first half of the 1st century AD, regardless of its functional purpose, which is not completely clear. The find under discussion complements the series of items of Roman military equipment found during the excavations of the citadel of the Artezian fortified settlement,[37] among which there is also a *gladius* of the Mainz type,[38] and in general such finds from

34 Berti 1990, 258, no. 227; 260 (ill.); Künzl 1996, 418, Abb. 17.1; 459, M45; Feugère 2002, 208, Fig. 276; Miks 2007, 157, 161, 561, Nr. 115, Taf. 157, Stichblatt; Vortafel E, 22.

35 Novichenkova 1998, 52, Fig. 1.7; Novichenkova 2015, 69, Fig. 117, 7; 74, Fig. 133; Novichenkova 2017, 53–54, Fig. 11.1–4.

36 Beglova – Erlich 1998, 173–176; Beglova – Erlich 2018, 150–151, Fig. 180.11.

37 Abramzon et al. 2014, 11, Fig. 1.3–4; Vinokurov – Traister 2018, 45–50.

38 Abramzon et al. 2012, 97–98, Fig. 4.

various sites of the North Pontic region: Tyras,[39] Olbia,[40] Chersonesus,[41] South-Western Crimea,[42] sanctuaries of the mountain Crimea,[43] Bosporan Kingdom,[44] and the Kuban area.[45]

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39 Chernenko et al. 1989, 250–252; Son – Nazarov 1993, 120–121, Figs 1–2; Treister 2001a, 110.

40 Vinogradov – Nazarov 1994, 101–109; Son – Nazarov 1993, 121–122, Figs 3–4.

41 Zubar – Antonova 2001, 122–125; Treister 2001a, 111–116, Fig. 1.1,3–10; Zhuravlev 2003, 87–116; Kostromichev 2006, 43–128; Kostromichev 2008, 39–60; Kostromichev 2011, 15–164; Doroshko et al. 2020, 95–100.

42 Masyakin 2010, 261–286; Zhuravlev – Kamelina 2012, 63–69; Kostromichev – Masyakin 2013, 184–207.

43 Novichenkova 1998, 51–67; Lysenko 2013, 279; Novichenkova 2013, 268, Nr. IV.6–8; 270, Nr. IV.16–17; Novichenkova 2013, 29–30; Novichenkova 2015, 68–77; Novichenkova – Kontny 2015, 303–324; Novichenkova 2016, 219–222; Novichenkova 2020a 160–165; Novichenkova 2020b, 115–121.

44 Treister 1993, 56–57; Treister 1994, 91, Pl. 1. top; Treister 1995, 162–165, Fig. 1.3–4.

45 Beglova – Erlich 1998, 173–176; Beglova – Erlich 2018, 150–151, Fig. 180.11; Treister 2001a, 111–112, Fig. 1.2.

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Bronze figurines of Mercury-Thoth from Albania

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Abstract: Along with other aspects of society, Illyrian religion was influenced by the Roman world during the first centuries AD. As a result, Mercury became the Roman god most represented in bronze figurines found within the modern territory of Albania. This paper will consider two bronze figurines of Mercury-Thoth which represents a god with both eastern and western attributes. The figurines are of a good quality and analogies can be found with numerous others throughout the Roman Empire.

Their presence in Albania can be explained not only by the eastern influence of the empire, but also with the transfer of people and ideas. Both figurines were found near main roads passing through Illyria during the Roman period, the Via Lissus-Naissus and Via Egnatia, which testify for the development of commerce, movement of people, ideas and systems.

The figurines also provide an insight into Illyrian religious life during the Roman period and illustrate their adoption of *interpretatio romana* and eastern gods.

Keywords: bronze figurine, Mercury, Thoth, Albania

The present territory of Albania was an integral part of the Roman Empire, therefore, religion, as with other aspects of the economy and social life, was greatly influenced by this Roman world. Beliefs and religion compose an important aspect for the integration of the Illyrians towards the Roman Empire.[1] The most important sources that testify this process are inscriptions, archaeological vestiges of temples, coins, statues, figurines in different materials, etc. These archaeological sources detail the use of many cults from the Roman world in Illyria. One such cult was that of Mercury, which was one of the most prevalent in the territory of ancient Albania and, during the Roman period, was the most depicted god in bronze figurines. In addition to the classic representations of this god, there are two additional bronze figurines that represent a symbiosis of the gods Mercury and Thoth. The first figurine comes from Kukësi and is kept at the archaeological museum of Tirana which holds the richest archaeological collection in the country.[2] The second figurine is located at the historical museum in the town of Pogradec,[3] which contains a fine collection of archaeological objects in addition to ethnographic and historical collections.

Both figurines are chance finds and hold no accompanying information regarding the exact discovery location, context, or any associated material. Only the general location is known, the first being

1 Shpuza 2010: for an analysis of the religion during the roman period in Illyria; Veseli 2017, 169.

2 Përzhita 2002.

3 Veseli 2015.

found in Brut of Kukës and the second in Potkozhan of Pogradec (Fig. 1). Brut is a village located near Kukës (northeastern Albania), in the vicinity of the Via Lissus-Naissus, one of the most important routes for the Illyrians during the Roman period.[4] Potkozhani is a village located in the district of Pogradec (southeast Albania) near the ancient city of Selca e Poshtme[5] and Via Egnatia.[6] This village is positioned where roads connect the area of Pogradec with Macedonia and where once, ancient routeways linked the province of Desaratia with that of Lynkestes.

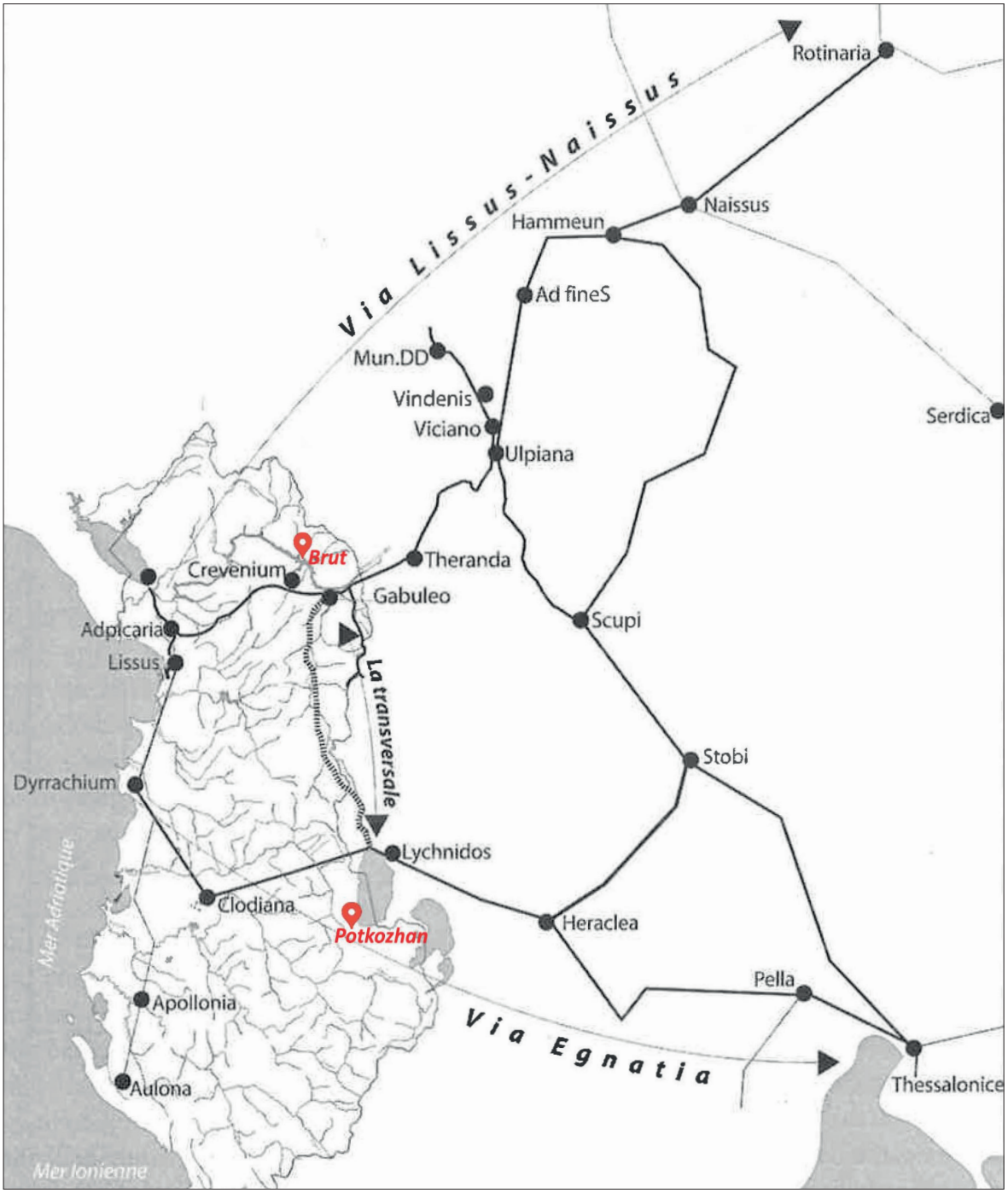


Fig. 1. Albania's Map, Via Egnatia, Via Lissus-Naissus and location of finds (after Përzhita 2018).

4 For the importance of this road see Përzhita 2007 and Përzhita 2018.

5 Ancient city, mostly known for its monumental tombs, see for e.g., Ceka 1985.

6 For the importance of Via Egnatia see: Fasolo 2003.

Both figurines are of special interest as they represent the influence of eastern cults in the territory of Illyria during the Roman period. More precisely the god Mercury-Thoth which comprised eastern and western attributes a symbiosis which happened not infrequently for gods other than Mercury during this period.

The Figurines

The Kukës Figurine

This figurine measures 5.6 cm in height and is presented standing (Fig. 2). The god is represented naked, standing in a frontal position. He leans on the right leg, while the left is bent, creating a contrapposto body pose. The right arm is not fully preserved, meaning it is possible that this hand originally held a purse. The left arm descends to the height of the thigh and his hand holds a large caduceus which is posed on the left shoulder.

The body musculature is well depicted. The thorax is modelled clearly with the navel drawn by an engraved point. The pectorals are emphasized and a firm abdomens in an accentuated inguinal crease. The legs are long and muscular. The chlamys is stapled to the right shoulder, crosses the chest and back at an angle that covers the left and partly the wright shoulder and wraps around the left arm at the elbow.



Fig. 2. Kukës Mercury (Photo: S. Veseli).

The head is turned to the right and wears curly hair. This mass of hair is pulled to the top of the skull where it forms curly locks that fall behind the head to the nape of the neck in a bun. The god had a feather/lotus on his head which is not preserved but identifies the figurine as of the Mercury-Thoth series. The triangular face with a pointed chin is characterized by oval eyes with drooping outer edges capped with thick eyelids. The nose is not accentuated, and the mouth is small and fleshy. The ears are realistically rendered.

This figurine belongs to the type of Mercury-Thoth with the *chlamys in saltire* on the torso. The musculature of the torso and legs also testify to a new vigor, and an unusual care for detail on figurines of small dimensions.

The figurine is produced by full casting and the bronze has a greenish colour. Both casting and cold working appears to be of a good quality and is better than the Pogradec Mercury. The general state of preservation is good despite missing half of the left arm, the right leg and the lotus leaf not being preserved.

The Pogradec Figurine

This figurine measures 10 cm high and is presented standing (Fig. 3). The weight of the body rests on the right leg, while the left leg, slightly bent at the knee, is shifted forward and rests only on the toes, thus creating a contrapposto body pose. The right arm is extended along the length of the body and holds a bag in its hand. The left part forms an indistinct mass with the caduceus worked in a very schematic manner and the chlamys placed on the right shoulder.

The body is presented naked, except for the chlamys thrown on the left shoulder, with boyish muscular features; long, shapely legs are shown with elevated and distinct muscles. The rear of the figurine has been worked with the same care, presenting in detail the back and leg muscles.

The face is oval-shaped, but features are not clearly visible, only sunken eyes, a depressed nose and a small mouth can be distinguished. The hair is shown short and wavy with a raised lotus leaf located in the central area above his forehead, an element that classifies the figurine as Mercury-Thoth.

The figurine is wearing sandals which are equipped with two small wings, and it rests on a 2 cm high cylindrical base.

The figurine was produced by full-casting and the bronze has a greenish colour enclosed in browns. The casting presents many errors, particularly in the right arm area, which forms a vague mass with the chlamys and the caduceus. The cold work appears very neglected as can be seen from the very poor representation of the facial features. This is also visible on the thighs which remain joined from the casting process. Likewise, the cold process seems neglected in the endromids.

The general state of preservation is good, although signs of corrosion are present on the back of the figurine, on the chest, and across the facial features.

Hermes/Merkury-Thoth

The figurines that represent the god Hermes/Mercury are defined by the presence of attributes that include the caduceus,[7] a typical money bag, and the winged endromids. Figurines with an absence of the winged petase and the presence of a feather or a lotus leaf on the head classify the god as being within the Mercury-Thoth typology.

7 The caduceus did not only signify Mercury as a messenger, but it was also a symbol of commercial transactions. Siebert 1990, 373–374; Fishwick 1991, 88: in the Roman period it would also be a symbol of peace and prosperity.

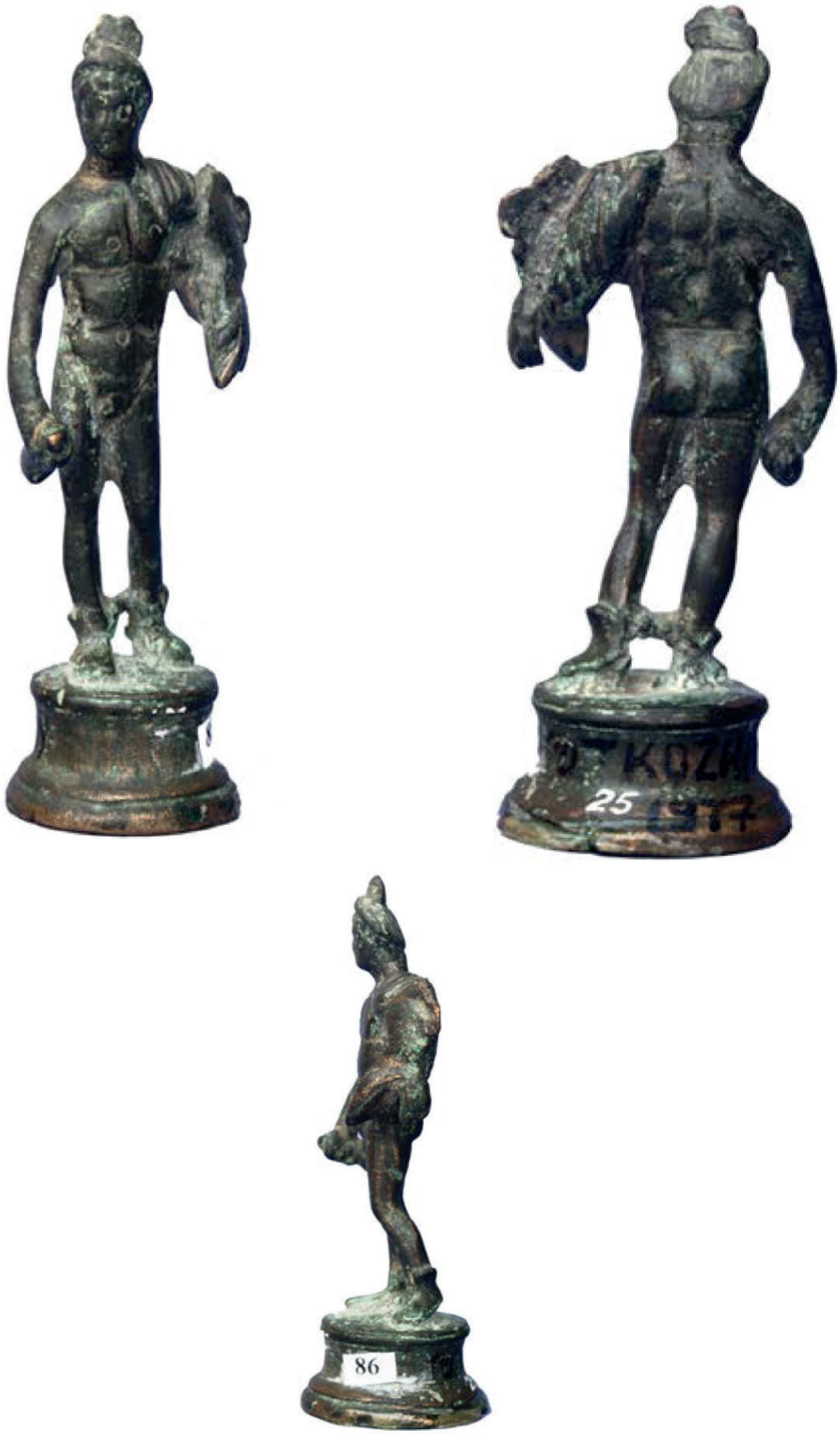


Fig. 3. Pogradec Mercury (Photo: S. Veseli).

Hermes was one of the most familiar gods of the popular strata starting from the Classical period. This was evidenced by Pausanias who described the presence of many Hermes Agoraios representations located in the agora of Greek cities. It is thought that some of these stone or marble Hermes statues served as a model for products made in small plastic bronze such as the Hermes Agoraios seen in Athens, Sikon or Thebes.[8] During this time, the god Hermes had a growing level of popularity which was also seen in the territory of Illyria.[9]

The god Hermes became known as Mercury during the Roman period. According to Caesar's definition, Mercury was the patron god of travellers and merchants as his name is related to the Latin word *merx* meaning merchant and inventor of arts.[10] But Mercury/Hermes is also a *psychopomp* god charged with accompanying souls to the afterlife and was replaced by the Archangel Michael after the introduction of Christianity.[11] However, the identification of the Greek god Hermes with the Roman Mercury remains an open debate among archaeologists, as to whether they carry the same attributes and qualities in both periods.[12] Mercury was one of the most venerated gods in the Roman Empire and was viewed likewise in Albania.[13]

The iconography of the figurines from Kukës and Pogradec belong to one of the most studied types of Hermes/Mercury, which, thanks to the lotus leaf on its head, are identified with Mercury-Thoth.

This iconography was popular from the Hellenistic period. Hermes-Thoth or Hermes *Trismegitus* was the founder of Hermetic philosophy and the reincarnation of universal thought. He represents a mixture of the attributes of the Greek god Hermes and the Egyptian god Thoth. These qualities become increasingly mixed during the Roman period, due to the similar functions of the two gods, who were both messengers of the gods, inventors of the alphabet, study, and astronomy.

In the III century BC an image of Hermes-Thoth appears, perhaps for the first time, bearing all the attributes of Hermes with a lotus leaf on his forehead.[14] As seen on the two figurines from Albania, the main feature that identifies Hermes/Mercury-Thoth is a feather or a lotus leaf placed above the forehead. This forehead element was first taken into consideration by A. Furtwangler, who identified it as part of the feather belonging to Thoth, an attribute which is taken by Hermes in Greco-Roman Egypt, as an assimilation with the Egyptian god Thoth.[15] In this way, he also took on some of Thoth's attributes and became the god of knowledge and science.

In contrast to this, P. Perdrizet recognized the element above the head as a representation of the lotus leaf, which gave Hermes/Mercury power as a god of vegetation and a stimulator of growth within agricultural production.[16] This argument is further strengthened in cases where the figurine of Hermes/Mercury is presented with a lamb standing at the deity's feet, a feature that gave him the attribute of a patron god of livestock.[17]

8 Pausania 1, 15, 1; 2, 9, 8; 3, 11, 11; 7, 22, 2; 9, 17, 2.

9 See for e.g., Gjongecaj 2011; Cabanes – Drini 1995, Fig. 2.

10 Brunaux 1996, 16–18; Combet Farnoux 1980, 464–466.

11 Siebert 1990, 384–385: when Hermes is represented with the petase, the caducei and winged sandal he symbolizes Hermes pshycopompe.

12 Not mentioning every possible theory, just the two more important: the first theory accepts the fact that Mercury as part of the intepretatio romana is identified with Hermes; while representatives of the second theory accept the fact that the Roman god Mercury, which only takes the iconography of Hermes, is an indigenous Roman god: Legrand 1904, 1802–1803; Bonfante 1986, 265.

13 Veseli 2014, 259: with extended bibliography.

14 Cutler 1990, 3–5.

15 Furtwangler 1906, 199.

16 Perdrizet 1911, 29.

17 Franzoni 1973, 51–52, no. 32.

During the Roman period, the iconographic type of Mercury-Thoth was very well-known, particularly in the form of small bronze figurines that were found throughout the territory of the empire and present numerous similarities with the figurines discovered in Albania.

The iconographic type

The iconographic type finds its inspiration in the bronzes of the Hellenistic period and more specifically of the Alexandrian environment.[18] This typology became very popular during the Roman period and became generalized, simplified, and lost many details in comparison to Hellenistic counterparts.[19] The figurines are defined by the *Polyclethian* rhythm which requires a balanced form between static position and certain dynamism.[20]

These figurines are distinguished by the dynamic pose and the pathetic appearance of the face as well as a reduced finesse in their realization. These details define a provincial style that differs from the Hellenistic canons thus making it possible to distinguish those that date to the Roman period.

This Mercury typology is thought to be a product of central Italy or the regions of Gaul from around the first centuries AD.[21] Thus, the type created in Egypt, distributed across the Mediterranean, and generalized in Italy and the provinces,[22] would have their greatest distribution in the early imperial period, as noted by their presence in the *Lararia* of Campania.[23]

Analogies of the Albanian figurines can be found throughout the Greco-Roman world[24] and find a very wide distribution, particularly during the Roman period and are seen across the territories of the Balkans.[25] As a peculiarity, the Pogradec figurine has the chlamys posed on the right shoulder like other figurines,[26] whereas most representations of this type of Mercury-Thoth have the chlamys passed on the right shoulder around the neck and hanging on the left shoulder, as seen on the Kukës Mercury.[27] Both figurines have similarities on the contrapposto of the body pose, the position of hands and legs, and the good quality of production, although the Kukës figurine is characterized by a better manufacture. In both cases it is worth mentioning that we are dealing with a careful working of the body anatomy (especially the Kukes figurine), whereas the facial elements are presented in a superficial manner with almost schematic features. Both specimens are dated around 1–2 centuries AD and find numerous analogies with other bronzes of this period.

18 Chamoux 1959, 34–36.

19 Boucher 1979, 96, Tab. 43.4–5; Kaufmann Heinimann 1994, 15–16.

20 Franzoni 1973, 36.

21 Chassaing 1959, 234, Tab. 15.2: according to an unconfirmed hypothesis, this iconographic type had a great success in the Gallic world, thanks to assimilation with Merkur-Silvan.

22 Kaufmann Heinimann 1994, 15–16; Gschwantler 1994, Fig. 1.

23 Adamo Muscetola 1984, 25–26, Figs 23–24.

24 Babelon – Blanchet 1895, 157, no. 357–358, 158, no. 359; Perdrizet 1911, 27–31; Espérandieu – Rolland 1959, 31, Tab. 11.28; Boube-Picot 1969, 200–201, no. 216, Tab. 144.1: very good quality, with extended bibliography; Comstock – Vermeule 1971, 105, no. 111; Franzoni 1973, 51–53, no. 31–32; Di Stefano 1975, 17–18, nos 25–28: with extended bibliography regarding the alexandrin origin, no. 27; Oggiano-Bitar 1984, 98, no. 195; Bolla 1997, 43, no. 9.

25 Veličković 1972, 125–128, no. 23–25; Ognenova-Marinova 1975, 110–114, no, 119–121; Tadin 1975, 79, no. 57; Cociş 1994, 129–130, Fig. 3, with long chlamys; Georgiev 1994, 168.

26 Between others see: Franzoni 1973, no. 33; Di Stefano 1975, no. 29; Ognenova-Marinova 1975, no. 121; Tadin 1975, no. 55b.

27 Between others see: Babelon – Blanchet 1895, 157, no. 357–358 and 158, no. 359; Perdrizet 1911, 27–31; Espérandieu – Rolland 1959, 31, Tab. 11.28; Comstock – Vermeule 1971, 105, no. 111; Franzoni 1973, 51, no. 32 ; Di Stefano 1975, 17–18, Tab. 7.25; Tadin 1979, 80, no. 59, Pl. 28.57; Oggiano-Bitar 1984, 98, no. 195; Bartus 2015, 55–56, no. 28: with extended bibliography.

Closing remarks

Within the territory of ancient Albania, religion composed an important aspect for the integration of Illyrians into the Roman Empire. Many new cults were introduced and adopted by Roman influence which used old and new deities with new depictions and iconography. The most venerated gods were Jupiter, Victoria, Diana, Artemis, and Mercury.

One of the most worshiped god in Illyria was Mercury who represents the best-known deity produced in bronze material, which reflects a common practice seen in other parts of the Roman world.[28] The great number of Mercury bronze figurines found within the context of the Roman Empire has led researchers S. Boucher and E. Poulsen to consider there had been an industrial-level production of bronze figurines.[29] Although, representations of Mercury within the Albanian framework are seen beyond cast bronze figurines with the god also depicted on coins, inscriptions, reliefs, and sculptures.[30]

Mercury was also represented as a hybrid god with western and eastern attributes, known as Mercury-Thoth. At present, only two figurines of this type are known in Albania, although there is evidence for the worship of other gods with eastern origins.[31] These include Isis-Tyche and Hermanubis, both gods with eastern and western attributes like Mercury-Thoth, from the coinage of Apollonia of II century AD,[32] Isis in Durrës, Apollonia and Phoinike,[33] Men in Lezha and Kavaja,[34] Jupiter Sabazios in Bylis,[35] Mithras in Durrës and Apollonia,[36] Sabazios in Elbasan and Shkodra,[37] Cybele in Apollonia[38] etc. The presence of eastern cults links to the influence of the eastern Roman Empire but also to the presence of Orientals in Dyrrachium and Apollonia. These were probably traders installed within the main ports of Illyria meaning the presence of eastern cults can also be linked to the mobility of people and ideas.

The two bronze figurines of Mercury-Thoth under discussion have numerous parallels within the Balkans, particularly in Macedonia, but also more widely across the Roman Empire. The first Mercury figurine from Kukës was found in the village of Brut which is located close to the Via Lissus–Naissus, one of the most important roads that passed through northern Albania during the Roman period. Both the geographical position of this find and the good quality of the figurine indicate that this item was likely imported.

The second figurine from the village of Potkozhan near Pogradec shows that the location was positioned on trade roads that connected Desaretia along the Via Egnatia with Macedonian territories and beyond into the eastern Roman provinces. Also in the vicinity of this area another Mercury figurine was found and in the region a lot of metallic vases and other objects are numerous. These finds testify to a rich tradition of metalworking in this area of Albania, but also to a place where trade with the Mediterranean world and the Balkans was highly developed.

28 Veseli 2014, 259.

29 Boucher 1976, 278; Poulsen 2002, 334–335.

30 Veseli 2014, 259: with extended bibliography.

31 Shpuza 2010, 37–40.

32 Gjongecaj – Picard 2004, 135–148.

33 Shpuza 2010, 40, Fig. 9; Shehi 2015. A sculpture of Isis was found recently from the recent excavations at Phoinike.

34 Anamali et al. 2009, 21, 146; Ehmig – Haensch 2012, 155; CIL III, 603; Shehi 2015, 315.

35 CIL III, no. 194; Shpuza 2010, 37.

36 CIL, III, 604; Anamali et al. 2009; Ehmig – Haensch 2012; Shpuza 2010, 38.

37 Eggebrecht 1998, no. 318; Veseli 2014, 265: with extended bibliography.

38 Pojani 2002, 143–144, Fig. 19.

In conclusion, these two figurines have many analogies in the wider Roman world and probably form part of an industrial production that dates to 1–2 centuries AD. They provide an important insight into Illyrian religion during the Roman period. The find location of these figurines with their proximity to two main ancient roads of Illyria means they were most likely imported goods, however, with numerous metallic objects also being found in both regions the possibility that they were produced locally cannot be discount.

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Roman bronze amphoras from the Sarmatian burials of Eastern Europe

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Abstract: In the Sarmatian burials six intact or fragmented bronze amphoras and one separate handle of Tassinari types A3212 and A3220 were found. The peculiarities of shape, details and sizes discussed. The clear majority of large vessels (mainly from 40 to 44 cm high) in Thrace and Asian Sarmatia contrasts with the finds from Pompeii or Western and Central Europe. A significant number of amphoras from Sarmatia originate from the so-called 'princely' burials in the Lower Don region of the second half of the 1st – early 2nd century AD. There is a correlation of the finds with the remains of the funeral feasts associated with central female burials in the mounds. The penetration of amphoras to the nomads gives reason to assume that such vessels were in some demand among them and it was not by chance that large amphoras were brought to Thrace and Sarmatia. If this is so (and I cannot find another explanation), then such large vessels could have been specially made with a view to the Thracian and Sarmatian aristocracy. Of course, this was not the only way of penetration of large bronze amphoras to the Sarmatians. There are grounds to suggest that the large bronze amphoras could be acquired by the Sarmatians also during the Bosporan–Roman war in 45–49 AD.

Keywords: Roman bronzeware, amphoras, Thrace, North Pontic area, Asian Sarmatia, Bosporan–Roman war

Introduction

In the Sarmatian burials of Eastern Europe, six intact or fragmented bronze amphoras and one separate handle were found (Fig. 1). Passages in monographs and articles by D. B. Shelov, B. A. Raev, I. I. Marchenko and N. Yu. Limberis, as well as the author of these lines, were devoted to the finds of bronze amphoras in the Sarmatian burials of Eastern Europe.[1] A new find, not included in the classifications, a fragmented vessel from the burial mound no. 1/2003 of the Gorelyy-I cemetery,[2] will be discussed in detail here. At the same time, we do not know exactly the origin of the bronze

1 The work is part of a project funded by the German Science Foundation titled "Forms and Ways of Cultural Contacts of the Nomads of Asian Sarmatia: Imports in the Sarmatian Monuments of the Second Century BC–Third Century AD" (FL-334/15-1). For the opportunity to work at museums that store the items considered in this article, I express my sincere gratitude to M. E. Filimonova and I. R. Gusach (Azov, Historical-Archaeological and Paleontological Museum-Reserve), A. G. Yazovskikh (Rostov-on-Don, Regional Local Lore Museum), I. P. Zasetskaya, E. F. Korol'kova, and S. V. Voronyatov (Saint Petersburg, State Hermitage), E. N. Plakhova (Engels, Local Lore Museum). This is an updated version of the article, published in Russian: Raev 1977a, 622–624, Beil. 4.18–19; Shelov 1983, 59–61; Raev 1986, 35–36; Marčenko – Limberis 2008, 281; Raev 2013, 164; Treister 2018a, 10–30; Treister 2021.

2 Balanovskiy – Tikhonov 2009, 14, no. 1, Fig. 3.

vessels, including the amphora of the Eggers 129 type, acquired at the beginning of the 20th century by N. I. Veselovskiy from the Saint Petersburg antiquarians. V. V. Kropotkin suggested that the vessels could come from the looter's excavations in the Don or Kuban regions.[3] B. A. Raev has divided the amphoras into two types.[4]



Fig. 1. Roman bronze amphoras in Sarmatia (Map by M. Treister, 2018). Map base – G. P. Garbuzov. Squares – amphoras of Tassinari A3212 type, circles – amphoras of Tassinari A3220 type. 1 – Konchukokhabl', 2 – Valovyy I, 3 – Khkohlach, 4 – Kudinov, 5 – Gorelyy I.

Amphoras of Tassinari A3212 type

B. A. Raev attributed to the first type the vessels with a rounded body, sloping shoulders and a narrow neck, expanding upwards and turning into a wide bent edge, including amphoras from the Bagaevsky burial mound no. 13/1960 (Fig. 2.2)[5] and the Khokhlach tumulus (Fig. 2.1).[6] Since the researcher singled out two variants within this type, differing in the design of the handles (variant A includes handles with relief decoration, with attachments representing female protomes or scenes; variant B includes plain ones with square attachments with concave sides), these amphoras are classified as variant A.

3 Kropotkin 1970, 23, no. Aa.5; 98, no. 859.

4 Type 1 (Raev 1986, 35–36) or Type 18 (Raev 1977a, 622–624, Beil. 4.18), after the classification of B. A. Raev, corresponds to type Tassinari A3212: Type 2 (Raev 1986, 35–36) or Type 19 (Raev 1977a, 622–624, Beil. 4.19) – to the type Tassinari A3220.

5 Kaposhina 1967a, 209, 210, Fig. 1.1, 2.1; Kropotkin 1970, 23, no. 3; 92, no. 788; Raev 1977a, 623; Raev 1977b, 144, 145, Fig. 7; Shelov 1983, 59–60, Fig. 1.1; Raev 1986, 35, Pl. 26.1–2.

6 Kropotkin 1970, 23, no. 4; 93, no. 797; Raev 1977b, 144; Raev 1978, 91–92; Raev 1979, 236, Figs 10–11; Shelov 1983, 60; Raev 1986, 35, Pl. 27; Zasetskaya 2011, 228–231, Figs 121–122; 267, no. 26.

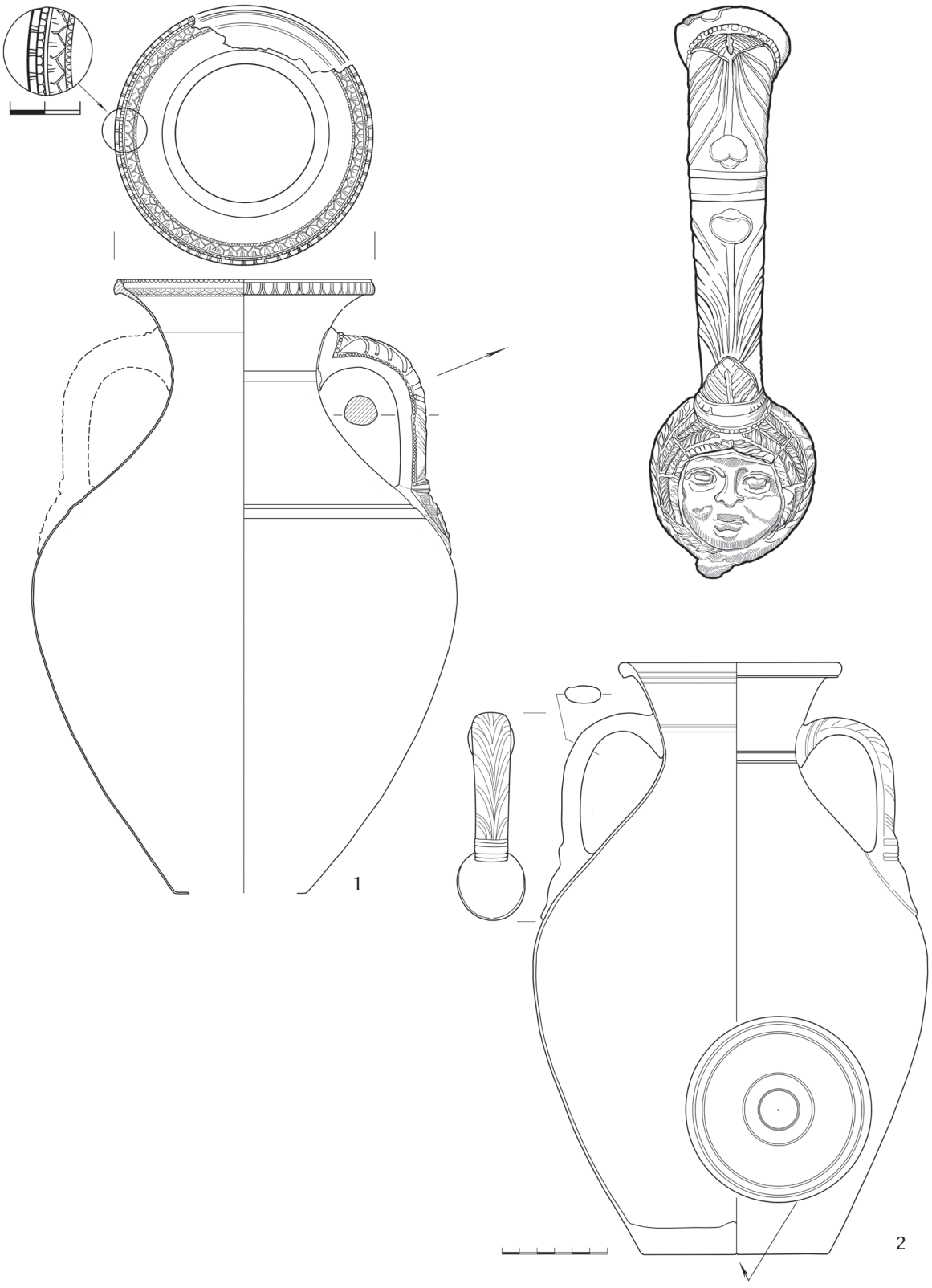


Fig. 2. Bronze amphoras of Tassinari A3212 type. General views and details. 1 – Khokhlach burial mound, Novocherkassk. Saint Petersburg, State Hermitage, inv. no. 2213/39, 2 – Kudinov Farmstead. Burial mound no. 13/1961. Burial no. 1. Rostov-on-Don, Regional Local Lore Museum, inv. no. 2170/4 (Drawings by N. E. Bespalaya).

Let us also pay attention to the already mentioned by B. A. Raev[7] parallels to amphoras of this type, originating from Luklum in Braunschweig[8] and Tulovo in Thrace.[9] The vessel from Luklum is actually a jug of the Kjerumgard type (Eggers 122), and not an amphora, as H.-J. Eggers, followed by B. A. Raev suggested.[10] This fact explains the joint discovery with a vessel of coins of the third quarter of the 2nd century BC.[11] Repeating the wrong parallel given by B. A. Raev, also D. B. Shelov[12], and I. P. Zasetskaya[13] make a mistake. Images of amphoras from Tulovo were not published in the article by G. Tabakova-Tsaneva and L. Getov, only the similarity of the amphora from the burial no. 1 with the finds from the Chatalka cemetery also in Thrace[14] was stated and a handle with the attachment decorated with the head of Maenad of one of the two amphoras with a rounded body from the burial no. 2 was published.[15]

Of the thirteen bronze amphoras found in Chatalka (4) and other cemeteries in the vicinity of Augusta Traiana, nine, according to the publishers, belong to type 1 (18), according to the classification of B. A. Raev.[16] K. Kalchev following B. A. Raev distinguished two variants (A and B) of these amphoras based on the decoration of the handles, while all four amphoras from Chatalka belong to variant A. At the same time Kalchev changed the designation to the opposite (amphoras of variant A – with plain handles, B – with those decorated in relief). The problem is that, by adopting these typological studies into the currently accepted classification system, we find that all the amphoras classified as type 1 (18) by B. A. Raev, in fact, differ from the A3212 type, according to the classification of S. Tassinari. They have different proportions, an almost spherical body with a low cylindrical neck and looped handles. In addition to the finds published by K. Kalchev, this group includes an amphora from the burial mound no. 8/1994 (Mantar tepe) near the village of Isperikhovo in the Pazardzhik region.[17] Outside of Thrace, such amphoras are rare and find correspondence in rare finds from Pompeii of types A1000[18] (= variant A, according to K. Kalchev[19]) and A3121–3122[20] (variant B, after K. Kalchev[21]). In addition to Pompeii and Thrace, finds of amphoras with a spherical body dating from the beginning of the 1st to the early 2nd century AD, are also known in Gaul, Germany, including the Lower Rhine region, in Moesia, as well as in the Middle East: in Syria and Palestine, as well as in Kush in Nubia.[22]

Among the amphoras from Asian Sarmatia type A3212 is represented by the finds from the Lower Don region: Bagaevskiy burial mound no. 13/1960 and Khokhlach burial mound (Figs 2–5). They may be compared with seven amphoras from Pompeii.[23] Besides, the finds of such amphoras are

7 Raev 1977a, 623; Raev 1978, 92; Raev 1986, 36.

8 Willers 1907, 19, Abb. 14.

9 Tabakova-Tsaneva – Getov 1969, 30, no. 2; Raev 1977a, 622, 641, Nr. 86.

10 Eggers 1951, 171, Beil. 55; Ulbert 1984, 85; Boube 1991, 38, Liste 5, no. 11.

11 Willers 1907, 14.

12 Shelov 1983, 60.

13 Zasetskaya 2011, 228.

14 Tabakova-Tsaneva – Getov 1969, 30, no. 2.

15 Tabakova-Tsaneva – Getov 1969, 32, Fig. 9; 33, no. 10.

16 Bujukliyev 1986, 35; Kalčev 1994, 229–232. Burial mound no. 1 – Roshava Dragana: Bujukliyev 1986, 35, 70, no. 88, Pl. 7. – Chatalka. Burial mound no. 6 (with the coin of Vespasian, 69–79 AD): Bujukliyev 1986, 85, no. 293–295, Pls 19, 23; Kalčev 1994, 229–230, Abb. 5–6.

17 Delev et al. 2002, 128, no. 1.

18 Tassinari 1993, 1, nos 3211, 2495, 2415.

19 Kalčev 1994, 229–230, Abb. 5–7.

20 Tassinari 1993, 3, nos 1875, 1031.

21 Kalčev 1994, 230–232, Abb. 8–10.

22 Dunham 1957, 99, no. 74, Fig. 67; Hayes 1984, 95–97, no. 152; Koster 1997, 43, no. 32; Bienert 2007, 10–11, Form 1; 12, Nr. 1.

23 Tassinari 1993, 5–6, A3212; Banghard – Gorecki 2004, 147–148, Abb. 18,1. See also Tarbell 1909, 123, nos 135–137, Pl. 77.



Fig. 3. Khokhlach burial mound, Novocherkassk. Bronze amphora. Saint Petersburg, State Hermitage, inv. no. 2213/39 (Photos by M. Treister, 2015).


1


2


3


4

Fig. 4. Khokhlach burial mound, Novocherkassk. Bronze amphora. Details. Saint Petersburg, State Hermitage, inv. no. 2213/39 (Photos by M. Treister, 2015).

known also in the Lower Rhine area: from the Rhine near the village Maurik[24] and from Rheinkamp-Berl near Moers.[25]

One of the amphoras from Pompeii of the type under discussion,[26] as well as the amphora with a spherical body, which allegedly originates from Siouf in Syria,[27] show comparable design of the handle stem and attachments, similar to those of the piece from Bagaevsky burial mound no. 13/1960

24 Gerhartl-Witteveen – Koster 1992, 22–23, no. 8; Koster 1997, 41–42, no. 30.

25 Hinz 1963, 152–154, Nr. 2, Abb. 2.

26 Tassinari 1993, 5, no. 3128, Tav. 49.1–2.

27 Hayes 1984, 95–97, no. 152.



Fig. 5. Kudinov Farmstead (Bagaevskiy). Burial mound no. 13/1961. Burial no. 1. General views and details. Rostov-on-Don, Regional Local Lore Museum, inv. no. 2170/4 (Photos by M. Treister, 2015).

(Fig. 2.2, Fig. 5.1–3). In addition, the stems of A3211 amphora handles with drop-shaped attachments,[28] as well as C1221 type jugs, as a rule, in the shape of a grape leaf,[29] are decorated in a similar way.

The shape of the amphora from Khokhlach and the decoration of the edge of the neck with Ionian cymatium on the outside, and the Lesbian cymatium—on the inside (Fig. 2.1, Fig. 4.2–3) find parallels on amphoras from Pompeii[30] and from Rheinkamp-Berl.[31] The stem of the handle of the ampho-

28 Tassinari 1993, 4, no. 3618, Tav. 49.5–6.

29 Tassinari 1993, 55–57, C1221, Tav. 12.1, no. 12689; 13.2, no. 6799.

30 Cf. Tassinari 1993, 4, no. 3618.

31 Hinz 1963, 152–154, Nr. 2, Abb. 2.

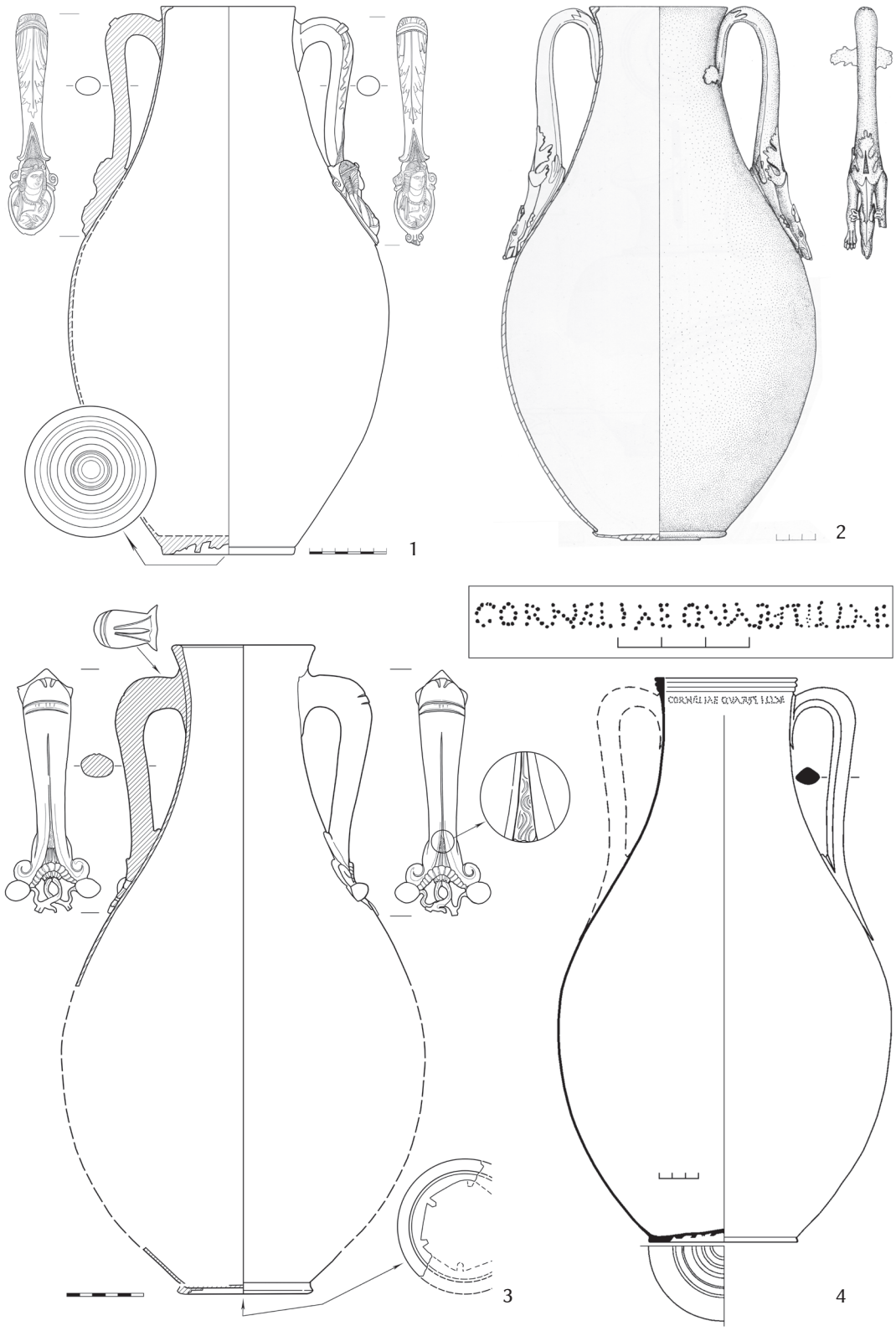


Fig. 6. Bronze amphoras of Tassinari A3220 type. General views and details. 1 – Kudinov Farmstead (Bagaevskiy). Burial-mound no. 14/1961 (Krasnyy / Red). Burial no. 1. Saint Petersburg, State Hermitage, list to act no. 158, no. 69, 2 – Konchukokhabl', chance find of 1960. Maykop, National Museum of Republic Adygeya, inv. no. Bp-68/1, 3 – Gorelyy-I. Burial-mound no. 1/2003. Engels, Local Lore Museum, inv. no. 15884/1, 2, 4 – Valovyy-I. Burial-mound no. 9/1987. Azov, Historical-Archaeological and Paleontological Museum-Reserve, inv. no. 25309/239 (1, 3, 4 – drawings by N. E. Bespalaya, 2 – after: Marčenko – Limberis 2008, Taf. 108).

ra from Khokhlach (Fig. 2.1, Fig. 4.1,4) resembles that of the handle of the amphora from Bagaevskiy burial mound no. 13/1960 (Fig. 2.2, Fig. 5.1–3) (althoung exact parallels to the decoration of the stem of the handle of the amphora from Khokhlach is not known to me). The handles of both amphoras are brought together by the fact that the attachments are separated from the handle by horizontal ridges. On the rounded attachment of the amphora from Khokhlach a head in low relief, which in previous publications was defined as the head of Medusa, framed by four combed thin strands of hair, each of which is decorated with oblique parallel rollers (Fig. 2.1, Fig. 4.1), is shown. The exact parallel to it is unknown to me on the attachments of the bronze vessels, although the head of Medusa or Maenad was occasionally used as a motif for the decoration of the handle attachments of bronze vessels.[32] For a rather sketchy depiction of the head of a female person on the handle attachment of the amphora from Khokhlach, it is also unusual that there are no wings on the head (and) or a protruding tongue, which would be expected if this was an image of Medusa. In addition, this image contrasts both due to the rich decoration of the handle stem and the design of the edge of the neck of the vessel—with rows of the Ionian cymatium on the outside, and the Lesbian cymatium—on the inside (Fig. 2.1, Fig. 4.2–3). Relatively similar, also quite sketchy images of the heads of Medusa/Maenad decorate much more often attachments of situlas[33] and loops attached to ladles;[34] the motif was also used to decorate the lids of vessels.[35] The closest parallel to the hairdo of the female head on the handle attachment of the amphora from Khokhlach is the female head on the handle attachment of the Eggers 125 oinochoe from Pomerania.[36]

Amphoras of Tassinari A3220 type (Eggers 129, Raev 2)

Most of the amphoras originating mainly from the Lower Don region (Figs 1, 6) (Bagaevsky burial mound no. 14/1961 (so-called 'Red Kurgan') [Fig. 6.1, Figs 7–8; Fig. 10.1]);[37] Valovy-I, burial mound no. 9/1987 (Fig. 6.4, Fig. 9);[38] a separate handle from the Khokhlach burial mound (Fig. 10.2, Fig. 11),[39] but also from the Kuban region (Konchukokhabl, chance find of 1960 [Fig. 6.2, Fig. 10.3][40]) and the Lower Volga region (Gorely-I, burial mound no. 1/2003 [Fig. 6.3, Fig. 10.3, Fig. 12][41]), belong to

32 See: e.g., Höckmann 1972, 39, Nr. 96, Taf. 28; Boucher – Oggiano-Bitar 1993, 129, no. 206; Bolla 1994, no. 82, Tav. 78.

33 See: e.g., Nuber 1988, 84, Abb. 108; 118; Petculescu 2003, 153, no. 244.

34 Kaufmann-Heimann 1994, 177–178, Nr. 301, Taf. 118; Kaufmann-Heimann 1998, 21–22, Abb. 3; Sedlmayer 1999, 86, Anm. 560, Taf. 34.5–6; Kapeller 2003, 87–88, no. 36, Fig. 2; Pl. 6; 134, no. 36 with parallels.

35 Nuber 1988, 56, Abb. 46; 102 (relatively similar due to the rounded contours and treatment of hair strands, executed in a low relief).

36 Kasprzak 2016, 324, Abb. 4.c,e.

37 Kaposhina 1965, 51, Fig. 18; Kaposhina 1967a, 212, Fig. 1.2; Fig. 2.2–3; Kaposhina 1967b, 146; Kropotkin 1970, 23, no. 2; 92, no. 788; Raev 1977b, 144, 145, Fig. 8; Raev 1986, 35, Pl. 28; Shelov 1983, 59–60, Fig. 1.2; Glukhov 2005, 17; Treister 2018b, 10–30.

38 Shelov–Kovedyaev 2001, 119–122; Bespalyy et al. 2007, 33, no. 45, 126, Pl. 37.1; Bezuglov et al. 2009, 31, Fig. 14, Fig. 45; Figs 82–83; Raev 2013, 164, 165; Krivosheev 2014, 109, Fig. 2.13; Treister 2019a, Fig. 4.4; Treister 2019b, 177, Fig. 19.2, Fig. 4.

39 Raev 1986, 35, Pl. 26.3; Zasetskaia 2011, 232, Fig. 125; 268, no. 29.

40 Kropotkin 1970, 23, no. 1; 90, no. 769, Fig. 59.7; Shelov 1983, 60; Leskov 1987, 45, Pl. 31; 157, no. 228; Nabatshikov et al. 1989, 166, Nr. 228, Taf. 27; Marčenko – Limberis 2008, 281, 356, Nr. 74.1, Taf. 108; Erlikh 2010, 462, Fig. 25 (here is a curious photo—probably the handles of the amphora were soldered off and it was taken with handles, the upper ends of which are inserted into the neck—MT); Raev 2013, 163–166 (with lit.), Fig. 2, Fig. 4.1–2.

41 Balanovskiy– Tikhonov 2009, 14, no. 1, Fig. 3.

the type 2 (with egg-shaped body), after B.A. Raev's classification, types Radnóti 78,[42] Eggers 129,[43] Tassinari A3220,[44] and Form 2, after the typology of B. Bienert,[45] the most common in Pompeii.

Similar bronze amphoras are also known after the finds in the Western provinces of the Roman Empire,[46] as well as in the Western,[47] Southern[48] and Eastern[49] Black Sea regions. In order to establish the chronology of such amphoras, the finds on the Lower Rhine and in Magdalensberg on the Danube are fundamental, which allow us to date the appearance of vessels of this shape no later than in the Augustan period, and their use until the 3rd century AD.[50]

While the shapes, proportions, and sizes of the vessels are similar, the amphoras from Sarmatia differ in the details of the treatment of necks and handles with attachments.

The handles with attachments of then amphora from Konchukokhabl in the form of a sea monster with a protome of a dog (lower attachment) and a dolphin tail (upper) (Fig. 6.2, Fig. 10.3) were described and analysed in detail by B. A. Raev, who pointed out parallels from Pompeii and the National Archaeological Museum in Naples—only two vessels in total.[51] Let us note in this connection that also a small amphora, 24 cm high, kept in Naples, also comes from Pompeii.[52] As for the amphora with the height of 37.4 cm from the western insula of Regio VII in Pompeii, then it would probably make sense for B. A. Raev to look at the photo of the attachments in order to point out the difference in their design—here the forelimbs of the dog are rendered as wings.[53] Two more parallels to the amphora from Konchukokhabl remained unknown to Raev. One, which is close in size (44.5 cm high) with similar handles and attachments, originate from the shipwreck of Arles-Rhone 3 (cluster A).[54] Another is kept in the collection of the University of Kent.[55] As regards attachments, I cannot but mention a parallel in the design of the dog protome with paws spread to the sides on the handle of a bronze patera from burial mound B in Vize.[56]

42 Radnóti 1938, 156–158, Taf. 14.78.

43 Eggers 1951, Taf. 11.129; 171, Beil. 55.

44 Tassinari 1993, I, 7–18; Banghard – Gorecki 2004, 147–148, Abb. 18.2. – See also a similar amphora from Boscoreale: Gorecki 1993, 231, no. A6; 238, Abb. 1.6; 243, Taf. 3.

45 Bienert 2007, 13–18, Nr. 2–4.

46 See an uncomplete survey: Raev 2013, 163–164. See also: Boucher – Tassinari 1976, 143–144, nos. 182–183; D'Andria 1979, 223–224, no. 1, Tav. 124.1; Tav. 125.1; Breščak 1982, nos. 107–108, Pl. 11; Pl. 24; Fauduet – Rabeisen 1993, 149–150, 156–157, Figs 3–4; Bolla 1994, 72–74, nos 81–82, Tav. 77–78; Kapeller 2003, 89–90, 99–100, 136–137, nos 87–91 (handles), Pls 11–12; Bienert 2007, 13–14, Anm. 26 with the most complete survey; Lundock 2015, 55, 59, 163, no. EX0019; 169, no. HAM0021; 171, no. K0003; Pfisterer-Haas 2019, 138–139, Abb. 9.71–72; 304–307, Nr. 220–224.

47 Dyakovich 1907, 31, Fig. 28.2–3; Fig. 32; Raev 1977a, 623–624, 639, Nr. 56, Taf. 9.6–7; Bujukliev 1986, 35; Onurkan 1988, 70–71, nos 68–69, Figs 32–33, Pl. 41.b,d; Kalčev 1994, 227–229, Abb. 1–4. Most likely, two amphoras, earlier in the collection of V. Bojkov, also come from the territory of Bulgaria: Marazov et al. 2005, 185–187, nos 231, 234.

48 Unknown provenance, in the Museum of Amasra (ancient Amastris): Lafli 2021, 193, no. 25. Fig. 25.2 (without handles).

49 Dedoplis Gora: Löhr 2008, 155–156, 160, no. 1, Pls 60, 64.

50 See in detail: Bienert 2007, 14–15.

51 Raev 2013, 165. See also a similar handle found in Vitudurum: Deschler-Erb 1996, 31, 278, Nr. ME 36 with parallels; Taf. 4 (also the amphora from Konchkokhabl is mentioned); from the layer with the pottery of ca. 70s AD.

52 Stefanelli 1990, 223, Tav. 205; 281, no. 107. The reference to this amphora given by B. A. Raev, is inaccurate.

53 Tassinari 1993, I, 16, 501, no. 13955, II, 186, no. 60, Tav. 52.2–3.

54 Bilan scientifique 2007, 61–62, Fig. 44.

55 https://blogs.kent.ac.uk/lloydbosworth/bronze_0023/

56 Mansel 1939, 169, Nr. 23, Abb. 214b; Mansel 1941, 180, Nr. 23; Nuber 1972, 47, 193, E.IIIa.2; Onurkan 1988, 50, no. 46, Fig. 13, Pl. 27.



Fig. 7. Kudinov Farmstead (Bagaevskiy). Burial mound no. 14/1961 (Krasnyy / Red). Burial no. 1. Bronze amphora. General views. Saint Petersburg, State Hermitage, list to act no. 158, no. 69 (Photos by M. Treister, 2015).



Fig. 8. Kudinov Farmstead (Bagaevskiy). Burial mound no. 14/1961 (Krasnyy / Red). Burial no. 1. Bronze amphora. Details. Saint Petersburg, State Hermitage, list to act no. 158, no. 69 (Photos by M. Treister, 2015).

Details of vessels from other complexes were considered by the researcher in much less detail. Attachments of the amphora from burial mound no. 1/2003 of the Gorely-I necropolis (Fig. 6.3, Fig. 10.3, Fig. 12) probably represent a composition of two heads of herons devouring snakes, similar to the handle of the jug no. 13392 from Pompeii.[57] We also find similar image of snakes on the at-

57 Tassinari 1993, I, 38, B1222, no. 13392; 499; II, Tav. 52.1.



Fig. 9. Valovyy-I. Burial mound no. 9/1987. Bronze amphora. General views and details. Azov, Historical-Archaeological and Paleontological Museum-Reserve, inv. no. 25309/239 (Photos by M. Treister, 2015).

tachments of the handles of two other amphoras from Pompei: nos 12461[58] and 12462.[59] The motif of a heron devouring a snake was widely used in decorative sculpture, glyptic, and especially in the silver and bronze plate of the Early Empire.[60]

58 Tassinari 1993, I, 11, A3220, no. 12461.

59 Tassinari 1993, II, A3220, Tav. 51.1–3.

60 See in detail: Treister 2020b, 594–595.

The amphora from Valovyy-I cemetery (Fig. 6.4, Fig. 9) shows a dotted inscription below the rim (Fig. 6.4, Fig. 9.1). Horizontal ridges and grooves under the horizontally cut edge of the vessel (Fig. 6.4, Fig. 9.2–4) find parallels on some amphoras of this type from Pompeii[61] and Thrace.[62] Typical for the amphoras of that type are also leaf-shaped, elongated attachments pointed at the end. They can be additionally decorated with a rib, as on the amphora from Valovyy, while the attachments may be separated from the stem of the handle with ridges, or they can smoothly overgo into the stems, as on the amphora from Valovyy (Fig. 9.2,4).[63] A separate handle of this type without a rib, oval in cross-section, was found in the Khokhlach burial mound (Fig. 10.2, Fig. 11).[64]

The amphora from Bagaevsky burial mound no. 14/1961 deserves special attention (Fig. 6.1, Figs 7–8; Fig. 10.1). The author of the first publication suggested that the vessel found its way into the burial complex at the turn of our era.[65] Neither B. A. Raev, nor D. B. Shelov agreed with this. Raev noted that the amphora was earlier than the amphoras from the Khokhlach and Bagaevsky burial mound no. 13 and dated it to the first half of the 1st century AD,[66] whereas D. B. Shelov, pointing to the finds of such amphoras in Pompeii and Chatalka in Thrace, assumed that the vessel could not have reached the Don region before the 70s AD.[67] The handles of the amphora are cast, the upper attachments are shaped as rounded leaves without relief decoration, the lower attachments are adorned with female busts in high relief with remains of silver inlays in the recesses of the eyes. Below there is a figure of a half-curled panther with tucked-in paws. (Fig. 6.1, Fig. 8, Fig. 10.1). A characteristic feature of the hairstyle are thick intertwined curls that fall over the shoulders, the so-called corkscrew-shaped curls (*Korkenzieherlocken*). This hairstyle, sometimes called 'Libyan curls' or 'Isis curls,' became widespread in Egypt during the Hellenistic period, especially from the 2nd century BC.[68] A detailed analysis of the attributes allowed us to conclude that the attachments depict not a Maenad, as previously thought, but a personification of Africa (less probable, of Egypt or Alexandria). It is hardly possible to consider the images on the attachments as a portrait image of Cleopatra VII or her daughter Cleopatra Selene II, as some researchers suggest in relation to the typologically similar image on the medallion of the silver-gilt cup from Boscoreale.[69] In any case, the circle of parallels, both to the shape of the amphora and the decoration of the handles with attachments, hardly gives grounds to date the vessel later than the first half of the 1st century AD.[70]

61 Cf. Tassinari 1993, I, 8, nos 1179, 2231; 10, no. 3273; 11, no. 1396; 13, no. 12460.

62 For instance, Vize, tumulus E: Onurkan 1988, 70–71, no. 68, Fig. 32, Pl. 41, b.

63 Cp. Tassinari 1993, I, 7, no. 12462; 8, no. 1179; 9, no. 10551, 1839; 10, no. 1107; 11, nos. 3024, 1396, 7259, 6540; 12, no. 18746; 16, no. 10655. Also, separate finds of such handles are known: Tassinari 1993, 18–19, nos 2431, 18975, 2140, 13535A, 18973, 18974, 13192D, 3653, 2197–2198, 5927. See also a separate find of this type of handle in Vitudurum (Deschler-Erb 1996, 31, 278, Nr. ME 37, Taf. 4; the pottery from the layer is dated to 20/30–50 Ad); the handles of amphora from Siscia: Radnóti 1938, 156, Taf. 42.4. The handle attachments of two amphoras from a tomb discovered in 1905 in Plovdiv are decorated in a similar way: Dyakovich 1907, 31, Fig. 28.2–3; Fig. 32; Raev 1977a, 639, Nr. 56; Taf. 9.6–7.

64 Raev 1986, 35, Pl. 26.3; Zasetskaya 2011, 232, Fig. 125; 268, no. 29.

65 Kaposhina 1965, 50; Kaposhina 1967a, 213; Kaposhina 1967b, 148.

66 Raev 1977a, 623; Raev 1977b, 144.

67 Shelov 1983, 61.

68 Stanwick 2002, 37–38; Albersmeier 2002, 67–75; Albersmeier 2005, 254–255; Treister 2012, 475–476; Treister 2013, 91–92.

69 Héron de Villefosse 1899, 39–43, Pl. 1; Strong 1966, 151, Pl. 36.B; Linfert 1984, 351–358, Taf. 63; Baratte 1986, 77–81; 90; Barr-Sharrar 1987, 142, no. H27 with lit., Pl. 72; Stefanelli 1991, 134–135, Pls 99–100; 260, no. 37; Walker – Higgs 2001, 312–313, no. 324; Roller 2003, 141–142, Fig. 16; Domes 2007, 100–108, 182, Nr. To.1, Taf. 24,1; Draycott 2012, 48–60, Figs 2–6.

70 Treister 2018c, 10–30.

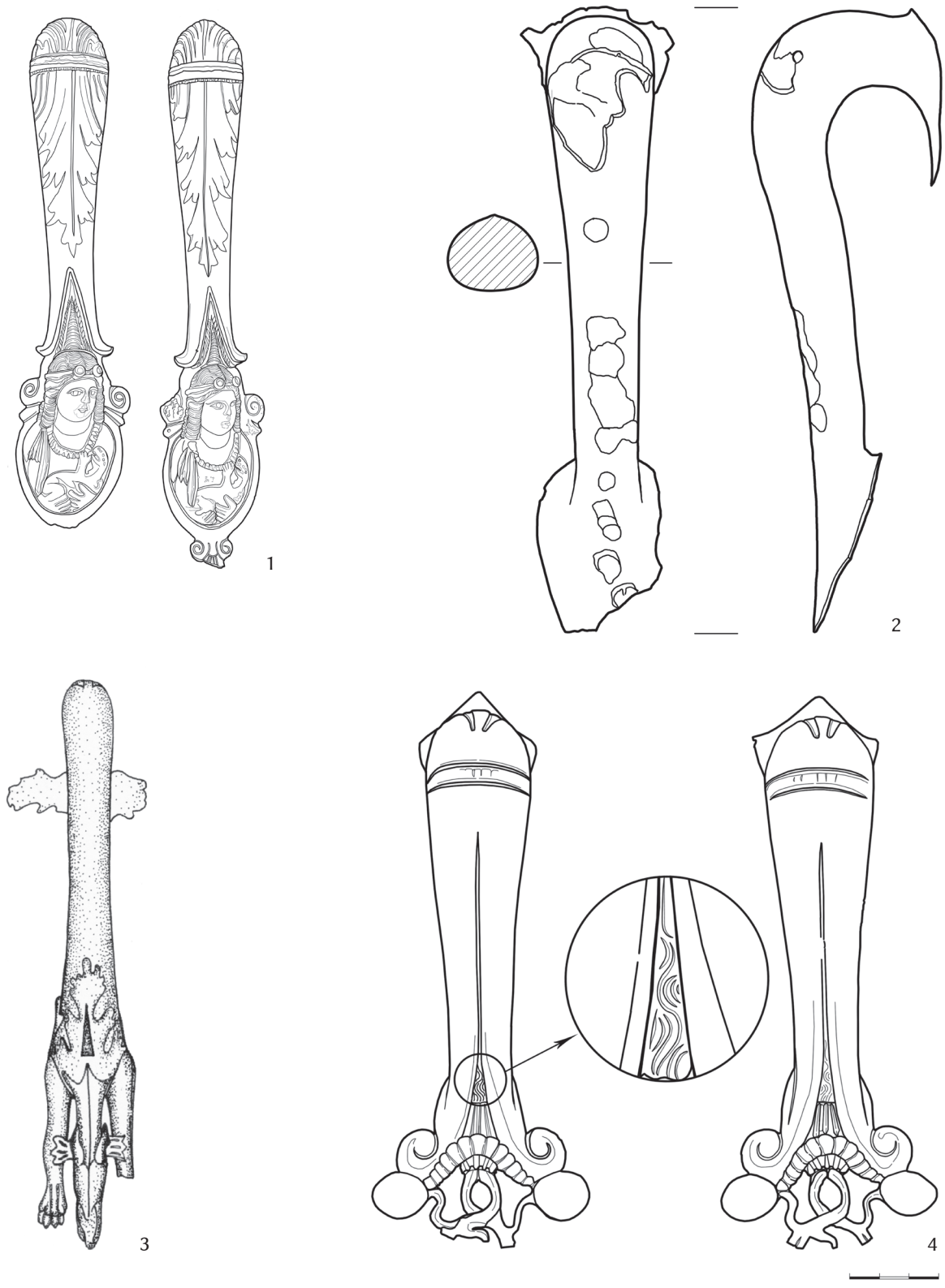


Fig. 10. Bronze amphoras of Tassinari A3220 type. Handles. 1 – Kudinov Farmstead (Bagaevskiy). Burial mound no. 14/1961 (Krasnyy / Red). Burial no. 1. Saint Petersburg, State Hermitage, list to act no. 158, no. 69, 2 – Khokhlach burial mound, Novocherkassk. Saint Petersburg, State Hermitage, inv. no. 2213/41, 3 – Konchukokhabl', chance find of 1960. Maykop, National Museum of Republic Adygeya, inv. no. Bp-68/1, 4 – Gorelyy-I. Burial mound no. 1/2003. Engels, Local Lore Museum, inv. no. 15884/1, 2 (1, 2, 4 – drawings by N. E. Bespalaya, 3 – after: Marčenko – Limberis 2008, Taf. 108).

Inscription on the amphora from Valovyy-I cemetery

Under the rim of the amphora from the Valovyy-I cemetery, there is a dotted inscription, supposedly owner's[71] or owner's or donative:[72] CORNELIAE QVAR(tae) RVTILLAE (reading by F. V. Shelov-Kovedyaev[73]) or Corneliae Quartillae (reading by A. Yu. Vinogradov, E. I. Bespaly and co-authors,[74] S. I. Bezuglov and co-authors[75]) (Fig. 6.4, Fig. 9.1).

Unlike the inscriptions on the Roman imperial silver vessels, which are quite numerous, the inscriptions on the bronze vessels are relatively rare. This is largely due to the significant difference in the cost of bronze and silver, because a majority of the inscriptions on silver, including on the vessels of the 1st century BC – 1st century AD,[76] contained the names of the owners and weight data.[77] It is assumed that such inscriptions (there could be several of them) could have been made during the re-accounting, overweighting of vessels during their transfer from one owner to another.[78]

As for the Roman bronze vessels from the North Pontic region, the Latin dotted inscription under the rim can be found only on a bronze bowl of the Eggers 70 type from a Sarmatian burial in a burial mound no. 10/1985 near the village of Cazaclia in Moldova: T(itus) Salv(ius) Caec(?), dated to 60s–70s AD.[79] Other examples of Latin inscriptions on bronze vessels from this region are not known to me.

At the same time, they are found on bronze vessels found in the territory of the Empire. A significant part of these inscriptions are votive—the vessels were dedicated to the sanctuaries of Mars, Mercury, Apollo and other deities.[80] The female names in these inscriptions are rare. So, the inscription on the lid of the vessel from Curdioara in the Cluj region MARTI CORNELIA*L*F*OSSA*V*S* means that a certain Cornelia Lucius, daughter of Ossa, dedicated the vessel in the 1st century AD in the sanctuary of Mars.[81] It is also noteworthy to mention the inscriptions on the handle of a casserole from Aqua Helvetica: MERCVRIO / T.CAMMIANIVS BACCHVS and V.S.L.L.M.[82] Punched inscriptions of craftsmen are also known, in particular, on bronze strainers from Boscoreale (PERTVDIT POMPEIS FELICIO) and Pompeii (PERTVDIE EX OFFICINIA M BADI HERMAES).[83]

71 Opinion expressed by A. Yu. Vinogradov (see Bespalyy et al. 2007, 33, note 2).

72 Opinion expressed by F. V. Shelov-Kovedyaev (Shelov-Kovedyaev 2001, 120).

73 Shelov-Kovedyaev 2001, 119–120.

74 Bespalyy et al. 2007, 33.

75 Bezuglov et al. 2009, 82.

76 Tivoli Treasure: Oliver 1977, 100, nos 56–58; 103, no. 60; 106–107, nos 63–68. Hildesheim Treasure: Boetzkes – Stein 1997, nos 3, 4, 7, 8, 11, 19, 27–31, 35, 40, 45–50, 54, 57–60, 62. Hermoupolis Treasure: Galsterer 2001, 55–58.

77 Martin 1984, 382–392; Martin 1988, 211–225; Mundell Mango 1994, 37–54; Painter 2001, 27; Igl 2002, 102–104; Treister 2009, 45–47.

78 Lieb – Speidel 2003, 182; Chamay et al. 2007, 144.

79 Agulnicov – Bubulici 1999, 288, no. 3; 301, Fig. 5.3 (inscription); Figs. 4–5 (bowl); Dzigovskiy 2003, 100, Fig. 20.4–5; Bârcă 2001, 342–343, 351, Fig. 4.1; Bârcă 2006, 174, 302, no. 45.12, Figs. 43.1, 189, 2; Bârcă 2009, 88, Fig. 7.1; Bârcă – Simonenko 2009, 190, 191, Fig. 70.1. The authors of the first publication attributed the bowl to Eggers 70–71 types (Agulnicov – Bubulici 1999, 292) (the definition is more than strange, given the difference in the form of these types). A. V. Simonenko at first believed that this was a basin of the Eggers 99 type (Simonenko 1995, 350), the attribution which could cause nothing but amazement, and later he attributed it to the Eggers 72 type (Simonenko 2011, 145). According to V. Bârcă's opinion (Bârcă 2001, 342, 351; Bârcă 2009, 88; Bârcă – Simonenko 2009, 190), with which I am agree, it belongs to Eggers 70 type.

80 Flügel 1994, 207, Anm. 4; Mustață 2017, 119.

81 Mustață 2017, 118–120, no. 49, Pl. 29; Pl. 77.

82 Holliger – Holliger 1989, 64, Nr. 10, Taf. 1.

83 Gorecki 2000, 448–449, 461–467, Abb. 6.1–3; Abb. 8; Mustață 2017, 72–73.

Among the inscriptions, mostly incised, on the bronze vessels found in the Rhine near Neupotz, there are also two punched ones, which are considered as the names of the owners, including the *tria nomina* inscription, indicating that the vessel belonged to a Roman citizen.[84]



Fig. 11. Khokhlach burial mound, Novocherkassk. Handle of a bronze amphora. Saint Petersburg, State Hermitage, inv. no. 2213/41 (Photos by M. Treister, 2015).

The practice of applying owner punched inscriptions to weapons, armour, belt sets and horse harness became widespread in the Roman army, especially in the Flavian period and confirms the fact that the Romans acquired them on their own.[85] The inscriptions on the bronze vessels discovered in the Rhine at Doorwerth in the province of Gelderland (here in 1924 twenty-six bronze vessels were found; the find dates back to ca. 80 AD) are considered to be the owner's ones.[86] On two vessels (a pan and a ladle) there are inscriptions: C. Valerius Bellicus, C. Enterius Liber,[87] which give ground to doubt their interpretation as the property of one officer.[88] One cannot but agree with J. Holwerda in treating the inscription after the analogy with the punched inscription on a bronze key from the Roman military

84 Künzl – Künzl 1993, 395, Nr. D9; 396, Nr. D29; 397.

85 MacMullen 1960, 33–40; Wiegels 1992, 383–396; Hanel 2004, 989–996; Bishop – Coulston 2006, 43–45, Fig. 18; Nicolay 2007, 166–171, Fig. 5.4, with lit.; Negin 2015, 257–266; Eck – Pangerl 2015, 118–121, Abb. 11–17.

86 Holwerda 1931, 1–26; Nuber 1972, 89–90; Kunow 1983, 74; Akkermans et al. 1992, 80–82, no. 33; Flügel 1994, 211.

87 Holwerda 1931, 21, Nr. 11, Taf. 12.29; Nr. 16, Taf. 12.15; Kunow 1983, 74, Anm. 618.

88 Nuber 1972, 90.



Fig. 12. Gorelyy-I. Burial mound no. 1/2003. Bronze amphora. General views and details. Engels, Local Lore Museum, inv. no. 15884/1, 2 (Photos by M. Treister, 2015).

cash desk, found in the legion camp in Neuss, with the name of the standard-bearer Lucius Fabius from the *centuria* of Bassus Claudius (CIL XIII, 10027, 217).[89] It is worth noting that on some bronze vessels found in the Lower Rhine area, not only the name of the owner is punched, but also an indication of the military unit in which he serves.[90] Inscriptions on the outer or inner side of the casseroles, belonging to the standard set of Roman soldiers, were especially common.[91] Some vessels bear two inscriptions.[92]

Against this background, the peculiarity of the inscription on the amphora from the Valovyy-I necropolis is that it is a female name.

Thus, there are much more grounds to consider the inscription on the amphora from the Valovyy-I necropolis as an owner's rather than a donative inscription, also due to the absence of a mention of the donor, as in the donative inscription of the master to his slave or prostitute on a gold bracelet found to the south of Pompeii: DOMNVS. ANCILLAE. SWAE.[93] The inscription on the bronze cup from Cazaclia is also considered as owner's one.[94]

The suggestion expressed by F. V. Shelov-Kovedyaev,[95] that Cornelia was a Roman citizen is very likely. In this context, it can be noted that this name with a cognomen is not recorded in Latin inscriptions, although Domitia Quartilla is known, for example, in an inscription on the statue base from Tarragona,[96] erected by her parents, presumably wealthy freedmen.[97]

Dimensions of amphoras and their functional use

Amphoras of the Tassinari type A3212 from Sarmatia are 33.6 and 35.0 cm high. The largest number of known amphoras of this type comes from Pompeii. The height of seven specimens varies from 21.0 to 40.7 cm,[98] while vessels 21.0–27.1 cm high predominate, and only two vessels have a comparable height: 34 and 41 cm. An amphora of this type, stored in Nijmegen,[99] also has a height of 41 cm, 32.3 cm high is an amphora, possibly acquired in Rome in 1696, now in Berlin.[100]

Amphoras of the Tassinari type A3220 from Sarmatia are larger, their height varies from 40.6 to 44.0 cm (according to B. A. Raev—ca. 40 cm[101]) with a maximum body diameter of 24–25 cm, and a rim diameter of 10.1–11.5 cm. Perhaps the amphora from the Gorelyy-I cemetery was larger. Since a significant part of its body has not been preserved, the graphic reconstruction by N. E. Bespalaya with a height of approx. 51.4 cm is possibly not entirely accurate; at the same time, this amphora has the largest rim diameter of all of them—11.5 cm.

89 Johnson 1987, 133.

90 Koster 1997, 58, no. 67, 62–63, no. 78.

91 See also: Stupperich 1993, 285, Abb. 2; Breščak 1995, 15, 17, Fig. 2.3; Flügel 1994, 207–208, Abb. 1.4; Holzner – Weber 2008, 198, Nr. 141; Eck – Pangerl 2015, 122–125, Abb. 18–22; Doneus et al. 2018, 153, 181, Anhang Nr. 1. See also the inscriptions on the rear of the handle of the silver casserole from Vindonissa: Trumm 2009, 28, Abb. 1; 31–32, Abb. 6.

92 Koster 1997, 65, no. 85; 84–85, no. 114; Koster 2013, 72, no. 16; 151, Fig. 67; 155, Pl. 66.

93 Guzzo – Scarano Ussani 2001, 981–997; Berg 2017, 33; Luginbühl 2017, 63.

94 Bârcă 2009, 88.

95 Shelov-Kovedyaev 2001, 120.

96 CIL II 4359 (p. 973); RIT 459; Navarro Caballero 2017, 345, 604–605; CIL II²/14, 1332; Cidoncha Redondo 2020, 325, no. 19.

97 Cidoncha Redondo 2020, 317.

98 Tassinari 1993, 29.

99 Gerhartl-Witteveen – Koster 1992, 22–23, no. 8; Koster 1997, 41–42, no. 30.

100 Friederichs 1871, 355, Nr. 1653; Vaiani 2002, 120, no. 12.

101 Raev 2013, 164.

The largest number of known amphoras of A3220 type comes from Pompeii. The height of sixty pieces varies from 15.7 to 44 cm.[102] As the histogram which I made shows, the overwhelming majority of amphoras from Pompeii were small in size with the height in the range of 17–33 cm, within which two peaks with values of 19–23 cm and 25–27 cm, stand out. Amphoras higher than 33 cm in Pompeii are extremely rare and among them the vessels 37–39 cm high prevail (Fig. 13). Amphoras from Boscoreale are generally larger than those from Pompeii. Two vessels stored in Berlin have a height of 34.5–35.0 and 35 cm,[103] another one, acquired by the J. Paul Getty Museum—45.7 cm.[104] An amphora from a burial at Montalbano Jonico Matera in the province of Basilicata in Southern Italy is ca. 18 cm.[105]

The amphoras found in Central and Northern Europe are small and fit into the frames of the 'small' amphoras from Pompeii. These are the vessels: from the valley of Saône—17.4,[106] 17.7[107] and 20.8 cm,[108] from Optevoz (Isère)—24.7 cm,[109] Vindonissa—18 cm,[110] Triery—6.0 and 26.4 cm,[111] Doorwerth—20, 21.5 and 22.5 cm,[112] Nijmegen and vicinities—19,[113] 21.5, 28 cm,[114] Hesselby in Uppland (Sweden)—29.2 cm,[115] as well as from Slovenia—21.5 and 27 cm.[116]

Most of the vessels of unknown provenance in European[117] and American[118] museums fit into the framework of 'small' amphoras, although large vessels also occur among them.

Much larger, 44–46 cm high, are the amphoras of this type from the shipwreck near Arles (44.5 cm),[119] from Alesia (46.2 cm[120]) in France, as well as from Reinkamp-Berl (45 cm[121]) in the Lower Rhine region.

So, the finds from the Moselle and Lower Rhine regions show a distribution very similar to that from Pompeii (*Fig. 13*). The percentage of large amphoras is higher among the finds from France and Switzerland, but here, too, small amphoras, 17.4 to 24.7 cm high, prevail.

Large amphoras of the A3220 type, found in Thrace (Fig. 13), are in general close in size to those from Sarmatia, where they predominate among amphoras of this type. These are the vessels from Chatalka:

102 Tassinari 1993, 29.
103 Pernice 1900, 184–185, Nr. 9–10, Fig. 10; Oettel 1991, 24, 43, Nr. 5–6, Taf. 7.
104 Gorecki 1993, 232, Nr. A6, Taf. 3, Abb. 1.
105 D'Andria 1979, 223–224, no. 1, Tav. 124, 1; Tav. 125, 1.
106 Tassinari 1975, 71, no. 187, Pl. 37.
107 Baratte et al. 1984, 84, no. 118, Pl. 40; Pl. 49.
108 Boucher – Tassinari 1976, 144, no. 183.
109 Boucher – Tassinari 1976, 143, no. 182.
110 Holliger – Holliger 1986, 31, Nr. 156; 33, Taf. 26.
111 Bienert 2007, 16–17, Nr. 2–3.
112 Holwerda 1931, 19, Nr. 2–4, Abb. 12.8–10.
113 Koster 1997, 42–43, no. 31.
114 den Boesterd 1956, 72, nos. 260–261, Pl. 11; Pl. 16.
115 Kunow 1983, 25, 62, 74; Lund Hansen 1987, 91, 463, E458; Malmö museer 1997, 156–157, no. 423.
116 Breščak 1982, nos 107–108.
117 Munich: 22.0; 22.8; 24.0; 24.0; 35.0 cm: Pfisterer-Haas 2019, 303–306, Nr. 219–223. Berlin, Antikensammlung, inv.-no. Fr. 1650: 23.3 cm: Friederichs 1871, 355, Nr. 1650. Paris, Louvre: Tassinari 2018, 30–33, nos 15–17: 38.0, 33.0, and 25.7 cm.
118 New York: 17.8 cm: https://www.metmuseum.org/art/collection/search/252922
119 Bilan scientifique 2005, 61–62, Fig. 44.
120 Fauduet – Rabeisen 1993, 149–150, 156–157, Fig. 3.
121 Fauduet – Rabeisen 1993, 149–150, 156–157, Fig. 3.



Fig. 13. The height of the amphoras of Tassinari A3220 type: the finds from Pompei, basins of Mosel and Lower Rhine, Thrace and Sarmatia. Bar chart (1) and area chart (2) (M. Treister, 2021).

burial mounds no. 2: height 40 cm[122] and no. 7[123]—height 43.5 and 44.0 cm, from the tomb in the tumulus excavated in Plovdiv in 1905 (two amphoras)—46.5 cm,[124] from Midye (Kiyiköy)[125] and burial

122 Buyukliev 1986, 70, no. 89, Pl. 8; Kalčev 1994, 228, Abb. 2; 232, Nr. 3.

123 Raev 1977a, 636, Nr. 20, Taf. 40.1,6; Buyukliev 1986, 88, no. 345, Pl. 26; Kalčev 1994, 227, Abb. 1; 232, Nr. 1–2.

124 Dyakovich 1907, 31, Fig. 28.2–3; Fig. 32; Raev 1977a, 639, Nr. 56; Taf. 9.6–7. Although the photographs show that the amphoras are of slightly different heights, Dyakovich gives only one size.

125 Onurkan 1988, 71, no. 69, Fig. 33, Pl. 41.d.

mound E in Vize[126] in the turkish Thracce—42 and 51 cm, correspondingly. One of the amphoras in the V. Bojkov collection, with an attachment with the head of Ammon, has a height of 49 cm.[127] However, from Thrace come also 'small' amphoras of this type, albeit much less frequently: from burial mound no. 1 in Chatalka—19.0[128] and 19.4[129] cm high, from the V. Bojkov collection—25.0 cm.[130]

From the Eastern Black Sea region, I know of a find of one type A3220 amphora, originating from Dedoplis Gora—ca. 48 cm high (with a reconstructed diameter of about 28 cm, because part of the vessel body has not been preserved).[131]

J. Gorecki suggested that the dimensions of the amphoras could be tied to the Roman foot.[132] S. Pfisterer-Haas notes that, judging by the size, amphoras of this type had two standards: small one with a height of ca. 24 cm and large one—approx. 35 cm.[133] B. Bienert defines these standards as a small one—less than 20 cm and a large one—20–45 cm.[134] Our observations allow us to call into question the conclusion about the two standards of amphoras of the type A3220 and to doubt that the standards of vessels could be tied to one linear dimension, their height. Most likely, nevertheless, if we are to try to single out some standard sizes, then it is obvious that they should be associated not with the height, but with the volume of the vessels.

The sizes comparable with the finds from Sarmatian burials (mainly in the range from 40 to 44 cm) have only 4 (from 60) finds from Pompeii. Therefore, it can be argued that such large amphoras were not typical for Pompeii. With rare exceptions, such large amphoras are not typical of Western and Central Europe either. On the contrary, they predominate in Thrace, although some 'small amphoras' have been found here. Thus, it is obvious that finds of the type A3220 amphoras from Sarmatia are represented by the largest specimens of this type (Fig. 13). Given the significant variation in their size, this fact can hardly be considered a coincidence. As it was the case with the basins[135], the largest specimens were acquired here. Given the distribution of amphoras, there are serious arguments against attributing them as 'Italian' imports. Otherwise, it should be recognized that it was a special, 'export' version of the amphoras.

Joint finds and contexts

Most often, amphoras of the types under discussion in the Sarmatian burials were found together with basins of various types[136] and *Blechkanne*.[137]

In the funeral feast III of the Khokhlach, together with intact and fragmented amphoras of types A3212 and 3220, two *Blechkanne* were found, as well as a silver jug with a lid.[138] In the funeral feast

126 Onurkan 1988, 70–71, no. 68, Fig. 32, Pl. 41.b.

127 Marazov et al. 2005, 186–187, no. 234.

128 Raev 1977a, 636, Nr. 16a, Taf. 36.1; Bujukliev 1986, 70, no. 87, Pl. 8; Kalčev 1994, 229, Abb. 4; 232, Nr. 4; Reho 2015, 46, no. 33.

129 Raev 1977a, 636, Nr. 16b, Taf. 37.1; Bujukliev 1986, 65, no. 18, Pl. 2; Kalčev 1994, 228, Abb. 3; 232, Nr. 5.

130 Marazov et al. 2005, 185, no. 231.

131 Löhr 2008, 155–156, 160, no. 1, Pl. 60; Pl. 64.

132 Gorecki 1993, 231, Anm. 12.

133 Pfisterer-Haas 2019, 138.

134 Bienert 2007, 13.

135 Treister 2020d, 34, Fig. 15.

136 Treister 2020d, 28–29.

137 Treister 2018a, 228, 229, Pl. 1.

138 *Blechkanne*, see: Zasetskaya 2011, 230–231, Fig. 124a; 234, Pl. 7; 266, no. 27; Treister 2018a, 218–219, 221–223, Figs 3–5. Jug with a lid: Raev 1978, 90; Raev 1979, 236; Raev 1986, 15, Pl. 10; Treister 2004,

of the Bagaevsky mound no. 14/1961, together with an amphora of the A3220 type (Eggers 129), a casserole of the Eggers 136 / Tassinari G1110 type (lost)[139] and a basin of Eggers 97/ Tassinari S3100 type[140] were found.

Against this background, a set of vessels from Kunchukokhabl stands out, where, together with an amphora of the A3220 type (Eggers 129) a basin of the Eggers 99–106 type,[141] and a jug of Eggers 127 type,[142] were found, as well as the set from the funeral feast in the destroyed burial in the burial mound of Gorelyy-I cemetery, which included besides amphora a *Blechkanne*[143] and a basin of Eggers 99 type.[144] In the burial no. 1 of the burial mound no. 9/1987 of the Valovyy-I necropolis, the amphora was accompanied by a bronze oinochoe[145] and a casserole of the Eggers 143 type.[146] Finally in the funeral feast of burial no. 1 of the Bagaevsky kurgan no. 13/1960 together with an amphora, a basin of the Eggers 96 / Tassinari S2121 type[147] and an askos of the Late Republican type[148] were found.

The circumstances of the find do not allow us to determine accurately the position of the amphora and the sex of the buried in the ruined burial in the burial mound near the aul of Konchukokhabl.

In four cases, bronze amphoras were found in burial mounds in the Lower Don and in the Lower Volga region. In all cases, these were remains of funeral feasts associated with the central burial, which, in at least two cases, was female (Khokhlach, Gorelyy). Probably, judging by the finds of glass and gold beads, a woman was also buried in Bagaevsky mound no. 13/1960.

Only in one case—the amphora was found directly in the grave—of a young woman in burial no. 1 of the burial mound no. 9/1987 of the Valovyy-I cemetery.

Thus, an obvious connection between the finds of bronze amphoras and female burials and, especially, the funeral feasts associated with them can be traced. Similar distribution—mainly from graves (but not funeral feasts) with female burials dating from the middle of the 1st to the early 2nd century AD, also show bronze casseroles of early types 131, 136, 137, 140, 144, according to the classification of H.-J. Eggers, while later casseroles of types 142, 143 and imitations of casseroles of type 140 are found both in female and male Late Sarmatian burials.[149]

It is worth noting that, with rare exceptions, in cases where the sex of the buried is known, bronze imported basins of types Eggers 99–106, which begin to reach nomads no later than second half of the 1st century AD, i.e. almost simultaneously with amphoras, were found in male burials.

455–458, Fig. 4; Zasetskaya 2011, 226–227, Fig. 120; 267, no. 25.

139 Kropotkin 1970, 25, no. 55; 92, no. 788; Raev 1986, 28–29, Pl. 22.1; Glukhov 2005, 16, Fig. 11.2; Treister 2020b, 6.

140 Kaposhina 1965, 50; Kaposhina 1967b, 147; Kropotkin 1970, 92, no. 788, Fig. 55.1; Raev 1986, 21–22, Pl. 16; Glukhov 2005, 17, Fig. 13.1.

141 Kropotkin 1970, 90, no. 769a, Marčenko – Limberis 2008, 279, 356, Nr. 74.3, Taf. 109.2; Raev 2013, 165, Fig. 3.3; 168–170.

142 Kropotkin 1970, 90, no. 769b, Fig. 59.5; Marčenko – Limberis 2008, 356, Nr. 74.2, Taf. 109.1; Raev 2013, 166–168, Fig. 3.2; Fig. 4.3.

143 Balanovskiy – Tikhonov 2009, 14, no. 3, Fig. 6; Treister 2018a, 219, 224–225, Figs 6–7.

144 Balanovskiy – Tikhonov 2009, 14, no. 2, Figs 4–5; Treister 2020d, 9, no. 3, Fig. 4.2; Figs 5–6.

145 Bespalyy et al. 2007, 33, no. 46, Pl. 34.2; Bezuglov et al. 2009, 30, Fig. 13.3; Fig. 45; Fig. 83; Treister 2019a, Fig. 4.2; Treister 2019b, 177, Fig. 19.2,5.

146 Bespalyy et al. 2007, 31, no. 34, Pl. 33.4; Bezuglov et al. 2009, 30, Fig. 13.4; 38; Treister 2020a, 13, 31.

147 Kaposhina 1967a, 210–211; Kaposhina 1967b, 147; Raev 1977b, 141, Fig. 3; Raev 1986, 18–21, Pls 13–14; Wamers – Stutzinger 2003, 107, Nr. 70.

148 Kropotkin 1970, 24, no. 42; 92, no. 788; Raev 1977a, 624, Anm. 111; Treister 2019c, 149–150, Fig. 3; Treister 2020a, 71–74, Fig. 17.

149 Treister 2020b, 36–38.

The exception is the find in a female burial with numerous bronze vessels in Chuguno-Krepinka (burial mound no. 2/1984, burial no. 1).[150] Only in one case, fragments of the basin were found in the funeral feast of the barrow with a female burial (Kobyakovo cemetery, burial mound no. 10/1987[151]). *Blechkanne*[152] were found both in female burials (Chuguno-Krepinka, burial mound no. 2/1984, burial no. 1[153]) and feasts associated with them (Khokhlach[154]), and in male ones.

The dating of the complexes with amphoras in Eastern Europe

The finds in the funeral feast of the Bagaevsky kurgan no. 14/1961 of three light-clay narrow-necked amphoras of type Shelov A, or CIVA, after the classification of S.Yu. Vnukov, allow us to date this complex within the broad framework from the second quarter to the end of 1st century AD.[155] A subvariant of amphoras found in this mound, $CIVA_2$, dates from the 60s AD until the end of the century,[156] which, according to Leo Klein, may testify in favour of the dating the burial to the 80s AD.[157]

The proximity of the sets of appliqués in the cache in the burial mound at the settlement of Dachi near Azov, the complex, which is fairly reliably dated to the last quarter of the 1st century AD, also basing on the finds in the remains of the funeral feast of light-clay amphoras of type B,[158] and from the Khokhlach burial mound, in which two bronze jugs of the *Blechkanne* type were found, allows to date the complex from Khokhlach to the same[159] or somewhat later period of the late 1st – early 2nd century AD.[160]

In the burial mound no. 1/2003 of the Gorelyy-I cemetery, the amphora was found together with a narrow-necked light clay amphora of the CIVC type,[161] dated to the end of the last third of the 1st – the first half of the 2nd century AD (after D. B. Shelov) or from the second quarter to the late 2nd century AD (after S. Yu. Vnukov). A red-glazed cup[162] of the Form 30,[163] belongs to the middle of the 2nd century AD.[164] Thus, there are good reasons for dating the burial to the middle of the 2nd century AD at the earliest.

Thus, the data at our disposal indicate that bronze amphoras of the types under consideration begin to arrive in Sarmatia, primarily being widespread in the Lower Don area, no later than the second half of the 1st century AD, while they were found in the complexes dating from the middle of the second half of the 1st to the middle of the 2nd century AD.

150 Simonenko 2008, 19, 66, Nr. 70.4, Taf. 60; Bârcă 2009, 107, Fig. 7.3; Simonenko 2011, 57, 59, Fig. 36; 170, no. 5.4; Veličko 2013, 419, 423, Nr. 20.4; Treister 2020b, 19, no. 14, Figs 12–13; Fig. 26; Figs 28–29; Fig. 31.

151 Treister 2020d, 30.

152 Treister 2018a, 216–238.

153 Simonenko 2008, 66, Nr. 70.3, Taf. 59; Simonenko 2011, 63–65, Fig. 42.1, color photo 9; Veličko 2013, 419, 423, Nr. 20.3; Treister 2018a, 218–219, note 8: no. 6; 228.

154 Zasetskaya 2011, 230–231, Fig. 124a; 234, Pl. 7; 266, no. 27; Treister 2018a, 218–219, 221–223, Figs 3–5.

155 Vnukov 2016, 40–41.

156 Vnukov 2006, 157–158.

157 Klein 2016, 194.

158 Vnukov 2006, 167; Vnukov 2016, 41; Treister 2018b, 153.

159 Treister 2018b, 153.

160 Zasetskaya 2011, 254.

161 Balanovskiy – Tikhonov 2009, 14–15, no. 4, Fig. 7.

162 Balanovskiy – Tikhonov 2009, 10, no. 1, Fig. 8.

163 Zhuravlev 2010, Form 30.

164 Attribution by D. V. Zhuravlev.

Results of metal analyses

The walls of the amphoras are made of tin bronze with tin concentrations in the range of 8–14%. It is somewhat higher in the rim of the amphora from Khokhlach (13–16%). The handles of this amphora and the amphora from Bagaevskiy Kurgan no. 14/1961 are cast from tin-lead bronze with different concentrations of tin: in the first case—11–14%, in the second—5–7% at rather low concentrations of lead: 1–3 and 2–4%, respectively (Tab. 1).

Tab. 1. The results of X-ray fluorescence analysis (%) of bronze amphoras of the types A3212 and A3220. Brüker spectrometer analysis (analyst S.V. Khavrin, 2016).

Sample no.	Inv. no.	Origin	Cu	As	Sn	Pb	Sb	Ag	Zn	Fe	Ni
Amphoras of Tassinari A3212 type											
Khoklach burial mound. Saint Petersburg, State Hermitage											
04–1	2213/39	Rim	base	–	13–16	traces	–	–	–	<0,2	–
04–2	2213/39	Body	base	traces	10–12	<0,3	–	traces	–	<0,3	–
04–3	2213/39	Handle	base	–	11–14	1–3	–	–	traces	<0,4	–
04–4	2213/39	Rivet on the handle	base	–	traces	<0,4	–	traces	–	<0,2	–
Amphoras of Tassinari A3220 type											
Gorelyy-I. Burial mound no. 1/2003. Engels, Local Lore Museum											
BR33	15884/1, 2	Wall near the bottom	base	traces	10–14	–	–	–	–	<0,2	–
Khokhlach burial mound. Saint Petersburg, State Hermitage											
01-1	2213/41	Handle	base	traces	10–12	traces	–	–	<0,6	сл.	
Bagaevskiy burial mound no. 14/1961. Burial no. 1. Saint Petersburg, State Hermitage											
10-1		Rim	base	traces	8–10	traces	traces	–	–	<0,3	–
10-2		Wall	base	traces	8–9	traces	traces	traces	–	<0,3	–
10-3		Handle	base	–	5–7	2–4	–	–	traces	traces	–
10-4		Bottom	base	traces	9–11	traces	traces	–	–	<0,3	–

A separate handle from Khokhlach has tin admixtures of 10–12% in the absence of lead additives and a rather high zinc content (less than 0.6%) (See: Tab. 1, analysis no. 01-1).

We have at our disposal a rich comparative material of metal analyses of amphoras of types A3212 and A3220 from Pompeii,[165] which shows the following.

The walls of amphoras of A3212 type are made of very homogeneous tin bronze with stable tin concentrations of about 9.5%, which roughly corresponds to the accepted at that time recipe for alloys with a ratio of copper to tin of about 91:9.[166] Amphora handles were cast from tin-lead bronze with relatively stable tin concentrations from 7.4 to 12.4% and highly variable lead impurities: from 1.7 to 22%.[167]

165 Riederer 2008, 144–151; Gorecki et al. 2014, 192, 218–222.

166 Riederer 2008, 145–146; Gorecki et al. 2014, 192, 218.

167 Riederer 2008, 145–146; Gorecki et al. 2014, 192, 218.

The walls of amphora of A3220 type from Pompeii are made of tin bronze, with tin concentrations varying from 6.5 to 10.5% and their average values lower than in amphoras of A3212 type.[168] The alloys from which the handles are cast are also tin–lead bronzes, which are also characterized by highly differing lead contents (2.1–27.2%), however, the tin concentration varies within wider limits (4.7–12.2%), than in amphoras of A3212 type.[169] Among the micro impurities, the relatively stable and high iron content—0.16%, which is characteristic both for the walls and the bottoms and handles of vessels, attracts attention.[170]

The analyses of amphoras from Sarmatia, despite the difference in their accuracy due to the X-ray fluorescence analysis, generally show similar alloy recipes, for both walls and handles. Noteworthy are the relatively low concentrations of lead in the metal of the handles from Khokhlach and Bagaevskiy kurgan no. 14/1961 and the fact that a separate handle of the amphora from Khokhlach was cast from tin bronze without admixture of lead, which is absolutely not typical for amphoras from Pompeii.

Conclusion

There are no separate statistics on the distribution of finds of Roman bronze amphoras in Italy and the provinces of the Roman Empire. In the recently published calculations made by J. Gorecki, amphoras are not singled out (probably they were included in the 'jugs' category, and in German literature they are usually called not amphoras, but two-handed jugs—*Doppelhenkelkrüge*), but even in this case, with the jugs being the most common find in Pompeii (approx. 19%),[171] they were practically unknown (approx. 1%): among the finds from Roman legionary camps of the Julius–Claudian period[172] and among the bronze vessels of the 1st – early 2nd centuries AD found in the Barbaricum,[173] where the bronze amphora with lost handles from Hesselby in Uppland (Sweden),[174] included in the list of amphora of type 129 still by H.-J. Eggers, remains the only rare example.

In general, in the territory of Western Europe, the amphoras under discussion, in addition to Italy, were relatively widespread in Eastern and Southern Gaul and in the Lower Rhine region. In the territory of Eastern Europe, their finds are concentrated in two regions: Thrace and Asian Sarmatia, and only one amphora was found further to the east—in Transcaucasia.

The overwhelming majority of amphoras from Pompeii were small in size with the height in the range of 17–33 cm, within which two peaks with values of 19–23 cm and 25–27 cm, stand out. Amphoras higher than 33 cm in Pompeii are extremely rare. Finds from the Moselle and Lower Rhine regions show a distribution very similar to that from Pompeii. The percentage of large amphoras is higher among the finds from France and Switzerland, but here, too, amphoras with a height from 17.4 to 24.7 cm prevail. The sizes comparable with the finds from Sarmatian burials (mainly in the range from 40 to 44 cm) have only 4 (from 60) finds from Pompeii. Therefore, it can be argued that such large amphoras were not typical of either Pompeii or Western and Central Europe. On the contrary, they predominate in Thrace, although a small number of 'small amphoras' have been found here.

168 Riederer 2008, 146–148; Gorecki et al. 2014, 219–222.

169 Riederer 2008, 148; Gorecki et al. 2014, 219–222.

170 Riederer 2008, 150.

171 Gorecki 2016, 202, Abb. 13.

172 Gorecki 2016, 203, Abb. 14.

173 Gorecki 2016, 204, Abb. 15.

174 Malmö museer 1997, 156–157, no. 423.

Attention is drawn to a rather significant number of bronze amphoras found in the burials of the nomads of Asian Sarmatia, more than half of which originate from the so-called 'princely'[175] burials in the Lower Don region of the second half of the 1st – early 2nd century AD and a clear correlation of the finds with the remains of the funeral feasts associated with central female burials in the mounds. Only in Thrace a larger number of bronze amphoras was found (also in relation to the total number of the Roman bronze vessels).[176] To compare—in Dacia only two fragments related to the amphoras were found[177]). In the Bosporan Kingdom, as well as in the cemeteries of the South-Western Crimea of the first centuries AD, no bronze amphoras were found. They were also not found in the burials of the nomads to the west of the Don.

It is obvious that the distribution of amphoras in Asian Sarmatia differs from other categories of imported bronzeware, including those of the same period, for example, casseroles[178] or basins.[179]

Most researchers assume that bronze amphoras were used as parts of sets for drinking (water or wine)[180] or for ablution.[181] Also the point of view that small amphoras with a rounded body could be used as table vessels, while large ones (to which practically all amphoras from Sarmatia belong)—for storing water for washing deserves attention.[182]

The penetration of a relatively large number of amphoras to the nomads gives reason to assume that such vessels were in some demand among the latter. This partly explains the acquisition of the largest amphoras by the Sarmatians. One gets the impression that it was not by chance that large amphoras, which were probably not in demand either in Italy or in the provinces, although they were occasionally found there, were brought to Thrace and Sarmatia. If this is so (and I cannot find another explanation), then such large vessels could have been specially made with a view to the Thracian and Sarmatian aristocracy.

Of course, this was not the only way of penetration of large bronze amphoras to the Sarmatians.

If we consider the Latin inscription on the neck of the amphora from the Valovyy-I necropolis, as the owner's inscription, and there is every reason for this, then the question arises as to how a large bronze vessel, dating, most likely, within the mid–third quarter of the 1st century AD and belonging to Cornelia Quartilla, probably a Roman citizen, found its way in the burial of a young nomadic woman in a Sarmatian Burial-mound near Tanais, dating to the first half–mid-2nd century AD?

F. V. Shelov-Kovedyaev assumed that either the amphora could have been captured by the Alans during their raids into Asia Minor, or it first came to the Bosporus (either with the owner herself, or with one of the Bosporan Greeks who brought it from Asia Minor) and already in the Kingdom of Bosporus was given to the nomads as a gift or tribute.[183]

In my opinion, any connection of the amphora in question with Asia Minor is unlikely, considering the fact that such amphoras are almost unknown there so far. In my opinion, remaining for the deduction of 'Asia Minor versions,' the assumption that Cornelia Quartilla herself, along with her

175 Zasetskaya 2011, 256, note 48.

176 See Raev 1977a, 622–624; Onurkan 1988, 69–71, Figs 29–33; Pls 39–41; Kalčev 1994, 227–232; Bojkova 1997, 73, Fig. 15; Koçel Erdem 2009, 214, no. 1; 218–220, Drawing 1, Figs 7–8; 221; Nenova-Merdjanova 2011, 116–117, Fig. 4.

177 Mustață 2017, 116–117.

178 Treister 2020b, 5–60.

179 Treister 2020d, 5–48.

180 Koster 1997, 41.

181 Sedlmayer 1999, 39; Nenova-Merdjanova 2002, 201.

182 Banghard – Gorecki 2004, 199; Mustață 2017, 117.

183 Shelov-Kovedyaev 2001, 120–121.

amphora, could, for example, as the wife of a Roman officer, have ended up in the Bosporus, has more grounds for existence.

I suppose that Cornelia Quartilla herself, along with her amphora, could have ended up in the Bosporus as the wife of one of the senior Roman officers and this could happen only during the stay of the troops of Didius Gallus in the Cimmerian Bosporus during the Bosporan–Roman war of 45–49 AD.

It is well known that wives and even children accompanied their husbands (fathers) not only to live with them in the forts, but also during military expeditions—the restrictions on accompanying their husbands for senior officers were lifted in 21 AD.[184] A close example, both chronologically and geographically, is a woman with a son who accompanied Caesennius Paetus to Armenia in 61–62 AD during the campaign against the Parthians. As reported by Tacitus (Tac. Ann XV.10,6): "His wife and son found concealment in a fortress known as Arsamosata, to which he allowed a cohort by way of garrison; thus dispersing a force which, if concentrated, might have coped more effectively with its shifting adversary."[185]

According to the Roman law, getting married, a woman did not lose the right of ownership to her inherited or acquired items.[186] In this case, taking into account the dating of the amphora, its way to the nomads could take place only during the stay of the troops of Didius Gallus in the Cimmerian Bosporus during the Bosporan–Roman war, and the amphora itself could, for example, were given to the Aorsi led by the King Eunon, during the embassy, which was sent to him by Gaius Julius Aquila and Cotys (Tac. Ann. XII, 15.2). In the course of these events, as we assumed on the basis of the data available to us, bronze casseroles of the Eggers 131, 136, 137 and 140 types also fell to the nomads.[187]

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Zum aktuellen Stand der «raetischen Statuettenwerkstatt»

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Abstract: Robert Fleischer was the first, in 1963, to attribute a common workshop to a group of seven bronze statuettes of the late 2nd/early 3rd centuries AD, the majority of which had been found in the provinces of Raetia and Noricum, more exactly in the area of the Limes forts situated along the Danube (Straubing, Regensburg, Enns) and in their hinterland. What makes these statuettes so distinctive are their stylistic features characterised by a lack of artistic imagination and variation which results in a very schematic modelling of bodies and garments. This uniformity is due to the fact that the wax models were built up by using the same partial negative moulds. Meanwhile the number of bronzes to be attributed to this workshop has increased considerably; today we know of twenty-three statuettes and five single bases. As new types of deities Diana and Vulcan have been added. According to their findspots the statuettes were in demand primarily by civilians living in vici or villas in the densely populated area south of the Limes but there is evidence, too, for their use within military forts.

Keywords: bronze workshop, statuettes, Raetia, Raetian Limes

Die Frage der seriellen Herstellung römischer Bronzestatuetten beschäftigte die Forschung vor allem in der zweiten Hälfte des 20. Jahrhunderts. Zu den Pionieren gehörte Erik Poulsen, der deren seriellen Charakter zwar erkannte, jedoch von einem zu komplizierten Verfahren ausging.[1] An der Berliner Tagung über antike Bronzen von 1984 lieferten Annalis Leibundgut, Michael Maass und Poulsen selbst nochmals wichtige Beiträge zum Thema; dabei zeigte sich, dass bei stilistisch eng verwandten Bronzen immer auch mit der Möglichkeit von nachantiken Abgüssen gerechnet werden muss.[2] Unterdessen ist allgemein anerkannt, dass die Wachsmodelle von römischen Bronzen – so gut wie die der vorangehenden griechischen – in der Regel mit Hilfe von Teilnegativformen hergestellt wurden, die vor dem Guss beliebig überarbeitet werden konnten, so dass die einzelnen Statuetten einer Serie ihr gemeinsames Modell zwar erkennen lassen, sich jedoch durch kleinere oder grössere Varianten unterscheiden.[3]

1 Poulsen 1977.

2 Poulsen 1984; Leibundgut 1984; Maass 1984. Vgl. zusammenfassend Kaufmann-Heinimann 1998, 16–20.

3 Die technischen Grundlagen, insbesondere bei der Herstellung griechischer Grossbronzen, erläuterte Carol C. Mattusch in zahlreichen Publikationen (vgl. etwa Mattusch 1996). Benoît Mille dokumentierte verschiedene Arten der Herstellung römischer Bronzen am Beispiel der Statuetten im Hortfund von Bavay (Nord, F) (Mille 2019).

In der Erstpublikation des Hortfunds von Straubing 1951 bemerkte Hans Klumbach, dass sich vier der sieben zusammen gefundenen Statuetten «aus stilistischen Gründen und wegen der Gleichheit der Sockel» zu einer Gruppe zusammenfassen liessen.[4] In den folgenden Jahrzehnten befasste sich Robert Fleischer in zwei Beiträgen eingehend mit dieser «raetischen» Gruppe: an sechs weiteren Statuetten und zwei einzelnen Sockeln erkannte er die gleichen Stilmerkmale,[5] und er machte wahrscheinlich, dass alle diese Stücke aus derselben, regional tätigen Werkstatt stammen.[6] Da sich seither die Gruppe weiter vergrössert hat,[7] schien es angebracht, das Thema auf dieser erweiterten Grundlage nochmals aufzugreifen.[8] Dabei geht es um Fragen zu Ikonographie und Typen der Statuetten sowie zur Lokalisierung und zeitlichen Einordnung der Werkstatt. Ein besonderes Augenmerk gilt den mutmasslichen Abnehmerkreisen. Da der Grossteil der Statuetten aus dem Umfeld des obergermanisch-raetischen Limes stammt und zu Militärlagern stets auch ein Lagervicus gehörte, kommen Militär wie Zivilbevölkerung in Frage.[9] Zu bedenken ist allerdings, dass nicht immer klare Zuweisungen möglich sind.

Um die in der raetischen Werkstatt hergestellten Bronzen als solche zu erkennen, erweisen sich die beschränkten künstlerischen Fähigkeiten des verantwortlichen Bronzegiessers oder Werkstattmeisters[10] als hilfreich, verwendete er doch durchwegs gleiche Stileigenheiten, die sich vor allem in der Körpermodellierung der Figuren, in der Wiedergabe von Stoff und Falten sowie der Gesichtszüge bemerkbar machen.[11] Infolgedessen ist es meist recht einfach, die dort produzierten Statuetten zu erkennen. Die Rückseite der Statuetten ist meist summarisch wiedergegeben. Profilansichten zeigen, dass oft an Volumen – d.h. an Material – gespart wurde, da nur die Vorderansicht wichtig war.[12] Den männlichen Torso gliedern je zwei geschwungene Bögen beidseits des Brustbeins sowie

4 Klumbach 1951, 32.

5 Dazu bes. Fleischer 1963, 177–182; Fleischer 1977, 63–64.

6 Fleischer 1963; Fleischer 1977. Im folgenden werden Statuetten mit den unten definierten Stilmerkmalen unter dem Begriff der raetischen Werkstatt zusammengefasst, unabhängig davon, dass es allenfalls mehrere Werkstätten gab, die mit gleichen Teilnegativformen arbeiteten. Jiři Frel erweiterte das Thema, indem er – nicht immer überzeugend – Bezüge zwischen Herstellern von Statuetten und von Paradewaffen insbesondere im raetisch-norischen Raum und darüber hinaus aufzuzeigen versuchte (Frel 1987). Erinnert sei zudem daran, dass Josef Riederer 1987 die Straubinger Statuetten metallurgisch untersuchte (Riederer 1994); er stellte sehr verwandte Legierungen fest und konnte sogar einzelne Gussvorgänge unterscheiden (verwirrend ist allerdings, dass er zum Teil für die gleichen Statuetten verschiedene Bezeichnungen verwendete, so dass nicht alle Analysen zweifelsfrei zuzuordnen sind).

7 Siehe Katalog S. 322–330.

8 Mein grosser Dank für Hinweise, Unterlagen und kritische Bemerkungen gilt Bernd Steidl (München). Für weitere Informationen, Fotos und Reproduktionserlaubnis danke ich Rudolf Känel und Debora Schmid (Augst), Werner Lengger, Esther Kube und Stefan Schmidt (Augsburg), Norbert Franken und Martin Maischberger (Berlin), Beáta Kulcsár, Krisztina Lovas und Zsolt Mráv (Budapest), Reinhardt Harreither (Enns), Klaus Kortüm (Esslingen), Sarah Roth (Karlsruhe), Dominik Kimmel (Mainz), Jörg Gebauer, Brigitte Haas-Gebhard, Markus Löx, Christoph Stähli n (München), Jeff Klotz (Neulingen), Stefan Reuter (Neu-Ulm), Martin Kemkes (Rastatt), Maximilian Ontrup (Regensburg), Kalina Petkova (Sofia), Regula Steinhauser-Zimmermann und Regula Ackermann (St. Gallen), Günther Moosbauer (Straubing), Astrid Fendt und Ulrike Klotter (Stuttgart), Marc Heise (Tübingen) sowie dem Besitzer der Statuetten Nr. 13 und 23. Die Ausführung der Verbreitungskarte Abb. 29 verdanke ich Hannes Flück (Aarau) und Andreas Schaflitzl (Aalen).

9 Zu den Beziehungen zwischen beiden Bereichen vgl. etwa Speidel 1999.

10 Der Begriff des Bronzegiessers lässt ausser acht, dass es das Modellieren der Wachsfigur war, was die künstlerische Qualität einer Bronze bestimmte; hohes technisches Können war dagegen für den Gussvorgang nötig.

11 Ausführlich zu den Stilmerkmalen Fleischer 1963, 177–181.

12 Vgl. etwa die Profilansicht der Fortuna aus Enns (Nr. 7) bei Deringer 1957, Taf. oben Mitte.



Abb. 1. Merkur aus Enns. a – Vorderseite (© Museum Lauriacum-Enns, Foto: Leibniz-Zentrum für Archäologie [LEIZA] / O. Pilko, T_1966_01303), b – Rückseite (© Museum Lauriacum-Enns, Foto: Leibniz-Zentrum für Archäologie [LEIZA] / O. Pilko, T_1966_01306).
Fig. 1. Mercury from Enns. a – front view, b – back view (photo: O. Pilko).

kurze waagrechte Kerben über der Brust und unterhalb der Rippen. Die Gewänder werden von parallelen oder spitz aufeinandertreffenden Kerben durchzogen, ohne dass verschieden schwere Stoffarten unterschieden wären. Gewandsäume und parallel verlaufende Faltenzüge erscheinen häufig wulstartig verdickt. Immerhin zeigen sich gerade hier gewisse Varianten: so verläuft der um die Hüften geschlungene Mantel bei der Fortuna aus Regensburg (Nr. 9, Abb. 9.a–b) anders als bei den Fortunastatuetten aus Enns (Nr. 7, Abb. 7.a–b) und Straubing (Nr. 8, Abb. 8.a–b).[13] An den Armen fallen die übergrossen Hände mit zum Teil überlangem Zeigefinger auf. Bei Einzelfiguren ist der Kopf geradeaus gerichtet oder nur wenig aus der Mitte verschoben.[14] Wenig variiert wird ferner die Gestaltung der zum Teil fast maskenhaft wirkenden Gesichter; den Mund und die Augen mit stechendem Blick rahmen kurze bogenförmige Kerben ein. Dabei lassen vor allem die Gesichter durchaus gewisse Qualitätsunterschiede erkennen: man möchte vermuten, dass das Wachsmodell der Venus aus Wallersdorf (Nr. 14, Abb. 14.a–b) mit ihrem verkniffenen Gesichtsausdruck von einem weniger geübten Handwerker hergestellt wurde als dasjenige des munteren Merkur aus Munderkingen (Nr. 4, Abb. 4.a–b).

Wie die bisher bekannten Statuetten der Gruppe vermuten lassen, beschränkte man sich für jede Gottheit auf nur einen Typus. Gewählt wurden bis auf eine Ausnahme geläufige Gewandtypen: Victoria trägt nicht den üblichen langen Chiton, sondern eine Männertracht, genauer eine für den

13 So auch Fleischer 1977, 63.

14 Dagegen nehmen die als Paar konzipierten Eroten (Nr. 16 und 17) und Laren (Nr. 21–23) aufeinander Bezug.



Abb. 2. Merkur aus Straubing. a – Vorderseite, b – Rückseite (© Gäubodenmuseum Straubing, Foto: Fotowerbung Bernhard, Straubing).
Fig. 2. Mercury from Straubing. a – front view, b – back view (photo: Photowerbung Bernhard).

Genius verwendete Chlamys, die den Oberkörper freilässt und mit einem Stoffbausch auf der linken Schulter aufliegt (vgl. Nr. 18–20, Fig. Abb. 18–20). Offensichtlich griff der Werkstattmeister oder Bronzegiesser aus arbeitsökonomischen Gründen auf Teilnegative von Geniusstatuetten zurück und passte sie dem Typus der Victoria an.[15]

Noch augenfälliger als die Stilmerkmale der Statuetten ist die einheitliche Form der Sockel: sechseckig, mit geschwungenem Mittelteil und schmal abgesetztem Profil an der unteren Kante wirken sie wie ein Markenzeichen dieser Bronzegiesserei.[16]

15 So auch Kortüm 1995, 178–179.

16 Es ist nicht erstaunlich, dass im Lauf der Zeit die ursprünglichen Sockel zum Teil verloren gegangen und durch neue ersetzt worden sind, so bei den Statuetten Nr. 3, 9 und 15. – Wie Fleischer betont (Fleischer 1977, 64 m. Anm. 8), sind sechseckige Sockel auch ausserhalb der raetischen Werkstatt bekannt; jedoch unterscheiden sie sich in Einzelheiten der Ausführung und stammen deshalb nicht aus der gleichen Produktion.

Neu hinzugekommene Statuetten und Sockel

Seit der Übersicht über die Produktion der raetischen Werkstatt von 1998[17] sind sieben Statuetten und ein einzelner Sockel (Merkur Nr. 5, Vulkan Nr. 6, Victoria Nr. 11, Diana Nr. 13, Genius Nr. 19 und 20, Lar Nr. 23, Sockel Nr. 27) hinzugekommen; sie sollen im folgenden kurz vorgestellt werden.

Nicht einfach zu beurteilen ist eine angeblich in München gefundene Merkurstatuette (Nr. 5, Abb. 5a–b), deren Oberfläche nicht mehr intakt erhalten ist. Bei genauer Untersuchung lässt sich jedoch die für die raetische Werkstatt typische Binnengliederung des Torsos erkennen. Der angegebene Fundort innerhalb Münchens kann nicht stimmen; das schliesst aber nicht aus, dass die Statuette anderswo in Raetien gefunden wurde.[18]



Abb. 3. Merkur aus Augsburg. a – Vorderseite, b – Merkur aus Augsburg, Rückseite (© Kunstsammlungen und Museen Augsburg, Römisches Museum, Inv. VF 658, Foto: Karin Ruff).
Fig. 3. Mercury from Augsburg. a – front, b – back view (photo: Karin Ruff).

An dem in den Münchner Antikensammlungen aufbewahrten Vulkan in München (Nr. 6, Abb. 6) fallen sein energisches Auftreten und der gut modellierte Torso auf. Für das Gewand (Exomis), das nur im unteren Teil mit dem der laufenden Eroten (Nr. 16 und 17) und der Laren (Nr. 21–23) gewisse Ähnlichkeit hat, verwendete der Bronzegiesser offenbar eigene Teilnegativformen. Höchstwahrscheinlich gehört die Statuette zu den nicht wenigen römischen Bronzen, die in Bayern ge-

17 Kaufmann-Heinimann 1998, 21, 23–26, Abb. 4.

18 Bernd Steidl, dem ich für die Autopsie und Informationen zum Fundort danke, vermutet, dass ein Brand auf die Oberfläche eingewirkt hat. Aus dem Münchner Stadtteil, in dem die angebliche Fundstelle liegt, sind keine römischen Funde bekannt.

funden wurden, jedoch in den Inventaren der Antikensammlungen nicht als solche ausgewiesen sind, da Herkunftsangaben fehlen.[19] Für die Bedeutung des Gottes Vulkan beispielsweise in Regensburg sprechen einige bildliche Zeugnisse, dazu die (im einzelnen nicht widerspruchsfrei gedeutete) Weihinschrift des Aedils Aurelius Artissius aus dem späteren 2. Jh.[20]

Für die Victoriastatuette Nr. 11 (Abb. 11.a–b) in Berlin konnte Norbert Franken eine Herkunft aus Köln nachweisen: sie gehörte zur Sammlung des Malers Johann Jacob Meinertzhagen (1788–1863), der lokale Funde ankaufte.[21] Innerhalb der raetischen Werkstatt stellt sie einen Sonderfall dar, indem sie sich in den Proportionen deutlich von den beiden Victorien aus Pforzheim und aus Krepča (Nr. 10 und 12) unterscheidet: die beiden anderen Statuetten sind schlanker, bewegter und eleganter, und doch ist die typologische Verwandtschaft zwischen allen drei unverkennbar. Es ist nicht möglich genau zu rekonstruieren, wie weit hier allenfalls Teilnegative von verschiedenen Serien verwendet wurden.[22]



Abb. 4. Merkur aus Munderkingen. a – Vorderseite, b – Merkur aus Munderkingen, Rückseite (© Landesmuseum Württemberg, Foto: P. Frankenstein / H. Zwietasch).
Fig. 4. Mercury from Munderkingen. a – front, b – back view (photo: P. Frankenstein / H. Zwietasch).

19 Vgl. schon Christ 1864, 373.

20 Eichinger 2011, 89–91, 96–97, Nr. 1.6.5; 1.6.6; zur Inschrift zusammenfassend Dietz – Fischer 2018, 80–82.

21 Franken 2000, 51–52, Abb. 12–13.

22 Der nach oben gebogene Fortsatz des linken Fusses scheint ein Rest der Verbindung mit dem – jetzt verlorenen – Globus zu sein; könnte ein Fehlguss vorliegen?



Abb. 5. Merkur angeblich aus München. a – Vorderseite, b – Rückseite (© Archäologische Staatssammlung München, Foto: Stefanie Friedrich).
Fig. 5. Mercury, allegedly found in Munich. a – front view, b – back view (photo: Stefanie Friedrich).

Im Repertoire der raetischen Werkstatt fehlte Diana bisher; sie ist jetzt durch eine schlecht erhaltene Statuette – wohl ein Fehlguss – aus dem Kunsthandel vertreten (Nr. 13, Abb. 13.a–b). Mit der erhobenen Rechten griff sie in den Köcher; die einst vorgestreckte Linke trug den Bogen. Da sie ein kurzes Gewand trägt und in Bewegung dargestellt ist, liegt es nahe zu vermuten, dass für die untere Hälfte des Wachsmodells Teilnegativformen von laufenden Eroten (vgl. Nr. 16–17) oder Laren (vgl. Nr. 21–23) verwendet wurden.

Wie oben ausgeführt, verwendete man in der raetischen Werkstatt für Victoria einen für Geniusdarstellungen üblichen Gewandtyp. Zu der schon länger bekannten Statuette im Hortfund von Straubing (Nr. 18, Abb. 18.a–b) gesellen sich nun zwei weitere Geniusfiguren: ein fragmentarisch erhaltener Altfund aus der weiteren Umgebung von Augsburg (Nr. 19, Abb. 19.a–b) sowie eine Figur mit Wasserpatina. Der Genius aus Goldach (Nr. 20, Abb. 20.a–b) lag in einer Kiesbank des gleichnamigen Flüsschens, das von Süden her westlich von Rorschach in den Bodensee mündet.[23] Möglicherweise führte die römische Strasse von Brigantium (Bregenz) nach Arbor Felix (Arbon) unweit der Fundstelle über die Goldach, wo sich ein Übergang befunden haben könnte.[24] Die Oberfläche der Statuette ist durch die lange Lagerung im Wasser völlig verwaschen, doch ist die Figur genügend gut erhalten, dass an ihrer Zugehörigkeit zur raetischen Werkstatt kein Zweifel besteht. Die am Rücken ankorrodierte rechte Hand mit der Patera konnte wieder an der richtigen Stelle befestigt werden. die trotz stark verwaschener Oberfläche die bekannten Stilmerkmale deutlich erkennen lässt.

23 Aus der näheren Umgebung sind weitere römische Funde bekannt (unpubliziert; Akten Archiv Kantonsarchäologie St. Gallen. Zum Schutz vor Raubgrabungen wird auf genaue Angabe der Fundstellen verzichtet). Zur Bodenseegegend in römischer Zeit vgl. Leuzinger 2017.

24 Zum Verlauf der römischen Hauptstrasse am Bodensee vgl. Meyer 2010, 58–63, Abb. 16.



Abb. 6. Vulkan, Fundort unbekannt. a – Vorderseite (© Staatliche Antikensammlungen und Glyptothek München, Foto Renate Kühling), b – Rückseite (Foto: Markus Löx).
Fig. 6. Vulcan, findspot unknown. a – front view, b – back view (photo: Markus Löx).

Die Larenstatuette Nr. 23 (Abb. 23.a–b) aus dem Kunsthandel hat sich mit ihrem Sockel erhalten. Sie gehörte, wie die beiden anderen Exemplare Nr. 21–22, zu einem Larenpaar. Die flaue, poliert wirkende Oberfläche könnte von einer künstlichen Patina herrühren. Im einzelnen steht der Lar in Privatbesitz dem in Budapest aufbewahrten Laren näher als der Straubinger Statuette, insbesondere durch die grossflächig modellierte Rückseite, die sich von dessen flacher, schematisch gegliederter Rückenpartie unterscheidet.

Wichtig für weiterführende Überlegungen zur Tätigkeit der Werkstatt und zur Verbreitung ihrer Produkte sind auch einzeln gefundene Sockel (Nr. 24–28). Neu hinzugekommen ist ein Sockel aus dem Vicus von Faimingen/Phoebiana (Nr. 27, Abb. 27).

Themen und Typen der Statuetten aus der raetischen Werkstatt

Es ist klar, dass die heute erhaltenen Statuetten der raetischen Werkstatt in thematischer Hinsicht nur eine Auswahl aus deren Angebot darstellen; dennoch geben die vertretenen Gottheiten Hinweise auf Abnehmerkreise und Verwendungskontext. Auf den ersten Blick sind es Figuren, die für Lararien geschaffen wurden, also für häusliche Kultstätten, in denen einerseits die klassischen Hausgötter – Laren und Genius –, anderseits verschiedene, nach Belieben gewählte Gottheiten ihren Platz hatten.[25] Es fällt zudem auf, dass auch gehobene Ansprüche berücksichtigt wurden, indem die Werkstatt neben Götterstatuetten auch dekorative Assistenzfiguren wie die laufenden

25 Kaufmann-Heinimann 1998, bes. 181–195.

Eroten als imaginäre oder reale Lichtträger produzierte.[26] Hinsichtlich der Themenwahl deuten die mehrfach erhaltenen Statuetten der Fortuna (Nr. 7–9), der Victoria (Nr. 10–12) und des Genius (Nr. 18–20) auf ein auch vom Militär geprägtes Umfeld der Abnehmerkreise.[27] Es ist anzunehmen, dass Jupiter, Mars, Herkules und Minerva ebenfalls zum Repertoire der Werkstatt gehörten.[28]



Abb. 7. Fortuna aus Enns. a – Vorderseite (© Museum Lauriacum-Enns, Foto: Leibniz-Zentrum für Archäologie [LEIZA] / O. Pilko, T_1966_01324), b – Rückseite (© Museum Lauriacum-Enns, Foto: Leibniz-Zentrum für Archäologie [LEIZA] / O. Pilko, T_1966_01327).
Fig. 7. Fortuna from Enns. a – front view, b – back view (photo: O. Pilko).

26 Lichtquellen gehören zur Ausstattung von Lararien, wobei der Amor Nr. 17 eine richtige Lampe trägt, die anderen beiden (Nr. 15 und 16) jedoch bloss eine fiktive Leuchte. Zu Paaren von laufenden Eroten vgl. Hiller 2002. Als künstlerisch hervorragende Beispiele von lampentragenden Eroten ist das von Bernd Steidl neu zusammengesetzte Paar aus dem Schatzfund von Weissenburg (Bayern, D) zu nennen: Steidl 2021, 102–104, Abb. 35.

27 Zu den vom Militär bevorzugten Gottheiten vgl. allg. Ankersdorfer 1973, 218–220; zur Religion des Heers am obergermanisch-raetischen Limes vgl. etwa Stoll 1992; Kemkes – Willburger 2004. Aus Sicht der Sachkultur sind Weihealtäre mit Inschriften und andere Steinmonumente ohne Zweifel die Hauptquellen zur religiösen Praxis des Militärs. Ihr thematisches Spektrum erlaubt, zusammen mit anderen Indizien, Rückschlüsse auf die Funktion von kleinen, beweglichen und nicht ortsgebundenen Objekten, wie es Statuetten sind. Nur sehr selten haben sich Bronzestatuetten mit zugehöriger Inschrift erhalten; als prominentes Beispiel ist der 50 cm hohe Genius von Niederbieber (Stoll 1993; Stoll 2001) zu nennen.

28 Der heute einzeln vorhandene Sockel im Hortfund von Straubing (Nr. 25) trug vielleicht das spiegelbildliche Gegenstück zum Laren Nr. 21; jedenfalls spricht die erhaltene Lötspur nicht dagegen.



Abb. 8. Fortuna aus Straubing. a – Vorderseite, b – Rückseite (© Gäubodenmuseum Straubing, Foto: Fotowerbung Bernhard, Straubing).
Fig. 8. Fortuna from Straubing. a – front, b – back view (photo: Photowerbung Bernhard).

Wenige Bemerkungen zum Erscheinungsbild der Laren und des Genius mögen hier folgen. Die einzeln oder paarweise dargestellten Laren und der mit der Toga bekleidete Genius waren einst die zentralen Figuren des von Augustus neu eingerichteten Hauskults.[29] In mehreren in den Provinzen gefundenen Statuettenensembles zeigt sich, dass die Laren oft Erbstücke waren, die über Generationen aufbewahrt wurden;[30] Neuschöpfungen kommen eher selten vor. Die raetische Werkstatt belegt, dass im späteren 2. Jh. (siehe unten) im raetisch-norischen Raum ein Bedarf an neuen Larenfiguren bestand, den sie zu decken suchte. Dabei orientierte sich der Bronzegiesser am Typus der tanzenden, paarweise dargestellten Laren mit dem Rhyton in der erhobenen Hand.[31] Schon etwas früher, im Lauf desselben Jahrhunderts, war der Bildtyp des opfernden Genius in der Toga ausser Mode gekommen; an seine Stelle trat der mit der Chlamys bekleidete junge Mann, dem nun eine neue Funktion und Bedeutung im Rahmen der Kultpraxis des Militärs zukam, der aber auch in Hausheiligtümern anstelle des früheren Togatus Platz fand.[32]

29 Zur augusteischen Kultreform vgl. jetzt Flower 2017, 271–310.

30 Z. B. Kaufmann-Heinimann 1998, 260–261, GF42, Abb. 216 (aus Rouen, F), 283, GF80, Abb. 245 (aus Muri, CH), 303, GF107, Abb. 169 (aus Nagydém, H).

31 Was die andere, nach unten geöffnete Hand hielt, ist nicht klar; üblicherweise fasste sie eine Opferschale, was hier nicht möglich scheint.

32 Vgl. allg. Kunckel 1974, 53–58; zum Genius im militärischen Kontext u. a. Stoll 2012.

Zu Zeitstellung, Lokalisierung und Abnehmerkreisen der raetischen Werkstatt

Anhaltspunkte für eine Datierung der Statuetten aus der raetischen Werkstatt ergeben sich aus der Entwicklung der am obergermanisch-raetischen Limes gelegenen Kastelle und Vici, von wo viele der Figuren stammen (vgl. Verbreitungskarte Abb. 29) Eine engere Datierung innerhalb der Jahrzehnte vor und nach 200 n. Chr. ist schwierig; das hängt nicht zuletzt mit der langen Lebensdauer zusammen, die Objekten wie Bronzestatuetten eigen ist. Zu bedenken ist ferner, dass gerade die Verwendung von Teilnegativformen es möglich machte, in mehreren Werkstätten Statuetten mit den gleichen stilistischen Merkmalen zu produzieren.[33]



Abb. 9. Fortuna aus Regensburg. a – Vorderseite, b – Rückseite (© Museen der Stadt Regensburg, Foto: Anna Weinzierl).
Fig. 9. Fortuna from Regensburg. a – front view, b – back view (photo: Anna Weinzierl).

In Hinblick auf die Anfänge der Produktion kommt dem Merkur aus Enns (Nr. 1) besondere Bedeutung zu, wurde er doch «auf Lagergrund» gefunden;[34] er gehört also in die Gründungszeit des Lagers in Lauriacum (ca. 185–205 n. Chr.), wohin die 2. Italische Legion nach den Markomannenkriegen verlegt wurde, um die Nordgrenze des Reiches gegen einfallende Germanen zu sichern.[35] Damit hat sich ein früher Beleg für die Tätigkeit der raetischen Werkstatt erhalten – bemerkenswerterweise ausserhalb der Provinzgrenze, die jedoch für mobile Objekte wie Statuetten kein Hindernis darstellte.[36]

33 Siehe auch Anm. 6. Leider wissen wir nichts über die mutmassliche Betriebsdauer von römischen Statuettenwerkstätten.

34 Aus der Nordwestecke des Lagers – ohne weitere Präzisierungen – stammt die Fortuna Nr. 7; auch der Sockel Nr. 24 ist sehr wahrscheinlich ein lokaler Fund.

35 Zusammenfassend Ubl 2006; Muschal 2015.

36 In Noricum wurden sonst keine raetischen Statuetten gefunden, was die Konzentration der Werkstätte(n) auf Raetien bestätigt (vgl. auch Fleischer 1977, 64).



Abb. 10. Victoria aus Pforzheim. a – Vorderseite (nach Nuber 1988, Abb. 22), b – Rückseite (unrestauriert) (Foto: Landesamt für Denkmalpflege im Regierungspräsidium Stuttgart).
Fig. 10. Victory from Pforzheim. a – front view (after Nuber 1988, Fig. 22), b – back view (unrestored) (photo: Landesamt für Denkmalpflege im Regierungspräsidium Stuttgart).

Um die gleiche Zeit wurde in Regensburg die 3. Italische Legion, ebenfalls zur Sicherung der Nordgrenze, installiert. Der Legionskommandant war zugleich (militärischer) Statthalter Raetiens, während sich in Augsburg der Sitz der zivilen Provinzverwaltung befand.[37] In beiden Orten wurden Statuetten aus der raetischen Werkstatt gefunden (Nr. 3, 9, 15–17), jedoch sind nur die Fundumstände des stark brandgeschädigten gerüsteten Amor Nr. 16 aus Regensburg näher bekannt: er gehörte zu einem in einer Offiziersunterkunft eingerichteten Lararium, das um 280 n.Chr. einer Zerstörung zum Opfer fiel.[38] In Augsburg stammt der Altfund einer Merkurstatuette (Nr. 3) aus einem Gebiet, in dem neuere Grabungen Reste eines palastartigen Grossbaus – vielleicht einen Teil des Statthalterpalasts – zutage gefördert haben.[39] Zweifellos könnte die raetische Werkstatt – oder könnten ihre Zweigstellen – auch in Regensburg oder Augsburg installiert gewesen sein.[40]

37 Dietz – Fischer 2018, 96–103.

38 Dietz – Fischer 2018, 119–120, 180–181.

39 Czysz et al. 1995, 423. Zur Lage der Fundstelle vgl. Schmidt 2015, 11, Plan 1 (Nr. 12). Dass die Statuette aus einem dort installierten Hausheiligtum stammen könnte, lässt sich höchstens vermuten.

40 In der Grabungsdokumentation von Regensburg lässt sich jedoch keine Statuettenwerkstatt nachweisen, die im dritten Viertel des 2. Jhs. aktiv gewesen wäre (so Zahlhaas 1982, 226–227). Freundliche Mitteilung von Stefan Reuter, Neu-Ulm.

Gleich vier Statuetten und ein Sockel aus der raetischen Werkstatt (Nr. 2, 8, 18, 21, 25) wurden 1950 in Straubing zusammen gefunden, und zwar nicht in dem bis etwa zur Mitte des 3. Jhs. bestehenden Kohortenkastell IIIb, sondern in der Nähe einer rund 3 km von Kastell und Lagervicus entfernten Villa, zusammen mit weiteren Statuetten, Paraderüstungsteilen und eisernem Gerät.[41] Vorläufig ist unklar, von wem die so verschiedenartigen Objekte gesammelt und verwahrt wurden und zu welchem Zeitpunkt das geschah; auch ein Zeitpunkt nach dem sog. Limesfall von 254 n. Chr. wäre denkbar.[42] Wahrscheinlich standen die Statuetten der raetischen Werkstatt ursprünglich zusammen in einem Hausheiligtum, das im Kastell, im Vicus oder in einer Villa eingerichtet war.



Abb. 11. Victoria aus Köln. a – Vorderseite, b – Rückseite (© Antikensammlung, Staatliche Museen zu Berlin – Preussischer Kulturbesitz, Inv. Misc. 6322, 150. Foto: Franziska Vu).
Fig. 11. Victory from Cologne. a – front view, b – back view (photo: Franziska Vu).

Die Statuette der Venus Nr. 14 kam als Einzelfund im Gebiet südöstlich von Straubing zum Vorschein. Robert Fleischer machte auf stehengebliebene Gussreste an der Unterseite ihres Sockels aufmerksam und vermutete einen nicht allzu weit entfernten Standort der zugehörigen Werkstatt.[43]

Der Sockel aus Frankenwinheim (Nr. 26) stammt als Lesefund von einer germanischen Siedlung im Barbaricum, weit ausserhalb der Provinzen Raetien und Germania superior. Der Fundplatz ist cha-

41 Keim 1951; Moosbauer – Fischer 2022, bes. 145–171.

42 Sieht man den Hort als Resultat vorausgegangener Plünderungen an, so erstaunt die sorgfältige Deponierung weitgehend intakter Objekte, zu denen auch eine germanische Lanzenspitze gehört (Reuter 2007, 116). Wahrscheinlich wird erst der Vergleich von mehreren Metallhortfunden aus Lagern des raetischen Limes gewisse Muster und involvierte Personenkreise erkennen lassen. Wegweisend ist die differenzierte Analyse des Schatzfunds aus Weissenburg durch Bernd Steidl (Steidl 2021). Zum Ende des Kastells von Straubing vgl. Reuter 2007, 115–116.

43 Fleischer 1977, 64.

rakterisiert durch zahlreichen römischen Bronzeschrott, der offenbar aus Plünderungszügen in römisches Gebiet stammt. Eine ursprüngliche Herkunft des Sockels aus Raetien ist sehr gut möglich.[44]

Aus den einzeln gefundenen Statuetten und Sockeln Nr. 4, 10–12 und 26–28 lassen sich keine chronologischen Anhaltspunkte für die Tätigkeit der raetischen Werkstatt gewinnen, doch sie belegen die weite Verbreitung von deren Produkten. Nicht ausgeschlossen ist, dass die Victoriastatuetten aus Köln (Nr. 11) und Niedermoesien (Nr. 12) wie auch der Genius aus der Goldach (Nr. 20) einst als persönliche Schutzgottheiten ihre Besitzer begleitet haben; das mag auch für die heute verlorene Statuette aus Augst gelten, von der sich nur der Sockel (Nr. 28) erhalten hat.[45] Der als Streufund im Gräberfeld des Vicus von Faimingen geborgene Sockel (Nr. 27) könnte auf eine der recht selten als Grabbeigabe verwendeten Statuetten hinweisen,[46] jedoch stammte er wohl eher aus dem Vicus selbst, so gut wie die um die Mitte des 3. Jhs. in einen Brunnen versenkte Victoria aus Pforzheim (Nr. 10).



Abb. 12. Victoria aus Krepča. a – Vorderseite, b – Rückseite (© Nationales Archäologisches Institut und Museum, Bulgarische Akademie der Wissenschaften Sofia, Foto: Miglena Raykovska).
Fig. 12. Victory from Krepča. a – front view, b – back view (photo: Miglena Raykovska).

Wie oben vermerkt, ist anzunehmen, dass die raetische Werkstatt im ausgehenden 2. Jh. ihre Tätigkeit aufgenommen hat. Dagegen lässt sich die Dauer der Produktion schwer eingrenzen; sie hielt vielleicht bis gegen die Mitte des 3. Jhs. an. Nur in wenigen Fällen (Nr. 1, 7, 16) stammen die Statuetten aus gesichertem militärischem Zusammenhang; die Mehrzahl fand sich in Vici oder Gutshöfen

44 Für diese Informationen danke ich Bernd Steidl, München. Vgl. auch Steidl 2016.

45 Einzeln gefundene Statuetten und Sockel können sich aber auch als Teile von früheren Lararіumsinventaren erhalten haben.

46 Vgl. Bolla 2015.



Abb. 13. Diana, Fundort unbekannt. a – Vorderseite, b – Rückseite (Foto: Sammlung S. B., Karlsruhe).
Fig. 13. Diana, findspot unknown. a – front view, b – back view (photo: Sammlung S. B., Karlsruhe).



Abb. 14. Venus aus Wallersdorf. a – Vorderseite, b – Rückseite (© Gäubodenmuseum Straubing, Foto: Fotowerbung Bernhard, Straubing).
Fig. 14. Venus from Wallersdorf. a – front view, b – back view (photo: Photowerbung Bernhard).

des dicht besiedelten Limes-Hinterlands. Die Tatsache, dass recht viel über diese in Raetien tätige Werkstatt bekannt ist, beruht in erster Linie auf ihrer grossen Produktivität sowie auf dem eigenwilligen Stil ihrer Erzeugnisse.

Katalog der Statuetten aus der raetischen Statuettenwerkstatt

Nr. 1. (Abb. 1.a–b). Merkur aus Enns (Oberösterreich, A). Fundort: Enns 1852, Schlossmeierhof, «auf Lagergrund». Enns, Museum Lauriacum-Enns, Inv. R VII 1. H. noch 8,9 cm (Fleischer 1963, Abb. 111; Fleischer 1977, Nr. 2, Abb. 2; Frei 1987, Nr. 49; Kaufmann-Heinimann 1998, Abb. 4.3).

Nr. 2. (Abb. 2.a–b). Merkur aus Straubing (Bayern, D). Fundort: Straubing 1950, in einer römischen Villa westlich des Kastells. Teil eines Hortfunds, zusammen mit Fortuna Nr. 8, Genius Nr. 18, Lar Nr. 21 und Sockel Nr. 25. Straubing, Gäubodenmuseum, Inv. 1950 KK 26. H. Statuette 11,3 cm, H. Sockel 3,7 cm (Klumbach 1951, 33, Nr. 26, Taf. 40.1; Fleischer 1963, Abb. 106; Fleischer 1977, Nr. 1, Abb. 1; Frei 1987, Nr. 48; Kaufmann-Heinimann 1998, Abb. 4.1; Moosbauer – Fischer 2022, 170, Abb. 229).

Nr. 3. (Abb. 3.a–b). Merkur aus Augsburg. Fundort: Augsburg 1881, Äusseres Pfeffergässchen, im Bereich eines palastartigen Grossbaus. Augsburg, Römisches Museum/Stadtarchäologie, Inv. VF 658. H. noch 12,25 cm (Füsse ergänzt) (Fleischer 1977, Nr. 3, Abb. 3; Frei 1987, Nr. 50; Kaufmann-Heinimann 1998, Abb. 4.4; Schmidt 2015, Nr. 12).

Nr. 4. (Abb. 4.a–b). Merkur aus Munderkingen (Baden-Württemberg, D). Fundort: Munderkingen 1980–1982, unterhalb des Altstadtkerns. Teil eines kleinen Hortfunds. Stuttgart, Landesmuseum Württemberg, Inv. R 85.2. H. Statuette 12,1 cm, H. Sockel 3,6 cm (Heiligmann 1985; Klein 1996; Kaufmann-Heinimann 1998, Abb. 4.2).

Nr. 5. (Abb. 5.a–b). Merkur aus München (?). Fundort: angeblich München 1924, Hofenfelsstr. 7 (freundliche Mitteilung von Bernd Steidl, München). München, Archäologische Staatssammlung, Inv. 1979, 2984. H. 11,4 cm (Wamser 2000, 352, 354, Kat. 76d [B. Steidl]).

Nr. 6. (Abb. 6.a–b). Vulkan. Fundort unbekannt. München, Staatliche Antikensammlungen, Inv. NI 3187. H. 10,5 cm (Knauss 2012, 212, Abb. 14.14, 578 Kat. 240).



Abb. 15. Amor mit Fackel aus Regensburg. a – Vorderseite, b – Rückseite (© Museen der Stadt Regensburg, Foto: Anna Weinzierl).
Fig. 15. Cupid with torch from Regensburg. a – front, b – back view (photo: Anna Weinzierl).



Abb. 16. Amor in Rüstung aus Regensburg. a – Vorderseite, b – Rückseite (© Museen der Stadt Regensburg, Foto: Anna Weinzierl).
Fig. 16. Cupid in armour from Regensburg. a – front, b – back view (photo: Anna Weinzierl).



Abb. 17. Amor in Rüstung mit Lampe aus Regensburg. a – Vorderseite, b – Rückseite (© Archäologische Staatssammlung München, Foto: Stefanie Friedrich).
Fig. 17. Cupid in armour with lamp from Regensburg. a – front, b – back view (photo: Stefanie Friedrich).



Abb. 18. Genius aus Straubing. a – Vorderseite, b – Rückseite (© Gäubodenmuseum Straubing, Foto: Fotowerbung Bernhard, Straubing).
Fig. 18. Genius from Straubing. a – front view, b – back view (photo: Photowerbung Bernhard).

Nr. 7. (Abb. 7.a–b). Fortuna aus Enns. Fundort: Enns 1955, Nordwestecke des Lagers. Enns, Privatbesitz. H. 12,3 cm (Deringer 1957; Fleischer 1963, Abb. 113; Fleischer 1977, Nr. 5, Abb. 5; Frei 1987, Nr. 52; Kaufmann-Heinimann 1998, Abb. 4.13).

Nr. 8. (Abb. 8.a–b). Fortuna aus Straubing. Fundort: Straubing 1950, in einer römischen Villa westlich des Kastells. Teil eines Hortfunds, zusammen mit Merkur Nr. 2, Genius Nr. 18, Lar Nr. 21 und Sockel Nr. 25. Straubing, Gäubodenmuseum, Inv. 1950 KK 28. H. Statuette 11,2 cm, H. Sockel 3,6 cm (Klumbach 1951, 34, Nr. 28, Taf. 37. Mitte 41.1; Fleischer 1963, Abb. 107; Fleischer 1977, Nr. 4, Abb. 4; Frei 1987, Nr. 51; Kaufmann-Heinimann 1998, Abb. 4.12; Moosbauer – Fischer 2022, 171, Abb. 232).

Nr. 9. (Abb. 9.a–b). Fortuna aus Regensburg. Fundort: Regensburg 1849, Maximilianstrasse 2. Regensburg, Historisches Museum, Inv. A 2161. H. 11,2 cm. Sockel nicht zugehörig (Fleischer 1977, Nr. 6, Abb. 6; Frei 1987, Nr. 53; Kaufmann-Heinimann 1998, Abb. 4.14; Eichinger 2011, 36.47, Kat. 1.3.9).

Nr. 10. (Abb. 10.a–b). Victoria aus Pforzheim (Baden-Württemberg, D). Fundort: Vicus von Pforzheim 1954, Brunnen 4, in Schicht des mittleren 3. Jhs. Ehemals Pforzheim, Archäologisches Museum, ohne FNr.; 1995 aus dem Museum entwendet. H. Statuette 14 cm, H. Sockel 4 cm (Filtzinger et al. 1976, 452, Abb. 232; Frei 1987, Nr. 55; Nuber 1988, 96, Abb. 22; Kortüm 1995, 56, 178–179, Taf. 20.4; Kaufmann-Heinimann 1998, Abb. 4.15).

Nr. 11. (Abb. 11.a–b). Victoria aus Köln. Einst im Besitz des Kölner Malers und Sammlers J. J. Meinertzhagen (1788–1863). Berlin, Antikensammlung, Inv. Misc. 6322,150. H. noch 10,3 cm (Franken 2000). (freundlicher Hinweis von N. Franken).

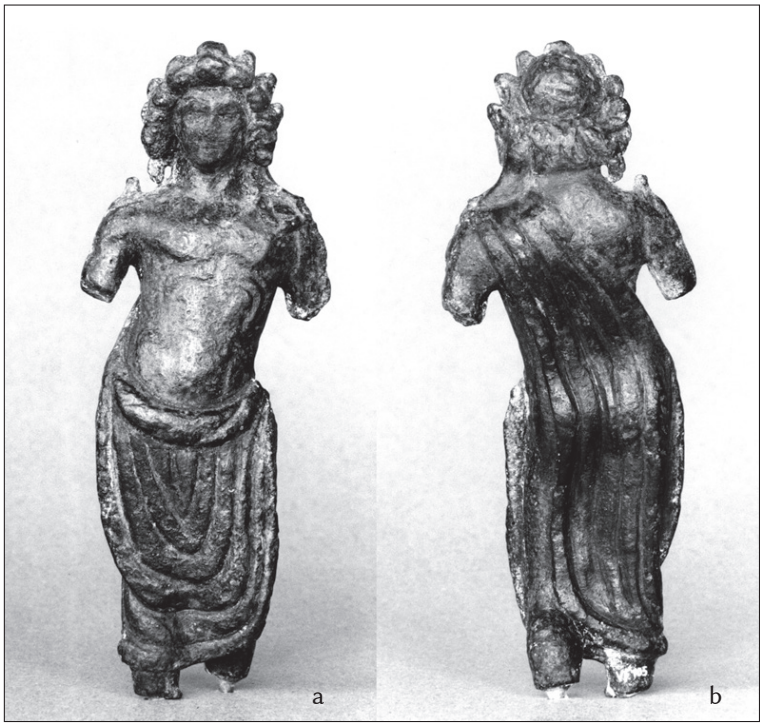


Abb. 19. Genius aus Allmannshofen. a – Vorderseite, b – Rückseite (© Kunstsammlungen und Museen Augsburg, Römisches Museum, Inv. VF 105, Foto: Karin Ruff).
Fig. 19. Genius from Allmannshofen. a – front, b – back view (photo: Karin Ruff).



Abb. 20. Genius aus Goldach. a – Vorderseite, b – Rückseite (© und Foto: Kantonsarchäologie St. Gallen).
Fig. 20. Genius from Goldach. a – front, b – back view (photo: Kantonsarchäologie St. Gallen).



Abb. 21. Lar aus Straubing. a – Vorderseite, b – Rückseite (© Gäubodenmuseum Straubing, Foto: Fotowerbung Bernhard, Straubing).
Fig. 21. Lar from Straubing. a – front, b – back view (photo: Photowerbung Bernhard).



Abb. 22. Lar in Budapest. a – Vorderseit, b – Rückseite (© Ungarisches Nationalmuseum Budapest, Foto: József Rosta).
Fig. 22. Lar, findspot unknown. a – front, b – back view (photo: József Rosta).



Abb. 23. Lar, Fundort unbekannt. a – Vorderseite, b – Rückseite (Foto: Sammlung S. B., Karlsruhe).
Fig. 23. Lar, findspot unknown. a – front view, b – back view (photo: Sammlung S. B., Karlsruhe).

Nr. 12. (Abb. 12.a–b). Victoria aus Krepča (Nordost-Bulgarien). Fundort: Krepča (Bezirk Popovo) 1923. Einzelfund; kein archäologischer Kontext (freundliche Mitteilung von Kalina Petkova). Sofia, Nationales Archäologisches Institut mit Museum, Inv. 6089. H. 15,1 cm (Welkow 1924, 227–228, Abb. 104; Georgiev 1994, 168, 171, Abb. 16; Kaufmann-Heinimann 1998, Abb. 4.16).

Nr. 13. (Abb. 13.a–b). Diana. Fundort unbekannt. Privatbesitz Karlsruhe. H. 12 cm. Unpubliziert; für die Publikationserlaubnis danke ich dem Besitzer der Statuette.



Abb. 24. Sockel wohl aus Enns (© Museum Lauriacum-Enns, Foto: Leibniz-Zentrum für Archäologie [LEIZA] / O. Pilko, T_1966_01367).
Fig. 24. Base, likely to come from Enns (photo: O. Pilko).



Abb. 25. Sockel aus Straubing (© Gäubodenmuseum Straubing, Foto: Fotowerbung Bernhard, Straubing).
Fig. 25. Base from Straubing (photo: Photowerbung Bernhard).

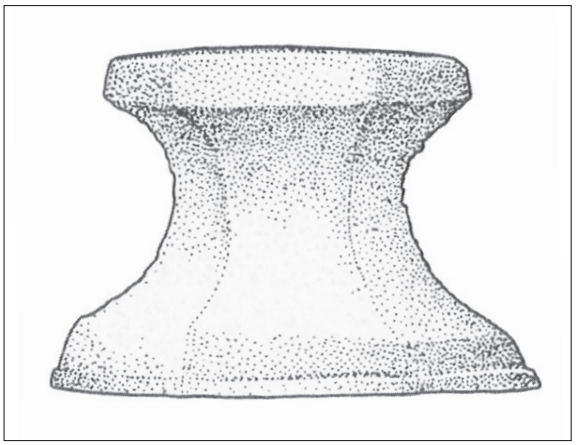


Abb. 26. Sockel aus Frankenwinheim (Zeichnung Bernd Steidl, München).
Fig. 26. Base from Frankenwinheim (drawing: Bernd Steidl).

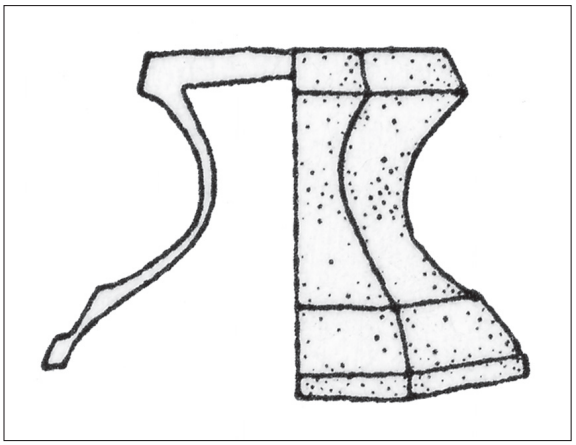


Abb. 27. Sockel aus Faimingen (nach Müller 1999, Taf. 86.17).
Fig. 27. Base from Faimingen (after Müller 1999, Pl. 86.17).

Nr. 14. (Abb. 14.a–b). Venus aus Wallersdorf (Lkr. Dingolfing-Landau, Bayern, D). Fundort: zwischen Haunersdorf und Wallersdorf; keine weiteren Angaben. Straubing, Gäubodenmuseum, Inv. 1203. H. Statuette 13,8 cm, H. Sockel 3,8 cm (Fleischer 1977, Nr. 7, Abb. 7; Frei 1987, Nr. 54; Moosbauer 1997, 43, 279–280, Abb. 85.a; Kaufmann-Heinimann 1998, Abb. 4.11; Moosbauer – Fischer 2022, 119, Abb. 151).

Nr. 15. (Abb. 15.a–b). Amor mit Fackel aus Regensburg. Fundort: Regensburg, Alter Kornmarkt (?). Regensburg, Historisches Museum, Inv. A 2175. H. noch 11,9 cm (Füsse abgebrochen). Sockel nicht zugehörig. (Zahlhaas 1982, 226 m. Abb. S. 227 unten rechts; Frei 1987, Nr. 59; Kaufmann-Heinimann 1998, Abb. 4.5; Eichinger 2011, 101, 107, Kat. 1.7.7).



Abb. 28. Sockel aus Augst (© Museum Augusta Raurica, Augst, Foto: Jürg Zbinden).
Fig. 28. Base from Augst (photo: Jürg Zbinden).

Nr. 16. (Abb. 16.a–b). Amor in Rüstung aus Regensburg. Fundort: Regensburg 1979, Grasgasse; Legionslager, Südostteil, Offiziersunterkunft; Teil einer Statuettengruppe. Regensburg, Historisches Museum, Inv. 1979/6. H. noch 12,5 cm (Fischer – Rieckhoff-Pauli 1982, 73, Abb. 30; Fischer 1988, 82, Taf. 9; Kaufmann-Heinimann 1998, Abb. 4.7; Eichinger 2011, 101, 107, Kat. 1.7.6).

Nr. 17. (Abb. 17.a–b). Amor in Rüstung und mit Lampe aus Regensburg. München, Archäologische Staatssammlung, Inv. NI 3721. H. 12,8 cm (inkl. rechter ergänzter Fuss). Sockel nicht zugehörig. H. 12,8 cm (Fleischer 1963, Abb. 114; Fleischer 1977, Nr. 10, Abb. 10; Frei 1987, Nr. 60; Kaufmann-Heinimann 1998, Abb. 4.6; Eichinger 2011, 101, 106, Kat. 1.7.5; Knauss 2012, 201, Abb. 13.26, 578, Kat. 231).

Nr. 18. (Abb. 18.a–b). Genius aus Straubing. Fundort: Straubing 1950, in einer römischen Villa westlich des Kastells. Teil eines Hortfunds, zusammen mit Merkur Nr. 2, Fortuna Nr. 8, Lar Nr. 21 und Sockel Nr. 25. Straubing, Gäubodenmuseum, Inv. 1950 KK 27. H. Statuette 10,7 cm, H. Sockel 3,7 cm (Klumbach 1951, 33–34, Nr. 27, Taf. 37, links; 41.1; Fleischer 1963, Abb. 108; Fleischer 1977, Nr. 9, Abb. 9; Frei 1987, Nr. 58; Kaufmann-Heinimann 1998, Abb. 4.10; Moosbauer – Fischer 2022, 170, Abb. 231).

Nr. 19. (Abb. 19.a–b). Genius aus Allmannshofen (Lkr. Augsburg, Bayern, D). Fundort: Kloster Holzen, Allmannshofen (Lkr. Augsburg). Augsburg, Römisches Museum/Stadtarchäologie, Inv. VF 105. H. noch 9,69 cm (Unterschenkel abgebrochen) (Schmidt 2015, Nr. 21).

Nr. 20. (Abb. 20.a–b). Genius aus Goldach (Kanton St. Gallen, CH). Fundort: 2016/17 im Flüsschen Goldach. St. Gallen, Historisches und Völkerkundemuseum, Inv. 06.021.0001.001. H. 11,0 cm (Unpubliziert); für die Publikationserlaubnis danke ich Regula Ackermann und Regula Steinhauser-Zimmermann, Kantonsarchäologie St. Gallen.

Nr. 21. (Abb. 21.a–b). Lar aus Straubing. Fundort: Straubing 1950, in einer römischen Villa westlich des Kas-

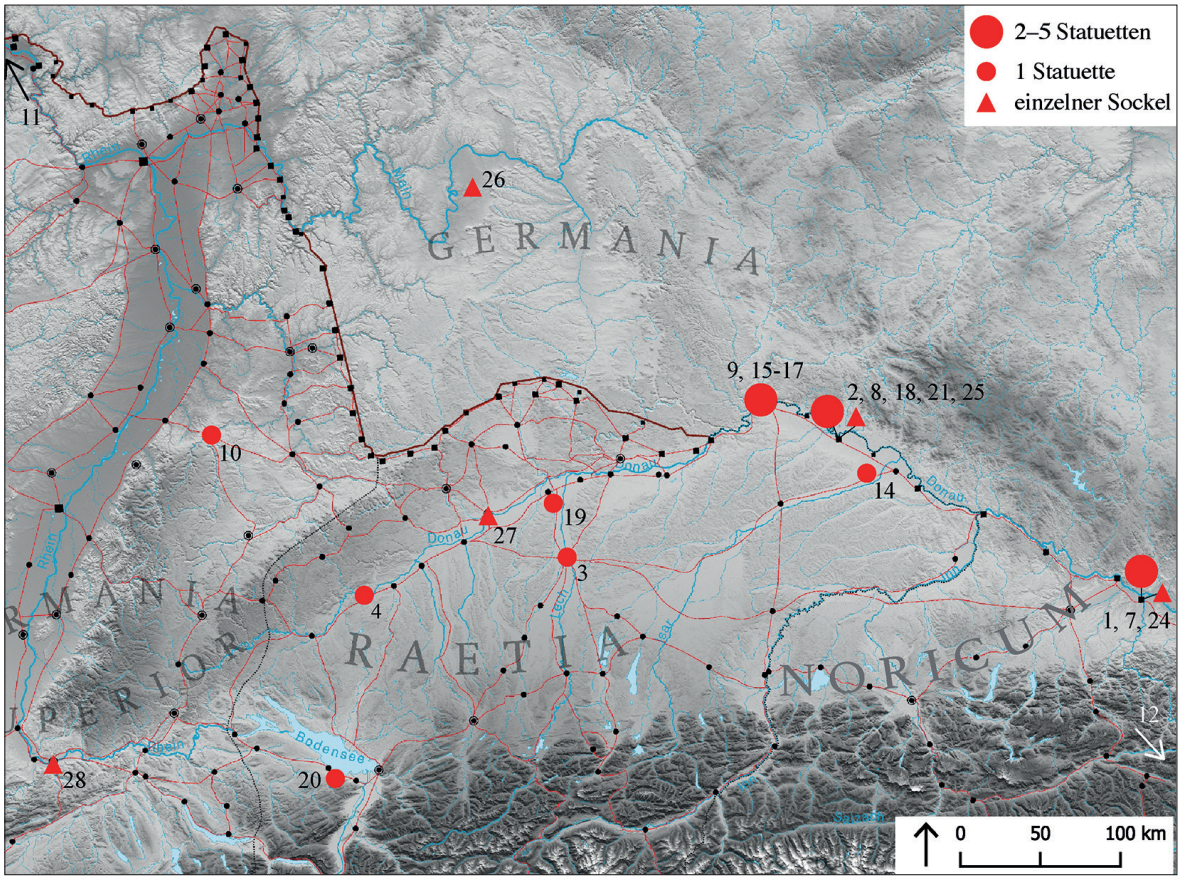


Abb. 29. Karte mit Fundorten der Statuetten und Sockel aus der raetischen Werkstatt (Kartengrundlage: Archäologische Staatssammlung, München; Ausführung: Hannes Flück, Aarau, und Andreas Schaflizl, Aalen).
Fig. 29. Findspots of the statuettes and bases attributed to the 'Raetian workshop' (realisation: Hannes Flück, Aarau, and Andreas Schaflitzl, Aalen).

tells. Teil eines Hortfunds, zusammen mit Merkur Nr. 2, Fortuna Nr. 8, Genius Nr. 18 und Sockel Nr. 25. Straubing, Gäubodenmuseum, Inv. 1950 KK 29 (Klumbach 1951, 34, Nr. 29, Taf. 37, rechts; Fleischer 1963, Abb. 109; Fleischer 1977, Nr. 8, Abb. 8; Frei 1987, Nr. 56; Kaufmann-Heinimann 1998, Abb. 4.8; Moosbauer – Fischer 2022, 171, Abb. 233).

Nr. 22. (Abb. 22.a–b). Lar in Budapest. Fundort unbekannt (neu inventarisiert in den 1950er Jahren). Budapest, Ungarisches Nationalmuseum, Inv. MNR-NRI, RT-RO 54.18.17. H. 11,5 cm (Frei 1987, Nr. 57; Kaufmann-Heinimann 1998, Abb. 4.9).

Nr. 23. (Abb. 23.a–b). Lar. Fundort unbekannt. Privatbesitz Karlsruhe. H. Statuette 11,4 cm, H. Sockel 3,6 cm (Unpubliziert); für die Publikationserlaubnis danke ich dem Besitzer der Statuette.

Nr. 24. (Abb. 24). Sockel wohl aus Enns. Fundort unbekannt. Enns, Museum Lauriacum-Enns, Inv. RV 155. H. 3,9 cm (Fleischer 1963, Abb. 115; Fleischer 1977, Nr. 12, Abb. 11; Frei 1987, Nr. 62; Kaufmann-Heinimann 1998, Abb. 4.18).

Nr. 25. (Abb. 25). Sockel aus Straubing. Fundort: Straubing 1950, in einer römischen Villa westlich des Kastells. Teil eines Hortfunds, zusammen mit Merkur Nr. 2, Fortuna Nr. 8, Genius Nr. 18 und Lar Nr. 21. Straubing, Gäubodenmuseum, Inv. 1950 KK 33. H. 3,6 cm (Klumbach 1951, 35, Nr. 33, Taf. 41.1; Fleischer 1963, Abb. 110; Fleischer 1977, Nr. 11, Abb. 12; Frei 1987, Nr. 61; Kaufmann-Heinimann 1998, Abb. 4.17; Moosbauer – Fischer 2022, 169, Abb. 228).

Nr. 26. (Abb. 26). Sockel aus Frankenwinheim (Lkr. Schweinfurt, D). Fundort: Frankenwinheim, germanische Siedlung, Lesefund. München, Archäologische Staatssammlung, Inv. E 1999/41. H. 3,7 cm (Stupperich 1988, 176, Taf. 56; Kaufmann-Heinimann 1998, Abb. 4.20; Hoffmann 2004, 177–178, Nr. 44; Steidl 2008, 211, Abb. 216; Steidl 2013, 96–97, Abb. 10).

Nr. 27. (Abb. 27). Sockel aus Faimingen (Lkr. Dillingen, Bayern, D). Fundort: Faimingen, Vicus, Bereich des

Gräberfelds, Streufund. München, Archäologische Staatssammlung, Fdnr. 1276,50. H. 3,5 cm (Müller 1999, 173, Taf. 86, Nr. 17). – Freundlicher Hinweis von Bernd Steidl, München.

Nr. 28. (Abb. 28). Sockel aus Augst (Kanton Basel-Landschaft, Schweiz). Fundort: Augst 1972, Insula 42, Südostecke, in Fundkomplex der ersten Hälfte des 3. Jhs. Augst, Museum Augusta Raurica, Inv. 1972.1576. H. 3,6 cm (Fleischer 1977, Nr. 13, Abb. 12; Kaufmann-Heinimann 1998, Abb. 4.19).

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Recycle, repair and reuse in Roman Napoca

The case of an 'antiquarian-restorer' from the site at Victor Deleu Street (Cluj-Napoca, Romania)*

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Abstract: The archaeological rescue excavations carried out between 1992 and 2001 and again in 2012 in Roman Napoca (Cluj-Napoca, Romania), on the site from Victor Deleu Street revealed important information regarding the life of the ancient town and its residential areas. One of the most interesting discoveries is represented by an assemblage of twelve metal objects: a statue, a statuette, three fragmentary metal vessels, four pieces belonging to lighting equipment (candlesticks and a lamp base), a pair of scissors fragmentarily preserved and two decorated bronze plates. They were identified on the floor of an annex belonging to a private residence, in a context which can be dated during the fourth–fifth decades of the 3rd century AD. The paper is a preliminary analysis of the assemblage. The objects are all high-quality imports and most of them present traces of repair or were recomposed from different parts coming from other objects. They attest the existence of a 'antiquarian-restorer' in Roman Napoca and reveal a clear concern for selecting, collecting, recycling, repairing and refunctioning good quality objects.

Keywords: Napoca, imported bronzes, recycle, repairs, reuse

This paper aims to provide a preliminary analysis of an exceptional group of Roman metal objects which were discovered during rescue excavations in a residential area of ancient Napoca, nowadays Cluj-Napoca, Romania, on the site from Victor Deleu Street. As it will be shown, part of the artifacts were repaired during the Roman times by using parts recovered from other bronze objects, in order to give them a new life.

Roman Napoca and the site from Victor Deleu Street

The Roman town of Napoca is located along the Someșul Mic River and during ancient times it was part of the province Dacia Porolissensis. The settlement became a *municipium* during the reign of emperor Hadrian and a *colonia* probably in the time of Marcus Aurelius. Though speculations have been made, there is no proof for the existence of a Dacian settlement at Napoca, prior to the Roman

* The term "antiquarian-restorer" was first used by Santrot et al. 1996 in the context of the analysis of the hoard discovered at Dax (Landes, France), to which we also refer in this paper.

conquest or of an early military fort. But for a long period of time, Napoca was the only settlement with urban status from the northern part of Dacia and also the seat of the financial procurator of Dacia Porolissensis. Because the modern town of Cluj-Napoca is overlapping the ancient one, most of the archaeological information that we have comes from rescue excavations. The eastern limit of the town has not been identified yet but based on the current research, it is considered that the settlement covered an area of approximately 20 hectares.[1]

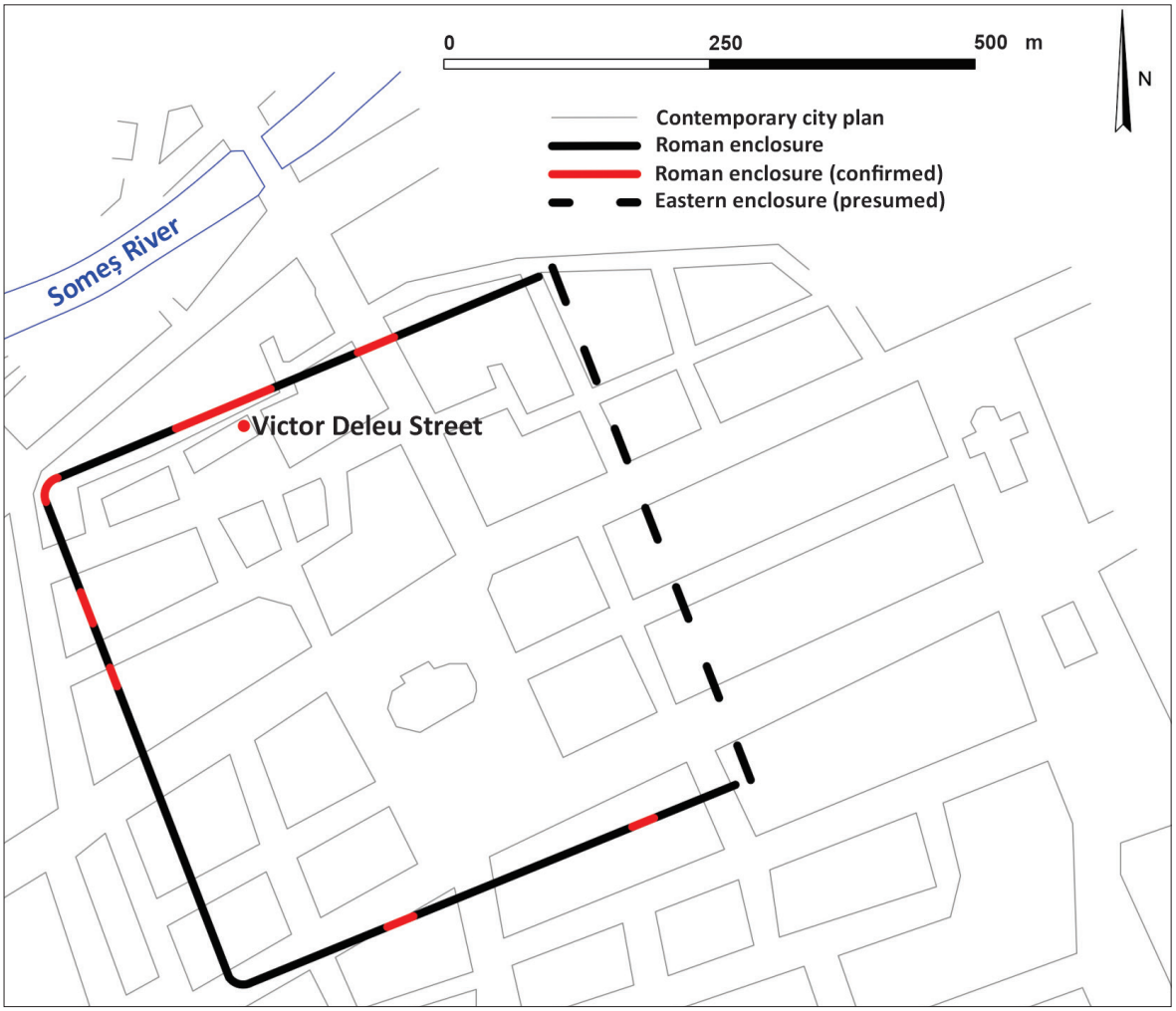


Fig. 1. Plan of Roman Napoca with the location of the excavations from Victor Deleu Street (processed after Cupcea et al. 2022, Pl. 1).

The site from Victor Deleu Street, where the objects discussed in this paper were discovered, is positioned in the northern residential part of the Roman town, near the precinct wall (Fig. 1). The site was researched during several campaigns of rescue excavations, between 1992 and 2001 and again in 2012, under the supervision of Sorin Cociș.[2]

The site's stratigraphy indicates a continued occupancy from the time of Trajan to the abandonment of the province. Three wooden and two stone phases were established. The first phases, from Trajan to the middle of the 2nd century AD are characterized by traces of habitation related to the presence of the

1 For the evolution of the settlement and discussions regarding its history and archaeology see, Ardevan 1998, 61–65; Diaconescu 2004, 117–120; Rusu-Bolindeț 2007, 68–88; Cupcea et al. 2022.

2 The main results have been published over the years in several archaeological reports. See, Cociș et al. 1995; Cociș et al. 1996; Cociș et al. 1997; Cociș et al. 1998; Cociș et al. 1999; Cociș et al. 2002. See also: Rusu-Bolindeț 2007, 97–98; Găzdac et al. 2010, 7–8; Mustață 2017, 185–187.

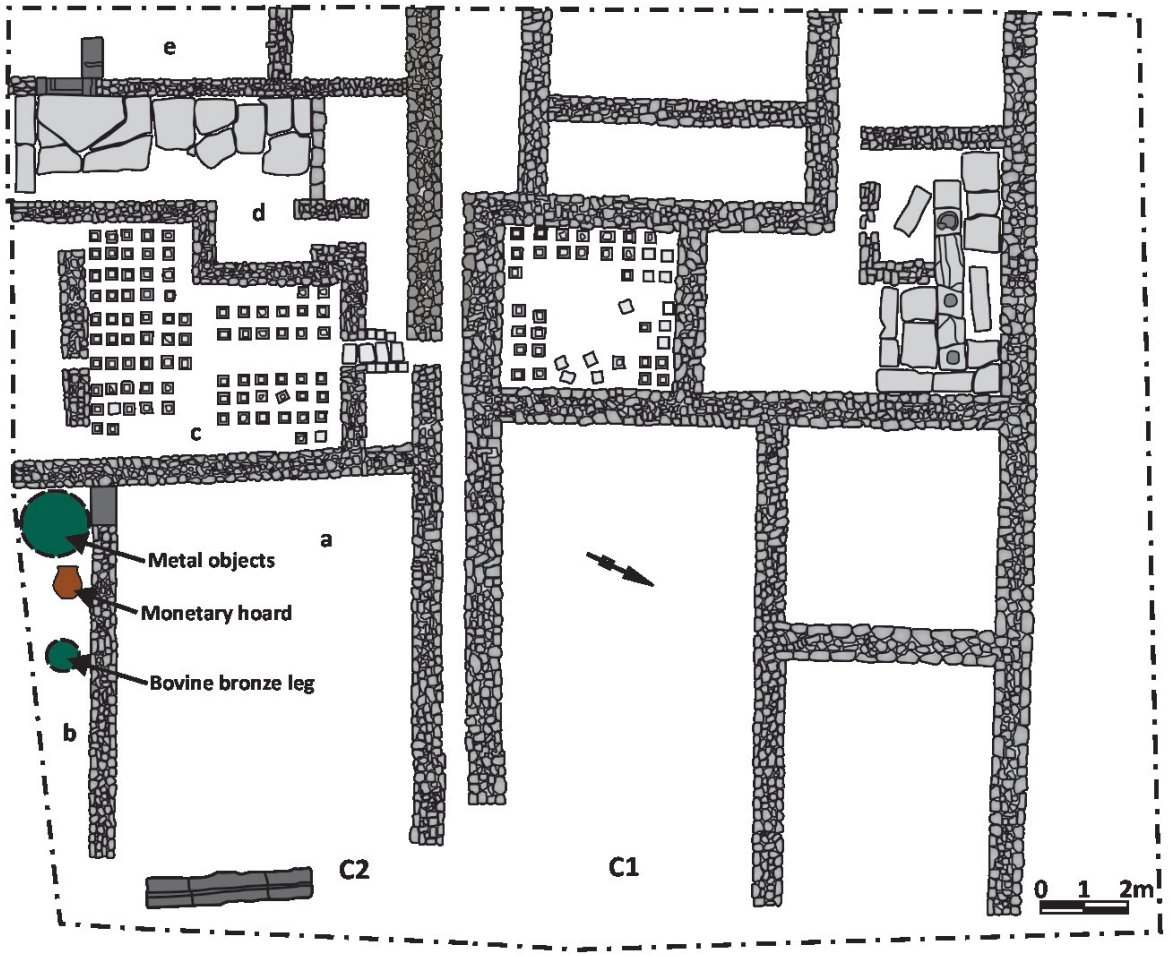


Fig. 2. Plan of buildings C1 and C2 during the 2nd stone phase with the discovery context of the metal objects (processed after Mustață 2017, 186, Fig. 25).

first colonists from Noricum and Pannonia and by the timber structures of the *vicus* and *municipium*. Starting with the mid-2nd century AD, two stone houses were built (C1 and C2 divided by an alley), with two phases (the first one from the mid-2nd century AD to Septimius Severus and the second one from Septimius Severus to the abandonment of the province).[3] For each stone phase one can establish that the houses were repaired at least once during their existence, and for the second stone phase of building C2 (Fig. 2) such circumstance can be rather safely chronologically determined: two floors were identified in chamber b, which probably functioned as a storage room, separated by a destruction layer with heavy burn marks. The first floor was broken into and a ceramic vessel containing a small fragment of an unidentified piece of gold and 1269 coins was hidden underneath. The ceramic vessel contained: 1251 *denarii*, 9 *antoninianii*, 1 *drachma*, 7 plated *denarii* and 1 Greek provincial coin, with last issues from Severus Alexander.[4] On the new floor overlying the destruction layer, coins issued by Philippus Arabs were found.[5] It was surmised that the hiding of the monetary hoard and the destructions suffered by this area of the Roman city might be connected to the conflicts between Maximinus Thrax and the northern Barbarian populations, which had an impact on the city in the mid-3rd century AD; however, this hypothesis will have to be confirmed by future research on the ancient city.[6]

3 Cociș et al. 1995; Rusu-Bolindeț 2007, 98; Opreanu 2008, 393; See also Mustață 2017, 185.

4 For the monograph of the monetary hoard, see Găzdac et al. 2010.

5 Cociș et al. 1995, 638.

6 Opreanu 2009, 134; Găzdac et al. 2010, 15; Mustață 2017, 185.

The assemblage of metal objects

The metal objects analysed here were discovered on the first floor, near the pit with the monetary hoard, in the north-western corner of chamber b (Fig. 2). The objects together with the monetary hoard were identified in the first year of the rescue excavations, in 1992. The site was heavily affected by construction works which destroyed much of the 3rd century layers. The constructor started the site without previous excavation and did not announce the archaeologists. No in situ photos and plans with the finds were made. The only available information consists of the descriptions preserved in the archaeological journal.



Fig. 3. The assemblage of metal objects from Victor Deleu Street (photo: S. Odenie, The Collection of the National Museum of Transylvanian History, Cluj-Napoca; © MNIT 2023).

The assemblage is composed of 12 objects (Fig. 3): a small statuette, three fragmentary metal vessels, four pieces belonging to lighting equipment (candlesticks and a lamp base), a pair of scissors fragmentary preserved and two decorated bronze plates. Three meters away towards south, in the same room, a gilded bronze leg, coming from a bull, was discovered (Fig. 2). Given its fragmentary state, it is very probable that it was part of the same assemblage, and it can be related with the same activities which led to the hiding of the monetary hoard prior to the destruction.

Statues

The bronze leg measures 23 cm in height and comes from the bronze statue of a bovine, a bull (cat. no. 1, Fig. 4). The height of the preserved part indicates an overall size of the animal at the withers of 1.2–1.3 meters, which is normal for cattle of this period.[7] Thus, we deal with the life-size statue of

7 Gudea 2007, 231–235; Groot 2020.

a bull which was very probably a cultic statue. This is a unique discovery for Roman Dacia and the parallels from the rest of the Roman world are scarce. Since the statue is not entirely preserved, a precise identification is unlikely, but the possibilities are not so many.[8]

Given the military character of Roman Dacia, the first potential identification could be related to Jupiter Dolichenus, who was popular in the province.[9] However, we do not know any life-size representations of the god riding the bull, neither in stone, nor in bronze. He is usually depicted in smaller dimensions. The exception is one of the god's statues from Carnuntum, which measures 1.6 m in height.[10] However, this is a different iconographic type: the god is not depicted riding the bull and the presence of the animal is only suggested by the bull's head placed at his feet.

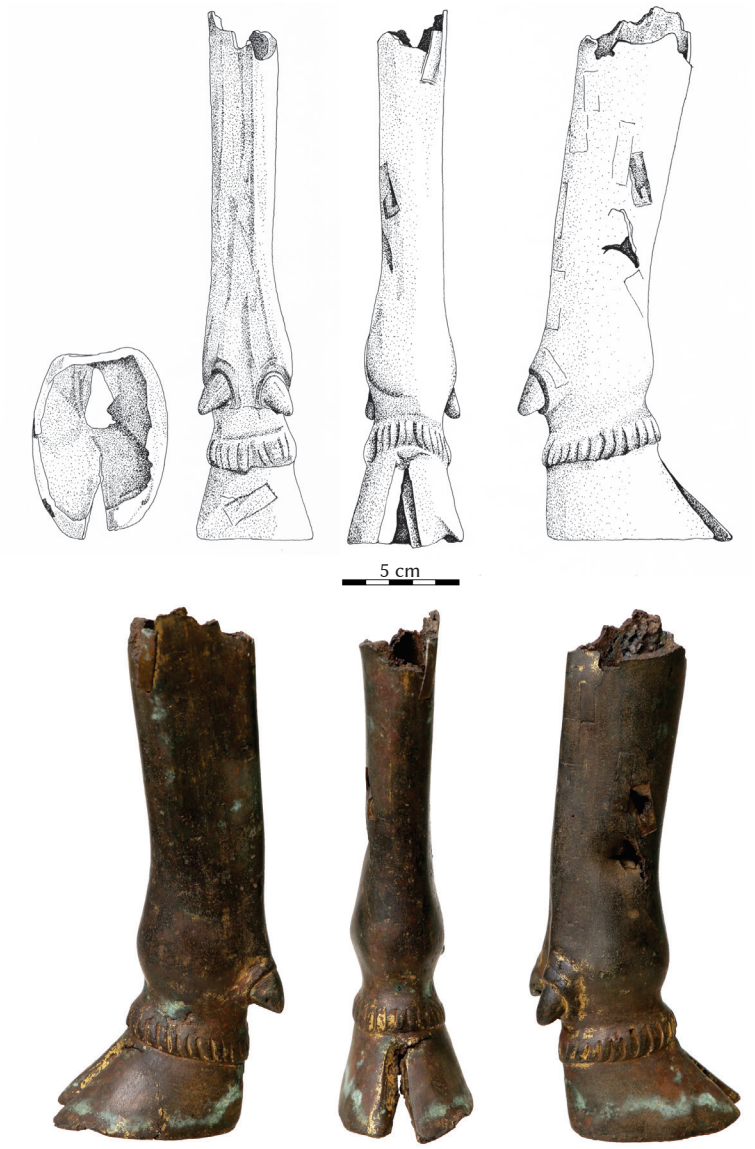


Fig. 4. Bovine leg (drawing: S. Cociș; photo: S. Odenie, The Collection of the National Museum of Transylvanian History, Cluj-Napoca; © MNIT 2023).

8 We would like to thank our colleagues, Dr. Sorin Nemeti (Babeș-Bolyai University, Cluj-Napoca) and Dr. Dan Deac (History and Art County Museum, Zalău) for the useful discussions regarding this interesting find.

9 Nemeti 2019, 233–251.

10 Ubi erat lupa, no. 6676 (https://www.ubi-erat-lupa.org/monument.php?id=6676; accessed 20. 3. 2023).

The only life-size statue of a bronze bull that could be identified was discovered in 1883 in the *forum* at Martigny (Switzerland). It is fragmentary, only the head and a leg being preserved. The presence of the three horns on the forehead lead to its identification as the Gallic bull, which some scholars put in relation with *Tarvos Trigaranus* from the Pillar of the Boatmen in Paris.[11] The presence of such a statue in Roman Dacia would be exceptional because we have no evidence for the veneration of the Gallic Bull in this part of the Empire.



1



2

Fig. 5. 1–2 – Ram (1 – Photo: S. Odenie, The Collection of the National Museum of Transylvanian History, Cluj-Napoca; © MNIT 2023, 2 – Photo: S. Mustață).

The most probable identification, at least in this phase of the research, is related to the Egyptian cults, which were very popular in Dacia Porolissensis, especially near Napoca, at Potaissa.[12] No life-size depictions of Apis in bronze have been identified so far, but life-size or bigger cultic statues of the god made of stone are attested, like the famous statue dedicated by emperor Hadrian in the *serapeum* from Alexandria.[13] Thus, the bronze leg can be assigned to a life-size statue of Apis, that must have functioned as a cultic image in a temple dedicated to the Egyptian deities. The god is usually represented stepping forward, with the right or left leg. Taking into consideration the vertical position of the leg from Napoca, it is probably one of the front or back legs which are standing.[14] We have no information regarding the worship of Isis and Serapis at Napoca, but this hypothesis cannot be totally excluded, because in the present state of the research we know very little about the materiality of the religion in this important urban centre of Roman Dacia.

11 Boucher 1976, 170–173, Pl. 65; Leibundgut 1980, 142–143, no. 189, Taf. 175–178.

12 Deac forthcoming.

13 See most recent McKenzie et al. 2004, 98, note 122 with the literature.

14 For details regarding the iconography of Apis, see Deac 2012 with the literature.

Statuettes

The small statuette depicting an animal similar to a ram (cat. no. 2, Fig. 5) was very probably placed, at least initially, on a base accompanying Mercurius. The complete statuette, together with the god must have served as a cult statuette in a *lararium*. Bronze statuettes of rams discovered individually or together with Mercurius are numerous in the Roman Empire.[15] Considering that the animal is usually depicted in a schematic manner, the ram from Napoca is of very good quality. For the body of the animal and the rendering of the fur, good parallels can be found at Emona.[16]

However, a closer examination of the object shows a high discrepancy between the detailed rendering of the body and the rest of the object. While the locks of fur were finely shaped on the wax model, the features of the neck and legs are quite primitive. The locks of fur are only suggested, the horns are asymmetrical and not properly curved. Moreover, the pointed, slightly elevated tail is not natural for a ram. It seems that from the original object only the body was preserved, while the neck and head, the tail and possibly the legs, or at least the front ones were added later, in an attempt to repair it. The analysis of this assemblage has just begun, and these observations will have to be tested in the future, after thorough archaeometric analyses.



Fig. 6. Metal vessels. 1 – Iron *balsamarium*, 2 – Handle from a bronze-sheet spouted jug, 3 – Millingen spouted jug (1–3 after Mustață 2017, Pl. 70, Pl. 73, Pl. 92).

15 See e.g., Boube-Piccot 1969, 232, no. 266, Pl. 190.1; Boucher 1973, 146–147, nos 231–232; Kaufmann-Heinimann 1977, 90, no. 99, Taf. 94.99; Faider-Feytmans 1979, 96, no. 114, Pl. 60.114; Kaufmann-Heinimann 1987, 295, 298, Abb. 4, 312–314; Kellner – Zahlhaas 1993, 41–44, no. 7, Taf. 21–23; Kaufmann-Heinimann et al. 2019, 123–124, no. 19.

16 Giumlia-Mair 2001, 10–11, Fig. 2.

Metal vessels

Three more or less complete metal vessels were part of the assemblage: an iron *balsamarium*, a fragmentary handle coming from sheet-bronze jug and a spouted jug with trefoil mouth. The metal vessels have already been published;[17] therefore, in the following lines we will only discuss their general characteristics.

The iron *balsamarium* (cat. no. 3, Fig. 6.1) is fragmentary: its second handle is missing (it was reconstructed during restorations); its suspension chain is also missing. It has a specific form, very similar to the Dressel 20 olive oil amphorae and it was used for storing/transporting the oil to the baths, on a ring, together with other toilet instruments. The X-ray of the object offers important details regarding the production technique. Taking into consideration the nature of the raw material, iron, it was made from two hammered hemispheres joined together in the middle, in the area of the maximum diameter, and a separately worked lid with a closing mechanism.[18]

From the same site—but this time from the area of building C1, related to the last phase of use of the building—comes another iron *balsamarium*, displaying a different, globular shape and with part of the bronze fastening system preserved. The X-ray shows the same production technique.[19]

The two iron vessels are unique finds in Roman Dacia and, in general, iron toilet vessels are rare discoveries. In terms of the production centres, the fastening system of the lid, which is similar with the one observed on bronze toilet vessels, indicates a provincial production and a use during the 2nd and the 3rd centuries AD.[20]



Fig. 7. Lamp base (drawing: D. Gheorghe-Șerban; photo: S. Odenie, The Collection of the National Museum of Transylvanian History, Cluj-Napoca; © MNIT 2023).

The fragmentary handle (cat. no. 4, Fig. 6.2) belongs to a Bolla I bronze sheet spouted jug used for boiling the water. Because only part of the handle is preserved, it is not possible to identify the variant. This provincial type is the most common type of bronze vessel in Roman Dacia, appearing usually in discovery contexts dated beginning with the mid-2nd century AD.[21]

The spouted jug with trefoil mouth of Millingen type (cat. no. 5, Fig. 6.3) belongs to a later provincial variant of the type, manufactured in Gallic or other provincial workshops during the 2nd, possibly beginning of the 3rd century AD. It was discovered in a fragmentary state, with the body broken in small bits. For its restoration, the body was completely reconstructed over a wire framework. Therefore, the formal characteristics currently displayed by the piece can slightly differ from its original shape. The same advanced state of degradation does not allow more precise observations regarding the technological stages the jug went through. The only integrally preserved part is the

17 Mustață 2017.

18 Mustață 2017, 152, no. 85, 153–157, Pls 44–45, Pls. 92–93.

19 Mustață 2017, 152, no. 84, Pls 42.84a–43, Pls 90–91.

20 Mustață 2017, 156.

21 Mustață 2017, 111–114, no. 34, Pl. 25.34, Pl. 73.34.a–b.

handle, which exhibits signs of intensive/lengthy use. The jug was very probably part of a hand-washing set, though one cannot exclude that individual finds were used as serving vessels.[22]

Lighting equipment

Concerning the lighting equipment, four such objects have been identified in the assemblage, coming from a lamp and candlesticks.

The lamp foot (cat. no. 6, Fig. 7) cannot be attributed with certainty to a specific type of Roman bronze lamp, but such bases seem to characterize the metal lamp production of Hellenistic tradition and of the 1st century AD.[23] A chronological indicator could be the concentric circles on the base which were heavily worked on the lathe. This aspect indicates a dating starting with the mid of the 1st century AD.[24] One cannot exclude that it might have belonged to another type of object, but no parallels have been identified in this sense.

The first candlestick (cat. no. 7, Fig. 8) is not complete (the upper part for fixing the candle or possibly a small platform for a lamp? is missing). The object, in the shape in which it was discovered, has no analogies, but the two components, the tripod base and the shaft (part a and b), can be traced back to different parts or objects related to lighting equipment. One can easily notice that the two parts of the object were poorly joined. The shaft comes very probably from a candlestick similar to the one from Volubilis,[25] with the mention that this baluster shape of the shaft is not frequent during the period of the Principate. Likewise, the tripod base was initially used as a candlestick on its own. Simple bronze tripod candlesticks with the base shaped as schematic human legs are rare as well, but they are attested as shown by one example from Britain, at Carlaeon, dated to the 2nd century AD.[26]

The fragmentary flower shaped object, with the end of the petals broken (cat. no. 8, Fig. 9) comes from the upper end of another candlestick. These pieces do not allow the identification of the exact type of candlestick, but we find with good parallels at Nida[27] and Volubilis.[28]

The pricket candlestick (cat. no. 9, Fig. 10) was discovered with only two legs (one of them detached), the third one being reconstructed during restoration. Small tripod candlesticks decorated with griffins or lions on the legs are quite common in the Roman world. Recent research caried out by L. de Chavagnac and M. Feugère in the context of the re-assessment of the bronze treasure from Bavay, has listed more than thirty discoveries.[29] They are found in contexts dated during the 2nd and 3rd centuries and are attested on other sites from Roman Dacia as well, like Apulum.[30] As mentioned before, one of the legs was missing in the moment of the discovery and it was reconstructed during restoration. But the other two display different decoration. In Fig. 10 one can observe the original leg, in the shape of a griffin, while the second one seems to have been replaced in Roman times with a similar leg from another tripod candlestick, in order to repair it.

22 Mustață 2017, 103–105, no. 30, Pl. 23, Pls 68–70.

23 Boube-Picot 1975, 147–148, no. 169, 171–172, nos 199–200, Pl. 78, Pl. 102; Bailey 1996, 9, nos Q3551–Q3552, Pl. 5.

24 For the evolution of the bronze working technique at the lathe during the Roman period see Petrovszky 1993, 21–24, 29, 47–48, 64–65.

25 Boube-Picot 1975, 197, no. 274, Pl. 130.

26 Eckardt 2002, 259–260, Fig. 122.1721, 340, no. 1721.

27 Kohlert – Németh 1990, 56, no. 30.

28 Boube-Picot 1975, 208–209, nos 322–323, Pls 142–143.

29 de Chavagnac – Feugère 2019, 351–354, no. 189.

30 Ciugudean 1998. The author mentions unpublished examples from Micia and Porolissum.

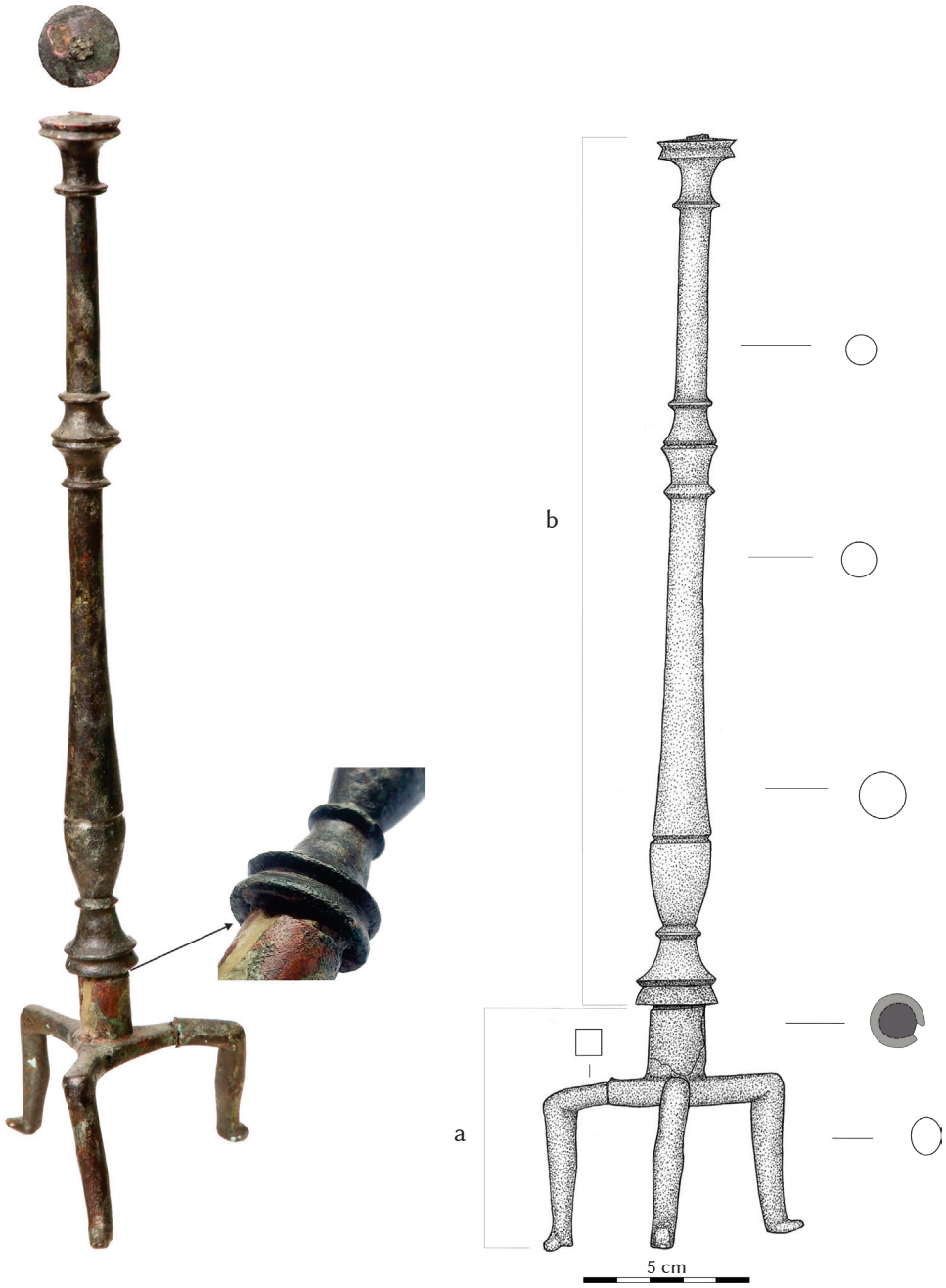


Fig. 8. Candlestick (drawing: D. Gheorghe-Șerban; photo: S. Odenie, The Collection of the National Museum of Transylvanian History, Cluj-Napoca; © MNIT 2023).

Scissors

The scissors from the assemblage (cat. no. 10, Fig. 11) preserve only the flexible part, made of bronze, incised with a rhombic decoration. The two active missing parts were made of iron and were fastened to the bronze band with the help of iron rivets. Scissors made of both iron and bronze were not frequent in the Roman Empire, and this is even more valid for the examples with rhombic decoration on the bronze band, sometimes provided with decorated bronze rivets. E. Deschler-Erb listed only six such objects, only part of them with decoration, stressing on their special function as toilet instruments or part of medical kits.[31]

31 Deschler-Erb 1996, 56–57, Abb. 53, and note 357.



Fig. 9. Candlestick (drawing: S. Cociș; photo: S. Odenie, The Collection of the National Museum of Transylvanian History, Cluj-Napoca; © MNIT 2023).

Decorated plates

The last two objects from the assemblage are two bronze plates decorated by embossing. The first one depicts a winged Victoria holding a crown with both hands (cat. no. 11, Fig. 12.1) and the second one a variety of sea dragon with panther head or sea panther (cat. no. 12, Fig. 12.2). Both pieces have on the edges holes for the iron rivets used for fixing them on other materials. The exact objects on which these plates were fixed are hard to identify. We know no analogies for them yet. But what is important is their decoration which is typical for the repertoire of the Roman military parade equipment. Similar images to the ones from the plates, of winged Victoria holding a crown and sea dragons, can be seen on three of the chamfrons and one of the greaves from Straubing[32] and on the chamfron from Eining.[33] An image of Victoria in the same position, holding the crown with both hands was embossed twice, flanking the image of Mars, on the frontal piece of the pseudo attic cavalry sports helmet of type Ostrov, Phrygian in style, preserved in the collections of the Mougins Museum, France.[34] A Victoria crowning a Roman soldier was also depicted on the frontal part of the helmet from Tell Oum Hauran, Syria.[35] The two plates from Napoca must have been originally part of a chamfron or of another piece of military parade equipment and after it was no longer functional, they were cut and reused as decorative plates on other objects. The use of the same matrix for the production of different objects is not excluded, but at least for the moment all the analogies that have been identified come from the sphere of the military equipment.

Interpretation

Considering the context of the discovery, it is clear that the individuals who lived in house C2 from Roman Napoca during the fourth–fifth decades of the 3rd century did not have the chance to come back and recover their goods. After the massive destruction by fire, the area of room b was levelled, and a new floor was constructed. The new inhabitants had no knowledge of the monetary hoard and of the group of metal objects.

It is not clear if the objects were intentionally hidden in storage room b or they were kept there in a chest or cupboard and were left behind by their owner in a moment of peril, after hiding the monetary hoard under the floor. Yet, what is interesting is the high number of objects which have been repaired or rather recomposed from old objects. And it is obvious that this is not a classic case of collecting scrap metal. No broken pieces from common bronze objects were identified in the assemblage.

32 Garbsch 1978, 49, nos 12, 15–15, 21, Abb. 5.B 12, 15–16, 21, Taf. 4.1–2, Taf. 6.1.

33 Garbsch 1978, 46, no. 6, Abb. 5.A6.

34 Fischer 2012, 211, Abb. 307.

35 Garbsch 1978, 61, no. 1, Taf. 16.1–2.

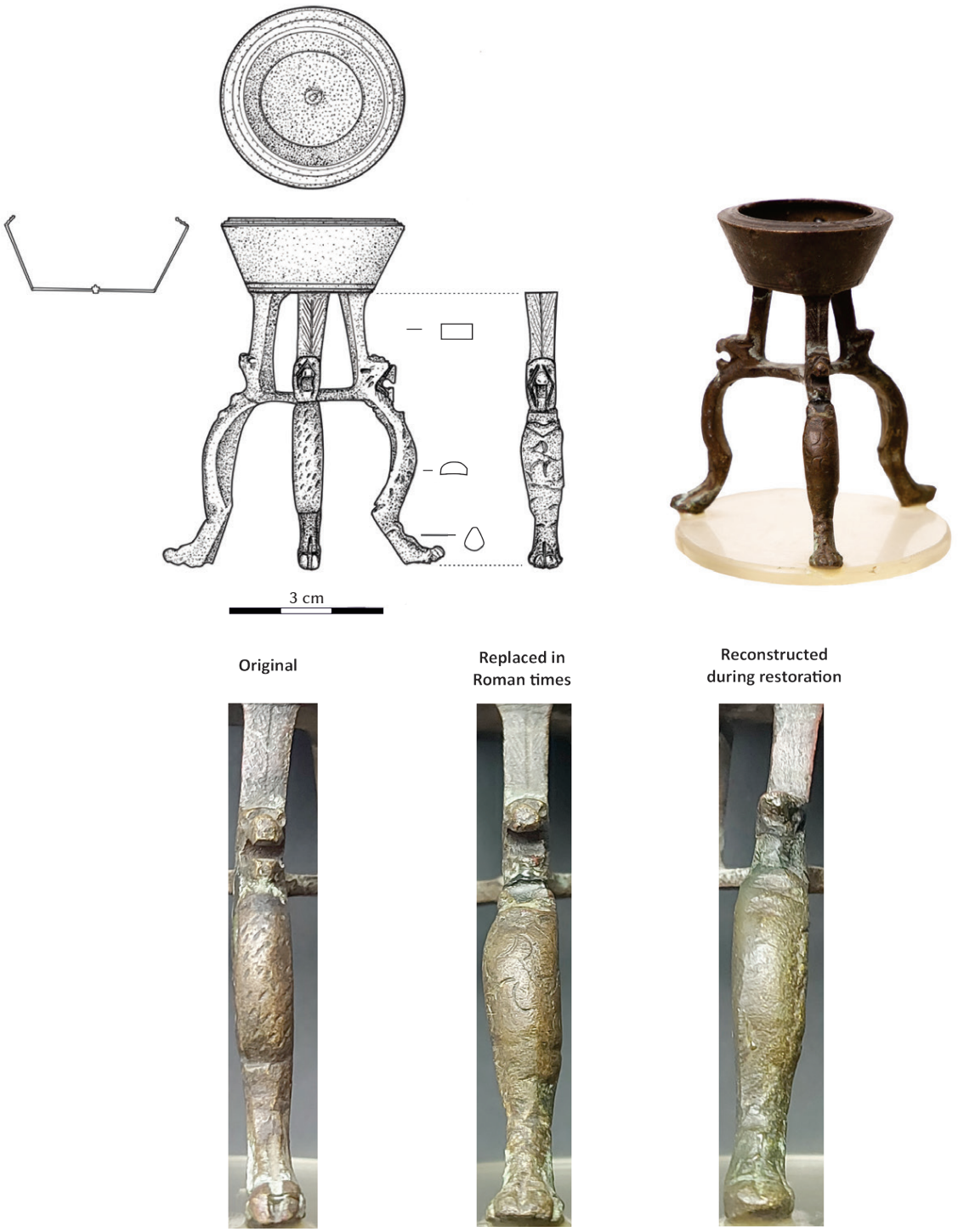


Fig. 10. Pricket candlestick (drawing: D. Gheorghe-Șerban; photo: S. Odenie, The Collection of the National Museum of Transylvanian History, Cluj-Napoca; © MNIT 2023; detail photo: S. Mustață).

All the artefacts are high-quality products and were imported in Roman Dacia. We can observe here a clear concern for selecting, collecting, recycling, repairing and refunctioning good quality objects which were expensive and, probably, not very accessible. This behaviour can be better understood in the unstable situation from the fourth decade of the 3rd century which affected the Roman town.[36] Even though building C2 was reconstructed after the fire and a last subphase of inhabitancy was

36 See Opreanu 2009.

documented during excavations, we are in the last decades before the abandonment of the province. Imported bronze products from the western provinces must have been rare and, in this context, we can better understand this practice of restoring ancient pieces.



Fig. 11. Scissors (drawing: S. Cociș; photo: S. Odenie, The Collection of the National Museum of Transylvanian History, Cluj-Napoca; © MNIT 2023).

Such cases have rarely been documented. A similar intention was observed on part of the objects from the hoard at Dax (Landes, France), hidden in a wooden chest at the end of the 3rd or along the 4th century AD.[37] The assemblage was composed of bronze statuettes, lighting equipment, weights and implements, measuring instruments, as well as iron tools. Besides the interventions observed on the statuettes, clear intentions of restoring by using older parts can be seen on two of the bronze lamps: one was repaired with the handle of a bronze bowl[38] while the other was placed on the lower part of a pricket candlestick.[39] The authors of the study interpreted the find as a result of the activity of an "antiquarian-restorer"[40] who hid the objects he was refunctioning together with his tools in times of danger. And, partially, this is probably the best interpretation for the objects from Napoca as well. In this context it is worth mentioning that the site did not produce any traces of metallurgical activity which could be related to the stone phases. It is hard to assess the status of the owner of house C2. The planimetry of C2 (Fig. 2) is typical for the private residences from the Danubian provinces during the 2nd century AD: a courtyard provided with a monumental entrance (a) which offered access to the annex (b) and the main heated room (c) the latter continuing with an inner courtyard, paved with stone (d).[41] Thus, the owner must have had an important economic status in the Roman town and was involved, among other things, with trading good quality bronzes. The

37 Santrot et al. 1996.

38 Santrot et al. 1996, 295–298, no. Dax 9, Figs 30–33.

39 Santrot et al. 1996, 299–302, no. Dax 13, Figs 34–35.

40 The term is not anachronistic when used with respect to ancient realities, and it is mentioned in the Latin sources. See, Santrot et al. 1996, 323–325.

41 Opreanu 2008, 393.

value of the metal from the assemblage[42] and the monetary hoard are probably not representative for his wealth. The analysis of the monetary hoard has shown a structure that would rather indicate its assembly in a very short time, for the purpose of a transaction.[43]

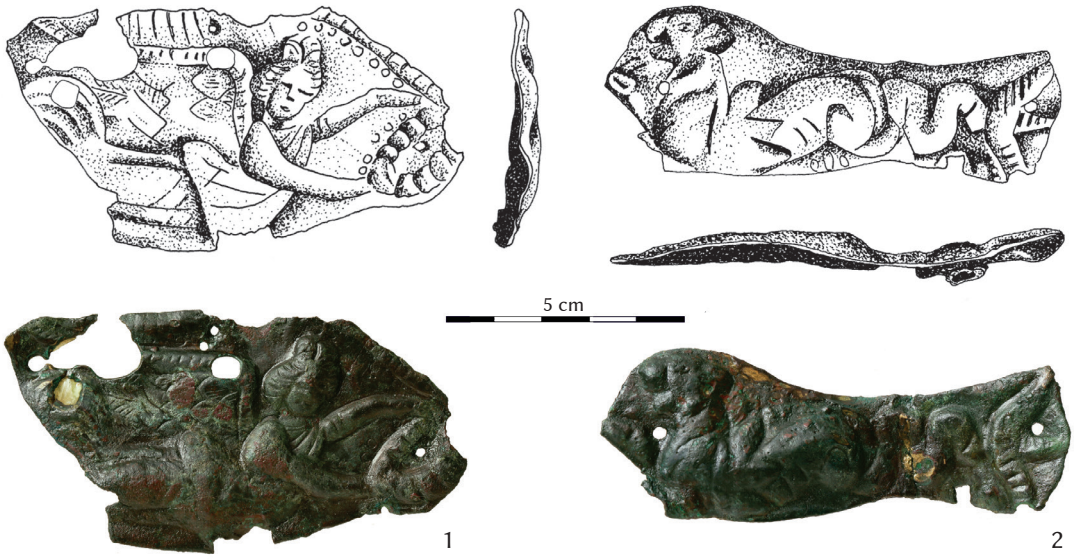


Fig. 12. 1–2 – Decorated plates (drawings: S. Cociș; photos: S. Odenie, The Collection of the National Museum of Transylvanian History, Cluj-Napoca; © MNIT 2023).

As discussed above, most of the objects from Napoca were not functional in the moment of their abandonment, for this reason they cannot be interpreted as household inventory. We will never know with certainty if they were collected to be melted or, more likely, they were stored in room b, waiting for the right part for their repair to be found. However, the selection of the pieces and the interventions on the objects do not support the hypothesis of hoarding good quality bronze in order to be melted. Though speculative, this situation could suggest the existence of a local market trading spare parts which came from imports and good quality bronzes, at least in Roman Napoca.

Catalogue[44]

1. Bovine leg (Fig. 4). Cooper alloy and traces of gliding on the lower half. Fragmentary, restored. Cast, incised and repaired: ten patches were identified on the surface, placed after casting to cover the faults. The leg belongs very probably to a bull; only the lower half is preserved, from the knee down; it was intentionally or not intentionally damaged in the area of the divided hoof and above the ankle; the part above the hoof is marked by a register of vertical, slightly curved lines. Inv. no: MNIT v. 41355. H: 230 mm; Wgt: 1059 g (Unpublished).

2. Ram (Fig. 5). Cooper alloy. Complete, restored, with ancient traces of repair. Cast. The animal is depicted in a static position, looking ahead, with the legs on the ground; the locks of the fur were finely shaped on the body, but the head (horns, eyes and mouth) and the tail are schematic and not natural for a ram; it was very probably repaired in ancient times and during this process the head, tail and possibly the front legs were modified. Inv. no: MNIT v. 41352. H: 45 mm; Wgt: 55 g (Țeposu-Marinescu – Pop 2000, 125, no. 162, Pl. 76.162).

42 The metal objects weight in total 2061 g, out of which 259 g are iron (the iron *balsamarium*). The Millingen spouted jug was reconstructed during restauration and its weight does no longer correspond to the one of the ancient object.

43 Găzdac et al. 2010, 11.

44 The following headings and abbreviations were used: Storage (inv. no.: inventory number; MNIT: The National Museum of Transylvanian History, Cluj-Napoca); Dimensions (D: diameter; H: height; L: length; Th: thickness; W: width; Wgt: weight).

3. *Balsamarium* (Fig. 6.1). Iron. Fragmentary, restored (one of the handles reconstructed during restoration). The body is worked up from two raised parts, manufactured separately, which are joined in the area of the maximum diameter; the upper part includes the rim; the handles and closing mechanism were made separately. Amphora-shaped vessel with vertical rim, short and narrow neck and spherical body; it was not provided with a base and the inferior part of the body is elongated and terminates in a knob; the preserved handle ends in its inferior part with a leaf-shaped attachment which still holds the first loop of the chain used for hanging, now missing; a closing mechanism was fixed to the interior of the rim: a mobile, superior plate with two knobs and an inferior, fixed one; because the vessel was restored, the two holes from the plates, one used for fixing the upper plate, the other for accessing the contents, can no longer be seen. MNIT, without inv. no. H: 100 mm; $D_{max.\ body}$: 82.8 mm; D_{rim}: 38.9–41.6 mm; Wgt: 259 g (Mustață et al. 2012a; Mustață et al. 2012b; Mustață 2017, 152, no. 85, Pls 44–45, Pls 92–93).

4. Bronze sheet spouted jug handle (Fig. 6.2). Cooper alloy. Fragmentary, restored. Cast. The end of a handle belonging to a spouted jug, round in cross-section; the attachment is leaf-shaped and displays two circular perforations. Inv. no: MNIT v. 47737. H approx.: 75 mm; Th_{handle}: 8 mm: W attachment: 47.4 mm; Wgt: 102 g (Mustață 2017, 111, no. 34, Pl. 25.34, Pl. 73.34.a–b).

5. Spouted jug with trefoil mouth (Fig. 6.3). Cooper alloy. Complete; restored: the piece was discovered seriously damaged; the body being broken into small bits of metal; only the handle was integral; during restoration it was recomposed over a wire mesh and covered with resin. Cast in several separate pieces which were subsequently joined together. Jug with trefoil mouth, short, wide neck, bulbous body and flat base; the handle is curved and raised and its upper part ends in a lion's head with open mouth, resting its front paws, highly stylized and ending in volutes, on the mouth of the vessel; the handle ends below in an attachment shaped like a lion's paw. Inv. no: MNIT v. 41351. H: 114 mm; $H_{with\ handle}$: 156 mm; Wgt: 945 g (Mustață 2017, 103, no. 30, Pl. 23, Pls 67–70).

6. Lamp foot (Fig. 7). Cooper alloy. Fragmentary, restored. Cast, worked on the lathe. Circular foot with concentric circles on the base and traces of soldering alloy preserved on the area which was attached to the body of the lamp. Inv. no. MNIT 41354b. H: 32 mm; D_{base}: 55.5 mm; Wgt: 125 g (Unpublished).

7. Candlestick (Fig. 8). Cooper alloy. Fragmentary, restored (one of the legs of the base was discovered broken and it was reattached during restoration; the upper part with the spike or/and flower for fixing the candle is broken). Cast. The object was restored during the Roman period and consists of two different candlesticks; part a: tubular tripod candlestick with the base in the shape of three stylized human legs; part b: baluster shaped rod coming from another candlestick/lamp stand; the joining area of the two parts is visible and it was done in a careless manner. Inv. no: MNIT v. 41354a; Part a: H: 73.5 mm; part b: H: 263 mm; H_{total}: 336.5 mm; Wgt_{total}: 415 g (Unpublished).

8. Candlestick (Fig. 9). Cooper alloy. Fragmentary, restored. Cast. The upper part of a candlestick shaped as a flower calyx, pentagonal in section, with five petals (partially broken). Inv. no: MNIT v. 47735. H: 21.5 mm; Wgt: 8 g (Unpublished).

9. Pricket candlestick (Fig. 10). Cooper alloy. Fragmentary, restored (it was placed on a plastic base). Cast, incised. It consists of a drip-collector with slightly flaring walls and inturned rim; the spike for holding the candle in a vertical position, inserted into the base of the drip-collector is missing; the drip-collector is supported by tripod legs (joined by a triple bar) with vegetal decoration on the outer face, resting on gryphon heads which continue with lion legs; the object preserves only one original lion leg, with the fur marked by incised dots; from the other two, one was reconstructed during restoration, while the second one, coming from another pricket candlestick, represents an ancient repair (it has a different shape and the fur was marked by semi-circular incisions). Inv. no: MNIT v. 41353. H: 69 mm; $D_{rim\ drip\text{-}collector}$: 31.6 mm; Wgt: 54 g (Unpublished).

10. Scissors (Fig. 11). Cooper alloy and iron. Fragmentary, restored. Cast, incised, hammered. The object consists of a cooper alloy curved, elastic band, incised on the outer face with a double rhomboid decoration, which had attached at each end, with the help of two iron rivets, the iron active parts of the scissors, now missing. Inv. no: MNIT v. 47734. L: 54.5 mm; W_{band}: 18.8 mm; Wgt: 27 g (Unpublished).

11. Decorated plate (Fig. 12.1). Cooper alloy. Fragmentary, restored. Cast, embossed, incised. Plate decorated *au repoussé* and with incisions, depicting a winged Victoria holding a crown with both hands; several holes are visible on the surface, some of them for fixing with rivets on another material. Inv. no: MNIT v. 41356. L: 95.7 mm; W: 51.5 mm; Th: 0.8–1.7 mm; Wgt: 20 g (Unpublished).

12. Decorated plate (Fig. 12.2). Cooper alloy and iron. Fragmentary, restored. Cast, embossed, incised. Plate decorated *au repoussé* and with incisions, depicting a schematic fantastic animal, probably a sea panther; two holes are visible at both ends, for fixing with rivets on another material, while a third one, preserving the iron rivet, can be observed near the tail of the animal. Inv. no: MNIT v. 41357. L: 95.7 mm; W: 36 mm; Th: 0.6–1.5 mm; Wgt: 15 g (Unpublished).

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Raetia resumed: Between iconography and context

An introduction

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Abstract: This paper's title, "Raetia resumed," is largely intended to reflect the fact that earlier research on the Raetian bronze fragments was interrupted and subsequently resumed by a project entitled *Römische Großbronzen am Limes – Fragmente im raetischen Raum*.

Herein, we shall offer a panoramic perspective on several case studies that demonstrate the variety of the contexts and the fragments as well as aspects of their chemical and isotopical composition. Analysis of these fragments from an interdisciplinary perspective yielded archaeological and historical, iconographical, and archaeometallurgical data that encapsulate the complexity of Raetian culture.
Keywords: Roman Raetia, bronze statuary, *limes*, alloy

Introduction

The title of this paper, "Raetia Resumed," highlights its connection to the project *Römische Großbronzen am Limes – Fragmente im raetischen Raum*, developed during the biennium 2019/2021 at the KU Eichstätt-Ingolstadt and funded by the Fritz Thyssen Stiftung. A previous international project (*Großbronzen am Limes*)[1]—as mentioned in the introduction to our session V with Nadin Burkhardt, which we organized during the International Bronze Congress in Budapest 2022 and which carried the title *Bronze sculpture: technique, motifs, context and re-use in the Roman provinces*—investigated the bronze fragments that were unearthed along the Limes of the northern and western Roman provinces. This region along the *Limes Germanicus* comprises the ancient Roman provinces of Germania Inferior, Germania Superior, Gallia Belgica and Raetia. The present project resumes earlier research on Raetia that focused on settlements both along the Limes and in the province's hinterland.

Thousands of fragments of bronze statues were discovered in twenty-five contexts of various kinds (Fig. 1).[2] Over the course of the project, the fragments were evaluated with respect to their iconography, with attempts to reconstruct their original display contexts. Selected pieces from various

1 On the topic, cf. the contributions in Gebrochener Glanz 2014; Kemkes 2017 and the database: http://grossbronzenamlimes.de/.

2 For this, cf. the recently appeared monograph on the topic: *Römische Großbronzen am Limes – Fragmente im raetischen Raum* (Oxford 2023). See also Piccioni 2020, 327–329.

centres were also subjected to chemical analyses with the aim of determining their alloy and thus their mutual provenance from the same statue—and the lead isotopy—to determine the lead's provenance.[3] Almost 160 samples from fourteen different localities in Raetia were chemically analysed, and more than thirty were analysed with regard to their isotopic composition.

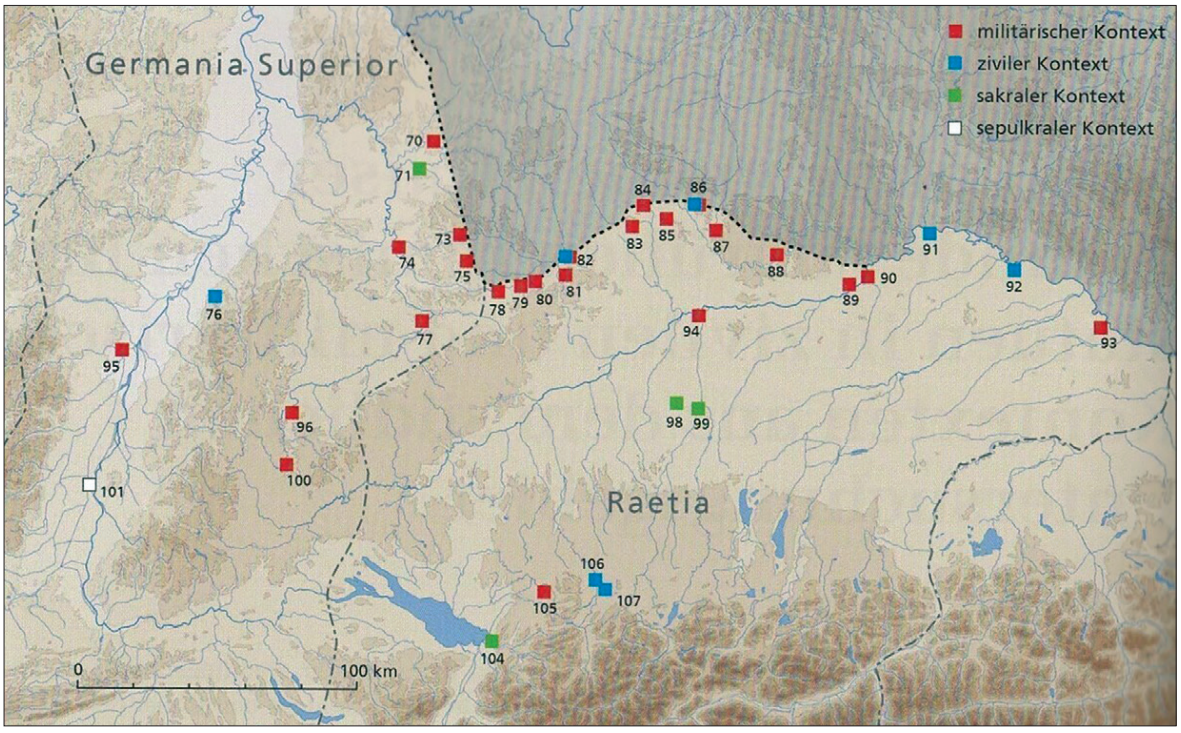


Fig. 1. Findings on early Roman bronze statues in civilian and military contexts from the southern study area (after Heckmann 2017, 41–53, Part 42, Fig. 1).

The first part of the present paper will focus briefly on several case studies with the aim of demonstrating the richness and variety of the province's bronze statues and exploring their potential interpretations.

Case studies: the destruction of the statues and the recycling of the fragments

The first noteworthy observation to emerge from the research on the fragments was the omnipresence of the original bronze statues in every type of context of Raetia.[4] The archaeological, historical, iconographical, and compositional complexities of the fragments reflect the cultural complexity of Raetia.[5] No archaeological evidence has been found to attest to specific in Raetia, but if we consider the ancient statue founders as analogous to modern bell founders as itinerant workers who source their material locally for the most part, material analysis emerges as a crucial source of information for merchandise systems. At this juncture, it is worth noting that large Roman statues are invariably made of leaded or highly leaded bronze alloys, with copper, lead, and tin as the only major components.[6] Indeed, the impurity pattern of minor components varies, and—with regard to Raetia

3 On the methodology, see Willer et al. 2016, 59–73.

4 Cf. Heckmann 2017, 41–42.

5 See, for instance, the case of Aalen: Kemkes 2014, 131.

6 Azéma et al. 2012; Caley 1970; Oddy et al. 1990; Janietz Schwarz – Rouiller 1996; Janietz 2000; Lahusen – Formigli 2001; Lahusen – Formigli 2007; Willer et al. 2016, 74–79.

in particular—from region to region and also over time.[7] Some minor elements, such as zinc or gold, may serve to indicate recycling, since these metals are not normal components of ancient copper, lead, or tin.[8]

Almost all areas of the province were razed to the ground around the mid-3rd century AD during the raids of the Germanic tribes. The small fort of Künzing, however, has yielded several key findings.[9] The main findspots at this settlement included a pit at the entrance of the wooden amphitheatre, which yielded fragments that were likely deposited there for recycling purposes.[10]

The fragments found at the amphitheatre (Fig. 2) permitted the reconstruction of a standing statue of the emperor Trajan.[11] The fragment bearing the serial number LfdNr. 239[12] (= Künzing, Inv. no. R2001,1–4) is particularly meaningful for this reconstruction.[13] Its peculiar iconography distinguishes it as a highlight of the assemblage: it depicts a man being attacked by a griffin, suggesting the myth of the Arimasps and the griffins.[14] This motif was developed in several variants that alluded to the Roman dominion, which extended to the furthest extremities of the known world, as Cadario has demonstrated.[15] In any case, several examples of statues (not necessarily made of bronze) representing the emperor Trajan are attested, and Pfeifroth attempted to reconstruct the Künzing example based on the similarities between such statues[16] and the fragment. However, the Künzing piece does not constitute an isolated fragment; rather, several other fragments that are chemically identical and iconographically related have been found.[17] Künzing is the only site in Raetia at which several statues show traces of zinc, which entered the alloy through the ad-



Fig. 2. View of some fragments from Künzing. Permission: Museum Quintana, Künzing (photo: Aura Piccioni).

7 Willer et al. 2016.

8 Willer et al. 2019, 193–195.

9 Cf. Fischer 1991, 169–173.

10 For this and the other findspots, as well as their interpretations, cf. Piccioni 2023, 4–5.

11 Thanks to the support of Roman Weindl and the work of Burkhard Pfeifroth. Cf. that which has already been established with respect to the statue's iconography by a previous researcher of this topic, S. Heckmann, in the database Grossbronzenamlimes.de: http://grossbronzenamlimes.de/database/node/1294 (generated on 9th January 2023).

12 In the database grossbronzenamlimes.de.

13 Cf. S. Heckmann, http://grossbronzenamlimes.de/database/node/1294 (generated on 9th January 2023).

14 Cadario 2004, 251. Cf. S. Heckmann, http://grossbronzenamlimes.de/database/node/1294 (generated on 9th January 2023).

15 Cf. again Cadario 2004, 251.

16 Cf. Heckmann, LfdNr. 239 in the database: http://grossbronzenamlimes.de/database/node/1294 (generated on 17th February 2023). See also the reconstruction by Burkhard Pfeifroth.

17 Cf. Heckmann, LfdNr. 240 [http://grossbronzenamlimes.de/database/node/1295, generated on 18th February 2023] and 242 [http://grossbronzenamlimes.de/database/node/1297, generated on 18th February 2023] in the database.

dition of brass scrap.[18] Indeed, 23% of all examined fragments from all provinces along the Limes Germanicus, with an emphasis on the northern area of investigation, have measurable proportions (>0.2%) of zinc, while zinc is detectable as an impurity in just five percent of the analysed samples from Raetia. The analysed objects from Künzing included two brass alloy appliqués in the shape of Medusa.

The same picture emerges for gold, which enters the alloys as an impurity through the re-melting of statues' gilded fragments.[19] Gold has been detected in approximately 20% of the fragments from large bronze statues analysed from the region along the Limes Germanicus so far, while only 8% of the analysed finds from Raetia contain gold.

Let us now turn to the western part of the Limes—the Ostalbkreis—and particularly to Aalen (Fig. 3), which is meaningful not only as a military fort—in comparison to the smaller Künzing, for instance—but also in light of the number of the bronze fragments discovered there (2035 alone in the settlement) as well as the findspot for most of them: the *aerarium* located under the sanctuary in the *principia*.[20] Several bronze pieces discovered in Aalen belong to the decoration of a cuirassed statue, such as the *pteryges* (i.e., the fringes of the cuirass) bearing a representation of the head of Jupiter Ammon.[21] One fragment of a plinth from Aalen shows a remarkably high percentage (2.6%) of antimony and a tin content below the percentage mark. Antimony-bearing alloys are relatively typical of late Iron Age Celtic objects from southern Germany, and it is assumed that older local materials, such as the 'Potin coins,' were used as an additive in statue production.[22] Only a handful of samples from the entire series exhibited such high antimony contents.



Fig. 3. A view of the Aalener fort (photo: Aura Piccioni).

Find deposits, such as those from Aalen with small, fragmented statue pieces ready for melting, clearly indicate that materials were hoarded for recycling. However, the analysis suggests that recycling was less pronounced in Raetia than in the other provinces for reasons that remain unclear.

18 Appendix by R. Schwab in Piccioni 2023.

19 Willer et al. 2019, 194.

20 Cf. Piccioni 2020, 329. On the other findspots in Aalen, cf. Piccioni 2023, 22–23.

21 Cf. Heckmann, LfdNr. 1605 in the database [http://grossbronzenamlimes.de/database/node/2660, generated online on 20th February 2023].

22 Willer et al. 2019, 194–195.

In the case of Mögglingen, not far from Aalen, as well as those of Rainau-Dalkingen (Ostalbkreis) and Straubing (on the eastern side of the Limes), new evidence highlighting similarities to findings from other settlements has come to light since the conclusion of the international project on the bronzes from the Limes, from which the database and research project had originated.[23] The similarities are sufficiently compelling to suggest that these decorations were cast by the same workshops or at least based on the same models.[24] The question of workshops and the circulation of models is key to understanding the interactions and relationships between settlements along the Limes and in the province.

In Rainau-Dalkingen (nr. 82 on the map, in today's Baden-Württemberg), in the western part of the Raetian Limes, a gate and later, perhaps, a triumphal arch was built on a prehistoric road reused in Roman times (Fig. 4).[25]



Fig. 4. View of the so-called "Dalkinger Tor" at Rainau-Dalkingen (photo: Aura Piccioni).

Research on the gate has revealed six construction phases, during the first four of which it was made of wood. Its final phase occurred during the reign of Severus Alexander, and the building appears to have been destroyed during the incursion of the Alemans around the mid-3rd c. AD (233 AD).[26] The gate likely originally served as a wardpost.[27]

Around 140 bronze fragments of an over-life-sized statue, first analysed by Sascha Heckmann (one of the researchers who previously studied the bronze fragments from Raetia), have been dated to the reign of Caracalla.[28] Heckmann's analyses led to the hypothetical reconstruction of a standing cuirassed statue dated to the beginning of the 2nd century AD. Given the date, it could not originally have portrayed Caracalla but may have portrayed Trajan, for example, with the portrait head of Caracalla perhaps later substituted for the original.[29]

23 Cf. Piccioni 2023, 1–4, 11–13.
24 Cf. Piccioni 2023, 30–32, 47–56, 211–212, 241–245.
25 Cf. Planck 2014, 76.
26 Cf. Planck 2014, 56–69, 76–83.
27 Cf. Planck 2014, 76–80.
28 Cf. Heckmann 2014a, 92–100.
29 Cf. Heckmann 2014a, 135.

Cuirass parts are recognizable among the fragments from Rainau-Dalkingen. These include, for example, fragments depicting *pteryges* with the decorative heads of Jupiter Ammon and Medusa as well as *kalathoi* (baskets) of acanthus leaves.[30] The analysed fragments from Rainau-Dalkingen are chemically similar and likely originate from a single statue.[31] The similarity is not only important with respect to the symbolic meaning but also because of the iconography that can be recognized on the fragments and, above all, their visual style. The depiction on these *pteryges* constitutes a vivid example of a hybrid Romano-Celtic tradition and illustrates the extent to which Roman models influenced indigenous Celtic art.[32]

Among the more impressive fragments is a hilt in the form of eagle head that originates from a parade sword (*parazonium*), for which Heckmann had already identified several comparanda from the same province of Raetia, such as two hilts from Weißenburg in Bayern.[33] Research into this topic has intensified in the context of the present project, and details of its findings appeared in the monograph.[34]

From an analytical perspective, the findings indicate that the use of scrap in Raetia can be verified only in a limited manner, and the results from Raetia also differ from the other provinces along the Limes with regard to the lead isotope ratios. It has been shown that the so-called *plumbum Germanicum*, which was produced in the area of the Rhenish Massif, was used almost exclusively for statues in the vicinity of these lead deposits (i.e., in the provinces of Germania Inferior, Gallia Belgica, and Germania Superior), while only a saddle cloth fragment from Isny containing *plumbum Germanicum* can be securely attested for Raetia.[35] Figure 6 illustrates the isotope ratios of all the analysed bronze statues from the Germanic provinces and the Raetian statues compared with the lead deposits used during the Roman period. For the majority of the statues from Raetia, both lead from the Pennines in northern England and lead from Gaul's Massif Central are possible.

Conclusion

To conclude this brief presentation about fragments of Roman bronze statues from Raetia (as already mentioned in the introduction to session V of the Bronze Congress 2022 in Budapest, it should be emphasized that not all settlements in the province were militaristic in character; some, such as Augsburg (*Augusta Vindelicum*), had developed in a civil sense and had attained city status in all respects. Their different nature imposed no limitation on the diffusion of bronze statuary. Indeed, settlements such as Kempten have yielded extraordinary examples of bronze statues of different kinds; the horse head discovered in Augsburg (LfdNr. 1346 in the database) constitutes a monumental example.[36] However, the Raetian fragments generally highlight the complex nature of their decoration and display contexts. In the case of cities such as Augsburg, Kempten, and Bregenz, we might imagine that the original bronze statues were displayed in the forum or at other strategic points, easily recognized and widely visible.[37]

Regarding the alloys used in Raetia's statues, the main components – copper, tin, and lead – do not

30 Cf. Heckmann, LfdNr. 1019 in the database [http://grossbronzenamlimes.de/database/node/2074, generated on 20th February 2023].

31 Willer et al. 2016, 167; Schwab in Piccioni 2023, 261–263.

32 Cf. Piccioni 2023, 231–235.

33 Cf. Heckmann 2014c, 138–139.

34 Cf. Piccioni 2023, 51–56, 241.

35 Willer et al. 2016, 93 and 14.

36 Cf. Heckmann, his entry in the database [http://grossbronzenamlimes.de/database/node/2401, generated on 21st February 2023].

37 Cf. Hahn 2014, 49; Willer 2014, 30–31; Oberhofer 2019, 345–374.

differ from those attested throughout the empire. Some differences have emerged in the practice of recycling for reasons that are as yet undetermined; more striking, however, is the obvious deviation in the supply of raw materials from the Germanic provinces. Most of the bronze statues found in the provinces of Upper and Lower Germania and Gallia Belgica contain lead from deposits in the German low mountain range zone and thus from the immediate vicinity.[38] This lead, the so-called *plumbum Germanicum*, can be isotopically traced up the Rhine to present-day Switzerland and further across the Rhône to the coasts of southern France and Sardinia,[39] making it even more puzzling that lead from the Germanic provinces was not delivered to a neighbouring province, such as Raetia. Isotopic analyses suggest that the lead within the statues may be linked to deposits in the British Isles or, more likely, to the deposits in Gaul's Massif Central. Robust contact between Gaul and Raetia is evident in the high quantity of materials from Gaul discovered in the latter province as archaeological confirmation of the archaeometallurgical analyses.[40]

The present study has offered a brief panorama on the settlements in the province of Raetia and the bronze fragments that they have yielded, with a particular focus on several case studies that attest to the richness and variety of both the contexts and the fragments themselves.

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38 Willer et al. 2016, 91–94.

39 Guénette-Beck – Villa 2002; Guénette-Beck – Furger 2004; Durali-Mueller et al. 2007; Schwab et al. 2011; Rothenhöfer – Bode 2015; Rothenhöfer et al. 2017.

40 Friendly note by Markus Scholz; thanks to Martin Kemkes for his support.

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Bronze casting in Late Antiquity in the Marche Region

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Abstract: This essay reviews the discovery of three sites where deposits of bronze fragments have been found, in the Roman cities of *Pisaurum*, *Sentinum* and *Potentia*. Each site yielded small bronze fragments and some tools, which lead us to suppose that these were sites of Late Antique foundries, where large bronze statues and other bronze objects were broken up to be remelted. The foundries were located on land previously occupied by taverns in the forum area or by residential quarters. This means that the urban plan of the cities had already been partially transformed, probably due to Christianisation and the construction of churches, which became the new community centres, to the detriment of the older areas of the forum. The rampant poverty and shortage of raw materials, especially metals, made foundries indispensable and, consequently, their widespread presence, even within the cities, probably became customary. Perhaps the numerous bronze fragments found in other centres of the region should also be interpreted in this same sense, as indications of foundries, even if the structures where the metal was worked have not been preserved.

Keywords: bronze, bronze casting, foundry, bronze tools, bronze fragments, large bronze statue, Late Antiquity, Early Middle Age

The Marche Region between Late Antiquity and the Early Middle Ages

The first crisis of the peripheral territories of the Roman Empire in the Marche region, which included part of ancient Umbria and Picenum, had already begun during the third century. In that moment, the exhaustion of the Roman Empire's expansionist impulse and the consequent lack of income from subjected populations' taxes, that had previously funded the heavy costs of the state apparatus, caused a sharp increase in taxes for small and medium landowners.[1] Their lands were thus often sold to large landowners, who centralized the wealth in their own hands, widening the gap between rich and poor and causing a demographic crisis. The lower classes found support in a *patronus* or enlisted in the army. The first invasion of the barbarian Jutungi in these territories dates back to this period. In 271 AD they attacked and destroyed the walls of *Pisaurum* and *Fanum Fortunae* where they were defeated by the troops of Aurelian (Aurelio Vittore, *Epit.*, 35, 2).[2] The victory was commemorated by two inscriptions on marble bases, but the dangerous situation led to the immediate rebuilding of the walls of the two cities, that was assigned to *Caius Iulius Priscianus*, as *prepositus muris* (recorded in the epigraphs mentioned above), who also erected two bronze statues of Aurelian to commemorate this victory against the Jutungi.[3] The contraction of the cities began in this period, when the walls

1 Dall'Aglio 2004a, 67–69; Paci 2004, 1–24. In general see: Alfieri 1983, 9–34; Moscatelli – Sacco 2021.

2 Alfieri 1983, 27. On the literary sources also see: Bocci 2004, 25–61.

3 CIL XI, 6308, 6309; Cresci Marrone – Mennella 1984, 160–163; Luni 1989, 55; Dall'Aglio 1998, 277–278; Bocci 2004, 51; Dall'Aglio 2004a, 68–69.

returned to being a bulwark for the safety of the population.[4] Even the living spaces in the domus were transformed in response to the new circumstances: damages were restored in an approximate way, and inexpensive or reused materials were employed in reconstruction. At this point, the concept of the house began to transform, both due to reduced purchasing power and the lack of marble or metals, which were often replaced by wood, bringing the new buildings closer and closer to the house model widespread among the populations of central Europe.[5]

At the end of the third century, the new organization of the imperial territory implemented by Diocletian inserted the Marche region into the *Flaminia et Picenum* province[6] (Fig. 1). This territory supplied food to Rome but, at the end of the fourth century, the increasing importance of northern Italy imposed a new division in two provinces: the *Flaminia et Picenum annonarium*, that included the northern part of the territory up to Ravenna and supplied Milan, and the *Picenum suburbicarium* in the southern part, bordering the Esino river, which supplied Rome[7] (Fig. 2). The intensive exploitation of latifundia involved the abandonment of less fertile areas, now left uncultivated due to the scarcity of laborers in the wake of the demographic crisis. The uncultivated lands were invaded by woods or, in the plains of the valley floor and near the mouths of the rivers, were inundated, causing swamping and the spread of malaria. The phenomenon of brigandage also began to grow, especially along the consular roads, as documented by an inscription of 246 AD recalling the intervention of soldiers against marauders at the Furlo gorge.[8] In the fourth century the farms scattered throughout the territory disappeared, replaced by large manor houses.[9]



Fig. 1. Regio Flaminia et Picenum by Diocletian (end of 3rd century) (by Alfieri 1991).



Fig. 2. Flaminia et Picenum Annonarium (North); Picenum Suburbicarium (South) (end of 4th century) (by Alfieri 1991).

4 Destro 2004, 99–121; Destro 2010, 93–98; Cirelli 2014; Giorgi 2019, 20–31. In general see: Cirelli et al. 2015.

5 Dall'Aglio 2004a, 69. On this subject, see some examples on the Proceedings of the Ravenna Conference: Augenti 2006.

6 Luni 1989, 55; Bocci 2004, 29.

7 Alfieri 1983, 12–16; Luni 1989, 55; Bocci 2004, 29–30.

8 CIL XI 6107; Luni 1989, 55; Luni 2014. On the transformations of the cities and the territory between Late Antiquity and the early Middle Ages see Sacco 2016, 337–362; Sacco – Vona 2019, 179–200; Moscatelli 2014, 379–395; Moscatelli 2019, 181–195; Carboni – Vermeulen 2019a, 197–212.

9 See for example, in the Pesaro area, the site of Colombarone (PU) (Dall'Aglio – Vergari 2001), the transformation of the villa with nymphaeum of *Cupra Maritima* (AP) (Frapiccini et al. 2015); see also

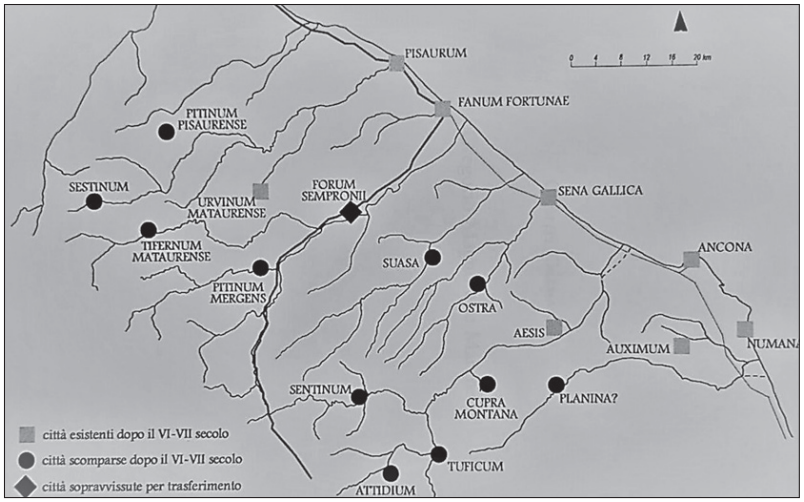


Fig. 3. Northern Roman cities survived or disappeared during Late Antiquity (by Destro 2004).

At the beginning of the fifth century, the raids of the Visigoths headed by Alaric (408–410) caused a serious crisis for the empire and great depredations by brigand raids of the territories of *Piceno suburbicarium,* controlled by Saro (Zos., *Hist. nova*, V, 37, 3; VI, 13, 2).[10] Due to the great devastation, the emperor Honorius in 408 granted tax relief for the first time to the populations of the *Suburbicarium*; this was followed by two similar measures in 413 and 418 (*Cod. Theod.* IV, 28, 4; XI, 28, 7; XI, 28, 12).[11] Subsequently, Theodoric and his nephew Atalaric tried to restore the buildings of the cities through the reuse of materials from abandoned structures and to reorganize the territory (Cassiod. *Variae*, I, 28; III, 9–10; IV, 31) with the support of the new aristocracy and the bishops. Public buildings and urban infrastructures were rebuilt or recovered, and new places of worship were built as an expression of evergetism, submission to the Church and, sometimes, expiation.[12]

These attempts by Theodoric to rebuild the urban texture were abruptly halted by the Gothic–Byzantine War (535–553) which hit this region, already severely tried, with new devastation, destroying the cities and plundering the countryside. Poverty and famine caused serious deterioration and the abandonment of many of the 36 Roman cities remembered by Pliny (*Nat. Hist.*, III, 110–114), especially the less defended cities or those located where the armies passed.[13] Procopius, in his *Bellum Gothicum* (II, 12; 20), reported that 50,000 peasants died of starvation and that only nine cities survived (Fig. 3): *Pisaurum*, *Urvinum Mataurense*, *Fanum Fortunae* and *Sena Gallica* in the North and *Ancona*, *Auximum*, *Urbs Salvia*, *Firmum* and *Asculum* in the South (Fig. 4).[14] However some cities,

Di Filippo Balestrazzi et al. 2019; the fourth century phase of the *villa* of Monte Torto at *Auximum* (AN) (Pignocchi 2001) and the *villa* of Villamagna at *Urbs Salvia* (MC) (Paci – Perna 2016, 1–14; Perna 2021, 351–352). For an overview see Verreyke – Vermeulen 2009, 103–120.

10 Alfieri 1983, 27; Luni 1989, 56; Bocci 2004, 51–52.

11 Bocci 2004, 52–53.

12 The tendency of donors to finance religious works rather than buildings of public utility could be due to the difficulties of the communities to take on the commitment to guarantee their efficiency. It could also be due to the prevalence of the habit of donations to the Church, which procured for the bishop considerable wealth and ever greater power. See Dall'Aglio 2004a, 69–70.

13 Alfieri 1983, 19–20; Bocci 2004, 47–51; Destro 2004, 99–121.

14 Recent investigations and reconsiderations lead us to believe that between the fifth and eighth centuries the phenomenon of abandonment could have affected less than a quarter of cities, since in some places such as *Potentia* and *Suasa*, a prolonged continuity of life is now documented up to at least the seventh century. See Destro 2014, 397–401; Cirelli 2014, 41–42.

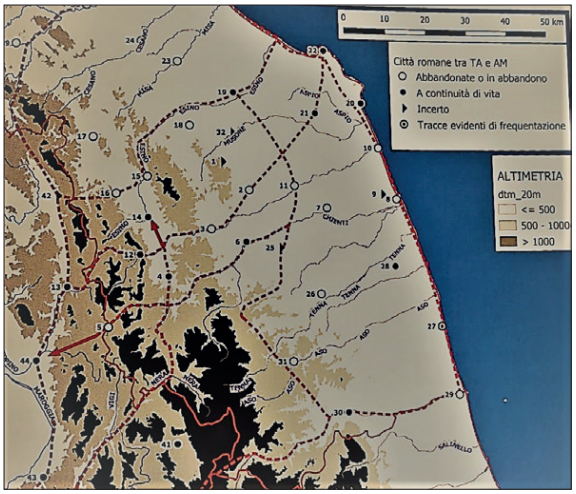


Fig. 4. Southern Roman cities survived or disappeared during Late Antiquity (Moscatelli 2021).

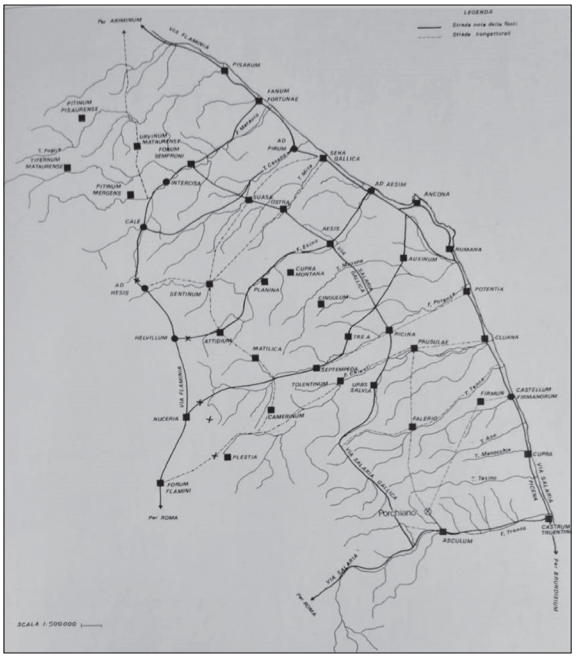


Fig. 5. The main roads of the Marche during the Roman Age (by Dall'Aglio 2004a).

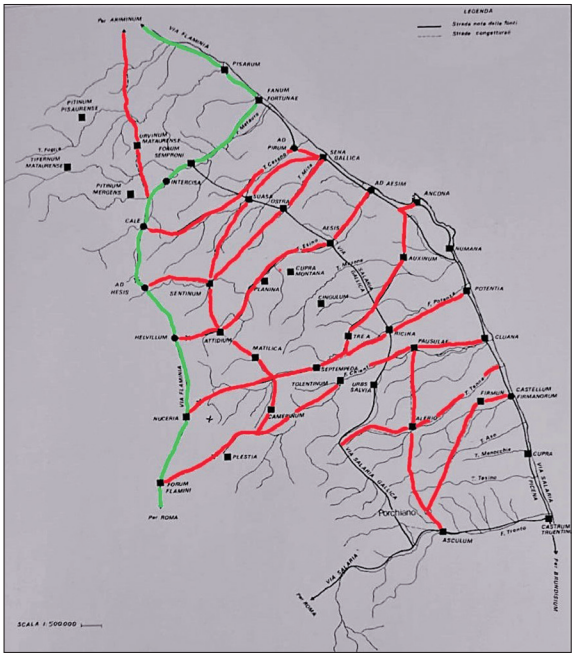


Fig. 6. Via Flaminia (green) and the secondary routs (red) during Late Antiquity (by Dall'Aglio 2004a).



Fig. 7. The sites with remains of foundries: Pisaurum, Potentia, Sentinum.

such as *Pisaurum* and *Fanum* were defined as 'polismata' by Procopius (*Bell. Goth.*, III, 11, 32–34), i.e., 'small cities', as opposed to the *poleis*, i.e., the 'cities', of Ancona and Rimini. This definition, certainly not accidental, reveals the existence of a hierarchical system which divided the major cities from those which had become secondary in importance.[15] According to some scholars, climate change also influenced the economic situation: from the mid-fifth to the second half of the eighth century, temperatures began to decrease significantly, and rainfall increased.[16]

The demographic decline and the reduction of economic resources also impeded control of the territory and infrastructure, including the road network. Epigraphic testimonies document restoration

15 Luni 1989, 57; Dall'Aglio 2004a, 71.

16 Dall'Aglio 1997, 97–104; Giorgi 2006, 124; Cirelli 2014, 40.

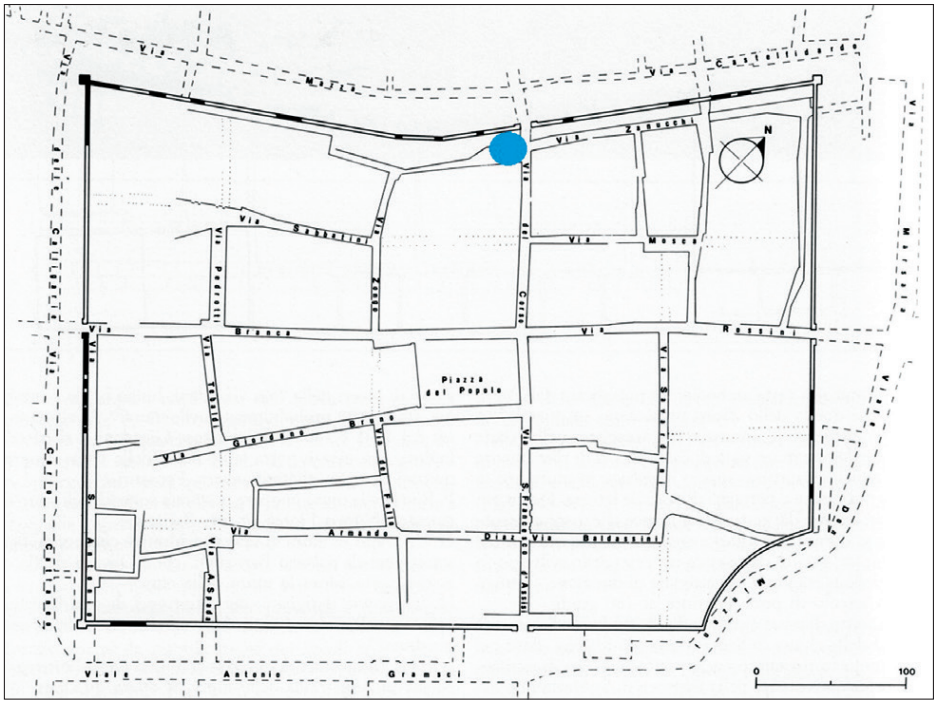


Fig. 8. Plan of Pisaurum with Barignani Palace, near the walls and the Ravegnana Gate (by Luni 1989).

interventions that reveal the state of degradation of the main roads.[17] Since the Republican Age, the viability of these territories had been centred on the Via Flaminia (Fig. 5), which was the main road between Rome and Ravenna, the two principal cities during the Gothic–Byzantine War, and which therefore became points of contention between the Goths and Byzantines.[18] Nevertheless, the secondary routes from the Flaminia towards the coast grew in importance since they were less controlled by the ranks of the opposing armies (Fig. 6). Consequently, while once notable cities lost their role and declined, some villages of the hinterland became more important as they controlled the Apennine passes and the alternative roads. In addition, in some cases, paths through valleys moved to the ridges of hills, and the population abandoned some coastal cities to also move into nearby hills. On the coast, the harbours of the main cities guaranteed their defence from attacks from the sea and ensured food supplies. In a north-south direction, the coastal road network was guaranteed by the *Salaria Picena* road, while in the immediate hinterland the *Salaria Gallica* road connected the cities of the middle river valleys.[19]

During these troubled centuries, especially at the time of the Gothic–Byzantine War, the gradual depopulation of the cities and shortage of raw materials, as is well known, led to the stripping and reuse of many materials, especially bronze. The contraction and consequent transformation of city planning entailed substantial changes. In *Pisaurum*, for example, hoarded materials have been found in some areas along the city walls which, due to the abandonment of domus and for military needs, had been left free and, therefore, could accommodate furnaces.[20] The transformations also concerned the domus themselves, where spaces were divided by partitions made of perishable or reused material, and the peristyles were transformed into vegetable gardens.

17 Dall'Aglio 1996, 96–101; Dall'Aglio 1998, 285–288; Destro 1999, 193–220; Dall'Aglio 2004b, 63–97; Giorgi 2006, 111–156.

18 Alfieri 1983, 16–19; Destro 1999, 175–192; Profumo 2000, 389–399; Bocci 2004, 40–47; Luni 2014.

19 Giorgi 2006, 125–136; Campagnoli – Giorgi 2007, 29–54; Staffa 2007, 433–469.

20 Dall'Aglio 2004a, 73. In general see: Augenti 2006; Cirelli 2014.

The Langobard invasion of the peninsula in 568 AD soon also reached the Piceno and by 578 Ascoli Piceno was already occupied. The necropolis of Castel Trosino documents well the Langobard expansion into these territories, carried out by the Duke of Spoleto Faroaldo through the Via Salaria and its byways. Subsequently, with the submission of Fermo to the north, *Castrum Truentinum* (Martinisicuro, TE) to the east and *Interamnia* (Teramo)[21] to the south, the early Middle Ages were underway in the region. At the end of the sixth century, the northern territories became part of the Duchy of the Pentapolis, where, however, a significant Langobard presence has recently been highlighted.[22]

Late Antique foundries at Pisaurum, Potentia and Sentinum

Some evident traces of bronze casting activities starting in Late Antiquity have–survived in at least three sites in the region: *Pisaurum*, *Potentia* and *Sentinum* (Fig. 7).

Pisaurum (Pesaro, PU) was a Roman colony founded in 184 BC[23] in the *Ager Gallicus* at the mouth of *Pisaurum* river, on Adriatic coast. In ancient times, the sea reached the city walls, while the *Pisaurum* river flowed to the north, and the Genica stream flowed to the south. The city was crossed by the Via Flaminia, which coincided with one of the two main road axes.[24] An excavation was undertaken here in 1880, under the Barignani Palace (Fig. 8), where in 1540 the 'Idolino' and the bronze statuette of Eros-Hypnos *lampadophoros* were found.[25] This excavation brought to light a very interesting archaeological site, with a complex stratigraphy related to at least two different phases of an ancient, luxurious *domus* probably destroyed in Late Antiquity by a large fire.[26] The *domus* stood near the Ravegnana Gate, which opened to the north along the *cardo maximus* and the Via Flaminia. Unfortunately, we do not have modern scientific documentation of the excavation, but Giuseppe Fiorelli and afterwards Ciro Antaldi observed in careful reports that the domus had an *atrium* with



Fig. 9. Finds from the foundry of Pisaurum, under Barignani Palace.



Fig. 10. Rein holders from Pisaurum, 3rd–4th century.

21 Staffa 1997, 113–166.

22 Sacco – Vona 2022, 179–200.

23 On the history and discoveries in Pesaro see: Valazzi 1989; Dall'Aglio 2004a.

24 On the identification of the Flaminia as a *cardo* or *decumanus*, see Luni 1989; Dall'Aglio 1998, 275–276; Dall'Aglio 2004a.

25 Beschi 1983a, 161–176; Beschi 1983b, 398–408; Beschi 1998, 7–19; Iozzo 1998, 23–28; Beschi 2000, 9–19; Beschi 2002, 45–49; Frapiccini 2015, 283.

26 Frapiccini 2015, 289.

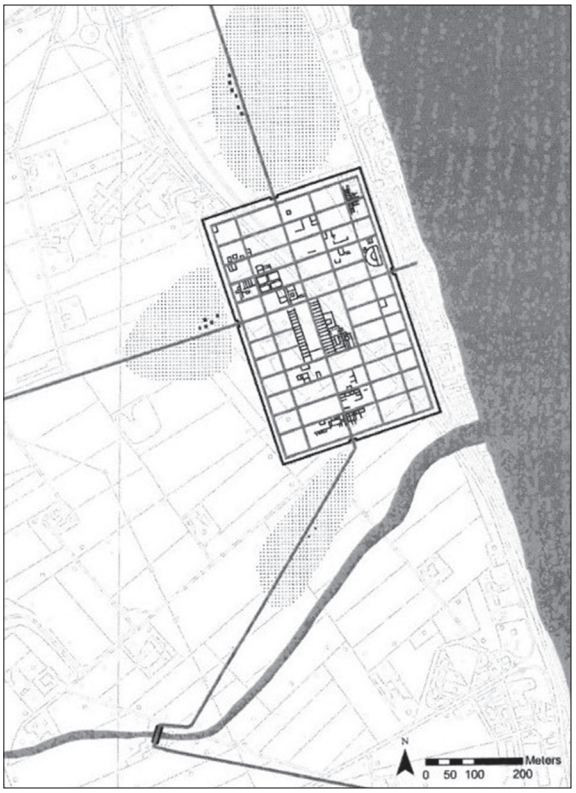


Fig. 11. Plan of Potentia (by Vermeulen 2017).

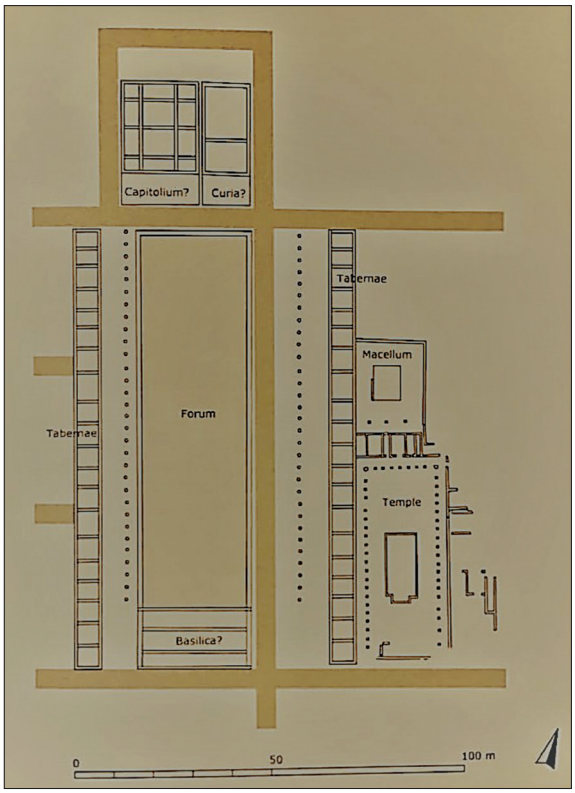


Fig. 12. Plan of Potentia: the temple, the *tabernae* and the *macellum* (by Vermeulen 2017).

a tetrastyle *impluvium*, transformed into a tank in a late phase.[27] The domus had many rooms and corridors with the remains of frescoes and mosaics and, in particular, a room with two mosaic pavements at different levels (one about 50 cm above the other), that testified to at least two different phases in the life of the building. Inside one of these rooms, originally open and adjoining with the atrium, many bronze objects were found: a notable *tabula patronatus* dedicated to the *Aufidii gens* dating back to 256 AD (Fig. 9), a little fragment of another of the same year, some appliques and fragments of furniture. All these finds were very fragmentary, sometimes reduced to simple slabs, and were used by the discoverers to reconstruct a single, improbable frame which was attributed to the *tabula patronatus*.[28] However, a more in-depth analysis, made possible by a recent restoration of the *tabula* and all elements of the "frame",[29] has shown that the finds belonged to many different objects dating to different periods. Furthermore, some



Fig. 13. Plan of Potentia: the temple, the *macellum* and the foundry (red) (by Vermeulen 2017).

27 Fiorelli 1880, 260–261; Antaldi 1881, 18–22.

28 Beschi 2002, 45–49.

29 Amadori et al. 2015, 289–294.

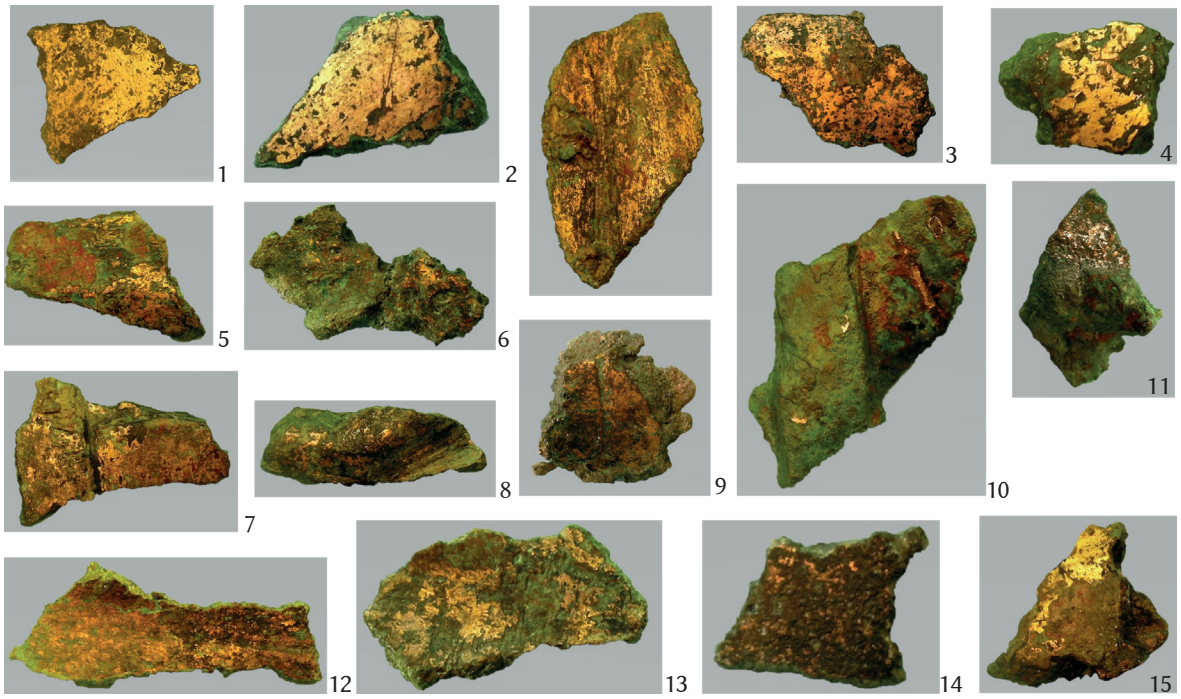


Fig. 14. Bronze gilded fragments of human and equestrian statues from Potentia.

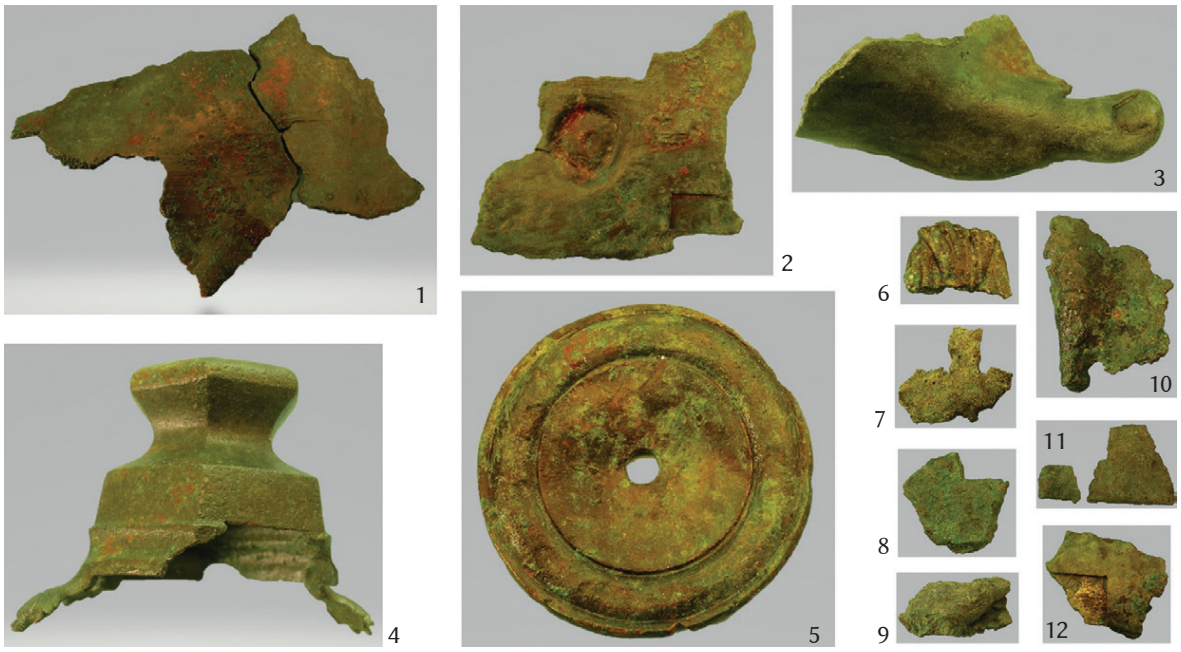


Fig. 15. Bronze fragments of statues and little bases of statuettes from Potentia.

objects could not have been pertinent to the furnishings of a domus, such as the rein holders, which probably date back to the third – fourth century AD[30] (Fig. 10). The certain dating of the two inscriptions of the *tabulae patronatus* to 256 AD gives us a reliable *terminus post quem*, further specified by the later dating of the rein holders, after which all these bronzes were transferred to the room of this *domus* which by now had been profoundly transformed and which included a foundry. It seems plausible that these finds had been brought into this workshop at a later time to be recast, probably

30 Frapiccini 2015, 283–289.

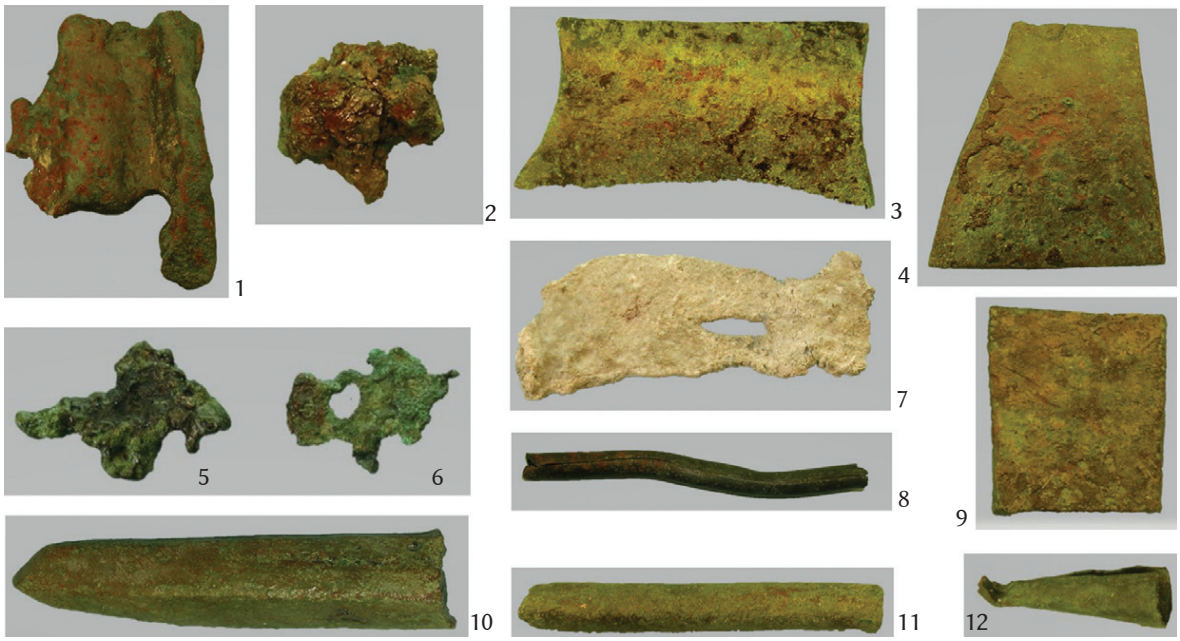


Fig. 16. Casting scraps, three plates for repairs, a lead fragment, little tools from Potentia.



Fig. 17. 1 – fragment of an honorary bronze inscription (beginning of 1st century AD), 2–3 – bronze statuette of Mars (end of 2nd – beginning of 3rd century AD) from Potentia.

together with the Idolino and the statuette of Eros-Hypnos discovered nearby, under the same Barignani Palace. Therefore, the ancient *domus*, probably built in the late Republican or early Imperial Period and inhabited for a long time, was neither necessarily related to the *Aufidii* (the *gens* to which the *tabula patronatus* was dedicated) nor to the offices of the *collegium fabrum* (which offered the tabula) but belonged to an unknown owner. According to the chronology of the rein holders, the transformation of the house probably began in the fifth century, when the city became impoverished and shrank due to Alaric's raids. The position of the *domus*, adjacent to the city walls, fits well with the urban transformations of the time, when destruction and consequent abandonment freed the areas near the walls, which were then occupied by workshops and furnaces.[31] The activities of the foundry, instead, could date back to the end of the fifth – beginning of the sixth century, connected to that period of reconstruction and rebirth of building activities before the Gothic–Byzantine war, also

31 Dall'Aglio 2004a, 72–73.

recorded in nearby Romagna.[32] This workshop, the so-called 'inscription chamber', also showed signs of fire and 'pieces of coal', which indicated the sudden destruction of the building, definitively abandoned following this event. The traces of this destruction and the fire would date to the Gothic–Byzantine War, when the Roman urban structure of *Pisaurum* was overturned by the raid of Vitiges in 541 AD (Procopio, *Bell. Goth.*, III, 11)[33] or, may be, later.

A similar context occurs in *Potentia* (Porto Recanati, MC), a Roman colony founded in 184 BC, at the mouth of the *Flosis* River, on the Adriatic coast (Fig. 11). The Superintendency's Archaeological research at the site began in the 1960s–70s, with the discovery of a large necropolis, with burials dating from the second century BC to the fifth century AD, and a portion of an *insula*.[34] Subsequent archaeological excavations were conducted in the 1980s and in 2000, bringing to light religious, public and private buildings in the area near the forum, *tabernae*, a section of the wall including the west gate (discovered by Ghent University) and another part of the northern necropolis. These discoveries and Ghent University's numerous surveys have made it possible to identify three phases in the city's development.[35] The first phase, corresponding to the foundation of the colony, included the construction of a regular, rectangular urban plan of almost 18 hectares, parallel with the coast. Ten years after the foundation, the city became monumental, with the erection of the walls and at least three gates, the creation of the forum with the *tabernae* and the erection of the temple to Jupiter mentioned by Livy (second phase). Around the middle of the first century BC, the terrible earthquake mentioned by Cicero caused great destruction, followed by the immediate reconstruction of the city, which constituted its third phase. Surveys have documented the existence of a theatre and the presence of funerary monuments along the axis roads that exited the gates to the north, west and south of the city.

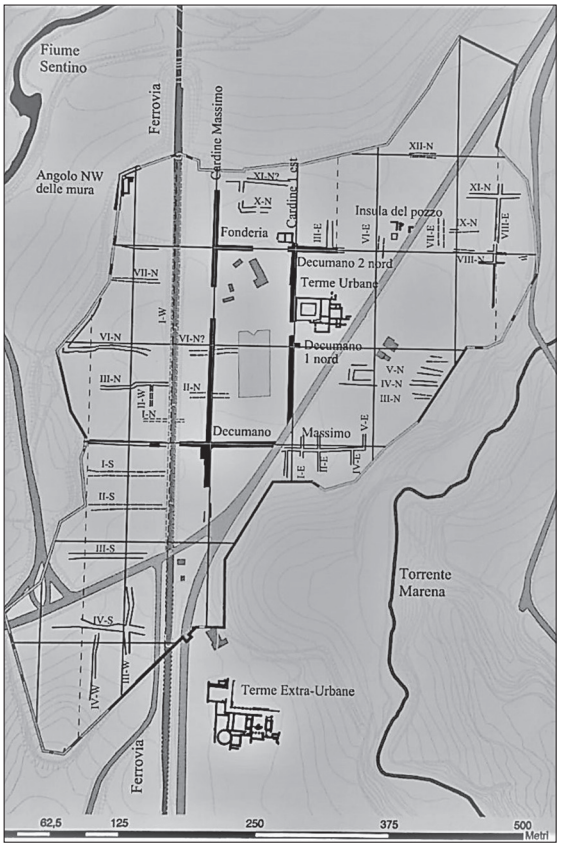


Fig. 18. Plan of Sentinum with the foundry (by Medri 2008a).



Fig. 19. The foundry of Sentinum.

32 Sacco – Cesaretti 2021, 293.

33 Frapiccini 2015; Mennella – Frapiccini 2017, 380–382.

34 Mercando 1974, 142–430; Percossi Serenelli 2001; Paci – Percossi Serenelli 2005, 190–200; Vermeulen 2017; Vermeulen et al. 2017, 99–111.

35 Percossi 2012, 269–289.



Fig. 20. Tools from the foundry of Sentinum.



Fig. 21. Bronze fragments from the foundry of Sentinum.

Handicraft activities arose outside the city walls, as documented by the furnaces for the production of amphorae, identified to the north and south of the town. The harbour was located south of the city, at the mouth of the *Flosis* River (now the Potenza River, which has since changed its course and flows north[36]). The territory outside the walls was centuriated, destined for flourishing agricultural activities.[37] Starting in the third century, the city seems to have been confined within its walls, a situation that reveals a period of crisis and decadence that continues during the fourth and first half of the fifth century, although we know that, from the beginning of the fifth century, *Potentia* was a bishop's seat.[38] It has been hypothesized that the city underwent a contraction from the second half of the fifth century, with its occupied area restricted to the central part, which included the area of the forum, the northern area and the central southern part. This contraction is accentuated again during the first half of the sixth century, while depopulation probably began during the sixth century, and in the late sixth – early seventh century *Potentia* was abandoned.[39]

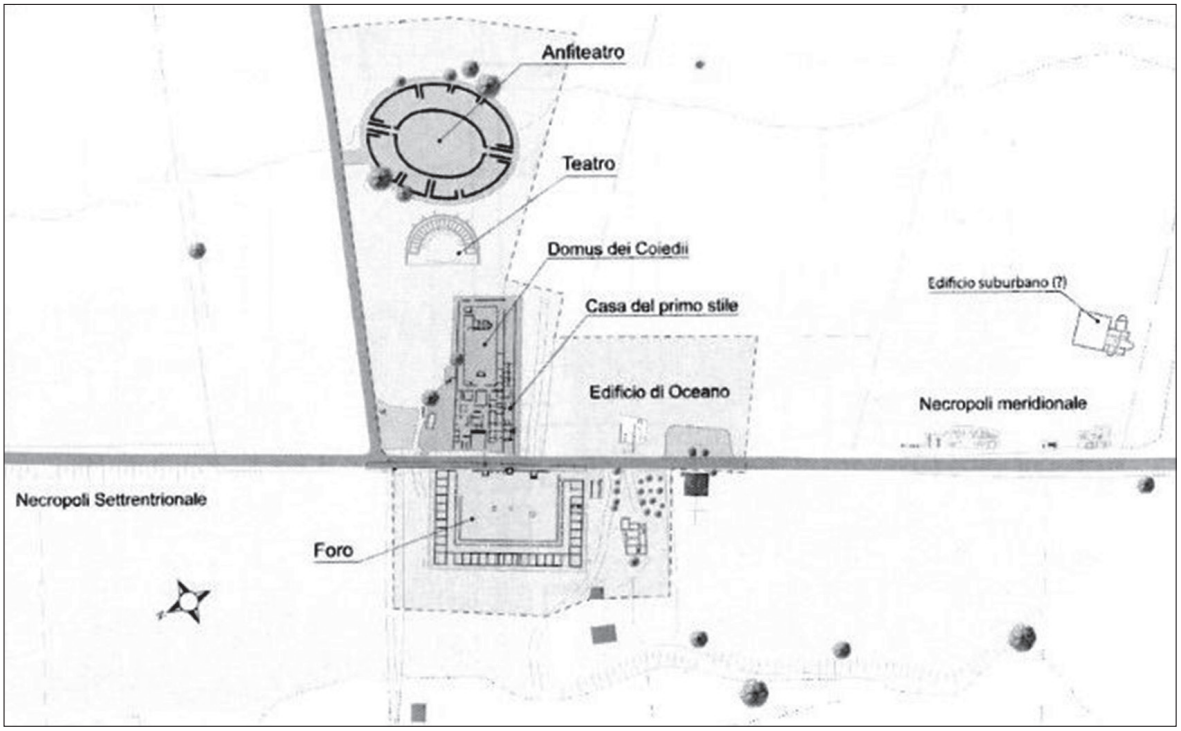


Fig. 22. Plan of Suasa (by Giorgi – Lepore 2010).

Excavations in 1989 involved the area adjacent to the portico of the temple east of the forum. The complex stratigraphy brought to light various structures, among which were Republican Age *tabernae* and the nearby *macellum*, referable to the Augustan Age but probably built over an older market[40] (Fig. 12). This area was significantly modified by interventions of the late fourth century when the temple portico was enclosed with an internal wall, and the building to the east of the portico was transformed, as was probably the area of the *macellum*, where the later layer has yielded

36 Alfieri – Ortolani 1947.

37 Percossi Serenelli 2001; Paci – Percossi Serenelli 2005; Vermeulen et al. 2006, 77–82; Percossi 2007, 547–627.

38 Alfieri 1977, 93; Verreyke – Vermeulen 2009, 83; Carboni – Vermeulen 2019a, 351–358; Carboni – Vermeulen 2019b; Marano 2019, 78–79.

39 Vermeulen 2012, 77–95.

40 Percossi Serenelli 2001, 78–79, Fig. 17, 84–85; Frapiccini 2009, 244; Vermeulen 2017, 104, 11, Fig. 78.

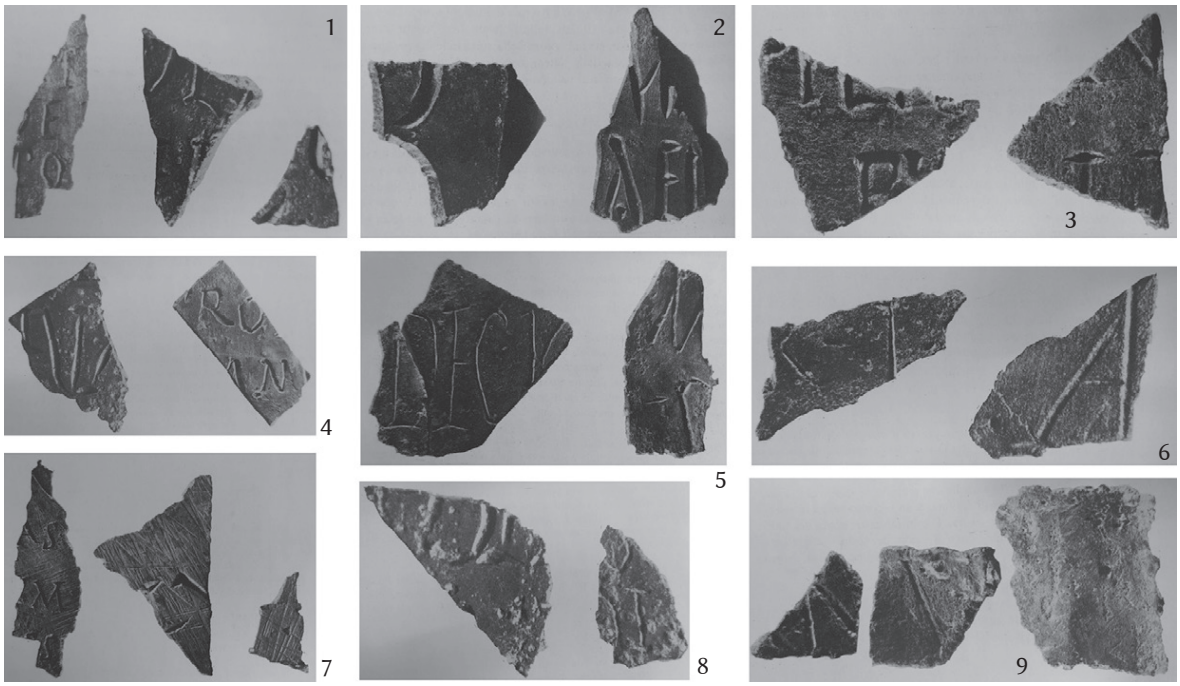


Fig. 23. Fragments of bronze inscriptions from Suasa, *domus* of the Coiedii, 1st–3rd century AD (by Antolini – Paci 2000).

a hoard of numerous bronze fragments[41] (Fig. 13). They were found partly inside a room and partly in a space in front of the *macellum*, above an *opus spicatum* floor covered by a portico, of which the bases of two rows of columns survive. This group included 17 small fragments of gilded bronze human and equestrian statues (Fig. 14) and ten fragments of bronze statues, among which are the finger of a monumental hand, part of an abdomen, fragments of hair, and part of the foot of a statuette (Fig. 15). Furthermore, there were many other small fragments of unidentifiable objects and furniture, a base of a statuette, the left arm of a statuette and an applique with a statuette of Mars, attributable to the end of the second and the beginning of the third century AD.[42] The presence of tools, three quadrangular plates for repairs, together with some casting scraps and lead fragments seems to confirm that the provenance of this group of finds was a bronze casting workshop[43] (Fig. 16). The fragment of an honorary bronze inscription, dated to the beginning of the first century AD,[44] and the later applique with the representation of Mars (Fig. 17) allow us to suppose that these objects, of various kinds and of different periods, had been collected in the workshop to be recast, in a period no earlier than the end of the third century, according with the chronology of the Mars statuette and the changes in the area. Starting from this period *Potentia* underwent great building transformations, also due to the Tetrarchy's agricultural reorganization, which increased, in particular, in the second half of the fourth century.[45] The foundry could therefore date to around the fourth century, when it probably performed small-scale fusion for restorations or for the creation of tools or for ingots, as indicated by the very small dimension of the fragments ready to be remelted.

The third finding of bronze artifacts certainly coming from a foundry was brought to light in *Sentinum* (Sassoferrato, AN)[46] (Fig. 18). The town, dating back to the Republican Age, became a *municipium* locat-

41 Frapiccini 2009.

42 Frapiccini 2009, 273–275.

43 Frapiccini 2009, 300–301.

44 Percossi Serenelli 2001, 89–91, Fig. 19 (G. Paci).

45 Percossi – Verreyke 2006, 273–274.

46 Fabbrini 1961, 315–323; de Marinis 2003, 156–157; Frapiccini 2017, 147, Fig. 17.7–8.



Fig. 24. Sporadic bronze and gilded bronze fragments of statues and statuettes Forum Sempronii (by Luni 2001).

ed in a basin at the north end of the camerte synclinal valley,[47] where two routes started that reached *Sena Gallica* (Senigallia, AN) on the coast, along the valleys of the Misa and Cesano rivers. Another route reached the mountain crossings to the west, while another linked *Sentinum* to *Attidium* (Attiggio, AN), *Matilica* (Matelica, MC) and *Camerinum* (Camerino, MC), so that the city stood at the centre of a road network that connected the coast with the hinterland and the cities along the camerte syncline valley.[48] *Sentinum* stood on a river terrace at an altitude of 315 m between the Sentino River and the Marena torrent. The archaeological excavations carried out in the twentieth century and at the beginning of the 2000s brought to light part of the walls, the road system, including the *cardo maximus* and the *decumanus maximus*, and the city gates. The urban plan, about 15 hectares wide, was made up of regular blocks, at the centre of which stood the forum, delimited to the west and south by the main roads. Like the city walls, the city plan has been dated between the end of the second and first century BC. The most recent excavations have brought to light the public buildings of the forum, with a fountain, probably a *macellum*, porticoes and a tetrastyle temple from the Augustan Age. On the opposite side of the forum, towards the East, the city baths stood, while another vast bath complex (or *xenodochion*) had been located outside the city walls since the Neronian–Flavian age.[49]

The foundry was identified in 1954, during the discovery of a block in the north-east area of the ancient town, in front of the residential area of the 'Insula del pozzo' and near the urban thermal baths, in a room of a building located along the *cardo* 1 east: the block therefore has been identified as a manufacturing area[50] (Fig. 19). Here numerous bronze tools came to light, such as small spatulas, 109 scrapers, 66 pieces of slag, 102 rods and portions of sprues, 4 dowels, 4 rods for dowels, 9 portions of wire, and 4 pairs of pliers (Fig. 20). Inside the foundry, finds included many fragments of bronze objects, plaques, waste pieces of cut bronze foil, little fragments of a gilded-bronze horse's head, a finger of a statue, fragments of garments from statues, and unfinished objects (Fig. 21), along with a counter made of tiles. On the counter rested a stone slab with a circular hole, under which were iron and bronze slag and the remains of combustion. Later, in the excavations of 1960, a statuette of Minerva, dating back to the second century AD, was found in an adjacent room,[51] together with a polygonal stone base. Below the floor of this room were wall structures from a previous building, and new excavations in 1997–1998, directed by Giuliano de Marinis and not yet published, revealed the complex stratigraphy of the site, which ranged from the late Republican Age to Late Antiquity: during this long period the area would have supposedly always been occupied by the atelier[52] However, this hypothesis would place the bronze casting activities right

47 About *Sentinum* in general see: Fabbrini 1961; Medri 2008a; Medri 2008b; Lo Blundo 2017.

48 Dall'Aglio 1997; Luni – Uttoveggio 2002; Dall'Aglio 2004b.

49 de Marinis et al. 2008, 205–211; Medri 2008b, 199–217; Lo Blundo 2017, 116–117.

50 Fabbrini 1961; Frapiccini 2017, 147; Lo Blundo 2017, 117.

51 Frapiccini 1998, 36–41, Figs 2–3.

52 For preliminary news see: de Marinis 1998, 78.



Fig. 25. Plan of Urbs Salvia (by Fabrini 2015).

next to a residential neighbourhood with sumptuous domus, decorated with precious and refined mosaics,[53] as well as a short distance from the urban baths, the forum area and the sacred area.[54] On the other hand, dating to as early as the end of the fourth and fifth centuries are evident traces of the de-functionalization of the sacred area, reoccupied but employed for a different use. The first traces of plunder, both in the temple's alae and in the area outside the temple, also date to the same period. The building was only reoccupied in the northern area, an indication of the slow decline of the city, which was abandoned progressively and not immediately following a violent destruction. Even the mosaics of the urban baths show rough restorations in Late Antiquity, while the portico building was reused as a dwelling in the fifth century, and adjustments and patches are also evident in the paving of the two major road axes. In addition to the progressive occupation of public and sacred spaces by modest private homes, the simultaneous presence in *Sentinum* of Christian testi-

53 Catani 1997, 23–73; Mancini 2008, 101–112.

54 Medri 2008a, 210, Fig. 3.1.10; Lo Blundo 2017.



Fig. 26. Sporadic bronze and gilded bronze fragments from Urbs Salvia.

monies[55] makes it plausible to hypothesize a transformation of the urban plan, perhaps conditioned by the presence of new religious buildings in an area far from the ancient *forum*. These reflections lead us to think it probable that the foundry district too had been transformed in this period from a residential area to a production area, and that the foundry was a Late Antique atelier located in a previous building, probably a *domus*. If, on the other hand, this building had been used since the Republican Age for small bronze castings in the heart of the town, it seems plausible to assume that these tools and bronze fragments found in the workshop refer to the last phase of the foundry's life, before its abandonment. Also, the small bronze statuette found inside the next room came, with certainty, from a more ancient *lararium* and was evidently awaiting recasting. The decline of *Sentinum*, which began in the fifth century, continued into the sixth century when the laws of Theodoric legitimized the destruction of pagan temples and public buildings, which became mines of material for reuse. *Sentinum* followed the fate of other cities both in the Byzantine pentapolis in the north of the Marches and in the Lombard Duchy of Spoleto in the south, where the less defended urban centres were abandoned, and rural villages and fortified centres developed.

Traces of further Late Ancient foundries

These discoveries of foundries, attributable with certainty to Late Antiquity, are cause for reflection. In the first place, the foundries were located inside the cities, in neighbourhoods not originally intended for craft activities: residential areas (such as in *Pisaurum* and *Sentinum*) or public areas with *tabernae* and an ancient *macellum* (such as in *Potentia*). This implies that these activities caused a transformation of the urban centres starting from the end of the fourth century, in conjunction with

55 Lo Blundo 2017, 142–143.

the phenomenon of Christianization and the construction of the first churches. These significantly modified the urban plan, becoming real catalysts, destined to outclass the centrality of the ancient pagan forum. Furthermore, the bronze fragments found in these foundries all have the same characteristics: the large statues are reduced to very small, broken fragments with jagged edges, while the small objects are almost intact.[56] This probably indicates that in these workshops the metal was intended to be re-melted to make small objects, probably tools for agricultural or handicraft work, household tools or weapons, or ingots. On the other hand, these workshops located inside the town could hardly have the characteristics of foundries for large bronzes, which would have required more space[57]. Based on these observations, perhaps we can assume that some sporadic finds of similar bronze fragments, which have emerged from survey research, are probably reconcilable with this kind of activity, even if the casting workshop itself has not been preserved.

Among the ancient towns of our territory where numerous bronze fragments have been found quite similar to those described so far, there is *Suasa*[58] (Castelleone di Suasa, AN) (Fig. 22). The town, which flourished in the first and second century AD, began to decline in the third century when many private buildings were transformed. In the fourth century, significant interventions transformed and de-functionalised the private and public buildings and transformed the *forum*. These phenomena of decay and the transformative interventions increased during the fifth century, when even in the large and sumptuous *domus* of the *Coiedii*, the residential part and the garden were occupied by a necropolis.[59] The grouping of fragments of inscribed bronze inscriptions (Fig. 23), found in the layer of collapse and abandonment about 20 meters from the perimeter wall of the *domus* of the *Coiedii*, probably dates to this period.[60] The fragments had been intentionally broken in ancient times and reduced to pieces of a few centimetres, in one case with a clean cut, as if by shears, the others broken by bending, probably using pliers. The 19 fragments, two of which are anepigraphic, belonged to inscriptions datable between the first and third century AD, found together with a coin of Maximian and a *follis* of the sons of Constantine, which offer the *terminus post quem* of the finds. It seems very probable that these fragments and the coins constitute a group of pieces of bronze ready to be melted down in a workshop that could have been located on site. The same fate probably also awaited the large fragment of a horse's head and a sword in gilded bronze, what remained of an equestrian statue found in 1884 outside the town.[61] *Suasa* was abandoned during the sixth century, probably due to the disastrous results of the Goth–Byzantine War followed by the clashes between the Byzantines and the Langobards.

Many other gilded bronze fragments of large statues or tools were also found in other ancient towns, unfortunately without a certain place of discovery, a fact that prevents us from establishing where the workshop for their remelting was located. A very detailed list of these towns is reported by Mario Luni[62] and includes *Forum Sempronii* (Fossombrone, PU), where many bronze fragments and bronze statuettes come from, as well as a lead ingot and a crucible (Fig. 24). Another crucible with traces of metal casting was also found in *Tifernum Mataurense* (Sant'Angelo in Vado, PU),[63] which became gradually more impoverished starting in the second century AD and declined progressively up to the sixth century.[64] *Urbs Salvia* (Urbisaglia, MC) joins these contexts. From this vast

56 See analogous contexts from Brescia (Rossi 2002), Industria (Mercando – Zanda 1998), Casteggio (Invernizzi 2012) and Rome, from the Basica Emilia (Ricci forthcoming).

57 Formigli 1995; Zimmer 2002, 41–47.

58 About the research at *Suasa* see Giorgi – Lepore 2010; Gamberini – Morsiani 2019.

59 Destro 2010, 93–98.

60 Antolini – Paci 2000, 53–72.

61 These finds are preserved today in the Walters Art Gallery in Baltimore. On these fragments and other pieces of large bronze statues from *Suasa* see Luni 2001, 35–37.

62 Luni 2001; Luni – Gori 2001.

63 Luni 2001, 51–52; Catani – Monacchi 2004; Catani – Monacchi 2010.

64 Stortoni 2021, 121–137.



Fig. 27. Bronze gilded fragments of the group from Cartoceto di Pergola.

archaeological park, which constitutes the most important complex in the region[65] (Fig. 25), come numerous fragments of statues, statuettes and bronze objects, unfortunately all sporadic. In addition to the many bronze objects, particularly similar to the fragments referable to the Late Antique foundries, are the small pieces of large gilded bronze statues and portions of appliques[66] (Fig. 26).

65 On the archaeological research and the urban plan of *Urbs Salvia* see: Fabrini 2013, 177–268; Fabrini 2015, 23–25; Perna 2005.

66 Fabrini – Frapiccini 2002, 75–98; Fabrini et al. 2007, 17–66.

Therefore, it would seem plausible to assume that the small fragments were the result of raids on furnishings, statuettes from *lararia*, equestrian or large statues of illustrious personalities or emperors exhibited in public places or dispossessed buildings, but not necessarily coming from the same town where the workshop was located. The tragic events of this disastrous period of transition between Late Antiquity and the High Middle Ages and the great poverty following the invasions caused such a demand for metals that everything was conveyed to workshops to be re-melted. Bronze had become precious, and these fragments are the sign of the limited availability of metal during this period of profound economic crisis, especially between the fifth and sixth centuries.

Finally, even the well-known group of bronzes from Cartoceto di Pergola was in small fragments when it was recovered, before being partially reassembled, albeit with large *lacunae* (Fig. 27). Recently, a new study by Oscar Mei (forthcoming) has reconstructed the daring history of the statues' burial, probably in the second half of the 19th century.

However, the question of the statues' provenance and where they were stolen from remains open. It seems conceivable that, at least from a modern perspective, they came from an ancient deposit of a nearby Roman city (*Sentinum*, *Forum Sempronii*, or another site?), as already presumed, and were waiting to be melted down in a Late Antique workshop, that was perhaps destroyed and abandoned following the disastrous events of the time, or they had been hidden in a safe place awaiting retrieval. The very small dimension into which even the large equestrian statues were reduced seems due to this purpose.[67]

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Nostalgie oder Statement?

Ein Essay zur Wiederkehr hellenistischer Formen an spätrömischen Bronzen

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Abstract: On the basis of selected figural bronzes (components of furniture, lamps, and chandeliers), the author examines a phenomenon of late antique artistic creation that has largely been overlooked by previous research and has never been studied more closely. The focus is on bronzes that appear to pick up artistic models of Hellenistic times in a direct bridging of a period of more than 300 years. The present study also addresses the question of the motivation of Late Antique patrons and consumers. After weighing all arguments, it becomes apparent that we are obviously not dealing with fragmentary evidence of a continuous artistic tradition. Instead, the revival of Hellenistic motifs and image types that can be observed in the upscale house furnishings of the 4th and 5th centuries AD is likely to be interpreted not merely as an arbitrary expression of nostalgia or sentimentality, but as a thoroughly conscious political, i.e. purposefully programmatic, return to past glory days, which is why behind the bearers of this apparently very limited phenomenon of Late Antique artistic creation we can assume mainly the leading families of the time still adhering to the old faith.

Keywords: Late Roman bronzes, bronze lamps, candelabra, Hellenistic art

Die fortschreitende Spezialisierung innerhalb der klassischen Altertumswissenschaften birgt auch für Archäologen die Gefahr, sich in kleinteiligen Einzelstudien zu verlieren.[1] Bei vielen aktuellen Beiträgen in einschlägigen Fachzeitschriften fühlt man sich deshalb mitunter an das Gleichnis von den blinden Männern und dem Elefanten erinnert. Je nach dem, welchen Teil des Dickhäuters sie beschreiben, kommen sie zu höchst unterschiedlichen Ergebnissen, ohne am Ende eine wirkliche Vorstellung vom ‚großen Ganzen' zu erlangen. Nicht anders ist es im Grunde bei der Erforschung figürlicher Bronzen. Auch hier ist neben methodischer Erfahrung und umfassender Denkmälerkenntnis ein erweiterter Blick auf andere Materialgattungen des antiken Kunstschaffens und die historischen Bedingungen ihrer Entstehungszeit notwendig, um den übergreifenden Zusammenhang der eigenen Forschung nicht aus dem Blick verlieren.

1 Dieser Beitrag basiert auf Teilaspekten meines anlässlich der vom 13.-16. Juni 2018 an der Martin-Luther-Universität Halle-Wittenberg stattgefundenen Tagung *Neue Ansätze zur Erforschung spätantiker Ideal- und Portraitplastik: Stilkritik, Kontexte, naturwissenschaftliche Untersuchungen* gehaltenen Vortrags *Form und Funktion. Kleinformatige bronzene Idealplastik der Spätantike.* Für die Einladung ist Gunnar Brands (Halle/S.) und Stefan Lehmann (Köln), für Diskussionsbereitschaft, wertvolle Hinweise und die Überlassung von Fotos außerdem Adriana Comar, Marta Novello (Aquileia), Jörg Deterling, Martin Maischberger, Gabriele Mietke, Uwe Peltz (Berlin), Mario Iozzo (Florenz), Ruth Bielfeldt (München), Jutta Dresken-Weiland (Regensburg), Laure Barthet, Pascal Capus, Christelle Molinié (Toulouse) und Sabine Faust (Trier) sehr herzlich zu danken.

Obwohl die für das 19. Jahrhundert als einer für die Archäologie höchst fruchtbaren und erfolgreichen Zeit typischen Materialcorpora heute ein wenig aus der Mode gekommen sind, erscheint es immerhin als günstige Voraussetzung, dass die seit einigen Jahren an Zahl und Umfang zunehmenden Bilddatenbanken im Internet unsere Materialkenntnis doch erheblich vermehrt haben. Auch wenn solche Datenbanken die Produktion neuer Bestandskataloge in Buchform nicht ersetzen können, gibt uns das so zur Verfügung gestellte Material – selbst in den schwierigen Zeiten einer Pandemie – das nötige Selbstvertrauen zur Auseinandersetzung mit übergeordneten Fragestellungen. Eine Studie mit weiter gefasstem Blick ist deshalb auch das Ziel der folgenden Untersuchung. Da die bei den antiken Bronzen besonders lückenhafte Überlieferung der Beantwortung vieler wissenschaftlicher Fragen enge Grenzen setzt, soll sie mehr als Essay denn als abgeschlossene Studie verstanden werden. Trotzdem mag jedoch der eine oder andere Leser darin auch Anregungen für zukünftige Untersuchungen finden.

Einleitung

Der bewusste künstlerische Rückbezug auf die Formensprache vergangener Zeiten ist in der römischen Kunst und so auch bei den kaiserzeitlichen Bronzen eine seit langem bekannte und in Teilbereichen schon mehrfach untersuchte Erscheinung. Unübersehbar sind insbesondere Übernahmen von Motiven der altägyptischen Kunst[2] sowie von griechischen Kunstwerken archaischer und frühklassischer Zeit,[3] die unter den vor allem an Vorbildern der hoch- und spätklassischen Epoche[4] orientierten Götterstatuetten der römischen Kaiserzeit ins Auge fallen. Bei den kleinformatigen Bronzen hellenistischer und römischer Zeit reichen die Anleihen von der bloßen Übernahme einzelner Gewandmotive, wie zum Beispiel in Form archaistischer ‚Schwalbenschwanzfalten', über charakteristische Figurentypen, wie dem altertümlichen ‚Promachosschema', bis hin zu Statuetten, die in ihren Proportionen ganz wie detailgetreue Verkleinerungen nach großplastischen Werken der archaischen oder frühklassischen Zeit wirken.[5]

Die im ersten Teil dieses Beitrags behandelten Bronzen sind jedoch keine rundplastischen Statuetten. Stattdessen geht es anhand ausgewählter Einzelstücke um nur in Teilen erhaltene Möbel, Lampen und Leuchter und somit um nachweisliche oder mutmaßliche Elemente der gehobenen spätrömischen Wohnausstattung.

Eine Knabenbüste aus Rom

Die erste Begegnung mit dem zu untersuchenden Phänomen liegt schon einige Jahre zurück. Den Ausgangspunkt unserer Überlegungen bildete als ein besonders lehrreiches Beispiel die früher auf einem nicht zugehörigen ‚Sockel' befestigte Büste eines Knaben in Berlin[6] (Abb. 1). Die 1698 mit der Sammlung des italienischen Kunstgelehrten Giovan Pietro Bellori (1613–1696) für das kurfürstlich-brandenburgische, seit 1701 königlich-preußische Antiquarium erworbene Büste wird nach den Wirren des Zweiten Weltkriegs heute zum Glück wieder in der Antikensammlung der Staatlichen

2 Pearson 2021.

3 Hierzu zuletzt Hallett 2015.

4 Dazu exemplarisch Leibundgut 1990.

5 In besonderem Maße gilt dies für römische Bronzestatuetten, die wie Einzelfiguren aus mythologischen oder historischen Gruppenanathemen der griechischen Kunstgeschichte wirken: Heger 2016; Franken 2019b.

6 Die von den Stichwerken des 18. Jhs. bis zu einer vor 1939 entstandenen Fotografie dokumentierte Verbindung mit dem nicht zugehörigen ‚Sockel' dürfte auf einen restauratorischen Eingriff des 17. Jhs. zurückgehen.



Abb. 1. Spätantike Knabenbüste (Berlin, Antikensammlung – SMB Inv. Fr. 2243; Foto: N. Franken, Antikensammlung – SMB).
Fig. 1. Late antique bust of a boy (Berlin, Collection of Classical Antiquities - SMB Inv. Fr. 2243; photo by N. Franken, Antikensammlung – SMB).



Abb. 2. Hellenistische Erosbüste (Berlin, Antikensammlung – SMB Inv. 33747; Foto: N. Franken, Antikensammlung – SMB).
Fig. 2. Hellenistic bust of an Eros (Berlin, Collection of Classical Antiquities - SMB Inv. 33747; photo by N. Franken, Antikensammlung – SMB).

Museen zu Berlin (Inv. Fr. 2243) aufbewahrt. Der lange als Kriegsverlust geltende ‚Sockel', der ursprünglich die kelchförmige Bekrönung eines einfachen römisch-frühkaiserzeitlichen Kandelabers bildete, ließ sich dagegen erst in den Jahren 2009/2010 unter dem Restbestand kriegsbedingt verlagerter Kunstschätze der Berliner Museen in Moskau wieder finden und identifizieren.[7]

Die ohne den ‚Sockel' heute noch 15,4 cm hohe und 10,8 cm breite Applik zeigt die Büste eines offenbar in ein reich besticktes Gewand gekleideten Kleinkindes mit vollen lockigen Haaren. Über beide Schultern hinweg führt eine dicke Girlande in einem flachen Bogen über die Brust. Ein oberflächliches Muster aus kleinen, dicht gesetzten Punkten und einzelnen darauf liegenden, plastischen Efeublättern charakterisiert sie offenbar als Blütengirlande.

Obwohl der an grobe Schnitzarbeiten erinnernde Stil der Knabenbüste keinerlei Zweifel an ihrer spätantiken Entstehungszeit lässt,[8] sind die nächsten motivischen Parallelen für die Ikonographie der Büste bei dekorativen Appliken hellenistischer Zeit zu finden, die entweder den geflügelten Eros oder verwandte Knaben darstellen und bis in die frühe Kaiserzeit hinein kopiert wurden.[9]

7 Die Beobachtung ist zwei 2009 und 2010 durchgeführten Dienstreisen in das Museum der Bildenden Künste A. S. Puschkin (kurz: Puschkin-Museum) in Moskau zu verdanken.

8 Vgl. auch die nur 6,9 cm hohe bronzene Büstenapplik des ‚Honorius' in Eisenstadt (Burgenland, Österreich), Landesmuseum Inv. SW 3953 mit noch reicheren gravierten Gewandmustern (Thomas 1984, Abb. 2–5).

9 Zu der erst in der frühen römischen Kaiserzeit einsetzenden Tradition kindlicher Jahreszeitenpersonifikationen vgl. Boschung 2013.

Neben ähnlichen Appliken mit Girlanden[10] gibt es auch Erosbüsten mit über die Brust geführten Efeuranken[11] oder anderem Blattwerk. Ebenfalls in der Antikensammlung der Berliner Museen befindet sich, als eine der wenigen Erwerbungen aus DDR-Zeiten, unter Inv. 33747 (Abb. 2) eine offenbar noch hellenistische Erosbüste,[12] die durch ihre rissige Oberfläche ein wenig entstellt ist, aber dennoch als typisches Beispiel einer solchen Applik gelten kann.[13]

Derartige Appliken gehörten nach dem Zeugnis besser erhaltener Möbel bzw. Möbelteile zur Dekoration von Geldtruhen[14] und Speisebetten (Klinen),[15] wobei ohne Autopsie nicht immer leicht zu entscheiden ist, ob dies die ursprüngliche, also primäre Funktion war oder von Fall zu Fall mit einer Umarbeitung in antiker Zeit zu rechnen ist.[16] Auch über die Erstverwendung der großen spätantiken Knabenbüste (Abb. 1) lässt sich auf den ersten Blick nichts Genaueres sagen. Da die durch mehrere Antikenzeichnungen und Stichwerke dokumentierte Aufstellung auf einem dafür wiederverwendeten ‚Sockel' in erster Linie der Repräsentationsabsicht eines Kunstsammlers des 17. Jahrhunderts geschuldet war, dürfte aber auch für sie die dekorative Verwendung an einem luxuriösen Wohnmöbel die größte Wahrscheinlichkeit haben.

Eine Maultierprotome in Toulouse

Das nächste Stück ist gleich in doppelter Hinsicht besonders wertvoll, zum einen weil es mit einer präzisen Herkunftsangabe verbunden ist und zum anderen weil auch sein mögliches Vorbild konkreter zu fassen ist. Es handelt sich um eine mit einer Efeuranke, einer um den Hals gebundenen Fellschabracke und dem Zipfel einer Satteldecke geschmückte Protome eines Maultiers (oder Maulesels), welche nachweislich 1829 in den Ruinen der spätantiken Villa von Chiragan in Martres-Tolosane (Département Haute-Garonne, Region Okzitanien) im Südwesten Frankreichs gefunden wurde (Abb. 3). Während die reiche Ausstattung der Villa mit Marmorskulpturen bereits mehrfach Gegenstand eingehender Untersuchungen war,[17] fand die Bronze bislang nur kurze Erwähnung in verschiedenen Museums- und Ausstellungskatalogen.

Als Vorbilder für die Maultierprotome aus Chiragan kommen offensichtlich nur Bekrönungen der Lehnen (Fulcra) hellenistischer Speisebetten (Klinen) in Frage. Als eines von mehreren möglichen Beispielen kann eine Fulcrumbekrönung im Britischen Museum zum Vergleich dienen[18] (Abb. 4). Obwohl die Details der zuerst genannten Protome wesentlich gröber und im Detail vereinfachter erscheinen, wenn nicht sogar vom spätantiken Bronzegießer grob missverstanden wurden, lassen doch die charakteristische Efeuranke, die Fellschabracke und die kaum mehr als solches erkennbare Satteldecke keinen Zweifel, was dem Handwerker im konkreten Fall als Anregung diente. Tatsäch-

10 Vgl. Barr-Sharrar 1987, Taf. 37.C116–C118, Taf. 39.C122,C125.

11 Vgl. Barr-Sharrar 1987, Taf. 36.C115, Taf. 38.C 124.

12 Berlin, ANT – SMB Inv. 33747. H 6,8 cm. B 4,8 cm. T 3,0 cm. Am 26. 3. 1987 von der Antikensammlung (Ost-Berlin) erworben durch Ankauf von einem Mann aus Müllrose (Bezirk Frankfurt/Oder, DDR), der die Bronze von seinem Großvater, dem Maler, Zeichner und Grafiker Friedrich August *Weinzheimer* (1882–1947) geerbt hatte. Lit.: unveröffentlicht.

13 Auch Berlin Inv. 33747 gehörte wohl zu einer Geldtruhe. Nach Mitteilung des Metallrestaurators Uwe Peltz hat sich in der rückseitig offenen Brust des Knaben der Rest eines viereckigen Befestigungszapfens erhalten. Zudem ist der Rand der Hinterhauptöffnung abgesetzt gearbeitet.

14 Vgl. z. B. Spinazzola 1928, 37, Taf. 299; Guzzo 2003, 74–75, Abb. 1.

15 Vgl. z. B. Spinazzola 1928, 36, Taf. 282 unten links; Pirzio Biroli Stefanelli 1990, 176, Abb. 142.

16 Zu Umarbeitungen bei antiken Bronzen vgl. zuletzt (Franken 2022).

17 Vgl. dazu Bergmann 1999.

18 London, BM Inv. 2562/1. Fundort: Brasles, Dép. Aisne/F (1866). L.: 17,1 cm. Lit.: Faust 1989, 180, Nr. 179, Taf. 49, 1 (mit umfangreicher Lit.)



Abb. 3. Spätantike Maultierprotome (Toulouse, Musée Saint-Raymond Inv. 25669; Musée Saint-Raymond, musée d'Archéologie de Toulouse).
Fig. 3. Late antique mule protome (Toulouse, Musée Saint-Raymond Inv. 25669; Musée Saint-Raymond, musée d'Archéologie de Toulouse).

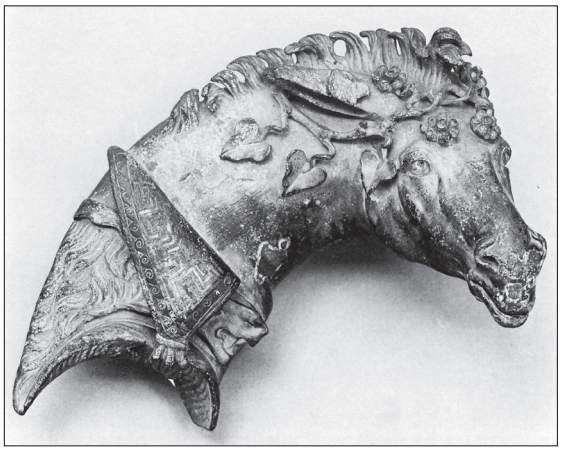


Abb. 4. Hellenistische Mautierprotome (London, Britisches Museum Inv. 2562/1; Repro nach: Faust 1989, 180, Nr. 179, Taf. 49.1).
Fig. 4. Hellenistic mule protome (London, British Museum Inv. 2562/1; after Faust 1989, 180, Nr. 179, Taf. 49.1).

lich erwähnten bereits Christiane Boube-Piccot und Sabine Faust die Bronze in Toulouse in ihren Arbeiten zu hellenistisch-römischen Klinen. Mit Recht erwähnt Faust die im Bereich des unteren Abschlusses abweichende Gestaltung der Protome aus Chiragan. Tatsächlich scheint die späte Bronze anders als die hellenistischen Vergleichsstücke hier eine niedrige quadratische Basis zu besitzen, was für eine Montage auf einer senkrechten Stütze zu sprechen scheint. Auch wenn die technische Art der Befestigung anscheinend eine andere als die an hellenistischen Klinen praktizierte Methode war, spricht die Befestigung auf einer stehenden Stütze nicht zwangsläufig gegen die Zugehörigkeit zu einem Bett. Man mag angesichts unserer ungenügenden Kenntnis spätantiker Speisebetten daneben zwar auch die Funktion als Beschlag eines Throns nicht völlig ausschließen können. Doch scheint die Zugehörigkeit zu einer zwar konstruktiv abweichenden, in der Wahl des Bildschmucks aber eindeutig an hellenistischen Vorbildern orientierten Kline insgesamt am plausibelsten.

Ein korinthisches Kapitell in Berlin

Neben dem bisher betrachteten Möbelschmuck verdienen im Rahmen der hier untersuchten Fragestellung auch Lampen und Leuchter unsere Aufmerksamkeit.

Das erste Beispiel bietet ein kleines korinthisches Kapitell in der Berliner Antikensammlung (Abb. 5). Es stammt aus dem bereits vor 1830 vorhandenen Altbestand des Museums. Nach Meinung von Konrad Levezow (1770–1835) und Gerald Heres soll es auch zur Sammlung Bellori gehören. Da es in den vor einigen Jahren von Elena Vaiani veröffentlichten Listen des Bellori'schen Kunstbesitzes jedoch nicht enthalten ist, ist seine Herkunft aus der prominenten Sammlung und damit ein möglicher Fundort in Rom beziehungsweise Italien nicht wirklich erwiesen.

Aufgrund seiner vollrunden Ausarbeitung und unter Berücksichtigung seines Formats kann das Kapitell der Berliner Antikensammlung nur zu einem bronzenen Kandelaber gehört haben.[19] Es sind aus dieser Zeit nicht viele vollständig erhaltene Leuchter bekannt. Zudem sind diese so wenig typologisch

19 Nur reliefartig ausgearbeitete Appliken in Form von Kapitellen könnten stattdessen auch zu architektonisch gegliederten Inschriftentafeln, Statuensockeln und verwandten Monumenten gedient haben. Vgl. z. B.: Franken 1996a, 32–33, Nr. 16, Abb. 32–33; Franken 2011, unter Inv. Misc. 7459.

einheitlich, dass eine Rekonstruktion des gesamten Geräts unmöglich scheint. So bleibt nur übrig, das Kapitell selbst genauer zu betrachten. Abgesehen von der groben Ausarbeitung, die an einer spätantiken Datierung nicht zweifeln lässt, fällt die durchbrochene Darstellung des verkleinerten Architekturteils ins Auge. Dies ist gegenüber einem gewöhnlichen Hohlguss zwar die kompliziertere Technik, sie birgt aber die sicherlich beabsichtigten Vorteile der Materialersparnis und damit einhergehender Gewichtsreduktion.



Abb. 5. Spätantikes Kandelaberkapitell (Berlin, Antikensammlung – SMB Inv. Fr. 1557 f; Foto: N. Franken, Antikensammlung – SMB).
Fig. 5. Late antique candelabra capital (Berlin, Collection of Classical Antiquities – SMB Inv. Fr. 1557 f; photo by N. Franken, Antikensammlung – SMB).



Abb. 6. Hellenistisches Kandelaberkapitell (Boston, Museum of Fine Arts Inv. 13.208; Repro nach: Comstock – Vermeule 1971, 465, Nr. 680).
Fig. 6. Hellenistic candelabra capital (Boston, Museum of Fine Arts Inv. 13.208; after Comstock – Vermeule 1971, 465, Nr. 680).

Vorbilder für kleinformatige durchbrochene Bronzekapitelle korinthischer Ordnung, die einst als Bekrönungen von schlanken Kandelabern (Lampenständern) dienten, kennen wir ebenfalls schon aus späthellenistischer Zeit. Ausgehend von einem vollständig erhaltenen Leuchter aus dem in das frühe 1. Jahrhundert v. Chr. zu datierenden Schiffswrack von Mahdia (Tunesien) hat sich der Verfasser bereits früher mit einer Reihe von Vergleichsstücken beschäftigt.[20] Als Beispiel kann ein Miniaturkapitell im Museum of Fine Arts in Boston (USA) dienen[21] (Abb. 6). Da aus der römischen Kaiserzeit keine Leuchter mit ähnlichen Kapitellen bekannt sind, spricht vieles dafür, in den spätantiken Kandelaberkapitellen unmittelbare Rückgriffe auf hellenistische Vorbilder zu erkennen.

Bronzelampen mit Griffen in Form gelappter Blätter

Dass der im 4. Jahrhundert n. Chr. vorherrschende Typus spätrömischer Bronzelampen mit großen seitlichen Voluten an den Schnauzen einen hellenistischen Lampentypus wieder aufgreift, hatte die italienische Archäologin Marisa Conticello De' Spagnolis schon Mitte der 1980er Jahre richtig erkannt.[22] Die meist mit zwei oder drei Schnauzen gestalteten Lampen (*lucerna bilychnis*, *lucerna*

20 Vgl. Franken 1996b.

21 Boston, MFA Inv. 13.208. Fundort unbekannt, aus E. P. Warren Collection, erworben in München. H.: 10,5 cm; Dm.: oben 10,6 cm. Lit.: Comstock – Vermeule 1971, 465, Nr. 680; Franken 1996b, 278, Abb. 3b.

22 Conticello De' Spagnoli – De Carolis 1986, 42–43.

trilychnis) sind oft mit figürlich dekorierten Griffen kombiniert, deren christliche, mythologische oder neutrale Bilder keine formale Anregung durch frühere Vorbilder erkennen lassen.[23] Doch gibt es daneben auch eine Reihe spätantiker Bronzelampen mit blattförmigen Griffen (Abb. 7), deren gelappte beziehungsweise gezackte Struktur stark an die typischen Wein- und Akanthusblätter hochhellenistischer Lampengriffe (Abb. 8) erinnert.[24]

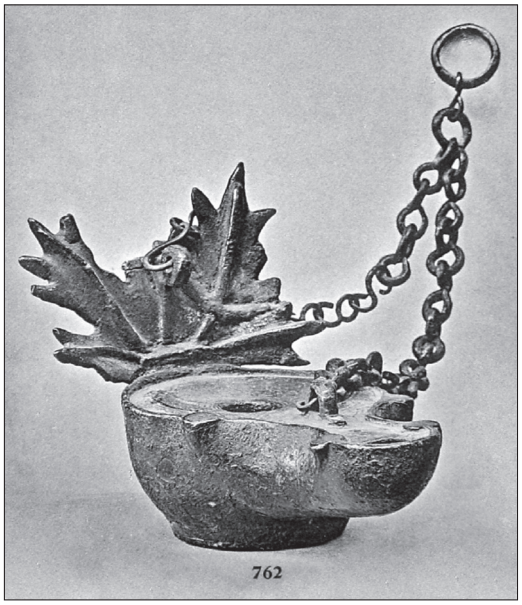


Abb. 7. Spätantike Lampe (Ehemals Berlin, Museum für Byzantinische Kunst Inv. 2346; Repro nach: Wulff 1909, 170, Nr. 762, Taf. 35).
Fig. 7. Late antique lamp (Formerly Berlin, Museum of Byzantine Art Inv. 2346; after Wulff 1909, 170, Nr. 762, Taf. 35).



Abb. 8. Hellenistische Lampe (Neapel, Museo Archeologico Nazionale Inv. 72284; Foto: R. Bielfeldt – J. Eber – N. Franken).
Fig. 8. Hellenistic lamp (Naples, Museo Archeologico Nazionale Inv. 72284; photo by R. Bielfeldt – J. Eber – N. Franken, with permission of the Museo Archeologico Nazionale di Napoli).

Sehr ähnlich ist eine sicherlich im 4. Jahrhundert n. Chr. entstandene Bilychnis in Florenz, die offenbar noch unpubliziert ist, aber auch auf den von Cristiana Zaccagnino veröffentlichten Antikenzeichnungen erscheint.[25] Eine vielleicht noch ins 3. Jahrhundert n. Chr. gehörende, jedenfalls nicht frühere Lampe im Museo Nazionale Romano zeigt neben der Aufhängung an spätantiken Ketten einen Griff in Form eines fünffach gelappten Blattes mit gezacktem Rand.[26]

Auswertung

Betrachtet man die hier gesammelten Beispiele, stellt sich die Frage, wie das Auftauchen hellenistischer Motive und Typen in der spätrömischen Bronzekunst zu interpretieren ist. Da es für die mittlere römische Kaiserzeit des 2. und 3. Jahrhundert weitgehend an fest datierten Kontexten mangelt, da es in der damaligen Friedenszeit bis zu den ersten Germaneneinfällen auch an Grün-

23 Pozo 1983; Pozo 1985; Chalkia 1999; Franken 2007b; Franken 2019a; Franken 2023; Franken im Druck.

24 Vgl. z. B. eine Lampe in Bologna: Conticello De' Spagnolis – De Carolis 1997, 68, Nr. 34, Abb. (mit verfehlter Einordnung in eine Gruppe 'später' Lampen).

25 Vgl. Zaccagnino 2010, o. Pag. (Zeichnung 31).

26 Die von Conticello De' Spagnolis – De Carolis 1983, 17, Nr. 1, Abb. S. 21 anhand rein typologischer Kriterien suggerierte Datierung ins 1. Jh. n. Chr. ist offenkundig verfehlt.

den fehlte, sein wertvollstes Hab und Gut in so genannten Angstdepots als einer besonderen Art archäologischer Hortfunde niederzulegen, ist unsere Kenntnis nachweislich mittelkaiserzeitlicher Bronzen nicht wirklich fundiert. Aber selbst unter Berücksichtigung der bekannten Schwierigkeit beim Datieren antiker Bronzen muss das für die mittlere Kaiserzeit zu konstatierende Fehlen der in hellenistischer Tradition stehenden Klinenbeschläge sehr verwundern. Während der in spätantiker Zeit vollzogene Rückgriff auf einen hellenistischen Lampentypen (Kat. 4) aufgrund der dichteren Überlieferung kaum zu bezweifeln ist, können wir bei den isolierten figürlichen Beschlägen von Klinen und anderen Möbeln nicht ganz so sicher sein. Doch scheint die Frage, ob die hier katalogisierten Bronzen tatsächlich einem ‚historistischen' Rückgriff zu verdanken sind oder nicht doch in einer ununterbrochenen Bildtradition stehen, für unsere Argumentation zweitrangig. Allein entscheidend dürfte sein, dass die spätantiken Künstler diese traditionellen Bilder zweifellos nicht zufällig auswählten. So wollen wir bis zum Beweis des Gegenteils auch bei den spätantiken Möbelbeschlägen (Kat. 1, 2) und Kandelabern (Kat. 3) tendenziell eher von einem bewussten Rückgriff auf hellenistische Vorbilder ausgehen.

Die Gründe für dieses Vorgehen könnten theoretisch sehr verschiedener Art sein. Angesichts der geringen Zahl entsprechender Denkmäler könnte man zunächst daran denken, dass diese spätantiken Bronzen einen Hinweis auf ein praktisches restauratorisches Vorgehen geben. Mit anderen Worten, es könnte sich vor allem im Fall der Kinderbüste aus Rom (Abb. 1) oder der Pferdeprotome aus Chiragan (Abb. 3) um nachgearbeitete Ergänzungen für zwischenzeitlich verloren gegangene Beschläge älterer Speisebetten handeln.[27] Doch lässt sich eine solche Vermutung weder durch am selben Ort aufgefundene Reste älterer Möbel noch durch andere Indizien bestätigen. Vielmehr sprechen vor allem die bekannten Lampen und Lampenhalter dafür, dass es in spätantiker Zeit durchaus eine Produktion luxuriöser Bronzegeräte gab, die im Ganzen von hellenistischen Vorbildern angeregt waren. Es erscheint uns daher als eine verlockende Idee, die zum Teil namentlich bekannten führenden Familien Roms, von denen bekanntlich einige noch lange dem alten Glauben angehörten, könnten sich im 4. Jahrhundert n. Chr. von Fall zu Fall aus vorrangig ideologischen Gründen, den Motiven und Formen einer längst vergangenen Zeit zugewandt haben.

Um diese Art der programmatischen Ausrichtung in einen größeren Kontext einzuordnen, gilt es zu betonen, dass wir mit diesen bewussten Rückgriffen auf Vorbilder der hellenistischen Kunst nur ein mutmaßlich auf die alten heidnischen Eliten Roms begrenztes Randphänomen der spätantiken Kunst greifen, zumal kaum eine andere Epoche der antiken Kunstgeschichte mehr grundlegend neue Bilder und Motive hervorbrachte als die Zeit der frühen Christen.[28]

Exkurs: Zur Rezeption hellenistischer Großplastik in spätantiken Kleinbronzen

Neben den im ersten Teil dieser Untersuchung im Mittelpunkt stehenden Nachahmungen hellenistischer Luxusgüter ist bei kritischer Betrachtung des Bildschmucks spätantiker Bronzegeräte noch ein zweites, nah verwandtes und gleichermaßen interessantes Phänomen zu beobachten, das an dieser Stelle wenigstens kurz erwähnt werden soll, um es formal und inhaltlich von dem der ersten Gruppe abzugrenzen. Gemeint sind kleinformatige, motivische Rückgriffe auf bekannte Werke der hellenistischen Großplastik aus Bronze und Marmor, die in Gestalt mehr oder minder getreu kopierter Figuren oder Figurengruppen als bewusste Zitate verstanden werden können und somit eine ästhetische oder ideologische Auseinandersetzung der spätantiken Bronzegießer oder vielmehr ihrer Auftrag-

27 Vgl. dazu den archaischen Bronzekessel von Hochdorf (Stuttgart, LMW), an dem eine verlorene Löwenapplik bereits in antiker Zeit durch eine nachgearbeitete Figur ersetzt wurde: Bieg 2002, 91–92, Abb. 91c.

28 Dazu exemplarisch Franken 2019a; Franken im Druck.

geber mit einer damals bereits seit rund 500 Jahren vergangenen Kunstepoche aufzeigen.

Außer einzelnen bereits früher einmal exemplarisch behandelten Rückbezügen auf Werke der hellenistischen Portraitplastik[29] sind in der spätantiken Kleinkunst noch häufiger Anleihen an die Idealplastik hellenistischer Zeit festzustellen, wenn auch die unmittelbaren Vorbilder – wie etwa für verschiedene spätantike Gerätbronzen in Gestalt von Seewesen – kaum konkret greifbar sind.[30]

Das erste Beispiel bildet eine kleinformatige Gruppe im Archäologischen Nationalmuseum von Aquileia (Region Friaul-Julisch Venetien, Italien), die den bekannten Typus der vor allem durch Marmorwerke überlieferten Statuengruppe der ‚Drei Grazien' aufgreift (Abb. 9).



Abb. 9. Spätantike Graziengruppe (Aquileia, Museo Archeologico Nazionale. Inv. 17654; Archivio fotografico Museo Archeologico Nazionale di Aquileia. Riproduzione su concessione del Ministero della cultura, Direzione regionale musei del Friuli Venezia Giulia).
Fig. 9. Late antique group of graces (photo archives National Archaeological Museum of Aquileia. Reproduced by concession of the Ministry of Culture, Friuli Venezia Giulia Regional Museums Directorate).

Wie die weg gebrochenen seitlichen Stützen und die bei allen drei Figuren fehlenden Füße zeigen, ist nur noch ein Teil eines größeren Ganzen erhalten. Die Gruppe gehörte aufgrund des Themas sicherlich in den Bereich des spätantiken Bronzegeräts. Doch ist mangels einer ikonographisch übereinstimmenden Parallele nicht zu entscheiden, wozu genau die Grazien ehemals gehörten. In Kenntnis vergleichbarer Bronzen wäre insbesondere die Zugehörigkeit zum Bildschmuck einer Lampe, eines Reisewagens oder aber eines Klapptisches denkbar. Auffällig ist allerdings die Tatsache, dass die Beine der Grazien eng zusammengerückt sind, so als hätten sie auf einer schmalen Basis Platz finden müssen. Dies würde am ehesten für die Ergänzung an einem Lampengriff sprechen. Die figürlichen Griffe spätantiker Bronzelampen besitzen jedoch oft eine unausgearbeitete oder zumindest stark vernachlässigte Rückseite, während die Grazien in Aquileia von vorne wie von hinten gleichermaßen fertig ausgearbeitet erscheinen, was wiederum eher für die Zugehörigkeit zum Dekor eines Klapptischs oder eines Wagens spricht.

Das erneute Aufgreifen eines bekannten Motivs der hellenistischen Idealplastik zeigt auch ein spätantiker Lampenhalter der ehemaligen Ternbach Collection, der sich im Israel Museum in Jerusalem befindet (Abb. 10). Den eigentlichen Ständer, der zur Aufhängung einer Lampe in Form eines Afrikanerkopfes dient, bildet die Figur des an einen Baum gefesselten Marsyas (Kat. 6).

Zusammenfassung

Anhand ausgewählter figürlicher Bronzen (Bestandteile von Möbeln, Lampen und Leuchtern) untersucht der Verfasser ein von der früheren Forschung weitgehend übersehenes und noch nie

29 Vgl. dazu insbesondere Franken 2007a; Franken 2021.

30 Vgl. z. B. Vermeule – Comstock 1988, 69–70, Nr. 71 mit Abb. („…goes back ultimately to Pergamene Hellenistic art…"); B. Arbeid, Nereide su patera marina, in: Arbeid – Iozzo 2015, 114–115, Nr. 77 Abb.

genauer untersuchtes Phänomen des spätantiken Kunstschaffens. Im Mittelpunkt stehen Bronzen, die offenbar in direkter Überbrückung eines Zeitraums von ungefähr 500 Jahren künstlerische Vorbilder hellenistischer Zeit aufgreifen. Die vorliegende Studie widmet sich auch der Frage nach der Motivation der spätantiken Auftraggeber und Konsumenten. Nach Abwägung aller Argumente zeigt sich, dass wir es offenbar nicht mit den bruchstückhaften Zeugnissen einer kontinuierlichen künstlerischen Tradition zu tun haben. Stattdessen dürfte das in der gehobenen Hausausstattung des 4. und 5. Jahrhunderts n. Chr. zu beobachtende Wiederaufleben hellenistischer Motive und Bildtypen nicht nur als ein beliebiger Ausdruck von Nostalgie oder Sentimentalität, sondern eher als eine durchaus bewusste politische, d. h. zielgerichtet programmatische Rückbesinnung auf vergangene Glanzzeiten zu interpretieren sein, weshalb hinter den Trägern dieses offenbar sehr begrenzten Phänomens des spätantiken Kunstschaffens hauptsächlich die noch dem alten Glauben anhängenden führenden Familien dieser Zeit zu vermuten sein dürften.

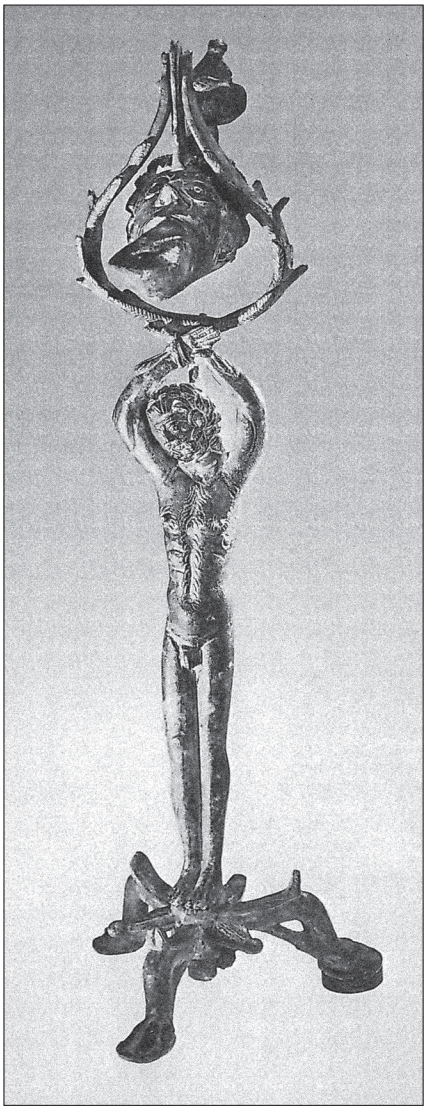


Abb. 10. Spätantiker Lampenständer mit Marsyas (Jerusalem, Israel Museum. 87.160.324; Repro nach: Merhav 1981, 221, Nr. 176).
Fig. 10. Late antique lamp stand with Marsyas (Jerusalem, Israel Museum. Inv. 87.160.324; after Merhav 1981, 221, Nr. 176).

Katalog

Kat. 1. Berlin, Antikensammlung – Staatliche Museen zu Berlin. Inv. Fr. 2243 (Abb. 1). Fundort unbekannt, aber vermutlich aus Rom, 1698 aus Sammlung Bellori erworben. H.: (laut Friederichs, gesamt) 6,5 Zoll = 16,5 cm; H.: (ohne Sockel) 15,4 cm; B.: 10,8 cm. Lit.: Beger 1701, 329; Beger 1704, 139; de Montfaucon 1724, Taf. 6.2; Friederichs 1871, 486, Nr. 2243; Vaiani 2002, 123, Nr. 73, Anm. 133 (?), 141, Nr. 91, Anm. 225 (?); Franken 2011, unter Inv. Fr. 2243; Peltz 2021, 255, Taf. 118.a–b (mit falscher Höhenangabe).

Kat. 2. Toulouse, Musée Saint-Raymond. Inv. 25669 (alte Nr. Ro. 564) (Abb. 3). 1829 in der Villa von Chiragan gefunden, 1864 aus dem Musée des Augustins übernommen. H.: 13 cm; B.: 4,4 cm; T.: 8,5 cm. Lit.: Du Mège 1835, 153, Nr. 292; Roschach 1864, 188, Nr. 564; Roschach 1892, 188, Nr. 564; Joulin 1902, 75, Nr. 253.c, Taf. 15; Boube-Piccot 1960, 254, Anm. 1; Faust 1989, 84, mit Anm. 287; Cazes 1990, 77, Nr. 27; Cazes 1999, 149 mit Farbabb. (ohne Maßangaben); Massendari 2006, 233, Abb. 93.

Kat. 3. Berlin, Antikensammlung – Staatliche Museen zu Berlin. Inv. Fr. 1557 f. (Abb. 5) Provenienz bzw. Fundort unbekannt. H.: 10,2 cm; B.: (diagonal) 12,3 bzw. 12,5 cm; Dm.: (unten) 5 cm. Lit.: Friederichs 1871, 334, Nr. 1557 f.; Heres 1978, 5 ff., 33; Franken 2011, unter Inv. Fr. 1557 f.

Kat. 4. Verschollen (Kriegsverlust), ehemals Berlin, Skulpturensammlung und Museum für Byzantinische Kunst – Staatliche Museen zu Berlin. Inv. SBM 2346 (Abb. 7), bis 1897 im Königlichen Antiquarium als Vorläufer der Antikensammlung – SMB. Inv. Fr. 756. Fundort unbekannt, 1698 aus der Sammlung Giovan Pietro Bellori in Rom erworben. Vorher wohl im Besitz von Francesco Angeloni (1587–1652). L.: 19 cm; Dm.: 8,7 cm; Lit.: Beger 1701, 446, Taf. Y; Skippon 1732, 682; Skippon 1807, Nr. 164 (wohl dieses Stück); Friederichs 1871, 188, Nr. 756; Wulff 1909, 170, Nr. 762, Taf. 35; Heres 1978, 5–32, 36, Nr. 195; Conti 1984, 60, Nr. 195, Abb. 33 rechts, Taf. 59 rechts; Heres 1987, 19, Anm. 19, S. 22 Abb. 15 unten links; Vaiani 2002, 121, Nr. 30, 130, Nr. 2; Savoy 2003, 83, Nr. 164; Martinez 2004, 672, Nr. 1367, ohne Abb.; Franken 2011, unter Inv. Fr. 756.

Kat. 5. Aquileia, Museo Archeologico Nazionale (Inv. 17654; Abb. 9). Aus Aquileia. H.: 11 cm; B.: 8,9 cm; D.: 2,4 cm. Lit.: Maionica 1911, 98, (*le tre Grazi*); LIMC III 1986, 210 s. v. Charis, Charites/Gratiae Nr. 139

(H. Sichtermann); Bertacchi 1994, 37 (*le tre Grazie*); Giovannini 2004, 471 (*l'applique bronzea con il gruppo delle tre Grazie*); Franken 2007b, 10, Anm. 8; Ghedini 2018, 244, Nr. 35 mit Abb.

Kat. 6. Jerusalem, Israel Museum. (Acc. no. 87.160.324; Abb. 10). Fundort unbekannt. H.: 41,2 cm. Lit.: Merhav 1981, 221, Nr. 176 mit Abb. (mit wohl zu früher Datierung: *2nd – 3rd century C.E.*).

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Die „Kovacs-Vase“

Ein archäologischer Zwischenbericht

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Abstract: The Kovacs Vase was first made known under scholars in Munich in 1996, but its origins and current owner are unknown. It could be shown that the pictorial scenes come from the Greek Pankration. It has now been proposed to date the Kovacs Vase to 400 AD. The successful fight of the alround-fighter Privatulus is shown in five scenes, with legends attached to the fight pictures describing the athletes in more detail. The inscriptions also indicate that it must have been an experienced and victorious all-fighter from the Green Circus Party *(factiones)*. What is unusual is that the loser Victorinus is also mentioned by name, possibly also a successful fighter, over whom victory may have meant an outstanding achievement for Privatulus. All additions are written in a vulgar Latin that is similar to Proto-Romance and is difficult to understand. The overview and comparison of silver and non-ferrous metal jugs and vases from the 4th to 8th centuries shows that in the toreutics of this period both traditional forms and motifs have been present since the 4th century and new forms and decorative elements appear that clearly differ from the late Roman origins. The Kovacs Vase combines ‘classic’ shapes and motifs from the 6th century with innovative elements that indicate an independent, classicist development. It could be that it was made in a workshop in northern Italy. Although written sources mention gymnastic agones, no firmly dated images from the 5th century are known to date. Against this historical-archaeological background, the Kovacs Vase with its depictions and inscriptions is a unique testimony to Greek agonistics in late antiquity.

Keywords: Kovacs vase, metal vessels, late antiquity, Greek agonistics, Pankration, Privatulus, Victorinus

„Der Zauber steckt immer im Detail“
Theodor Fontane

Die Kovacs Vase ist ein Unikat. Sie befindet sich heute in anonymen Privatbesitz, der Aufbewahrungsort ist unbekannt.[1] Auch die Herkunft ist unklar, aber immerhin wissen wir, daß der damalige Besitzer, der amerikanische Münzhändler Frank Kovacs, die Vase in Deutschland erworben hat und sie 1993 in den USA restaurieren ließ.[2]

1 Die Kovacs-Vase wurde nach 1996 längere Zeit im Olympischen Museum in Lausanne als Leihgabe aus einer Privatsammlung gezeigt und war 2009 in einer Ausstellung in Mendrisio im Kanton Tessin zu sehen, danach verliert sich die Spur.

2 Klose – Klein 2013, 143–150.

Bereits im Jahr 1996 wurde das Bronzegefäß in dem Münchner Katalog „Sport, Spiele, Sieg“ abgebildet und in den Legenden kurz beschrieben sowie eine Datierung an das Ende des 4. Jahrhunderts vorgeschlagen, was allerdings ohne Echo in der Wissenschaft blieb.[3]

Die erste historisch-philologische Untersuchung legten der Numismatiker Dietrich A. O. Klose und der Mittellateiner Thomas Klein zur „Bronzevase des Privatulus“ in einem Tagungsband 2013 vor und datierten sie in die erste Hälfte des 6. Jahrhunderts.[4] Im selben Band datiert der Archäologe Stephan Lehmann in seinem chronologischen Überblick zu den Bildzeugnissen der gymnischen Agone in der Spätantike das Stück ebenfalls an das Ende der spätantiken Tradition gymnischer Darstellungen.[5] Kurz nach der Erstpublikation der Kovacs Vase behandelte die Althistorikerin Sofie Remijsen das exzeptionelle Stück in der gedruckten Fassung ihrer Dissertation und schloss sich der Datierungen ins 6. Jahrhundert an.[6] Später rückte sie ohne Begründung von der Spätdatierung ab und favorisiert nun eine frühere um 400 n. Chr.[7] Darin schließt sie sich dem neuen Datierungsvorschlag der Archäologin Katherine Dunbabin an, die zu dem Ergebnis gelangt, dass es sich bei der Kovacs Vase um ein einzigartiges Stück handelt, für das sie durch die Vergleiche mit den Mosaiken aus der römischen Villa im spanischen Noheda, die eine Galerie von spätantiken Athletenbildern zeigen, ebenfalls eine Datierung um 400 favorisiert.[8] Durch einen typologischen Vergleich des Gefäßkörpers der Kovacs Vase mit einem flaschenförmigen Silbergefäß aus dem schottischen „Trapain Law Treasure“, der an den Anfang des 5. Jahrhundert datiert und in Edinburgh aufbewahrt wird, versucht sie die Datierung zu erhärten.[9] Allerdings hat die Gefäßform eine lange Tradition und ist somit nicht durch einen Einzelvergleich zu datieren. Am Ende ihrer Untersuchung räumt sie selbst ein: „This is not conclusive, and a date as the early 6th (the time of Cassiodor) cannot entirely be excluded, but the earlier date seems preferable.“[10]

Dass die Kovacs Vase der Forschung immer noch Probleme bereitet, verwundert nicht, denn wichtige archäologische, paläographische und historische Fragen sind bislang nicht beantwortet. Dennoch wurde sie umgehend auch für die Interpretationen von Darstellungen zur gymnischen Agonistik in der Spätantike in unkritischer Weise herangezogen.[11] Zwei Deutungsversuche sollen den kurzen Forschungsbericht abschließen. Der Philologe und Sporthistoriker Thomas Scanlon meint, dass in der Darstellung des Pankration der Sieger Privatulus seinen Gegner Victorinus während des Kampfes zu „sodomisieren“ scheint.[12] Der Germanist John Zilcosky will sogar in zwei Darstellungen des Kampfes derartige sexuelle Handlungen des Privatulus erkennen.[13] Allerdings lassen die sexualisierten Interpretationsversuche eine fehlende Vertrautheit mit der griechischen Athletenikonographie erkennen, denn die antiken Bilder gymnischer Agone zeigen niemals sexuelle Handlungen im Verlauf eines Kampfes, was die Interpretation höchst unwahrscheinlich macht.[14]

3 Klose – Stumpf 1996, 26, 156.
4 Klose – Klein 2013, 143–150.
5 Lehmann 2013, 200–202.
6 Remijsen 2015a, 148–150, 229–230, 251; Remijsen 2015b, 828.
7 Remijsen 2015c, 135–136; Remijsen 2019, 69–71.
8 Dunbabin 2017, 151–174.
9 Dunbabin 2017, 160, 170.
10 Dunbabin 2017, 170.
11 Eine umfassende Darstellung wird von den Verfassern in Verbindung mit weiteren Autoren vorbereitet.
12 Scanlon 2015, 87.
13 Zilcosky 2019, 95–98; Zilcosky – Burks 2019.
14 Scanlon 2015, 87.

Beschreibung

Der Fuß bzw. der Boden des Bronzegefäßes fehlt; ohne diesen hat es noch eine Höhe von 25 cm (Abb. 1).[15] Auf dem Gefäßkörper sitzt ein schlanker, langer Hals mit einem breiten Querwulst an der engsten Stelle. Zur Lippe hin verbreitert sich die Öffnung, an deren Rand ein umlaufender Wulst rundum den Rand der Lippe umschließt.[16] Darunter wölbt sich ein bauchiger Gefässkörper, der in einem ursprünglich abgesetzten Fuß endete. Dekoriert ist der gesamte Gefäßbauch mit einem Fries, der eine Sakralszene und Episoden aus einem Pankrationkampf unter Arkaden zeigt. Die Darstellungen aus dem Kampf der unbekannten Athleten Privatulus und Victorinus werden durch Namensnennungen und kurze Kommentare begleitet. Neben den fünf Kampfszenen aus dem Pankration findet sich eine sechste, ausgefallene Darstellung, in der eine Frauenfigur prominent in einem paganen Heiligtum mit Feueraltar sitzt. Über dem Bildfries steht in wenigen Worten die



Abb. 1. 1 – Die Kovacs Vase. Zwei Ansichten des bauchigen Gefäßes mit langem Hals, Nodus und runder Lippe (erhaltene Höhe 25 cm). Der Gefäßbauch ist mit einem Fries und einer Inschrift dekoriert. Hier ist der Kampfbeginn des Allkampfes zwischen Privatulus und Victorinus zu sehen (Fotos H. Hotter), 2 – Szene mit dem angreifenden Privatulus und dem sich schützenden Victorinus. Zwischen beiden liegt ein Geldbeutel am Boden.

15 Material kann sowohl aus einer Bronze- als auch Messingverbindung bestehen, da sowohl bräunlich-rötliche als auch hellgelb Stellen sich auf den Farbaufnahmen von dem Gefäß finden.

16 Nach Auskunft des damaligen Besitzer Frank Kovacs, wurde das Gefäß bereits 1993 von der Fogg Art Gallery der Harvard Universität restauriert.

zentrale Botschaft in Form eines Leitmotivs, die das Thema der Bilder und die sechs lateinischen Inschriften in eine übergeordnete Aussage zusammenbindet, in der Rom und die Circuspartei der Grünen genannt werden.

Das kleinformatige Bronzegefäß ist sowohl durch die gezeigten Darstellungen, der Nennung der Athletennamen als auch durch die begleitenden Kommentare ein eminentes Zeugnis für das Fortbestehen der gymnischen Agonistik in der Spätantike. Mit der Bildserie zu einem Pankration haben wir auf der Kovacs Vase die bislang jüngste Darstellung eines gymnischen Agons vor uns, bei der beide Kämpfer – Sieger und Verlierer – namentlich genannt werden.

Darstellungen 1 bis 3

Sakraler Platz mit sitzender Frauenfigur in langem Gewand, Brandaltar und Baum

Gezeigt wird eine erhöht sitzende Frauenfigur in langem Gewand. Unklar ist, wie der architektonische, gestufte Unterbau zu benennen ist. Es könnte sich um eine sich keilförmig nach oben verbreiternder Treppe, die zur Sitzenden hinaufführt, handeln. Allerdings ist die unterste Stufe höher und schmaler als die anderen angegeben. Die seitlich darüber gezeigten zwei Pflanzen meinen räumlich nicht ein Über- sondern ein Hintereinander. Es handelt sich also eher um die gestufte Architektur eines Podestes, auf dem die Frau im langen Gewand erhöht in einem Sessel sitzt. Die Benennung der Frau, deren dargestelltes Gesicht frontal mit großen Augen charakterisiert wird und deren rechte Hand wie zum Kinn geführt scheint, ist – da Attribute fehlen – nicht eindeutig zu benennen. Vielleicht könnte es sich bei der Handhaltung um eine „Denkgeste" handeln, wofür die frontale Stellung des Gesichtes spräche, aber die Hand könnte auch einen Gewandzipfel halten, was derzeit jedoch nicht zu klären ist, oder aber etwas wird von beiden Händen gehalten, was nicht mehr erkennbar ist.[17] Dunbabin möchte in der Sitzenden Nemesis erkennen und vergleicht sie mit der Darstellung einer Sitzenden auf den Mosaiken aus der Villa in Noheda und in anderen Gattungen.[18] Der Sitzenden im Mosaik fehlen Attribute und in der Ikonographie ist der Handgestus – bei Nemesis wäre es ein Wegziehen des Gewandes vom Körper – weder bei den Darstellungen im Mosaik noch auf der Vase eindeutig erkennbar. Daher muss die Deutung als Nemesis offenbleiben. Aus der Darstellung kann nur gefolgert werden, dass es sich um eine bekleidete und herausgehobene Frauendarstellung handelt, wahrscheinlich um eine Göttin oder Personifikation. Das landschaftliche Ambiente wird durch die Pflanzen und den sich hinter der Sitzenden erhebenden Baum mit weitem Laubdach charakterisiert und durch den Brandaltar als sakral benannt. Eine schlüssige Deutung der erhöht sitzenden Frau steht somit noch aus.

Der Beginn des Kampfes

Gezeigt werden zwei sich aufrecht gegenüberstehende nackte Athleten, von denen der eine bereits in Bedrängnis ist, denn er schützt sein Gesicht mit den Händen, während sein Gegner ihn mit Faustschlägen und Fußtritten – es handelt sich also um einen griechischen Pankration – malträtiert. Zwischen beiden liegt auf dem Boden der Siegespreis: ein Geldbeutel mit der Aufschrift XXV oder XXX. Darüber befindet sich ein stilisierter Palmzweig.

Vor dem Kämpfer namens Privatulus steht OXILICERE / PRIVATVLVS („Bereits 81-mal hat Privatulus gesiegt") und hinter seinem Gegner CINEDE / QVIVIS / ADVC („Weichling, wer du auch seiest, tritt [gegen ihn] an").[19]

17 Neumann 1965, 125–128 („Besorgtes Nachdenken").

18 Dunbabin 2017, 155–159 (mit den Nachweisen); grundlegend: Hornum 1993; Karanastassi – Rausa 1992; Karanastassi 2009.

19 Lesung und Übersetzung: Th. Klein; Dunbabin 2017, 171, Nr. 3–4.

Ende des Kampfes durch Aufgabe des am Boden hockenden Athleten

Vor dem künftigen Sieger kauert auf dem Boden sein Gegner. Dieser hat zum Zeichen seiner Aufgabe einen Finger der rechten Hand hochgestreckt. Über dem Kopf des Siegers steht: INVICTA / SAONA („[Rom] unbesiegt in Ewigkeit“), über dem des Unterlegenen: CADVCVS / EST DALI / MANV („Niedergestreckt wurde er von solch kraftvoller Hand“).[20]

Unterhalb des Stehenden könnte ein weiterer Geldbeutel gelegen haben, was unsicher ist, da es sich auch um eine korrodierte Stelle handeln könnte.

Darstellungen 4 bis 6 mit Inschrift 7

Der Siegreiche Athlet Privatulus mit unterlegenem Gegner

Das Bild des siegreichen Athleten wirkt aus Platzgründen zwischen die beiden anderen Szenen gedrängt (Abb. 2). Es zeigt den frontal dem Betrachter zugewendeten Sieger, der auf dem Fuß des am Boden liegenden Gegners steht und ihn so fixiert, um sein Aufrichten und weitere Gegenwehr zu unterbinden. Nicht nur die Siegerpalme und seine typische Haltung charakterisieren den nackten Privatulus als Sieger, sondern auch der als Sprichwort formulierte Kommentar, der unter dem liegenden Verlierer steht: QVI SIBI FECIT NON PLORET, was so viel heißt wie: „Wer sich selbst ein Leid zugefügt hat, soll [nachher] nicht jammern“.[21]

Der Beginn des Kampfes zwischen Privatulus und Victorinus zur Rechten des Siegerbildes

Die Darstellung des Kampfbeginns zeigt eine typische Situation des Standkampfes, in der ein Kämpfer den anderen von hinten gepackt hält und in die Höhe hebt. Dieser Griff ist sowohl im Ring- als auch im Allkampf geläufig. Es eröffnen sich mehrere Möglichkeiten, den Gegner durch eine als Ausheber bekannte Technik zu werfen und somit in weitere Bedrängnis zu bringen. Von Kampfbeginn an wird hier Dominanz eines Athleten gezeigt. Über dessen Kopf steht: PRIVA/TVLVS, vor dem Gesicht des in Bedrängnis geratenen Kämpfers steht: VICTO/RINVS.

Die Darstellung des siegbringenden Wurfs zur Linken des Siegerbildes

Privatulus wird auch hier durch seinen über ihm stehenden Namen genannt. In der gezeigten Kampfsituation hat er Victorinus an Kopf bzw. Hals und am Hinterteil oder Oberschenkel gepackt und angehoben. Dadurch bestehen für ihn jetzt mehrere Möglichkeiten, seinen Gegner niederzuwerfen. Im Siegerbild hatte er ihn auf den Rücken geworfen und somit besiegt. Der Kampf war aber bereits zu dem hier gezeigten Zeitpunkt gewonnen, das zeigt die über seinen Namen schwebende Preiskrone, die Siegespreis und Attribut zugleich ist.

Die Inschrift über dem Bildfries

Am unteren Halsansatz befindet sich unter einem umlaufenden Ornamentband aus Kreisen mit Punkten die Legende: INVICTA ROMA PRASINE *(Invicta Roma! Prasine!).* Eine ornamental geschwungene Efeuranke füllt mit ihren Blättern den freien Raum zwischen Anfang und Ende der Legende. Die Inschrift steht über den Kämpfenden und steht in keiner Beziehung zur Szene mit der Sitzenden.

20 Th. Klein: „Formelhaft für eis aiona, so Dunbabin 2016, 204, Anm. 130; 277, Anm. 47, statt SAONA, die hierfür die Beischriften des sog. Isaona-Mosaiks von Thysdrus (El Djem) anführt“; Dunbabin 2017, 163–164; 171, Nr. 5, 172, Nr. 6.

21 Lesung und Übersetzung: Th. Klein; Dunbabin 2017, 171, Nr. 2.



Abb. 2. 1 – Szenen auf der Kovács Vase. Privatulus wirft Victorinus zu Boden. (Fotos H. Hotter), 2 – Unter einem Baum sitzt erhöht eine Frauenfigur, neben ihr ein Bandaltar, 3 – Victorinus hockt am Boden und gibt den Kampf auf, vor ihm steht der angreifende Privatulus.

PRASINE bezieht sich auf die Circuspartei der „Grünen".[22] Gegen Ende der Spätantike hörten die lokalen und „oikoumenischen" Vereinigungen der Athleten, Musiker und Schauspieler auf zu bestehen, und die Farben des Circus traten an ihre Stelle.[23] Zwar gibt es Belege für die Circusfarben seit der frühen Kaiserzeit, aber ihre Bedeutung wuchs und wurde mächtiger in der Spätantike, was jedoch keinen konkreten Datierungsanhalt bieten kann. Dies ist bislang nur über die archäologi-

22 Dunbabin 2017, 171, Nr. 1.

23 Cameron 1976, 194–196, 198–201, 214–222.

sche Analyse der Ikonographie und des Stils der Darstellungen sowie der Typologie der Gefäßform verbunden mit der philologischen Analyse möglich.[24] Damit erhalten wir immerhin einen chronologischen Anhaltspunkt. Die Legende besagt, dass der siegreiche Pankratiast Privatulus den Grünen angehörte.[25] Die Übersetzung lautet dann: „Das unbesiegte Rom der Partei der Grünen.“ Es mag erstaunen, dass diese Legende gleichsam die Quintessenz aller Bildszenen und dazugehörigen Erklärungen bildet, nicht die Unbesiegbarkeit des Privatulus ist herausgehoben, sondern die der Stadt Rom wird betont.

Ikonographie, Komposition, Erzählweise, Inschriften und Deutungsversuch

Athletenikonographie, Architektur, Sachwelt und Landschaft

Die fünf Kampfszenen eines Pankration werden durch eine umlaufende Arkadenarchitektur gegliedert, die an den Ort derartiger Kämpfe im Amphitheater erinnert, wobei in jedes Bogenelement zwei Palmzweige als Siegessymbole gestellt sind und Efeu dekorativ teilweise die freien Flächen des Grundes füllt (Abb. 3). Die in freier Landschaft erhöht sitzende Frauenfigur mit Brandaltar und Baum unterscheidet sich räumlich von der Umgebung des Kampfes, obgleich ebenfalls ein Arkadenbogen die Szene nach oben abschließt.

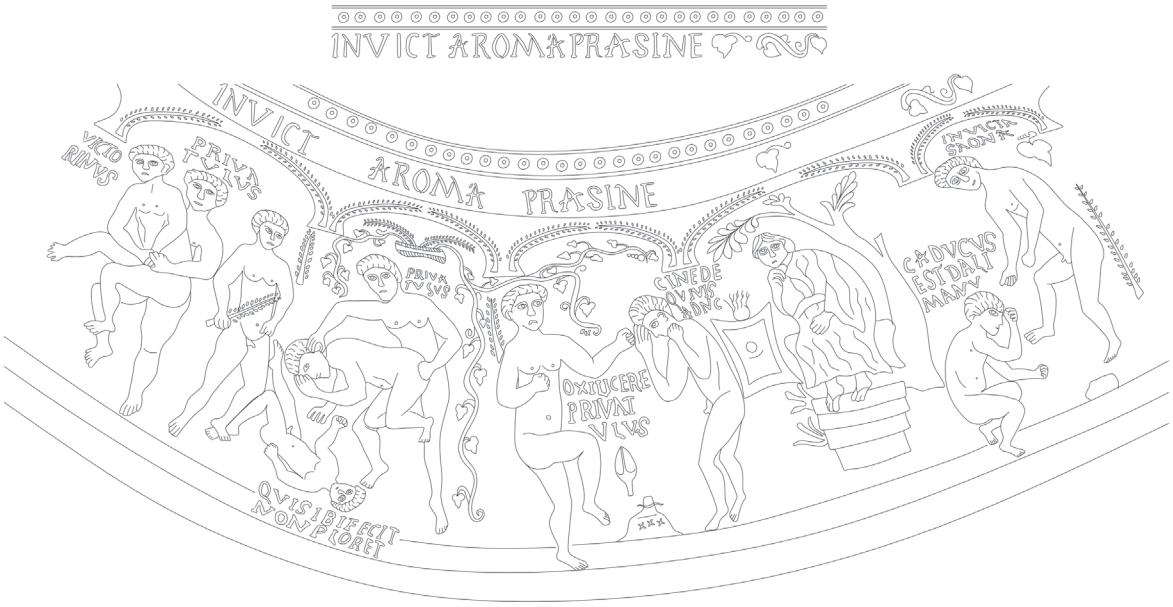


Abb. 3. Umzeichnung der Darstellungen auf der Kovács Vase (Zeichnung Zsóka Varga).

Die Arkadenarchitektur, Palmzweige und Efeuranken bereichern erzählerisch den agonistischen Kontext. Die Palmzweige erhalten eine Erzählfunktion mit vorherrschender Siegessymbolik, wie auch die gleichsam über dem Kopf des Siegers Privatulus schwebende Preiskrone. Der zwischen den Kombattanten liegende Geldbeutel weist als Kampfpreis konkret auf einen thematischen Wettkampf hin.

24 Cameron 1976, 194–196.

25 Th. Klein: „PRASINE wäre also Genitiv oder Dativ mit Ellipse des zugehörigen Substantivs, wobei sich im Endsilben-e von prasine die bereits für das 1. nachchristliche Jahrhundert vereinzelt bezeugte, ab dem 2. Jahrhundert verstärkt auftretende Monophthongierung von klassisch ae > e widerspiegelt. Eine kurze Darstellung des Phänomens bei Stotz 1998, 8. Ohne Kenntnis der lateinischen Morphologie S. Remijsen 2015a, 148, Anm. 81, die in prasine einen Vokativ zu erkennen glaubt.“; Dunbabin 2017, 171, Nr. 1.

Die Wettkampfschemata der Athleten zeigen, dass ältere Vorlagen aus verschiedenen Gattungen und Zeiten Pate gestanden haben. Sie wurden zwar der zweidimensionalen und kleinformatigen Komposition angepasst, doch bleiben sie erkennbar ihren älteren agonistischen Vorbilder aus verschiedenen Gattungen der griechischen Kunst, vor allem des Hellenismus, aber auch aus der römischen Kaiserzeit verbunden.[26] Die Darstellungen der Bildserie können die künstlerische Kontinuität der griechisch-römischen Ikonographie für gymnische Athleten bis in die Spätantike zeigen, was bei den Darstellungen der nackten Pankratiasten deutlich wird.[27] Es finden sich auf dem Gefäß schematische, fast uniforme Schilderungen von Athleten mit walzenfömigen Körpern, gleichförmigen Frisuren und Gesichtern, die durch ihre beherrschenden Augenpartien akzentuiert werden. Personalisiert werden die Kämpfer erst durch die Bewegungsmotive und die beigefügten Namen. Möglicherweise ist dies ein Hinweis auf eine serielle Fertigung entsprechender Gefäße, deren je nach Anlaß hinzugefügte Beischriften sie zu einem historischen Zeugnis werden lassen. Bislang nicht näher benannt werden kann die pagane Darstellung mit sitzender Frau und brennendem Opferaltar.

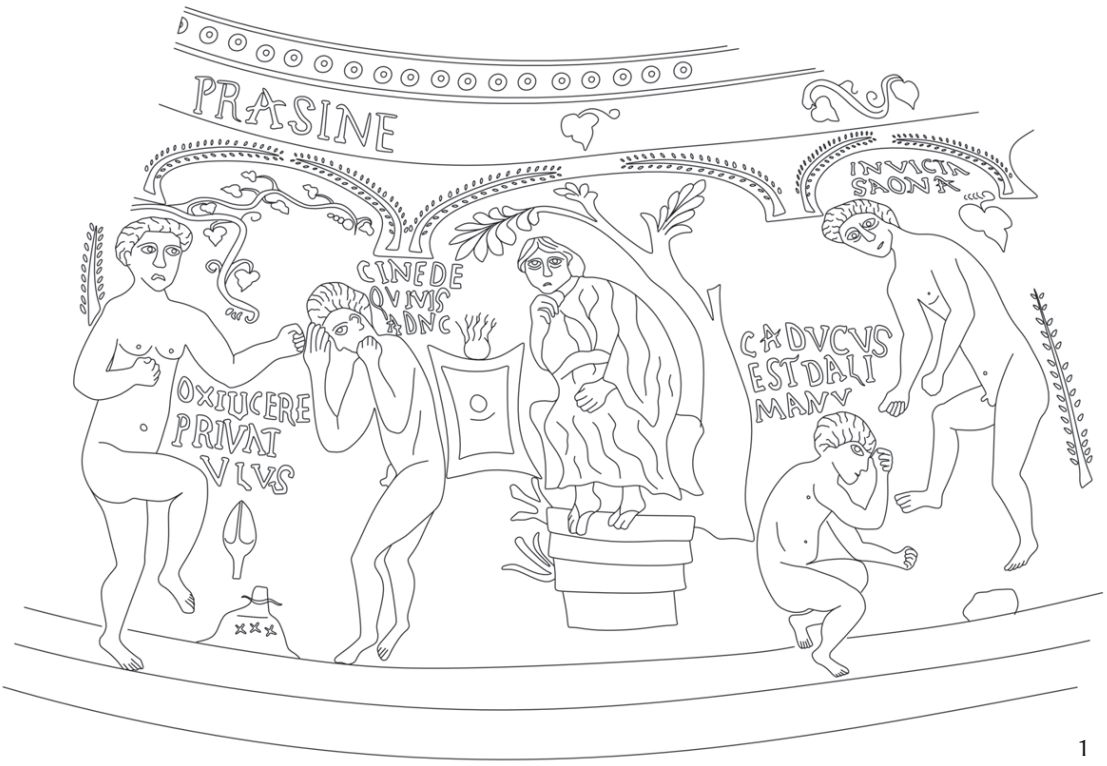
Komposition und Erzählweise

Der Bildfolge auf dem Gefäß zeigt mehrere, zeitlich aufeinanderfolgende Phasen eines gymnischen Agons. Der Kampf zweier Athleten wird in fünf Bildern geschildert (Abb. 1–3). Dabei handelt es sich zunächst um Szenen aus einem Pankration zwischen den späteren Sieger Privatulus und seinem Gegner Victorinus. Dieses agonale Thema wird durch die zum jeweiligen Bild beigeschriebenen Namensnennungen und Kommentierungen narrativ bereichert und ihre direkte Verbindung mit den Szenen führt zu einer inhaltlichen Steigerung. Das gleichsam geschlossen wirkende Kampfgeschehen und die einheitliche agonale Thematik wird lediglich durch die herausgehobene Darstellung der sitzenden Frauenfigur mit Brandaltar unterbrochen. Die Benennung der in einem pagan-sakralen Ambiente erhöht sitzende Figur wäre für die Frage nach dem Anlass des Agons zwar von zentraler Bedeutung, aber bislang konnte sie nicht überzeugend benannt werden. Kompositorisch wird sie jedoch hier als ein sakrales Mittelbild gezeigt, das von Bildern des Kampfbeginns und vom Sieg des Privatulus über Victorinus flankiert wird. Kampfbeginn und Sieg bilden die entscheidenden Situationen jedes gymnischen Agons und verbunden mit der Frauenfigur in der sakral-paganen Szene zeigen die drei Bilder somit eine hierarchische Dreiteilung, vergleichbar einem Triptychon (Abb. 4.1). Durch diese Kompositionsform entsteht inhaltlich eine neue Erzählebene, die der Darstellung mehr Tiefe verleiht. Daneben wird eine weitere dreigeteilte Komposition gezeigt, die allerdings eine rein agonistischen Sphäre zeigt. Privatulus steht als siegreicher Athlet mit Palmenzweig im Zentrum, zu seiner Linken ist der Beginn des Pankration zu sehen, in dem er Victorinus aushebt und in der Szene zu seiner Rechten wirft er seinen Gegner zu Boden und besiegt ihn somit (Abb. 4.2).

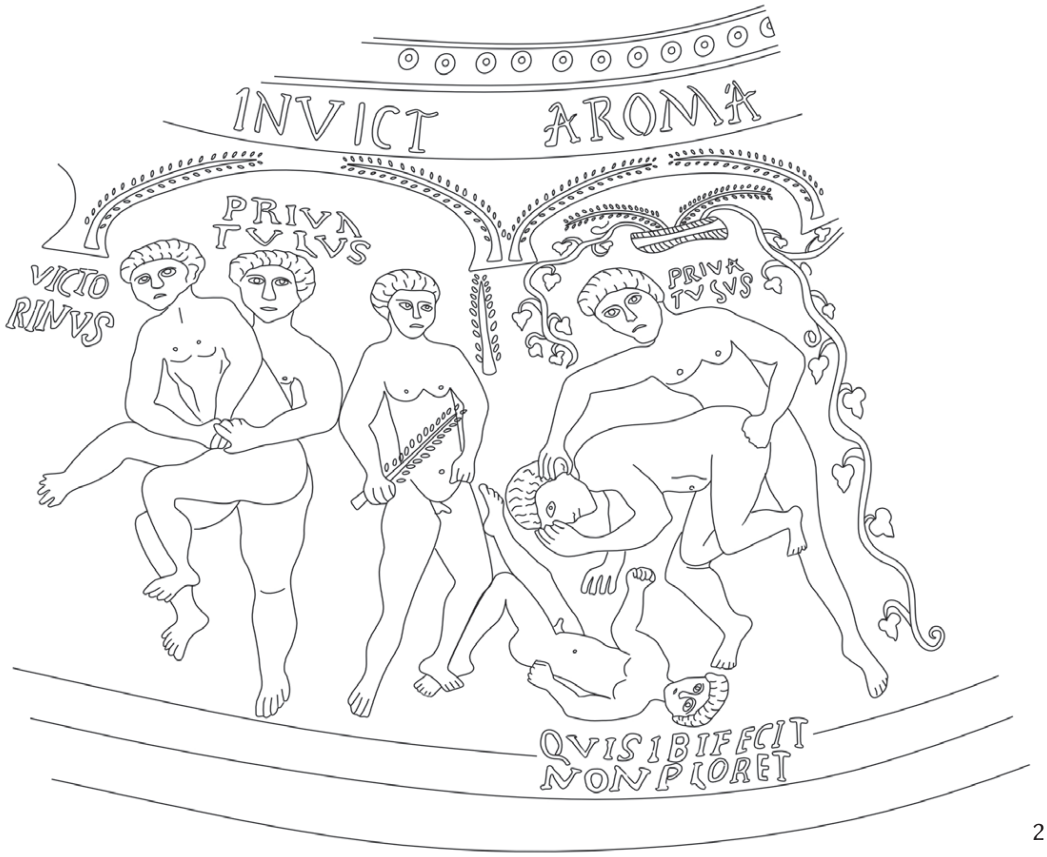
Der kompositorische Aufbau in zwei je dreigeteilte und aufeinander bezogene Bilder und nicht in eine zeitlich sukzessive Handlungsabfolge, bedeutet zwei kompositorische Akzentsetzungen, die inhaltlich verdichten und bereichern: Beide zentralen Darstellungen – der Sieger Privatulus und die sitzende Frauenfigur – werden durch sie flankierenden agonalen Szenen erweitert und ergänzt. Dies ist ein Hinweis darauf, dass der Bildfries zunächst auf einen spezifisch agonalen Kontext hin konzipiert wurde, in dem der siegreiche Athlet Privatulus und die Frauenfigur (Göttin oder Personi-

26 Zu den griechischen Athleten in der römischen Zeit bis Spätantike (400 n. Chr.), d. h. den Teilnehmern an agonistischen Festen in Italien und im östlichen Mittelmeerraum, s. Gouw 2009. Die Analyse der Ikonographie der Athleten, die ältere griechische und römische Vorlagen zum Vorbild haben, wird nicht vertieft, da sie für die hier im Mittelpunkt stehende Frage der Datierung wenig beitragen können. In der Endpublikation werden sie ausführlich behandelt werden.

27 Wie die Auswertung des Codex Iustinianus zum gymnische Agon durch A. Gutsfeld zeigte, wurde Pankration noch in justinianischer Zeit ausgeübt, Gutsfeld 2013, 168–172.



1



2

Abb. 4. 1 – Detail A nach der Zeichnung: Zentrale Frauenfigur, die von Szenen des Allkampfes (Beginn des Kampfes zwischen Privatulus und Victorinus und siegreiches Ende des Agons für Privatulus) flankiert wird, 2 – Detail B nach der Zeichnung: In der Mitte steht Privatulus mit Siegerpalme. Flankiert wird er von Szenen, die den Beginn seines Kampfes gegen Victorinus und seinen siegbringenden Niederwurfs des Gegners zeigen.

fikation?) bildlich gegenübergestellt werden. Möglich das sie als Vorder- und Rückseitendarstellungen für ein Gefäß mit Henkeln konzipiert waren. Doch ohne Kenntnis des konkreten Zusammenhanges von Sakralszene und gymnischen Agon wird der Betrachter die Bildanordnung und -folge als historische Schilderung eines Kampfes namentlich bekannter Athleten an einem bestimmten Ort zu einem konkreten Anlaß – trotz der Beischriften – kaum verstehen können.

Inschriften und Deutungsansätze

Die namentliche Nennung beider Athleten – Sieger wie Verlierer – sowie die begleitenden Legenden heben die Kovacs Vase aus den üblichen agonistischen Darstellungen heraus.

Durch die am unteren Halsansatz befindliche Legende INVICTA ROMA PRASINE, die sich nur auf die Circuspartei der Grünen in Rom beziehen kann, wird sie zu einem historischen Zeugnis. Denn hier haben wir einen Beleg dafür, dass unter den Farben der Circusparteien auch gymnische Athleten zum Wettkampf antraten. Dass gymnische Agone in den Circusparteien *(factiones)* eine späte Heimstatt fanden und im Zusammenhang mit den Pferderennen weiter durchgeführt wurden, ist zwar schriftlich überliefert, hierbei handelt es sich eher um ein bislang einzigartiges archäologisches Bildzeugnis mit kommentierenden Inschriften.[28] Der Hinweis auf die grüne *factio* verweist im Zusammenhang mit der Darstellung eines Pankration nackter Athleten auf ihre Verbindung hin, allerdings ergibt sich hieraus kein datierender Anhaltspunkt.

In den fünf Szenen sehen wir also den Erfolg des Allkämpfers Privatulus, der durch die beigegebenen Legenden als siegreicher Athlet charakterisiert wird, wenn die Lesung von OXI als 81 zutrifft. Von seinem Gegner Victorinus, wohl ein sprechender Name, wäre aufgrund seines Namens der Sieg zu erwarten gewesen. Die diminutivische Namensform, Privatulus, erweckt zunächst den Eindruck eines unerfahrenen Athleten. Die Darstellungsweise und Beischriften zeigen jedoch, daß es sich bei ihm um einen kampferfahrenen und siegreichen Athleten der Circuspartei der Grünen handelt. Die Legenden enthalten außer den Namen der Kämpfer, wobei bemerkenswert ist, dass auch der Verlierer namentlich genannt wird, vor allem bewertende Kommentare zur Kampfsituation. Sie sind ohne oder mit fehlerhaften Worttrennungen geschrieben und in einem vulgärsprachlich gefärbten Latein auf der Stufe des Protoromanischen in knappster Syntax formuliert, so dass ihr Verständnis durchaus Probleme bereitet und einiger Kommentierung bedarf, die wir Thomas Klein verdanken.

Die Datierung der Kovacs Vase in die erste Hälfte des 6. Jahrhundert ist vor allem deshalb von großer Aussagekraft, weil epigraphische und archäologische Zeugnisse zu den gymnischen Agonen seit dem 5. Jahrhundert nur noch selten erhalten und zumeist umstritten sind.[29] Im Westen finden sich spätantike Darstellungen gymnischer Agone ohnehin seltener, wobei Rom hierbei bis zum ausgehenden 4. Jahrhundert eine Ausnahme bildet. Da seit dem 5. Jahrhundert bislang Bildzeugnisse zu fehlen scheinen, obwohl gymnische Agone den Schriftquellen nach noch stattfanden, liegen Anlässe und Umstände, wie auch ein belegbares Ende der gymnischen Agone archäologisch im Dunkeln.[30] Dieser historisch-archäologische Hintergrund macht die Kovacs Vase mit ihren ago-

28 In der Epigraphik-Datenbank Clauss/Slaby finden sich für den Zeitraum von „400“ bis „600“ unter dem Material „aes“ keine direkt vergleichbaren Inschriften, doch steht eine eingehende epigraphische Untersuchung noch aus.

29 Vgl. Gutsfeld – Lehmann 2013.

30 Die Gruppe der überlieferten Konsulardiptychen, die auf die Jahre von 406 bis 541 datiert werden, wären ebenfalls für die Datierung der Darstellungen und Inschriften heranzuziehen, vgl. Volbach 1976. Die Konsuln werden in Festkleidung und manchmal bei der Eröffnung von Zirkusspielen dargestellt und unterhalb des Throns finden sich Szenen aus dem Zirkus. Hinzukommen lateinische Legenden. Hier wäre zu prüfen, ob sie für vor allem für die Beurteilung der Inschriften auf der Kovacs Vase weiterhelfen könnten. Zu Diptychen für Datierungen anderer spätantiker Bildzeugnisse, s. Lehmann 1990.

nalen Darstellungen und Inschriften zu einem aussagekräftigen Zeugnis für die griechische Agonistik in der Spätantike.

Typologische und stilistische Beobachtungen zur Gefäßform[31]

Hinsichtlich seiner Form und Proportionen weist die Kovacs Vase eine bedeutende Entfernung nicht nur von den Typen der Silber- und Buntmetallgefäße der römischen Kaiserzeit, sondern in gewissem Sinne auch von denen aus der 1. Hälfte des 5. Jahrhunderts auf. Auch wenn es sich um ein Buntmetall-Objekt handelt, sollten wir die Veränderungen bei den spätantiken Silbergefäßen im Auge behalten, denn sie zeigen die formale und stilistische Richtungen der Transformation. Die typologischen und stilistischen Veränderungen sind allerdings nicht derart weit fortgeschritten, dass man die Kovacs Vase nicht mehr in den komplizierten Prozess der Entwicklung der spätantik–frühbyzantinischen Metallgefässkunst und Toreutik einordnen könnte.[32] Die bestimmenden formalen Elemente des Kruges sind ein schlanker, langer Hals mit einem breiten Querwulst an der engsten Stelle, um deren Lippenrand eine Wulst läuft sowie ein bauchiger Gefäßkörper. Der heute fehlende Fuß war abgesetzt, und die bisherigen Beobachtungen deuten nicht darauf hin, dass das Gefäß Henkel gehabt haben könnte. Die Kovacs Vase scheint zwei formale Traditionen der spätrömischen Toreutik zu vereinen, denn der Hals ist lang, schlank und rank, sein Körper hingegen bauchig gewölbt. Diese beiden prägenden Formelemente stehen stilistisch im Widerspruch zueinander und konnten daher erst nach dem Verlust bzw. der Auflösung der klassischen Proportionen zusammen auftreten.

Typologische Beziehungen zu Silber- und Buntmetallgefäßen des 4.-5. Jahrhunderts

Unter den Vorläufern der Form der Kovacs Vase in die zweite Hälfte des 4. Jahrhunderts finden sich unter den Gefäßen welche, die einen ähnlich schlanken, langen Hals und einen ebenso bauchigen Gefäßkörper aufweisen. Als Analogie zu den langhalsigen, bauchigen Gefäßen des 4. Jahrhunderts muß die Silberkanne mit Pflanzenfries aus dem Schatz von Water Newton (England)[33] genannt werden, bei der man schon die späteren Formveränderungen beobachten kann. Als formale Analogie können wir auch, wie bereits bei K. Dunbabin zitiert, die kleine Silberflasche mit der frühchristlichen Inschrift und dem Monogramm von Chi-Rho auf der Schulter des Schatzes von Traprain Law in Scotland (X.GVA 2) erwähnen, der in der ersten Hälfte des 5. Jahrhunderts vergraben wurde.[34] Eine qualitätsvolle bauchige Vase in der Antikensammlung Berlin mit langen Hals ohne Nodus, deren Oberfläche reich mit Jagdszenen und Silbereinlagen in tiefen Furchen verziert ist, wurde in Norditalien herrgestellt.[35] Hierbei lässt sich also feststellen, dass in spätantiker Zeit auf Bronze- oder Messing-Gefäßen ebenso wie auf Silbergefäßen ein Bestreben nach Polychromie zu beobachten ist (Abb. 5.1).

Von ähnlicher Form ist der Krug in der Antikensammlung Berlin mit Musenreliefs, der im späten 17. Jahrhundert in Rom erworben wurde und nach neueren Arbeiten in das 5. Jh. datiert wird.[36] Im Vergleich zu der Kovacs Vase zeigen der lange Hals, die stark ausbiegende Mündung und die kräftige Ausbuchtung der Vase gewisse Ähnlichkeiten (Abb. 5.2). Die Berliner Musen-Vase und die Kovacs Vase sind auch dadurch miteinander verbunden, dass ihre figürlichen Szenen unter Arkaden

31 Seine typologische Untersuchung zur Gefäßform hat T. Vida in Budapest erstmals vorgetragen und zur Diskussion gestellt.

32 Vida 2016, 24–26; Vida 2017, 45–66.

33 Painter 1977, 12f, Nr. 5, 31. Abb. 5.

34 Curle 1923, Pl. 6; Kaufmann-Heinimann 2013, 247–248, Fig. 15.6; Dunbabin 2017, 159–160, Fig. 15.

35 Minto 1935, 127–135; Weitzmann 1979, 86–87, Nr. 76; Vida 2017, 155–156, Abb. 97.

36 Greifenhagen 1961, 3–6.



Abb. 5. 1 – Vase mit langen Hals ohne Nodus reich mit Jagdszenen und Silbereinlagen verziert, Antikensammlung Berlin, 4. Jh. n. Chr., Norditalien (nach Vida 2017, 155–156, Abb. 97), 2 – Krug mit Musenreliefs, Antikensammlung Berlin, 4. Jh. n. Chr., aus Rom (nach Greifenhagen 1961, 3–6), 3 – Blechkanne aus Buntmetall, 8. Jh. n. Chr, Samos (nach Buschor 1944, 4–10), 4 – Krug mit hochgezogenem Henkel, 7. Jh. n. Chr., Kölked-Feketekapu „B", Grab 173, Ungarn (Kiss 2001, 153, Taf. 135).

erscheinen. Ihr wesentlicher Unterschied zeigt sich jedoch darin, dass die Kanne mit den Musenreliefs noch die klassischen Proportionen und ’Eleganz’ der Antike bewahrt hat, was man von der Kovacs Vase kaum sagen kann. Die spätrömische Formtradition zeigt sich auch am Hals der Kovacs Vase durch die umlaufende, breite Wulst am Lippenrand der Mündung, die im 4. Jahrhundert öfters bei Kannen und Krügen erscheint, später jedoch seltener, da die sich verengende und spitz zulaufende, trichterförmige Mündung der Gefäße immer häufiger wird.[37]

Bruch mit ’klassischen’ Formtraditionen und Proportionen (5.-6. Jh.)

Wegen der deutlichen Auflösung der klassischen Proportionen gehören die Silberkannen von Tăuteni (Rumänien)[38] schon zu einem neuen typologischen und stilistischen Horizont. Die ungewöhnlich großen und bauchigen Vasen aus Tăuteni mit zerfallenen Proportionen und ohne Nodus (H.: 42 und 64,3 cm) zeigen die Entfernung von den spätrömischen Formtraditionen in der Toreutik des 4. Jhs. und werden in das 5. Jahrhundert datiert.[39]

Die auffälligsten formale und stilistische Veränderungen in der spätantiken, west- und oströmischen Toreutik erscheinen an zahlreichen Objekten des 6. Jahrhunderts. Eine im Metropolitan Museum in New York befindliche und vermutlich in Konstantinopel hergestellte Silbervase ist im Grunde eine weiterentwickelte Variante des *Strongs’chen Typs „a“* aus dem 4. Jh.[40] Die außerordentlich schlanke und hohe (H: 31,5 cm), schmalhalsige Kanne führt erneut Formelemente des 5. Jahrhunderts weiter, denn sie bewahrt zwar den langen, schlanken Hals mit Nodus, aber weist aber nicht deren klassische Proportionen auf, indem der Bauch zu breit sich auswölbt und die Beine ungewöhnlich hoch sind.[41]

Im oströmischen Reich finden sich bereits im 6. Jahrhundert schon Silberkrüge und -kannen, die vollständig mit den antiken Formtraditionen gebrochen haben und wenn sich auf ihnen keine kaiserliche Kontrollstempel finden würden, wären sie nur sehr schwer zu datieren. Zu diesem Typ gehören zwei Krüge des Riha-Schatzes (Syrien, 582–602 n. Chr.)[42] und der Krug mit Schulter und Bauch aus dem syrischen Homs (dem antiken Emesa), die ans Ende des 6. oder an den Anfang des 7. Jahrunderts zu datieren sind.[43] Der Henkelkrug aus Silber des Schatzes von Hama[44] (Syrien) weist einem langen Hals und kräftigen Schulter auf und ist durch die Datierung des Fundkomplexes in die Mitte des 6. Jahrhunderts zu datieren.

Ähnliche Merkmale der Formveränderungen lassen sich im 6. und 7. Jahrhundert bei den aus plattierten Blech gefertigten und gegossenen Buntmetallkannen und -krügen beobachten, die die unikale und besondere Form der Kovács-Vase zu verstehen helfen.[45] Eine Kanne aus der antiken Salona (heute Solin in Kroatien) mit ihren langen und breiten Hals mit Nodus und bauchigen Körper und kräftiger Schulter steht der Kovacs Vase am nahesten[46] (Abb. 6.4).

37 Vida 2017, 64–65, Abb. 36.

38 Dumitraşcu 1973, 29–49, Abb. 11–13.

39 Vida 2017, 52–53, Abb. 29.

40 Mundell Mango 1986, 257–258, Nr. 86.

41 Mundell Mango 1986, 257–258; Ein aus Syrien stammende Krug in Cleveland (H: 40 cm) ist eine Modifizierung des *Strong’schen Typs „c“* aus dem 4. Jh.; Weitzmann 1979, 153–154, Nr. 131.

42 Bewahrt sind in Abegg-Stiftung, Bern. Mundell Mango 1986, 175–179, Nr. 37–38.

43 Mundell Mango 1986, 255, Nr. 84.

44 Mundell Mango 1986, 104–107, Nr. 14.

45 Carretta 1982; Castoldi 1989, 43–44, 61–81; Vida 2016, 24–26; Vida 2017, 58–65; Beghelli – Pinar Gil 2019, 413–442, Fig. 4.2,3,5; Drandaki 2020, 103–120; Werz 2005, 19–24.

46 Werner 1954/1957, 115–125, Taf. 8.

Spätantike Gefäße waren meist mit einem Henkel versehen, der entweder über den Rand hinausragte oder bündig mit dem Rand abschloss und geschwungen bis zum Bauch der Kanne verlief. Der Rand des langen Halses einer Kanne aus „Spanien" ist durch einen gebogenen Henkel mit dem Bauchkörper verbunden[47] (Abb. 6.3), während bei der Kanne aus dem Grab 17 in Nocera Umbra (Italien) die ähnliche Form der Henkel aber über den Rand hinausragt und sich zum Bauch zurückbiegt[48] (Abb. 6.1). Es ist bemerkenswert, dass diese drei Buntmetallkannen ein Nodus oder Nodus-Imitation haben und sie können auch zeigen, wie der Fuß der Kovács-Vase im 6. Jahrhundert ausgesehen haben könnte. Im 7. Jahrhundert waren bauchige Krüge, die langhalsig sind und eine ausgeprägte Schulterzone aufweisen bereits weit verbreitet, wie der Krug mit hochgezogenem Henkel aus dem Grab 173 des Kölked-Feketekapu B Gräberfeld (Ungarn) zeigt[49] (Abb. 5.4). Ein bauchiger Messingkrug mit deutlichen Schultern von der Insel Samos mit Herkulesdarstellung setzte Ernst Buschor ins 8. und Josef Engemann eher ins 7. Jahrhundert[50] (Abb. 5.3). Die aufgeführten formale und stilistischen Analogien zu der Kovacs Vase zeigen, dass die Vase eher im westlichen Mittelmeerraum, genauer gesagt in Italien, hergestellt worden sein könnte.

Zusammenfassung und Ausblick

Über die Kovacs Vase, deren Herkunft ebenso unbekannt ist, wie sein derzeitiger Besitzer, wissen wir immerhin, dass sie im Jahr 1996 in München erstmals wissenschaftlich bekanntgemacht wurde. Erst 2013 wurden historisch-philologische und archäologische Untersuchungen zu dem bis heute exeptionellen Metallgefäß vorgelgt. Für die Bildszenen aus dem griechischen Pankration, denen lateinische Legenden beigefügt sind, wurde eine Datierung in die erste Hälfte des 6. Jahrhunderts vorgeschlagen. Die darauf folgende Diskussion galt vor allem der Interpretation der lateinischen Legenden und der Datierung des nur 26 cm hohen Metallgefäßes und weniger den Bildszenen, wobei nun eine abweichende Datierung der Kovacs Vase um 400 n. Chr. vorgeschlagen wurde. Bislang sind wichtige archäologische, paläographische und historische Fragen weder eingehend untersucht noch begründet beantwortet worden. Dies betrifft vor allem die Darstellung und Interpretation der Kampfszenen aus dem griechischen Pankration zwischern den bislang namentlich unbekannten Athleten Privatulus und Victorinus sowie der Kommentierung und Interpretation der Beischriften und auch der typologischen Untersuchung zur Gefäßform mit daraus resultierender Datierung.

Die Abfolge der Kampfszenen auf dem Gefäß wird in fünf zeitlich aufeinanderfolgenden Bildern des Zweikampfes zwischen den späteren Sieger Privatulus und seinem Gegner Victorinus gezeigt. Durch die beigeschriebenen Namensnennungen und Kommentare wird das Verständnis der bildlichen Darstellungen bereichert und vertieft. Unterbrochen werden die Kampfszenen lediglich durch ein Bildszene mit einer prominent in einer Landschaft neben einem Brandaltar sitzenden Frau. Die Benennung der in dem pagan-sakralen Ambiente sitzenden Frauenfigur gelang bislang nicht überzeugend, doch dürfte es sich um eine Göttin oder Personifikation handeln. Da sie von Bildern flankiert wird, die Anfangs und Endes des Kampfes zwischen Privatulus und Victorinus zeigen, also den entscheidenden Situationen in einem gymnischen Agon, liegt hier eine hierarchische Dreiteilung vor. Vergleichbar einem Triptychon erfährt somit das Mittelbild eine größer Bedeutung. Eine weitere kompositorische Dreiteilung der Bildszenen zeigen den Sieger Privatulus im Zentrum. Gerahmt wird er von Szenen, die ebenfalls den Kampfbeginns sowie das Ende des Kampfes gegen Victorinus durch eine siegbringende Wurftechnik zeigen. Der Sieger Privatulus und die sitzende Frauenfigur sind somit die zentralen Figuren in einer gymnisch-agonalen Sphäre. Doch ohne

47 de Palol 1950, Taf. 19.

48 Carretta 1982, Tav. 8.3

49 Kölked-Feketekapu B, Grab 173: Kiss 2001, 153, Taf. 135; Vida 2016, 75–76; Vida 2017, 62–65, 170–171.

50 Buschor 1944, 4–10; Engemann 1984, 127–129.



Abb. 6. 1 – Buntmetallkannen aus dem 7. Jh. n. Chr.: Kanne mit langem Hals und Henkel, Nocera Umbra (Carretta 1982, Tav. 8.3), 2,4 – Zwei Kanne mit langen Hals, Nodus und bauchigen Körper, 6.-7. Jh. n. Chr., Salona/Solin in Kroatien (nach Werner 1954/1957, Taf. 8), 3 – Kanne mit langem Hals und gebogenen Henkel, 6. Jh. n. Chr., „Spanien“ (de Palol 1950, Taf. 19).

historische Kenntnis des inhaltlichen Zusammenhangs von Sakralszene und gymnischen Agon kann der moderne Betrachter den Anlaß des Kampfes der zwar namentlich genannter Athleten an einem bestimmten, aber unbekannten Ort trotz begleitender Legenden nicht identifizieren.

Erst durch die am Halsansatz befindliche Legende INVICTA ROMA PRASINE, die sich nur auf die Circuspartei der Grünen in Rom beziehen kann, wird sie zu einem konkreten historischen Zeugnis. Es handelt sich zweifellos um einen Beleg dafür, dass unter den Farben der Circusparteien *(factiones)* auch gymnische Athleten zum Wettkampf im Pankration antraten. Dies wird zwar für die gymnischen Agone schriftlich überliefert, doch haben wir hier ein bislang einzigartiges archäologisches Bildzeugnis mit Beischriften auf einem Metallgefäß erhalten, wobei sich hieraus zunächst kein datierender Anhaltspunkt ergibt.

Der erfolgreiche Agon statt Kampf des Allkämpfers Privatulus wird in fünf Szenen geschildert, wobei die den Bildern beigegebenen Legenden den Kampf und die Athleten näher charkterisieren. Seine diminutivische Namensform erweckt zunächst den Eindruck eines unerfahrenen Athleten. Doch steht hierzu die Darstellung des Privatulus im Kontrast und auch die Beischriften weisen darauf hin, daß es sich bei diesem historischen Schwerathleten, es sich um einen kampferfahrenen, siegreichen Allkämpfer der Circuspartei der Grünen gehandelt haben muß. Ausnahmsweise wird hier auch der Verlierer Victorinus (!) namentlich aufgeführt, möglicherweise ebenfalls ein erfolgreicher Kämpfer, über den zu siegen für Privatulus eine herausragende Leistung bedeutet haben mag. Die Inschriften sind in einem vulgärsprachlich gefärbten Latein auf der Stufe des Protoromanischen formuliert und ihr Verständnis bereitet durchaus Probleme.[51]

Der Überblick und Vergleich der Formen der Silber- und Buntmetallkrüge und Vasen aus dem 4. bis 8. Jahrhundert zeigen, dass in der Toreutik dieser Periode teilweise noch die seit dem 4. Jahrhundert zu verfolgenden Form- und Motivtraditionen vorhanden sind, aber auch schon neue Formen und Zierelemente aufkommen, die sich erheblich von den spätrömischen Grundlagen entfernen. Das Vorhandensein der klassischen Form- und Motivelemente an der Kovacs Vase entspricht den klassizistischen Vorstellungen der Hersteller des 6. Jahrhunderts. Die neuen Elemente wiederum deuten auf innovative und selbstständige Wege der Entwicklung hin. Die Kovacs Vase steht somit formal in der spätrömischen Tradition und durch ihre veränderten Proportionen als auch durch ihre neuen Formmerkmale (überlange Hals mit Nodus, bauchiger Körper mit Schulter) fügt sie sich in die klassizistischen Tendenzen des 6. Jahrhunderts ein. Tatsächlich handelt es sich um eine Zwischenform, die die Richtung der Entwicklung und Veränderung hin zu den Bronzegefäßen des 7. Jahrhunderts zeigt. Eine Werkstatt könnte man sich in Norditalien vorstellen.

Die Nennung Roms sowie die lateinischen Legenden machen tatsächlich eine Lokalisierung im Westen des römischen Bereichs wahrscheinlich. Hier kommt wohl Italien in Frage, denn im 6. Jahrhundert boten sich dort am ehesten die Voraussetzungen für ein Weiterleben von Schauspiel und Agonistik zur Unterhaltung der Öffentlichkeit im Rahmen der *ludi circenses* – zumindest bis zum Beginn der Langobardenherrschaft im Jahr 568.

Die so begründete Datierung der Kovacs Vase in die erste Hälfte des 6. Jahrhundert ist vor allem deshalb aussagekräftig, weil epigraphische und archäologische Zeugnisse zu den gymnischen Agonen seit dem 5. Jahrhundert nur noch selten erhalten und zumeist umstritten sind. Im Westen finden sich spätantike Darstellungen gymnischer Agone ohnehin seltener, wobei Rom hierbei bis zum ausgehenden 4. Jahrhundert eine Ausnahme bildet. Da seit dem 5. Jahrhundert bislang Bildzeugnisse zu fehlen scheinen, obwohl den Schriftquellen nach gymnische Agone noch stattfanden,

51 Weshalb wir für seine Kommentierung und Datierung Thomas Klein (Universität Halle-Wittenberg) sehr zu Dank verpflichtet sind.

liegen Anlässe, Veränderungen sowie Umstände ebenso wie ihr Ende archäologisch im Dunkeln.[52] Vor diesem historisch-archäologische Hintergrund ist die Kovacs Vase mit ihren Darstellungen und Inschriften ein bislang einzigartiges Zeugnis für die griechische Agonistik in der Spätantike.

Aufgrund unserer Untersuchungen dürfte die Bronzevase in der ersten Hälfte des 6. Jahrhunderts in Italien wahrscheinlich in Rom unter ostgotischer oder byzantinischer Herrschaft entstanden sein. Sie bietet derzeit die jüngste Darstellung nackter Athleten in einer griechischen Kampfdisziplin. Die Funktion der Kovacs Vase – etwa als Siegespreis – dürfte durch einen öffentlichen Auftraggeber bestimmt sein, denn das INVICTA ROMA PRASINE weist nicht in den privaten Bereich, aber auch hierzu ist die archäologische Diskussion noch nicht abgeschlossen.

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52 Gutsfeld 2013; Gutsfeld – Lehmann 2013; Lehmann 2013.

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The ‘Kovacs Vase’: An Archaeological Interim Report

Summary and outlook

We only know so much that the Kovacs Vase, whose origin is unknown, as is its current owner, was first brought to the attention of the scientific community in Munich in 1996. The historical, philological and archaeological examination of this magnificent, exceptional metal vessel was first undertaken in 2013. A date in the earlier sixth century is here proposed for the scenes from the Greek Pankration accompanied by Latin inscriptions. The discussion below focuses mainly on the interpretation of the Latin inscriptions and the dating of the metal vessel, no more than 26 cm high, rather than on its imagery: instead of the currently accepted date of around AD 400, a new dating is here proposed for the Kovacs Vase. To date, neither important archaeological, palaeographical and historical questions have been addressed, nor have these been reliably answered. This is principally true of the depiction and interpretation of the combat scenes of the Greek Pankration between two athletes, Privatulus and Victorinus, whose names are not attested elsewhere, as well as of the scrutiny and interpretation of the accompanying inscriptions and of the typological study of the vessel form and its implications for dating.

The sequence of combat scenes on the vessel is shown in five successive images evoking the duel between Privatulus, the eventual victor, and Victorinus, his opponent. The inscribed names and comments enrich and deepen our understanding of the portrayed event. The combat scenes are interrupted only by a scene showing the prominent figure of a seated woman beside a fire altar set in a landscape. The identity of the female figure sitting in the pagan-sacral milieu remains uncertain, although she is in all likelihood a goddess or a personification. Since she is flanked by the scenes showing the beginning and the end of the combat between Privatulus and Victorinus, i.e. the most decisive events in a *gymnikos agon*, it can be seen as a hierarchical tripartition, and much like in the case of a triptych, the central imagery thus acquires greater significance.

Another compositional tripartition of the pictorial scenes shows the victor Privatulus in the centre. He is framed by scenes that also show the beginning as well as the end of his athletic duel with Victorinus which he won using a winning fighting technique. The victorious Privatulus and the seated female figure are thus the central figures in the *gymnikos agon* setting. However, without a knowledge of the historical context and connection between the sacred scene and the athletic combat, the modern viewer cannot pinpoint the occasion of the combat between the athletes, even though they are named, to a specific, but unknown location, despite the accompanying legends.

The legend INVICTA ROMA PRASINE on the base of the neck is an obvious reference to the Circus Party of the Greens in Rome, providing a concrete historical testimony, unmistakably indicating that the athletes also competed in the Pankration under the colours of the Circus parties (*factiones*). Although there are written accounts of athletic *agon*s, what we have here is a hitherto unique visual testimony with inscriptions on a metal vessel, even if it does not initially provide any clues for dating.

The successful fight of the all-rounder Privatulus is depicted in five scenes, with the inscriptions accompanying the imagery characterising the duel and the athletes in greater detail. Privatulus's diminutive name initially gives the impression of an inexperienced athlete. However, the depiction of Privatulus stands in stark contrast to this and the inscriptions also suggest that this heavy athlete must have been an experienced, victorious all-rounder of the Circus Party of the Greens. Quite exceptionally, the loser Victorinus (!) is also mentioned by name, possibly because he was also a successful fighter, over whom victory may have meant an outstanding achievement for Privatulus. The inscriptions are in vulgar Latin on the level of Proto-Roman and their comprehension certainly poses problems. The overview and comparison of the forms of silver and copper-alloy metal jugs and vases from the fourth to the eighth century show that while the traditional forms and motifs that were used from the fourth century onward are still attested to some extent in metalwork, new forms and decorative elements also appeared that departed considerably from the late Roman models. The classical form and certain motifs on the Kovacs Vase correspond to the classicising style of sixth-century goldsmiths. At the same time, the new elements indicate innovative and independent paths of artistic development. The Kovacs Vase was thus formally made in the late Roman tradition, but given its altered proportions as well as its new formal traits (such as the extra-long neck with a nodus, the bulbous body with shoulders), it fits into the classicising tendencies of the sixth century. In fact, it is an intermediate form, reflecting the trajectory of development and change towards the bronze vessels of the seventh century. It seems possible that the vessel was produced in a workshop in northern Italy.

The mention of Rome and the Latin inscriptions make a localisation in the westerly regions of the Roman world probable. Italy seems like a good candidate because conditions for the continuation of theatrical and agonistic events for the entertainment of the public within the framework of the *ludi circenses* were most likely to be found there, at least until the beginning of the Lombard rule in 568.

In the light of the above, the dating of the Kovacs Vase to the earlier sixth century is particularly significant because epigraphic and archaeological evidence for athletic contests *(agones gymnikoi)* from the fifth century onwards is rare and controversial. In the West, late antique depictions of athletic contests are, in any case, quite rare, the single exception being Rome until the end of the fourth century. Although the written sources record that athletic events continued to be held, the lack of pictorial evidence from the fifth century onward means that, archaeologically speaking, very little is known of these events, of any changes in them and of their overall circumstances as well as of their end. (53) Set against this historical and archaeological background, the Kovacs Vase with its depictions and inscriptions is a hitherto unique testimony to Greek agonistic events in Late Antiquity.

Based on our research, the bronze vase was probably made in Italy in the earlier sixth century, most likely in Rome, then under Ostrogothic or Byzantine rule. It currently represents the latest depiction of naked athletes engaged in Greek martial arts. The function of the Kovacs Vase, possibly a victory prize, for example, was probably determined by a public patron, since the INVICTA ROMA PRASINE does not point towards the private sphere; however, the archaeological discussion remains inconclusive on this point, too.

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Lombardic ornaments from San Mauro cemetery at Cividale, Italy

Analyses and technology

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Abstract: A group of very significant Lombardic ornaments from the cemetery of San Mauro at Cividale del Friuli (Udine) in Italy has been examined and analysed with X-ray fluorescence spectrometry. The objects are now part of the collections of the National Museum of Cividale del Friuli. Among the objects there are several so-called stirrup or radiate-head bow fibulae, one of which also shows an interesting cloisonné decoration, an S-shaped fibula with cloisonné, a unique gilded and nielloed equal-armed fibula with two opposite faces or masks, belt buckles and belt plates, a necklace with gold pendants with filigree and granulation, a vessel of probable Byzantine origin and a golden cross. The composition and the production technology of the single pieces are discussed in detail in the paper with relevant comparisons.

Keywords: Lombards, fibulae, gold cross, buckles, XRF

Introduction

The migration of Langobards (or Lombards) from Northern Europe took several centuries.[1] They crossed a large part of Europe and, coming down to Italy, they took with them other populations, such as for instance Goths, Gepids, Alans, Eastern Goths and Sarmatians. In 568 AD, the Lombards moved to Italy from Pannonia (modern day West Hungary: Transdanubia), where they had settled after their migration from north of the Danube and after defeating Heruls and Gepids. King Alboin occupied North-Eastern Italy almost without fighting, as the region was almost depopulated after the Gothic war (535–554). In 569 he created the duchy of Cividale del Friuli that was then handed over to Gisulf I.[2] Because of its location, the duchy was considered a strategic bulwark and the most important defense from invasions from the East, for instance by Byzantines or by the Avars. Langobard Cividale was a prosperous and rich town, as demonstrated by the luxurious good recovered from the five Lombardic cemeteries identified in various areas around the modern town.[3] The cemeteries are still now only partly excavated because they are in residential areas and the exploration can only be carried out in case of emergency excavations. The cemetery of San Mauro, from which the items discussed in this paper come, was known since the end of the 19th century, when the first grave was discovered. Later, particularly during the construction works of the railway in 1916, some more graves came to light.[4] The more extensive excavation in 2012 in occasion of the urban

1 Pagano 2013a.

2 Priester 2004; Maczynska 2004, 188–196; Paolo Diacono 1971; Riehl 2008, 281–291; Meier 2020, 805–845.

3 Borzacconi 2013.

4 Borzacconi – Giostra 2018, 236–239.

redefinition of the town area around the station brought finally to light 79 graves that could be dated to different phases, between the end of the 6th and the end of the 7th centuries AD.

The grave gifts clearly reflect the social status and the differences in wealth of the buried persons. The cemetery of San Mauro seems to have been in use from the beginning of the Lombardic immigration from Hungary, already in the first twenty years of permanent Lombardic residence in Friuli, as it was also the case with the cemetery at Gallo, but not with the larger cemetery *della ferrovia* [of the railway] that seems to have been in use in a later period.[5]

This paper presents the results of the analyses carried out in 2004 on a selection of significant metal grave goods at request of the Soprintendenza archeologia, belle arti e paesaggio del Friuli-Venezia Giulia in occasion of the rearrangement of the National Museum of Cividale, when new vitrines were also provided. These data have never been published before.

Lombardic metal objects are certainly a suitable topic for a Bronze Conference held in Hungary i.e., in the region from which this population arrived to Italy.



Fig. 1. Necklace (inv. no. 24060) from Grave 39 of a high-status lady, with red, blue, white, orange, brick red and green glass beads, amber beads, gold spacers and six gold anthropomorphic pendants with filigree and granulation (photo by A. Giumlia-Mair).



Fig. 2. Detail of the anthropomorphic pendants (L.: ca. 1.5 cm) with filigree and granulation. The gold is very pure, but it contains traces of mercury. It is possible that part of it had been recovered as filings from amalgam gilded silver objects or even from mosaic tesserae by using mercury (photo by A. Giumlia-Mair).



Fig. 3. Detail of the back of the anthropomorphic pendants showing a repair on the third pendant from the right, possibly a soldering accident that happened while attaching the filigree at the front of the gold sheet (photo by A. Giumlia-Mair).

5 Ahumada Silva 2013; Borzacconi 2013.

Method of analysis

As most of the finds selected for analysis were in rather good condition, it was not possible to take destructive samples from them and therefore we decided to use X-ray Fluorescence spectrometry (henceforth XRF), a well-known non-destructive analytical method which can determine the chemical composition of an object without sampling or touching it.[6] However, it must be noted that, should the object to be analysed be covered by a rough or thick patina, the upper layer has to be carefully removed in a very small area in order to guarantee reliable results. In the case of the objects from the San Mauro cemetery this was not necessary, as the finds are in quite good condition and the patina, when present, like for instance on vessel inv. no. 23890, is compact and thin.

The XRF equipment can quantify over 30 elements and quickly determine the elements present in the object and their relative concentration. The device is transportable (not portable!) and it consists of the head with the X-rays source, a support with devices that control stability and position, a large transformer, a stabilizer, and a laptop computer with the dedicated analytical program. The head of the system is equipped with a collimator that changes the diameter of the beam as required, a laser pointer indicating the exact area to be analysed, and a device controlling the distance from the sample. When the distance is correct (within the acceptable span of ± 0.1 mm) an audio signal is heard, and the measurement can be performed. The X-rays are emitted by a miniaturized X-ray tube. The size of the irradiated area has a diameter of around 1.5–2 mm, but the analysed spot can be smaller or larger, as required by the surface texture, the detail to be analysed and the size of the object.



Fig. 4. This radiate-head bow fibula (inv. no. 24675) (L.: 13.7 cm) from Grave 53 of an adult woman shows ornaments in Lombardic Style I and Style II. This suggests a date to the 1st–2nd decades of the 7th century. The silver of the fibula is alloyed with a recycled quaternary alloy from an amalgam gilt object (photo by A. Giumlia-Mair).



Fig. 5. The feline heads and other ungilded parts of the fibula are decorated with niello containing Cu, Zn, Sn and Pb. The photo shows a detail of the intricate gilded decoration (partly damaged) on the plate, the niello inserts on the silver and the bird of prey. The surface was selectively amalgam gilded as 1.3% Hg was determined in the gold. This was done by mixing gold filings with mercury to obtain a paste and apply it on the surface. The mercury was then driven off by evaporation i.e., by heating the object at ca. 352 °C. The surface was finally polished (photo by A. Giumlia-Mair).

The measurements are performed at a fixed angle and from a fixed distance from the sample, by illuminating with X-rays a small, flat and cleaned area on the object for a short time (typically 3–5 minutes), but, if required, the time can be longer. At least three readings were obtained for confirmation in case of unclear results.

6 Helmig et al. 1989; Lutz – Pernicka 1996; Longoni et al. 1998; Uda et al. 2005; Mendoza Cuevas – Perez Gravie 2011; Giumlia-Mair et al. 2018.

Past experiences have shown that a wide range of elements—and in particular metals and alloys—can be simultaneously quantified with a high degree of precision if proper standards and some cautions are used.[7] The different standards of various composition employed during our measurements have been expressly produced by AGM Archeoanalisi for the analysis of ancient metal alloys and represent an important tool in the evaluation of the results.

The equipment can be taken to the object—virtually anywhere—and can perform analyses in situ, even on excavation. In sum, the method offers a fast, effective, and low-cost performance and is ideal for museum pieces which cannot be sampled.



Fig. 6. Detail of the back of the feline heads. The texture of the silver on the back shows numerous bubbles and an irregular surface and suggests the use of an open mold (photo by A. Giumlia-Mair).

The data obtained was subsequently processed to achieve quantitative results. Interference effects, such as, for instance, enhanced results for elements such as iron, or low results for zinc in a copper matrix, and similar phenomena, were considered, while evaluating the results.



Fig. 7. Radiate-head bow fibula with gilding and niello (inv. no. 23883) (L.: 8.8 cm) from the rich Grave 27 of an around 7 years old female child. The silver contains around 12% copper, 3% zinc, 3% lead. The thick gold layer and the lack of traces of mercury suggest that on this fibula a gold leaf was applied instead of an amalgam (photo by A. Giumlia-Mair).



Fig. 8. Radiate-head bow fibula with gilding and niello (inv. no. 23883) seen from the back. The photo shows the fastening mechanism, the corroded iron pin, the silver catch-plate, the gilded copper-based elements that connect arch and feline heads to the fibula body (photo by A. Giumlia-Mair).

7 Cf. for example, Hahn-Weinheimer et al. 1995; Lutz – Pernicka 1996.

Results and discussion

One of the most impressive pieces among those analysed for this research is the necklace (inv. no. 24060, Grave 39) with six golden anthropomorphic pendants and multi-coloured beads (Fig. 1). The person buried in the grave was a high-status female, aged between 17 and 25 years. It is quite interesting to note that the anthropological investigations suggest that she was not a Lombardic woman but belonged to a different ethnic group. This woman most probably came to the Lombards through marriage. Beside the necklace she also had radiate-head bow fibulae similar to examples found in the Pannonian Plain and in Italian graves, dated to the early period of the Lombard migration to Italy. As shown by the analyses, the gold of the necklace is very pure, with only low traces of copper, silver, and mercury. The traces present in the alloy, specifically those of mercury, suggest that some gold filings taken from an amalgam gilded object were added to the gold of molten Byzantine coins. The pendants represent human faces (Fig. 2) with long hair, long beard, and mustaches, depicted with filigree of twisted wires and rather thick granulation representing the eyes and perhaps hair-locks on the shoulders or perhaps large brooches on the shoulders. The first face on the left has lost the



Fig. 9. Radiate-head bow fibula with gilding, niello and almandine inlays (inv. no. 23894) (L.: 11.6 cm) from Grave 21, dated to the last third of the 6th century, of a woman of 17–25 years belonging to the highest social class and to the first generation of the Lombards who immigrated to Italy (photo by A. Giumlia-Mair).



Fig. 10. One of the almandines on the halfmoon-shaped *cloisonné* on fibula (inv. no. 23894) is missing and the cross-hatched decorated gold foil backing, called boxed pattern, boxed waffle pattern or *quadrillage* is exposed. Its function was that of enhancing the light reflection effect and the colour of the transparent stones (photo by A. Giumlia-Mair).



Fig. 11. Detail of fibula (inv. no. 23894). The fourth feline head from the left, originally made of silver, gilded and nielloed, was replaced with a slightly smaller feline head made of copper containing 2.2% lead, without gilding and niello. The abundant iron corrosion visible on the top left comes from the iron rods connecting the heads to the arch and the body of the fibula (photo by A. Giumlia-Mair).



Fig. 12. S-shaped fibula with almandine cloisonné, amalgam gilding and niello (inv. no. 23891) (L.: ca. 4 cm) from Grave 21, dated to the last third of the 6th century. The silver alloy contains 17% copper, 8% zinc, 5% lead, 2% tin, and ca. 1% gold (photo by A. Giumlia-Mair).



Fig. 13. S-shaped fibula (inv. no. 23891) seen from the back. The pin was made of iron, and is now lost. The catch-pin is cast together with the silver body. A small repair can be recognized at the top (photo by A. Giumlia-Mair).

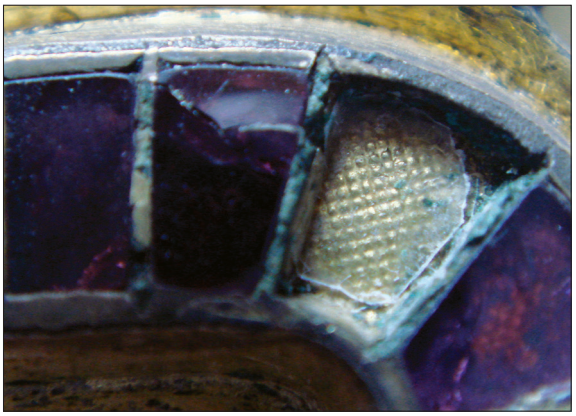


Fig. 14. Detail of the S-shaped fibula (inv. no. 23891). The backing of the almandine plates is a gold foil with simple waffle pattern, not a boxed pattern as on fibula inv. no. 23894. This suggests the existence of different jeweller's workshops at Cividale: this fibula shape is thought to be of Italian manufacture (photo by A. Giumlia-Mair).

grain of gold on its left shoulder, while the third face from the left shows a repair at the back (Fig. 3) that with all probability hides a soldering accident that happened while attaching the filigree on the front of the gold sheet: a precise control on the high temperature necessary for working on gold was not easy to achieve. The gold employed for the wires and the granulation shows the same composition of the gold of the background. The analysis of the larger blue bead of the necklace revealed that the colouring agents of the glass were copper and cobalt, while lead was used as stabilizing element for the glass. Lead was also employed as stabilizer for the glass of the red bead, and in this case the colouring agent was copper. Eight larger beads consist of amber; some of them are rather altered on the surface.

A similar necklace consisting of slightly larger beads in the very same colours (white, red, orange, brick red and green), but no amber beads, was found in Grave 24 of the cemetery called *della ferrovia* [of the railway].[8] The buried person was an older lady, between 50 and 60 with a rich selection of grave goods. Her necklace shows beads that are larger than those of the example from the San Mauro cemetery, but it has only four gold pendants and four barrel-shaped beads, used in the reconstruction as spacers for the pendants. As discussed by Borzacconi and Giostra[9] a further parallel is known from Grave 17 at Nocera Umbra, but such pendants with filigree and granulations are found all around the Alps in the last three decades of the 6th and the first decade of the 7th century.[10]

8 Borzacconi – Giostra 2018, 251, Fig. 23.

9 Borzacconi – Giostra 2018, 251.

10 Ahumada Silva 2010, 83–84, Pl. 39, 125; Rupp 2005, Pl. 29.



Fig. 15. Cast copper-based pan (inv. no. 23890) (L.: ca. 40 cm) for hand washing from Grave 21. The metal is a copper-based alloy containing 4% tin, 6% zinc, and 2.3% lead. All parts, basin, foot, and handle with hook have been cast together in one piece (photo by A. Giumlia-Mair).

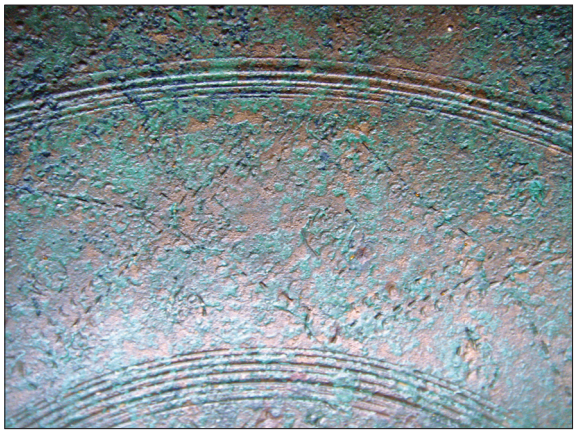


Fig. 16. Detail of pan (inv. no. 23890). The entire internal surface of the pan is intricately decorated by cold working with a thin chisel, the concentric circles are cast. The undecorated flat rim bears a Greek inscription: ΝΙΨΕ ΥΓΙΕΝΩ ΚΥΡ(Ι) 'May you wash in good health, Lord' (photo by A. Giumlia-Mair).

In the same grave there was also a pair of radiate-head bow fibulae made of gilded silver decorated with niello,[11] similar to some of the examples from the cemetery of San Mauro. As already mentioned, a pair also comes from Grave 39 in the cemetery of San Mauro, but these two fibulae (inv. no. 24059) have not been analysed, because they were on exhibition and could not be removed from the vitrine.

The analysed radiate-head bow fibulae comparable to specimens from the necropolis of the *ferrovia* are inv. no. 23894 from Grave 21, inv. no. 23883, from Grave 27, and inv. no. 24675 from Grave 53. The general characteristics of this fibula shape have been discussed by Bertolini.[12] Two further very similar examples of the same type of fibula have been examined at the microscope, but not analysed. These are (inv. no. 24676) that builds a pair with the analysed specimen (inv. no. 24675), and the radiate-head bow fibula (inv. no. 24679).

The radiate-head bow fibula (inv. no. 24675, Grave 53), which was found together with the fragmentary fibula (inv. no. 24676) but has been described as coming from a different mold, was analysed in more detail (Fig. 4). The burial of Grave 53 was that of an adult woman. The fibulae are dated to the first/second decade of the 7th century. They show two different styles: the Lombardic Style I with zoomorphic decoration and Style II (on the head- and footplate) with a complex and intricate decoration.[13] This is the only example of a mixture of styles found in Italy up to now. The analysis carried out on the clean surface at the back of the fibula showed that the silver employed contains around 14% Cu, 7% Zn, 4% Pb, 3% Sn and 2% Au. The low amount of gold determined in the silver suggests that some gilded object had been molten down and recycled to produce the fibula. Then the silver had been alloyed with a recycled copper-based alloy, made of a quaternary alloy containing copper, zinc, tin and lead, certainly from an older ornament or some small representative object, as the high zinc content suggests. The gold layer on the stylized bird of prey (Fig. 5) on the side of the fibula body doubtlessly comes from amalgam gilding (also called fire gilding or mercury gilding), as 1.3% Hg could be identified in the gold.[14] The process of amalgam gilding involves mixing filings of gold, or pieces of gold wire and/or foil fragments with mercury, to form a paste called amalgam. The paste was

11 Borzacconi – Giostra 2018, 251, Fig. 23.

12 Bertolini 2017.

13 Pagano 2013b, 33.

14 See Giumlia-Mair et al. 2002; Giumlia-Mair 2020, 5–8.

applied on the surface of the object to be gilded and the piece was heated to slightly below 352 °C, the temperature at which mercury evaporates. In this way the mercury could be eliminated, and a thin gold layer remained on the surface. The layer was opaque and slightly porous, therefore it had to be polished with tools made of smooth wood or bone to avoid damage to the gilding.[15] The analysis on the thin gold layer also determined 15% Ag, 9% Cu and 1% Pb, however these elements come certainly from the silver alloy underneath, and not from the gilding. Some traces of lead in gold might in some cases be an indication that the gold had been purified with lead, however in the case of the Lombardic fibulae for which recycled metals were employed, this hypothesis does not seem credible.

The second feline head from the left was also analysed and the results showed that silver with the same composition of the silver alloy employed for the body had been used for the decorative heads, while the silver alloy of the rope-shaped decoration on the fibula bow shows a different composition with 7% Cu, 4% Zn, 1% Pb and traces of tin. In this case the silver was also diluted with a quaternary alloy, but with a smaller amount of it. The feline heads were fixed to the head of the fibula with thin iron elements, which are now heavily corroded and rusty.

The niello employed as decoration on the feline head also seems to have been made by mixing the same silver alloy with sulphur in a crucible and melting it to obtain the black sulphides with an almost vitreous appearance that, crushed to powder, mixed with a flux, and reheated to the consistency of a paste, could be applied in the keying cut on the surface of the silver. The presence of elements such as copper, zinc, tin, and lead in the silver lowers the melting point of the niello and facilitates its insertion into the cut recesses in the silver.[16]

The remains of the pin for the fastening of the fibula consist of a brass alloy containing around 82% Cu, 16% Zn and traces of lead and gold. The gold traces certainly come from the gilding process. The pin is a functional element and had to be intensively hammered to be shaped to a thin point and hardened, therefore the artisan employed an alloy without lead to avoid problems during the working process.

The differences in decoration of the two fibulae brought up the idea that they might come from different molds,[17] however the dissimilarities are very small and in the case of the two fibulae from Grave 53 there is only one divergent detail at the top of the central plate: on one of the fibulae it looks like a tripartite band placed on both sides, while on the other it looks like a beaded line on both sides. This might simply come from a small final touch-up on the wax model after the extraction from a mold and/or later, when finishing the fibula. A second possibility is that a fibula itself, and not a master model of lead or wood, had been employed to produce a second almost identical one by pressing it on soft clay, casting wax into the keying left by the fibula and finally retouching the wax model after extracting it from the clay and adding the catch-pin in wax on the back. Alternatively, the clay could have been slightly re-elaborated by adding the details described above and baked to be used as a direct mold into which the silver alloy could be cast. In this case a second half mold would have been necessary to obtain the catch-pin. However, this hypothesis is less credible as the texture of the silver on the back of both, the bow of the fibula and the decorative animal heads attached to it with an iron rod, shows innumerable bubbles and an irregular surface suggesting the use of an open mold (Fig. 6).

Radiate-head bow fibulae very similar to these are known from many other sites such as the rather close Romans d'Isonzo, Grave 327, and from Nocera Umbra,[18] but also from Hungarian cemeteries

15 Giumlia-Mair 2020, 5–8.

16 La Niece 1983; Giumlia-Mair 2012; Giumlia-Mair 2017; Giumlia-Mair 2020.

17 Bertolini 2017, 238–239.

18 Rupp 1997; Rupp 2005.

(for instance Szentendre, North of Budapest, Grave 54 and 29; Gyönk, between the Lake of Balaton and the Danube, Grave 1 and Rácalmás near Dunaújváros, Grave 2) and Austrian (Mödling near Vienna, Grave 2).[19] As these fibulae belong to an early typology, this distribution might suggest possible itinerant metalworkers, import of both, objects and models, and/or that the artisans moved to Italy together with the migrating Langobards, because the large distribution with over 60 examples in the various cemeteries of Cividale[20] seems to indicate the existence of a local specialized workshop.

The smaller and less intricately decorated radiate-head bow fibula with gilding and niello (Fig. 7) (inv. no. 23883), from the rich Grave 27 of an around 7 years old female child, shows a similar (but not the same) silver composition with around 12% Cu, 3% Zn, 3% Pb. The decorative motives are less well defined and intricate than those of the fibulae discussed above, a large part of the niello on the body of the fibula is now lost and the feline heads are completely gilded. The fastening mechanism was made of iron and is now completely altered and corroded (Fig. 8). The gilding on this fibula is of excellent quality, apparently thicker than the gilding on the other objects analysed, and no mercury could be identified in it. Both, the aspect of the gold layer at the microscope and its composition suggest that in this case leaf gilding was employed. Gold leaf was produced by beating between parchments several gold sheets first. The so obtained gold foils were then extracted from the parchment and treated further, by placing them between thin layers of the so-called beater's skin, obtained from the intestine of bovines, and beating them until the desired thickness was reached. When the gold was reduced to leaf and had reached the desired thickness, it could be applied on the surface of the object to be gilded with organic adhesives, such as for instance plant gums and resins or animal glues.[21] A second way of applying the gold leaf was that of exploiting the extreme malleability of this metal: the leaf could stick on the carefully degreased metal surface, be it copper and copper alloys, silver, or iron, just by pressing, rubbing and burnishing it with wood-, bone- or even ivory tools of different shape. The bond could be enhanced on silver by heating the object and promoting some diffusion of the two metals into each other.[22]

As further comparison, also the interesting instance of radiate-head bow fibula with gilding, niello and almandine inlays (inv. no. 23894, Grave 21) (Fig. 9) was analysed. The very rich grave belonged to a 17–25 years old woman and the finds, dated to the last third of the 6th century, suggest that she belonged to the highest social class and to the first generation of the Lombards who immigrated to Italy. The preservation of this piece is not as good as that of the previous examples: the surface is altered, and some copper corrosion products can be seen on the gilding as well, the niello inserts are missing on several areas and the keying is in general smaller and shallower.

The most distinctive details of this fibula are the two almandine cloisonné inlays: one half-moon-shaped on the head of the fibula and the second an elongated boat-shaped cloisonné on the bow. One of the almandine plates on the halfmoon-shaped cloisonné is missing and the cross-hatched decorated gold foil backing is now visible (Fig. 10). This kind of decoration is called boxed pattern (also boxed waffle pattern or *quadrillage*) and consists of a grid of regularly spaced squares in which nine tiny pyramidal depressions can be seen. Its function was that of enhancing the light reflection effect and the colour of the transparent stones. Different types of patterns are known.[23] The boxed pattern is the most elaborate (together with the ring-and-dot or ring-stamped pattern),

19 Bierbrauer 1991; Bóna – B. Horvát 2009; Bertolini 2017, 240.

20 Cf. Bertolini 2017, 233, Fig. 7.

21 See Giumlia-Mair 2020.

22 Giumlia-Mair 2020, 5.

23 Avent – Leigh 1977; Meeks – Holmes 1985; East 1985, 140–141; Nijboer – van Reekum 1999; Tulp – Meeks 2000, 13–24.

the better known and perhaps the best quality pattern on backing foils of gold employed in the Early medieval period under transparent stones, mostly almandines and, in less prestigious items, red glass. The gold foils are very thin. In this case as the foil is *in situ* it was not possible to measure its thickness. As example, we can mention that in one of the most famous cases of garnet decorated items i.e., in the Sutton Hoo finds with over 4,000 garnet cloisons,[24] the thickness of the gold foil was 0.02–0.03 mm. The studies by Meeks and Holmes[25] demonstrated that brass and bronze were suitable materials for the dies employed to achieve this kind of pattern. Ivory was also found to be tough enough, but understandably its durability was inferior to that of the dies made of metal. Wooden dies were instead too soft and easily damaged. The gold foil had to be backed by a 4–8 mm thick lead sheet placed on an anvil or any solid surface to achieve best results. Experiments carried out on a massive lead base or on a thin lead sheet placed on wood instead did not give good results.



Fig. 17. Large buckle (inv. no. 24175) (L.: ca. 7 cm) from Grave 34, 4-year-old male child, end of the 6th –beginning of the 7th century AD with cast decoration and punched cross-hatched pattern (photo by A. Giumlia-Mair).



Fig. 18. Detail of buckle (inv. no. 24175) showing the cross-hatching pattern. This is not a boxed pattern, but a simple waffle pattern similar to that observed on the S-shaped fibula (inv. no. 23891) (photo by A. Giumlia-Mair).

The gold foil backing on the fibula from the San Mauro cemetery shows the classical boxed pattern with nine depressions inside a square of thicker lines, under flat almandines. The analysis of the red stones in the cloisonné identified iron and aluminium in a silica matrix, as expected in the case of almandines.

The analysis of the body metal of the fibula indicates the use of an alloy of silver mixed with a quaternary alloy as it contains 12% copper, 8% zinc and 2% lead, 12% tin and traces of gold. The relatively high tin was most probably added to the alloy to lower the melting point and possibly to achieve a more silvery colour. The addition of 40% of weight in different metals to the silver is the reason for the opaque aspect of the fibula.

The third animal head from the right was also analysed and its alloy is similar to that of the fibula body, with 12% copper, 11% tin, 8% zinc, 1.8% lead and traces of gold. We can suppose that the other heads consist of the same alloy, however the fourth head from the left (Fig. 11) shows a different, rather reddish colour and is not decorated with niello and gilding. The analysis showed that it is made of a copper alloy containing only 2.2% of lead. This is certainly an ancient replacement of the lost element, carried out by a less skilled artisan than the one who produced the fibula. Nevertheless, the addition of around 2% of lead to copper is quite interesting, because this is the amount of lead necessary to reach the maximum fluidity of the molten metal to facilitate the casting. Unalloyed copper is very difficult to cast because it bubbles and shoots out of the crucible in droplets,

24 East 1985; Care Evans 1986.

25 Meeks – Holmes 1985, 155.

and it solidifies very quickly, easily building casting faults. There is no doubt that the lead was added to copper with the aim of producing the small copper head without casting faults. A second possible hypothesis is that the artisan had planned to use amalgam gilding on the copper head, because unalloyed copper or copper with only very low percentages of lead and tin can be gilded with this method, without forming dark or opaque spots on the gilt surface, while alloys with high lead and tin content form an amalgam with the mercury used for the gilding and produce greyish stains on the gilding. However, no traces of gilding could be identified on the surface of the copper head, while the rather abraded and damaged thin gilding layer on the gilt parts of the fibula contains 0.7% mercury. The niello decoration contains copper, zinc and lead and therefore it is similar to that of the fibula (inv. no. 24675) from Grave 53.

Grave 21 also contained an S-shaped fibula (inv. no. 23891), made of silver with almandine *cloisonné*, gilding and niello (Fig. 12). This fibula shape is considered a type made in Italy. The silver employed for the body contains 17% copper, 8% zinc, 5% lead 2% tin and traces of gold (around 1%). The measurement was carried out on the back plate of the fibula (Fig. 13), without any traces of gilding, therefore the gold might come from the recycling of a silver object decorated with gilding.

The pin is missing, being of iron it completely corroded away. A small repair of a casting fault is visible on the back plate and can also be recognized on the front as a slight bump under the gilding. The analysis of the repair determined 18% copper, 8% zinc, 4.8 lead, 2% tin, and 1% gold. This alloy seems to be the same one that was also used for the body and this fact suggests that this small repair was carried out when the piece was produced. The gilding layer was applied on the surface by the technique of amalgam gilding employed for other objects presented in this paper. The gold contains around 1–2% of copper and silver and around 0.8% mercury.

The analysis of the slightly protruding niello decoration showed that it consists of silver, containing some copper, zinc, tin and lead, beside the necessary sulphur, while the gold must be related to the gilding process and perhaps to abraded particles of gilding adhering on the porous surface of the niello. The backing of the small almandine plates is a gold foil with cross-hatched pattern, however in this case it is not a boxed pattern, but a simple waffle pattern without squares defined by thicker lines as in the radiate-head bow fibula (inv. no. 23894) discussed above. The production of the different kinds of cross-hatched foils employed as backing for transparent and translucent stones has been discussed in detail by various authors.[26] The analysis of the red stones confirmed the use of almandines. The use of different cross-hatched foil as backing for almandines on objects from the same grave is interesting and suggests the existence of different jeweller's workshops in the town (Fig. 14).

Another very impressive find from Grave 21 is a cast copper-based pan (inv. no. 23890) (Fig. 15) for hand washing, with a sentence in Greek on the rim saying ΝΙΨΕ ΥΓΙΕΝΩ ΚΥΡ(Ι) i.e., "May you wash in good health, Lord". The entire internal surface of the pan is intricately decorated by cold working with a thin chisel, but the concentric circles that define the four decorated areas are cast (Fig. 16). The back of the pan is undecorated except for the concentric circles at the base of the foot, and the handle is provided with a hook for hanging up the pan. The well-wishing sentence on the undecorated rim of the pan was punched with a rounded and hollow tool. The metal is a quaternary alloy i.e., an alloy with copper as a base, alloyed with 6% zinc, 4% tin, and 2.3% lead. The alloying elements tin, zinc and in particular lead are quite low for an object of this size. Most probably the artisan wished to obtain a vessel with a rather golden colour and avoided higher lead percentages, because the addition of this metal renders the alloy dark and opaque. Nevertheless, the addition of around 2% of lead achieves the maximum fluidity of the molten metal and helps to obtain an object

26 See for instance Meeks – Holmes 1985; Adams 2006.



Fig. 19. The buckle (inv. no. 24574) (L.: ca. 6 cm) from grave 44 is made of iron with silver- and gold-coloured inlays. The silvery inlays on the buckle are made of 43% tin, 39% silver, 11% copper, 2% zinc, and 1% lead. The gold-coloured inlays are made of brass i.e., copper containing 21% zinc and only traces of lead (photo by A. Giumlia-Mair).

without casting faults. This kind of alloy was widely employed in Late Antiquity for prestigious objects. All parts of the vessel, including the hook, show the same composition and appear to have been cast in one piece. This alloy can easily be hammered and bent to form the hook. The vessel might be of Italian or Byzantine production.

A splendid, quite large, but regrettably heavily corroded buckle from the same cemetery (inv. no. 24175) from Grave 34 (Fig. 17) can give some clues on the production process of the cross-hatched gold foils. The person buried in Grave 34 was a male child, around 4 years old, and the finds can be dated to the end of the 6th – beginning of the 7th centuries AD. The buckle is made of a good quality quaternary alloy with 23% zinc, 2% tin and 1.2% lead and is gilded. In this case the gilding is almost completely covered by copper and iron corrosion products, however the measurement on areas where the gilding is corrosion free indicate that the gold is rather pure. With all probability also in this case we are dealing with amalgam gilding, in spite of the fact that the gilded alloy contains rather high zinc and also tin and some lead. As the analyses of the gilded fibulae from San Mauro have shown, Lombardic jewellers did not mind using alloys that produced greyish spots on the gilding. The backing of the buckle is made of rather corroded iron and a rectangular iron plate is attached on the heavily decorated buckle plate, on which several zoomorphic motifs of Style II can be distinguished. However, the most interesting detail on this find are the cross-hatched marks (Fig. 18) on the area next to the buckle that must have been imprinted hot on the wax model before casting, together with the other motifs. The small, hatched squares are similar to those found on the S-shaped fibula and are alternated with a beaded V-shaped pattern on a diamond shape. On this buckle-plate there were certainly no cloisonné decoration or inserted stones because the imprints would be too shallow to keep a stone, even a flat almandine, in place. It is quite clear that the artisan found the buckle plate too simple with 'only' three different decorated bands and decided that the area next to the buckle needed some more pattern. The second plate (inv. no. 24176), belonging to the same buckle, shows two more different pattern and the same cross-hatched imprints alternated with small bow shaped imprints. Not many dies for boxed or waffle pattern are known up to now. One made of a quaternary alloy, the Tjitsma die, was found in Friesland,[27] but it is in 'positive' form and was interpreted as a master template for making wax impressions used as models for lost wax casting of negative dies, while the other ones known are negative dies. Five negative dies with different patterns have been found in Denmark.[28] Apparently, the metalworker that manufactured the buckle also had a positive die, which was similar to the Tjitsma die, but with a simple waffle pattern, and employed it in different ways.

A further buckle from the San Mauro cemetery (inv. no. 24574) from Grave 44 is made of iron with silver- and gold-coloured inlays (Fig. 19). The grave, dated to the last third of the 6th century, belonged to a warrior of high social standing, aged between 25 and 35, buried with an infant child. The objects found in the grave allow to date the burial to the end of the 6th – beginning of the 7th centuries AD. The silvery inlays on the buckle are made of a complex alloy consisting of 43% tin, 39% silver,

27 Tulp – Meeks 2000.

28 Tulp – Meeks 2000, 20, Fig. 7, representing four of the dies.



Fig. 20. Equal-armed fibula with two opposite faces, gilding and niello (inv. no. 24100) (L.: ca. 11 cm) from Grave 41 of a high-status 9 years old male child. The body of the fibula is a silver alloy with 9% copper, 5% zinc, 1.4% lead (photo by A. Giumlia-Mair).



Fig. 21. Detail of one of the faces on equal-armed fibula (inv. no. 24100) showing the gilding on silver and the niello decoration. Most of the triangular niello inserts on the silver arch are lost, but the niello lines and the beard are still in place. The niello decoration seems to contain antimony, which gives a bluish nuance to the black material (photo by A. Giumlia-Mair).

11% copper, 2% zinc, and 1% lead. This kind of alloy is very elastic, can easily be formed to wire, is corrosion resistant and keeps a silvery colour. The gold-coloured inlays are a good quality brass i.e., copper containing 21% zinc and only traces of lead. This is a malleable and ductile alloy, very suitable for the production of wire. The brass inlays were examined at the microscope and revealed the helicoidal seam, which is typical for twisted wire. The analysis of the inlays on the matching decorative plate (inv. no. 24575) showed that both the silvery and the gold-coloured alloy have the same composition of the ones on the buckle.

The fibula with two opposite faces (inv. no. 24100) from Grave 41 (Fig. 20) is a unique piece without any parallels. The grave belonged to a high-status ca. 9-year-old male child, who was buried with weapons and the spurs of a horseman. The fibula shows the Lombardic theme of the human mask between two snakes with an eagle head that might even be the representation of Odin. The body of the equal-armed fibula is made of a silver alloy containing 9% copper, 5% zinc, 1.4% lead and gold traces. It is a better alloy than those used for the radiate-head bow fibula e and the S-shaped fibula, as it contains more silver and less alloying elements. The pin was made of iron, as shown by the rusty remains, but it is almost completely lost. The decoration on the central arch was carried out with a hot tool on the wax model, as can be inferred from the casting fault on the central ridge, which originally was covered by the gilding layer, now slightly damaged. After the casting was completed and the object cooled down, the artisans cut away the casting channels and vents and removed the casting skin and the fins with abrasives such as pumice stone, sand, marble powder and wood ashes. The piece was polished and the keying for the niello prepared. The gilding must have been carried out first. The gilding layer is relatively thick and still in good condition. The analysis determined 1–2% copper and silver and 0.7% mercury in the gold, demonstrating again that the gilding was done by using an amalgam with mercury. It is quite interesting to observe that the gilding was accurately polished on all areas without decoration, but

it is still rather opaque on some areas on the bow, because the polishing was more difficult on the indentations. The areas decorated with niello i.e. the beards and the rounded finials are not gilded and show a slightly purplish colour. This is due to the presence of sulphides on the silver, while the bluish tinge of the niello comes from traces of antimony in the niello mixture (Fig. 21).



Fig. 22. A cross made of gold sheet (inv. no. 24099) (H.: ca. 7 cm) Grave 41, was probably attached on the veil that covered the face of the deceased child. The metal employed is a very pure gold with only around 1% of copper and silver. This suggests that Roman *solidi* might have been molten down to produce the cross (photo by A. Giumlia-Mair).

A cross made of gold sheet (inv. no. 24099) (Fig. 22), which was probably attached on the veil that covered the face of the child, was also found in Grave 41. The arms of the cross are perforated at the corners for the thread that would have fixed the cross on the veil. The metal employed is a very pure gold with only around 1% of copper and silver. This composition suggests that for the cross production Roman *solidi* might have been used. The decorative motif in zoomorphic Style II shows interwined animal figures and human masks around the central roundel. The decoration was stamped on the sheet from the back with a matrix, made of a rather hard material, perhaps hard wood, as shown by the sharp lines on the back of the cross. Being very soft and malleable, the gold sheet had to be supported by a soft material, such as pitch, leather, or sulphur, so that the gold would not be damaged. The sheet was cut after stamping the decorative pattern on it.

Both the equal-armed fibula with masks and the cross, together with the remains of a (not analysed) silver decoration of a wooden bowl with intertwined human figures strongly remind of Northern motifs. A good parallel is for instance found in the figures represented on two gold sheets (Fig. 23) from Bolmsö in Småland dated to 550–800 AD.[29] The identical representation on two sheets of gold of a man with a long V-shaped beard and a double arch over his head repeats the scheme of the equal-armed fibula (inv. no. 24100) from Grave 41 of San Mauro, albeit without snakes and/or eagles.

Conclusions

A group of the most significant metal finds from the necropolis of San Mauro has been studied from the metallurgical point of view and the results give us some clues on the working processes and the technologies employed by the Lombardic metal artisans. The pieces have been examined with various optical devices and non-destructively analysed by X-ray fluorescence spectrometry (XRF). The analysis results and the observations show that many of the pieces have been produced by using recycled metal. This is evident even in the case of good quality objects, as for instance the fibula (inv. no. 24675) from Grave 53. The ornament is quite elaborate and finely finished with gilding and niello inlays, but in the silver of the fibula body, besides the common copper addition to the precious metal to make it more resistant to wear, evident traces of tin, zinc, lead and even gold have been determined.

29 Andersson 2008, 87–89, with figure.



Fig. 23. The gold sheets from Bolmsö in Småland dated to 550–800 AD. Such figural gold sheets represented various kinds of figures and were mostly found in post-holes in the remains of buildings and had probably an apotropaic function. These gold sheets repeat the scheme of the equal-armed fibula (inv. no. 24100), with a doubled bearded man under a triple arch (photo from Andersson 2008, 89).

All 'silver' fibulae show this kind of composition, suggesting that the silver had been alloyed with quaternary alloys or leaded brasses, often gilt, that had been previously employed for decorative objects. The decorative niello application found on various areas of the fibulae contain the same elements and it might have been produced with the same alloy employed for the fibula body, mixed with sulphur in a crucible to obtain the black and vitreous material to be applied in the keying. The gilding layer on the various fibulae—except perhaps the radiate-head bow fibula with gilding and niello (Fig. 7) (inv. no. 23883) from Grave 27 for which gold foil might have been used—had been applied by fire gilding, by mixing gold filings with mercury and applying this paste on the surface to be gilded. The mercury was then driven off as a vapor by heating the piece to a temperature of around 325 °C. The gold employed for gilding is of excellent quality.

The cross (inv. no. 24099) from Grave 41 is made of a very pure gold, with only 1% of copper and silver. This seems to indicate the recycling of Roman *solidi* with a similar composition. The anthropomorphic pendants of necklace (inv. no. 24060) from Grave 39, are characterized by an applied granulation and filigree work. Their composition is similar to that of the cross, but they also contain some mercury. Part of the gold of the necklace had most probably been recovered by filing the gold from silver objects with gilding gilt or even from recovering the gold from mosaic tesserae by using mercury.

In this period the use of recycled metal is not surprising. It is well known that from the 3rd century AD the exploitation of mines decreases, and it stops altogether when the Roman empire collapses. At this time the main metallurgical production consists of skilled and specialized recycling of metal scrap of any kind and composition. As it is the case with all populations of Germanic origin, the Langobards (or Lombards) were known for their ability as blacksmiths, but also as goldsmiths. Their personal ornaments, for example fibulae and buckles, as well as decorated horse trappings, are finely worked, quite elaborate and show a particular taste for colour: they combine silver, gilding, niello, and red stones mounted as small plates, as for example on the crossbow fibula (inv. no. 24675) from Grave 53 and the S-shaped fibula (inv. no. 23891) from Grave 21. The XRF analysis of the red stones determined the presence of iron and aluminium in a silicate matrix, that identify the stone as almandine, a variety of garnet, found in magmatic-, effusive-, and occasionally also in metamorphic rocks.

The buckle and the decorative elements of trappings (inv. nos 24574, 24575) from Grave 44 are made of iron with silver- and gold-coloured inlays. These are not made of precious metal but consist of an especially golden coloured brass and of an alloy containing silver, tin and around 2% of copper. The niello decoration on the equal-arm-type fibula (inv. no. 24100) from Grave 41 shows an interesting composition with unusual traces of antimony, which gives to niello a bluish nuance. The purplish hue on the silver is due instead to the presence of sulphides.

The magnificent pan with a punched sentence in Greek on the rim, which stylistically might be of Byzantine production, is made of a quaternary alloy containing Cu, Sn, Zn and Pb, rather typical for Late Antiquity and for the Byzantine contexts.

The practice of intensive recycling precious metals, copper-based alloys and even iron and steel artifacts can be traced back to the 3rd–4th centuries AD, when the invasions of groups and tribes coming from the North and East changed the equilibrium and the economy of the Roman empire, and a number of mines that had been exploited until then, could not be further maintained.[30] After the collapse of the Western Roman empire the specialized workers necessary for the proper functioning and organization of mines could not be found anymore, so that only mineral deposits with an old mining tradition, for instance some mining sites in the Oriental Alps, continued to be exploited, but were not sufficient to cover the demand, and the metalsmiths had to turn to the reuse of metal scrap all over Europe, while objects and tools of wood and stone became the most common.[31] This situation can be recognized in many regions, particularly in Eastern Europe, but not only. A good example are the gold objects from Crimea of Lombardic tradition[32] with an erratic composition and partly very high silver and copper in gold. The Hunnic, Lombardic and Merovingian ornaments from Hungary analyzed by E. Horváth[33] evidenced that even a pair of visually almost identical brooches from Kajdacs (Grave 52) were produced using two completely different, and certainly recycled, silver alloys, and illustrated the decline of quality of silver alloys in the course of the 5th–6th centuries AD. The analysis of the large group of 157 Hunnic, Lombardic and Alanic ornaments from Nagyszéksós, dated to the 5th century AD, and interpreted as the offerings for the funerary pyre in honor of king Uptar[34] evidenced a clear distinction of the different traditions and workshop habits of the three groups.[35] The typical Hunnic gold ornaments, bulky and heavy with almandine inlays, were mainly cast using the almost pure gold of the solidi (98–99% Au) paid by the Romans to king Ruga.[36] The Lombardic gold alloys had a silver content between 3 and 6% and a copper content up to 3% and were richly ornamented with almandine cloisonné. The cloisonné technique is commonly considered typical for the Germanic tribes.[37] Finally, the Alanic artifacts were characterized by a composition with 6–7% silver and very little copper, mostly under 1%. The Alanic materials could be divided into two groups: plates with smaller round or oval cabochon stones belonging to the chalcedony group, framed with an imitation of beaded wire, and a second group with larger and unframed stones.[38] Both the Lombardic and the Alanic materials gave indication for having been made by using re-melted older silver and gold items. The difficulties in obtaining freshly smelted copper, silver and iron, and freshly collected gold continued for many centuries. For instance, the metal finds from the 10th century cemetery of Kiskunfélegyháza clearly illustrate the situation: the ornaments still show Germanic style features and were made with recycled silver, containing some gold and mercury from molten amalgam gilded silver objects. The copper-based alloys contain low percentages of tin, zinc and lead and can be considered quaternary alloys obtained by mixing scrap metal.[39] Only in the 13th–14th centuries, almost at the dawn of the Renaissance, with the revival of sciences and experiments in various fields, new mines were discovered, mining devices were invented, and efficient methods of exploitation were introduced, finally revitalizing metallurgy.

30 Forbes 1993, 63

31 Le Goff 1983, 222–223.

32 La Niece – Cowell 2008, 154–155, Tabs 1–2; Craddock et al. 2010.

33 Horváth 2013, 287, Fig. 14.

34 Bóna 1991, 46–60.

35 Giumlia-Mair 2013.

36 Giumlia-Mair 2013, 15–16.

37 Giumlia-Mair 2013, 16–18.

38 Giumlia-Mair 2013, 18–19.

39 Török – Giumlia-Mair 2022.

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